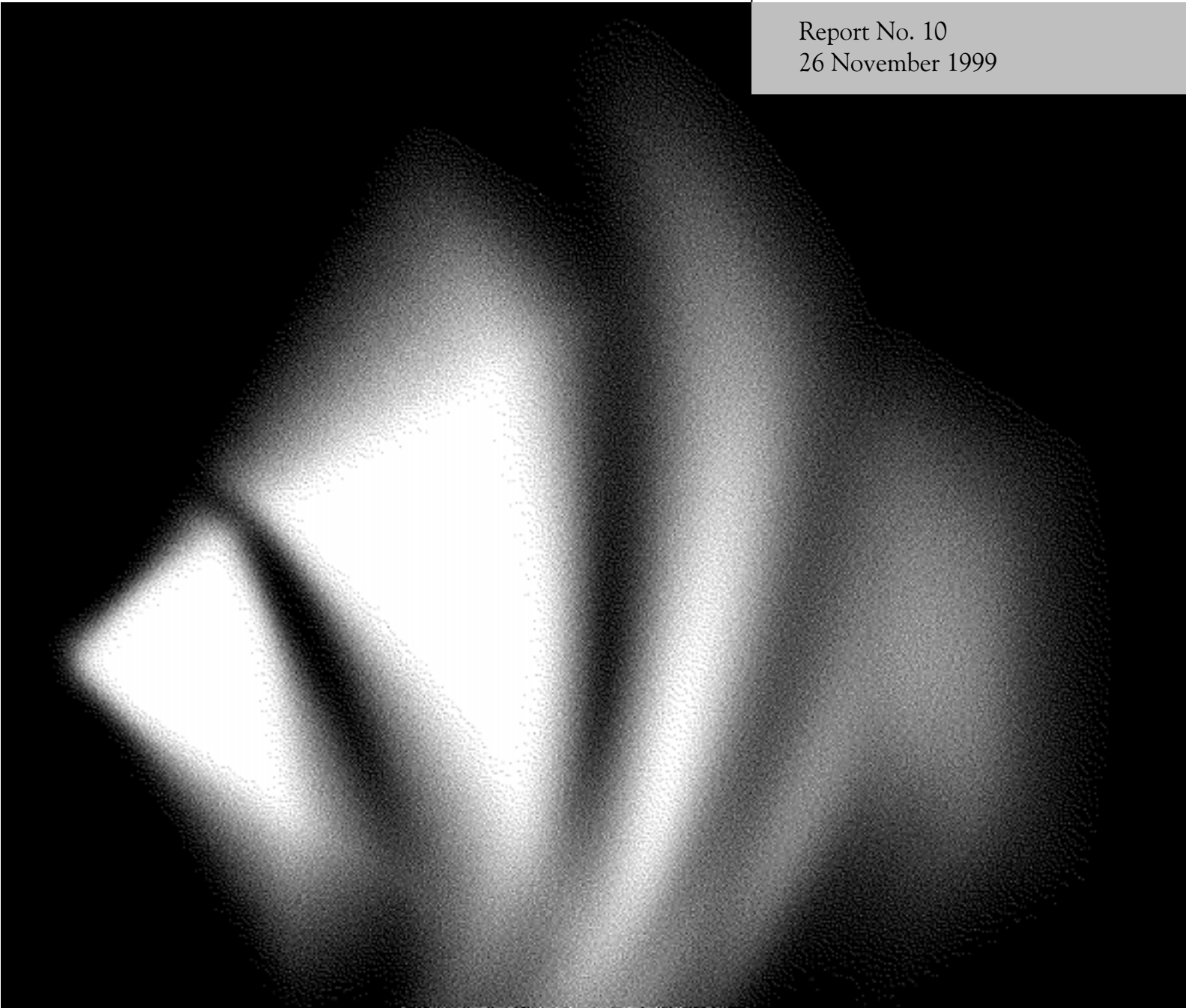




# Australia's Gambling Industries

Inquiry Report  
*Volume 1: Report (Parts A-C)*

Report No. 10  
26 November 1999



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***The Productivity Commission***

The Productivity Commission, an independent Commonwealth agency, is the Government's principal review and advisory body on microeconomic policy and regulation. It conducts public inquiries and research into a broad range of economic and social issues affecting the welfare of Australians.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Information on the Productivity Commission, its publications and its current work program can be found on the World Wide Web at [www.pc.gov.au](http://www.pc.gov.au) or by contacting Media and Publications on (03) 9653 2244.

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**PRODUCTIVITY  
COMMISSION**

26 November 1999

The Honourable Peter Costello MP  
Treasurer  
Parliament House  
CANBERRA ACT 2600

Dear Treasurer

In accordance with Section 11 of the *Productivity Commission Act 1998*, we have pleasure in submitting to you the Commission's report on *Australia's Gambling Industries*.

Yours sincerely

Gary Banks  
Chairman

Robert Fitzgerald AM  
Associate Commissioner



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# Acknowledgments

In conducting its inquiry, the Commission has benefited greatly from the participation of a wide range of people and organisations. The Commission is grateful to all those who provided written submissions or gave freely of their time to discuss issues in various forums.

Commissioners would also like to express their gratitude for the efforts and commitment of their inquiry team, in what has proven to be a major and challenging research exercise.



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# Glossary

<b>DSM-IV</b>	The Diagnostic and Statistical Manual of Mental Disorders, fourth edition, of the American Psychiatric Association (DSM-IV) contains a set of questions that is used to determine whether a person is a problem gambler (see also SOGS). Questions include whether they are preoccupied with gambling, need to gamble more each time in order to get the desired excitement or use gambling as an escape.
<b>EGM</b>	Electronic gaming machines (see gaming machines).
<b>Expenditure</b>	The net amount lost by gamblers (the amount staked by gamblers less their winnings).
<b>Gambling</b>	Staking money on uncertain events driven by chance. The major forms of gambling are wagering (racing and sports) and gaming (casinos, gaming machines, keno and lotteries).
<b>Gaming</b>	All legal forms of gambling other than wagering — including lotteries, gaming machines, casino table games and keno.
<b>Gaming machines</b>	Machines used for gaming purposes (sometimes referred to as poker machines or ‘pokies’). Come in two main types: where the player makes no strategic decisions after starting the game, and where the player can make strategic decisions (for example, drawcard machines).
<b>Gross profit</b>	Used in Australia to denote the return to the gambling operator — total wagering less prizes. Also known as gross winnings. Conversely, this the same as the amount lost by gamblers (expenditure).

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<b>Gross revenue</b>	Used in the United States to denote the return to the gambling operator — total wagering less prizes. Also known as adjusted gross receipts, adjusted gross proceeds, gross wager, net (casino) win, win, gross gaming revenue, or hold. In Australia, the equivalent term is gross profit (or conversely, gambler expenditure or losses).
<b>Handle</b>	Used in the Australian casino gaming industry to describe the value of money exchanged for gaming chips.
<b>Incidence (of problem gambling)</b>	The number of new cases of problem gambling developed over a fixed period. A measure of flow, rather than stock (compare with prevalence).
<b>Keno</b>	A game where a player bets that chosen numbers will match any of the 20 numbers randomly selected from a group of 80 numbers via a computer system or ball drawn device. It is an electronic form of bingo, and is typically played in clubs, casinos and hotels.
<b>Linked jackpots and accelerators</b>	Linked jackpots refer to gaming machines that are linked together and pay out a jackpot at some point in a spending interval, such as paying out \$1000 between \$20 000 and \$30 000. Accelerators are non-linked machines that pay out a jackpot over a similar spending interval. Thus, although wins on other types of gaming machines bear no relation to the amount gambled, specific wins on linked jackpot and accelerator machines relate specifically to the amount gambled.
<b>Lotteries</b>	Come in various forms, including lotto, pools and instant lotteries (or ‘scratchies’). Lotto is played by choosing numbers in anticipation that those numbers will be amongst the winning numbers selected randomly.
<b>Minor gaming</b>	The collective term given to art unions, raffles, lucky envelopes and the like.

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<b>Mutuality principle</b>	The mutuality principle is that one cannot make a profit from selling to oneself, and an amount received from oneself is not income — and therefore not subject to tax. The concept has been extended to defined groups of people who contribute to a common fund, controlled by the group for common (not individual) benefit.
<b>Odds</b>	The average chances of winning. In racing, the odds are also an indication of the return to a gambler.
<b>Outlay</b>	The amount of money staked or bet by gamblers (see turnover).
<b>Pathological gamblers</b>	Used in the United States (for what is seen as a psychiatric condition) for those who score 5 or more using the DSM-IV criteria or SOGS. A DSM-IV score of 5 does not have simple equivalence to a SOGS score of 5, but tends to identify the same groups of gamblers.
<b>Payout ratio</b>	The average return to a player from a given turnover.
<b>Pools</b>	A numbers game of chance where the winning numbers are based on the results of the United Kingdom or Australian soccer matches.
<b>Prevalence (of problem gambling)</b>	The total number of problem gamblers in a population. A measure of stock, rather than flow (compare with incidence). The Commission has used the South Oaks Gambling Screen, self-assessment questions and other indications by gamblers of harm to try to estimate the prevalence.
<b>Problem gambling</b>	Problem gambling is a continuum — some people have moderate problems and others have severe problems. The Commission has used various thresholds and approaches to measure this group, depending on the purpose of the analysis (see chapter 6 for more details).
<b>Recreational gamblers</b>	All non-problem gamblers.
<b>Regular gamblers</b>	Those gamblers who engage in some form of gambling, on average, once a week (other than those who are solely regular lottery or lotto players).

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<b>Severe problem gamblers</b>	Used by the Commission to indicate problem gamblers as identified by Dickerson’s approach to prevalence (chapter 6).
<b>SOGS</b>	The South Oaks Gambling Screen (SOGS) is a particular set of questions that is used to determine whether a person is a problem gambler (see also DSM-IV). Questions include whether they chase losses, have problems controlling their gambling, gamble more than intended or feel guilty about gambling.
<b>Turnover</b>	The cumulative amount of money staked or wagered by gamblers, including recycled winnings.
<b>Wagering</b>	Legal gambling on racing and sports.

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# Terms of reference

I, Peter Costello, Treasurer, under Parts 2 and 3 of the Productivity Commission Act 1998, hereby refer Australia's gambling industries for inquiry and the provision of an information report within twelve months of receiving this reference. The Commission is to hold hearings for the purpose of the inquiry.

## **Background**

2. There is a need for a better understanding of the performance of the gambling industries and their economic and social impacts across Australia, including their impact on the retail, tourism and entertainment industries and on Commonwealth and State/Territory Budgets. Little is known about the social impacts of the rapid growth in gambling.

## **Scope of Inquiry**

3. In particular, the Commission should examine and report on:
- (a) the nature and definition of gambling and the range of activities incorporated within this definition;
  - (b) the participation profile of gambling;
  - (c) the economic impacts of the gambling industries, including industry size, growth, employment, organisation and interrelationships with other industries such as tourism, leisure, other entertainment and retailing;
  - (d) the social impacts of the gambling industries, the incidence of gambling abuse, the cost and nature of welfare support services of government and non-government organisations necessary to address it, the redistributive effects of gambling and the effects of gambling on community development and the provision of other services;
  - (e) the effects of the regulatory structures – including licensing arrangements, entry and advertising restrictions, application of the mutuality principle and differing taxation arrangements – governing the gambling industries, including the implications of differing approaches for industry development and consumers;
  - (f) the implications of new technologies (such as the internet), including the effect on traditional government controls on the gambling industries;
  - (g) the impact of gambling on Commonwealth, State and Territory Budgets; and
  - (h) the adequacy of ABS statistics involving gambling.
4. The Commission should take account of any recent relevant studies undertaken or under way and have regard to the economic, social, and regional development objectives of governments.

PETER COSTELLO

[Reference received on 26 August 1998]



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## The Commission's key findings

- Gambling provides enjoyment to most Australians, over 80 per cent of whom gambled in the last year — spending about \$11 billion — with 40 per cent gambling regularly.
- Gambling is a big and rapidly growing business in Australia, with the industries currently accounting for an estimated 1.5 per cent of GDP, and employing over 100 000 people in more than 7000 businesses throughout the country.
- The main source of national benefit from the liberalisation of gambling has been the consumer gains from access to a service that gives people enjoyment.
  - Net gains in jobs and economic activity are small when account is taken of the impact on other industries of the diversion of consumer spending to gambling.
- The principal rationales for regulating the gambling industries any differently than other industries relate to:
  - promoting consumer protection;
  - minimising the potential for criminal and unethical activity; and
  - reducing the risks and costs of problem gambling.
- Around 130 000 Australians (about 1 per cent of the adult population) are estimated to have *severe* problems with their gambling. A further 160 000 adults are estimated to have *moderate* problems, which may not require 'treatment' but warrant policy concern.
  - Taken together, 'problem gamblers' represent just over 290 000 people, or 2.1 per cent of Australian adults.
- Problem gamblers comprise 15 per cent of regular (non-lottery) gamblers and account for about \$3.5 billion in expenditure annually — about one-third of the gambling industries' market.
  - They lose on average around \$12 000 each per year, compared with just under \$650 for other gamblers.
- The prevalence of problem gambling is related to the degree of accessibility of gambling, particularly gaming machines.
- The costs include financial and emotional impacts on the gamblers and on others, with on average at least five other people affected to varying degrees. For example:
  - one in ten said they have contemplated suicide due to gambling; and
  - nearly half those in counselling reported losing time from work or study in the past year due to gambling.

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### The Commission's key findings (cont.)

- The adverse impacts on individuals and the community, help explain the ambivalence of most Australians about the gambling industries, despite their widespread involvement:
  - around 70 per cent of people surveyed believed that gambling did more harm than good; and
  - 92 per cent did not want to see further expansion of gaming machines.
- Quantification of the costs and benefits of the gambling industries is hazardous. Uncertainty about key parameters constrained the Commission to providing low and high estimates. For the gambling industries as a whole, estimates of their *net* contribution to society, ranged from a net loss of \$1.2 billion to a net benefit of \$4.3 billion.
  - This masks divergent results for different gambling modes, with lotteries revealing clear net benefits, whereas gaming machines and wagering include the possibility of net losses.
- Policy approaches for the gambling industries need to be directed at reducing the costs of problem gambling — through harm minimisation and prevention measures — while retaining as much of the benefit to recreational gamblers as possible.
- The current regulatory environment is deficient. Regulations are complex, fragmented and often inconsistent. This has arisen because of inadequate policy-making processes and strong incentives for governments to derive revenue from the gambling industries.
- Restrictions on competition have not reduced the accessibility of gambling other than for casino games. With the possible exception of casinos, current restrictions on competition have little justification.
- Venue caps on gaming machines are preferable to state-wide caps in helping to moderate the accessibility drivers of problem gambling. However, more targeted consumer protection measures — if implemented — have the potential to be much more effective, with less inconvenience to recreational gamblers.
- Existing arrangements are inadequate to ensure the informed consent of consumers, or to ameliorate the risks of problem gambling. Particular deficiencies relate to:
  - information about the 'price' and nature of gambling products (especially gaming machines);
  - information about the risks of problem gambling;
  - controls on advertising (which can be inherently misleading);
  - availability of ATMs and credit; and
  - pre-commitment options, including self-exclusion arrangements.

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### The Commission's key findings (cont.)

- In such areas, self-regulatory approaches are unlikely to be as effective as explicit regulatory requirements. In most cases, regulation can be designed to enhance, rather than restrict consumer choice, by allowing better information and control.
- Counselling services for problem gamblers serve an essential role, but there is a lack of monitoring and evaluation of different approaches, and funding arrangements in some jurisdictions are too short term.
- Services, awareness promotion and research activities related to problem gambling are likely to be most effectively funded from earmarked levies on all segments of the gambling industry, with the allocation of funds independently administered.
- Internet gambling offers the potential for consumer benefits, as well as new risks for problem gambling. Managed liberalisation — with licensing of sites for probity, consumer protection and taxation — could meet most concerns, although its effectiveness would require the assistance of the Commonwealth Government.
- On the basis of available information, there is not a strong or unambiguous case for significantly reducing gambling taxes, with the possible exception of lotteries. Any changes would need to be incremental and carefully monitored.
- The mutuality principle, combined with lack of constraints on gaming machine numbers, appears to be distorting the investment and pricing decisions of some clubs, with impacts on competitors. Of the options for dealing with it, only tax action at the state level appears feasible.
- Policy decisions on key gambling issues have in many cases lacked access to objective information and independent advice — including about the likely social and economic impacts — and community consultation has been deficient.
- An ideal regulatory model would separate clearly the policy-making, control and enforcement functions.
- The key regulatory control body in each state or territory should have statutory independence and a central role in providing information and policy advice, as well as in administering gambling legislation. It should cover all gambling forms and its principal operating criteria should be consumer protection and the public interest.

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# Summary of the report

Gambling has been a feature of Australian society and its economy since the arrival of the First Fleet. But even by Australian standards, the recent proliferation of gambling opportunities and the growth in the gambling industries have been remarkable. Liberalisation of access to innovative poker machines and casinos has led this expansion, fuelled in part by the revenue needs of state and territory governments.

With the rapid liberalisation and expansion of gambling, concerns have grown about the ‘downsides’ for society, and in particular the impacts on so-called ‘problem gamblers’ and those closest to them. Over the past few years, the debate about these issues has become increasingly polarised:

- On one side are those who support the expansion of gambling, as a source of economic benefits to the states or regions concerned and of entertainment value to consumers — who, it is argued, should be just as free to exercise choice in this area of their lives as any other.
- On the other side, are those who either deny that gambling yields any benefits to the economy or community, or who consider that the social costs and impacts on social values of the ‘new gambling’ outweigh any such benefits.

The polarity of views has been reinforced by a lack of consistent information and detailed analysis about the economic and social impacts of the expansion of gambling. The dearth of relevant information has also been an obstacle to good public policy, in an area with many complexities and uncertainties for decision-makers. This has resulted in a regulatory environment containing major inconsistencies and tensions, which have contributed to community concerns.

Against this backdrop, the Productivity Commission was asked to conduct Australia’s first independent national inquiry into:

- the economic and social impacts of the gambling industries, and
- the effects of the different regulatory structures that surround those industries.

The Commission was asked to provide an information report which can serve to enhance public understanding of the issues and assist government decision-making. While the report contains no policy recommendations requiring a formal

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government response, it does provide a range of policy-relevant findings and assessments that should be of assistance to all governments. (The full terms of reference are reproduced on page 1.)

The inquiry's national scope has enabled an overarching perspective on the experiences of different jurisdictions, as well as providing an opportunity to obtain nationally consistent data. The Commission undertook three national surveys of its own, drawing on the expertise of leading Australian researchers, in addition to exploiting available information sources. That major undertaking has yielded much new and useful information.

This final report has benefited greatly from the feedback and further input of participants, including expert advisers, following the release of a draft report in July. The Commission is grateful to everyone who has taken part in the inquiry (appendix A).

## **1 The gambling industries**

### **What are they?**

Gambling has been formally defined as 'staking money on uncertain events driven by chance'. As some participants observed, this can encompass many activities, including the more speculative areas of commodity and financial markets. Nevertheless, gambling retains the distinguishing feature that, as a group, gamblers inevitably lose money over time — it is more like consumption expenditure than investment.

The Commission has focused predominantly on what are generally accepted to be the principal gambling forms — gaming, wagering and lottery products (see box 1). The gambling 'industries' accordingly encompass those organisations that provide these services — including casinos, clubs, hotels, TABs, sports betting enterprises and lottery organisations.

- 'Minor' gambling activities (art unions, raffles) have been taken into account only where most relevant, as have informal and illegal gambling.
- However, internet gambling, which is still in its infancy, is examined in some detail.
- The inquiry has also recognised, but not looked at in any detail, activities related to gambling such as the manufacture of poker machines or other equipment, horse breeding and racing, or other sports that are the subject of wagering activities.

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**Box 1      Some key gambling terms**

**Gaming** comprises all legal forms of gambling other than wagering — including lotteries, gaming machines, casino table games and keno.

**Minor gaming** is the collective name given to art unions, raffles, lucky envelopes and the like.

**Wagering** is another name for betting — to stake something (usually money) on the outcome of a contest or any uncertain event or matter. The principal forms are racing and sports betting.

**Lotteries** come in various forms, including lotto, pools and instant lotteries (or ‘scratchies’). Lotto is played by choosing numbers in anticipation that those numbers will be amongst the winning numbers selected randomly through various means.

**Gaming machines** (electronic gaming machines or ‘poker’ machines) come in two main types: machines where the player generally can make no strategic decisions after starting the game; and machines where the player may make strategic decisions. An example of the latter is a drawcard machine, where after the game has started the player must decide whether to hold or receive cards.

**Keno** is a game where a player wagers that chosen numbers will match any of the 20 numbers randomly selected from a group of 80 numbers via a computer system or a ball drawing device. It is an electronic form of bingo, and is typically played in clubs, casinos and hotels.

**Turnover** is the amount of money staked or wagered.

**Expenditure** is the net amount lost, or the amount wagered less the amount won.

**Odds** are the average chances of winning. In racing, the odds are also an indication of the return to a gambler.

**Payout ratios** are the average returns to a player from a given turnover.

## **Evolution of gambling**

Australia has a long association with gambling and has been at the forefront of many developments in the industry. The ‘totalisator’ used in racing around the world was invented here. Australia also has a longer history of legal gaming machines than most countries and leads the world in their technology. More recently, the first government regulated internet casino site in the OECD was established in the Northern Territory.

Until the last 10 to 15 years, however, legal gambling was confined to lotteries and racing in most states, with gaming machines being long established only in New South Wales clubs. The rapid transformation since then has been the result of legalisation (or liberalisation) and technological developments.

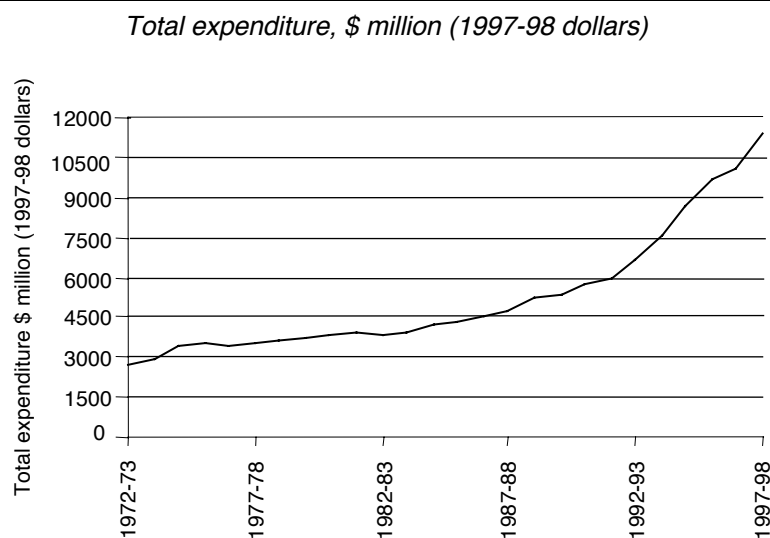
Some key features of this recent expansion of the gambling industries are:

- a proliferation of gambling forms, which commenced with the spread of casinos and then of electronic poker machines, with lottery products also becoming more diverse and sports betting expanding (including through the internet);
- increasing accessibility and ‘convenience’ of gambling, which in most jurisdictions is now part of the suburban scene;
- a more rapid ‘tempo’ of gambling, through electronic machines with much higher spending rates than the old ‘one arm bandits’, as well as more frequent race meetings and lottery draws;
- privatisation of the traditional government-run gambling forms — TABs and lotteries — with involvement of large corporations, and increasing concentration of ownership in some areas; and
- more pervasive advertising and promotion of gambling (including the use of gambling as a marketing tool for other products).

## Growth industries

The Commission estimates that the gambling industries account for about 1½ per cent of Australia’s GDP. Total expenditure (losses) on gambling amounted to over \$11 billion in 1997-98, of which \$3.5 billion is paid in taxation from a turnover (money staked) of some \$95 billion (box 2). Expenditure is more than double what it was a decade ago in real terms — at least for legal gambling — and treble that of 15 years ago (figure 1).

Figure 1 **Rapid growth in gambling expenditure**



*Data source:* Tasmanian Gaming Commission 1999.

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**Box 2      Some facts about the gambling industries**

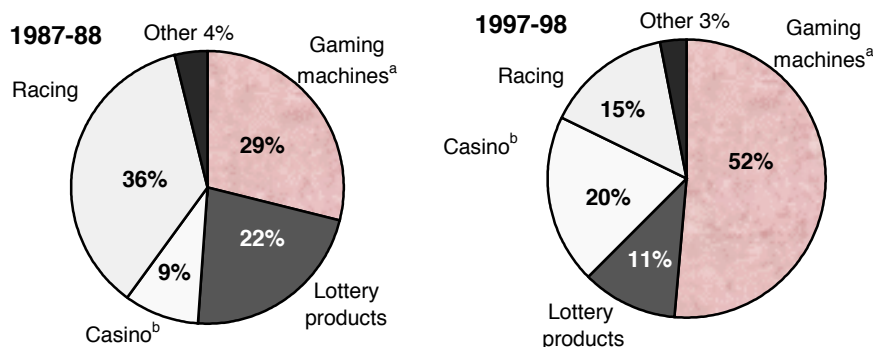
- In 1997-98, net expenditure (or the amount lost) on gambling in Australia was around \$11.3 billion. Of this, \$10.8 billion was lost by Australians, the remainder being lost by overseas visitors. Turnover (or the amount wagered) was around \$95 billion.
- Around 7000 businesses provide gambling services throughout Australia, of which 2888 are pubs, 2408 are clubs, 13 are casinos, and the remainder are lotteries and other businesses.
- Over 37 000 people were employed in businesses where the predominant activity was gambling — around 20 000 were employed in casinos and more than 15 000 in totalisator betting, lottery and other gambling businesses. In addition, over 120 000 people were employed in clubs, pubs, taverns and bars where gambling is a secondary activity.
- Gambling taxation revenue has nearly doubled over the last ten years and accounted for just under 12 per cent of state and territory governments' own-tax revenue in 1997-98.
- Gambling is characterised by a mix of public and private ownership. For example, the Adelaide casino and most lotteries are publicly owned, whereas most gaming machine venues are commercially owned and operated or are in the not-for-profit sector.

- Much of this growth has come from gaming machines, which accounted for 52 per cent of expenditure in 1997-98 (outside casinos), compared with 29 per cent in 1987-88 (figure 2). About one-third of gaming machines are now in hotels and 6 per cent are in casinos, whereas 15 years ago licensed clubs accounted for almost all machines.
- While gaming machines' share of total gambling expenditure has risen, its growth appears not to have displaced other gambling modes — which have largely maintained their previous growth trends — but rather has been at the expense of other consumption items or saving (future consumption).
- It follows that gambling expenditure has grown most rapidly in those states which have legalised or liberalised access to gaming machines. For example, gambling expenditure in Victoria was under \$1 billion in 1987-88, 40 per cent of that in New South Wales; 10 years later, expenditure in Victoria was \$3 billion, over 70 per cent of that in New South Wales (see figure 3).

Employment in these industries has grown commensurately. In 1997-98 there were over 37 000 people employed in gambling businesses (17 per cent of total 'cultural and recreational' employment) with at least another 70 000 obtaining employment in clubs and pubs as a result of gambling activities there. The industries have above average rates of part-time and female employment.

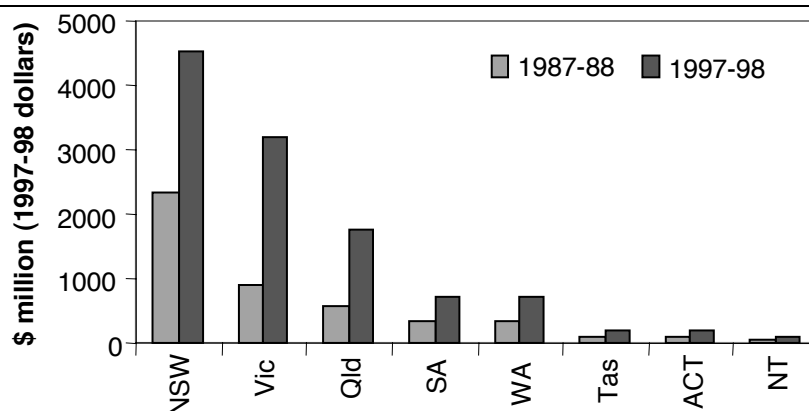


**Figure 2 Expenditure by type of gambling activity**



<sup>a</sup> Outside casinos <sup>b</sup> includes gaming machines which accounted for 6 percentage points in 1997-98.  
*Data source:* Tasmanian Gaming Commission.

**Figure 3 Gambling expenditure by state and territory**



*Data source:* Tasmanian Gaming Commission 1999.

**Table 1 Participation and frequency of gambling by adult Australians**

Form of gambling	Total Participation (per cent)	of which:			
		Less than once a month	1-3 times a month	1-3 times a week	>3 times a week
Lotto or other lottery games	60	25	24	45	6
Instant scratch tickets	46	52	33	14	1
Poker or gaming machines	39	62	25	11	2
Racing	24	71	14	13	2
Keno	16	72	20	7	1
Casino table games	10	82	15	2	0
Sports betting	6	52	25	23	0
Bingo	5	49	23	27	2
Private gambling	5	68	23	7	2
Played an internet casino game	0.4	60	15	21	4
<b>Any gambling activity</b>	<b>82</b>	<b>26</b>	<b>24</b>	<b>37</b>	<b>13</b>

*Source:* PC National Gambling Survey.

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### Box 3      **Australia's innovative 'pokies'**

Reflecting the long history and widespread availability of gaming machines in this country, Australia's manufacturers have become world leaders in innovation and design. They are also ahead of many other Australian enterprises in this respect, exemplified by Aristocrat Leisure Industries' number one ranking in the Melbourne Institute's Innovation Index (Melbourne Institute 1998). AGMMA declared that:

Australian-style video gaming machines are the most exciting and popular 'state-of-the-art' gaming machines in the world ... (sub. D257, p. 22).

This view is widely shared. An industry commentator, writing in *Casino International* magazine, observed:

The Australian market is based on 'pokie' machines, the famed multi-line multipliers that have come to be known all over the world as Australian machines. They are as sophisticated as slot machines get. They have to be: almost all of them are to be found in clubs where repeat play is measured in visits per week, rather than visits per year as in resort destinations (Sorrill 1999, p. 20).

Australia has about 185 000 gaming machines, over half of which are in New South Wales. Data provided to the Commission since the draft report, together with other information, suggest that this amounts to about 20 per cent of the number of broadly *comparable* machines in the world (appendix N). These machines generally allow much more intensive play, posing potentially higher risks for problem gambling. On a per capita basis, Australia has roughly five times as many gaming machines as the United States, where their availability is more restricted.

But as the industry emphasised, Australia's share of the world market can be estimated at as low as 2.4 per cent, if a range of other devices, such as 'amusements with prizes' and Japanese pachinko (pinball-style) and pachislo machines, are included (AGMMA sub. D257, annexure 1). It would be lower still if illegal machines, or internet gaming on personal computers, were counted.

Of course, what matters for policy, is not the proportion of machines that are in Australia, but rather their potential to promote or exacerbate problem gambling, and how this might be countered. Clubs Victoria argued at the public hearings:

We believe it's quite irrelevant how many of the world's EGMs are in Australia. What is relevant is how many of the world's problem gamblers are in Australia, and we could end up with half the world's EGMs to no detriment if the product was delivered responsibly and so as to minimise harm (transcript, p. 1304).

## 2 Who gambles and how much?

According to the Commission's survey data, about 82 per cent of adult Australians engaged in gambling in 1997-98 (apart from raffles and sweeps), with 60 per cent participating in lotteries and 39 per cent playing gaming machines (table 1).

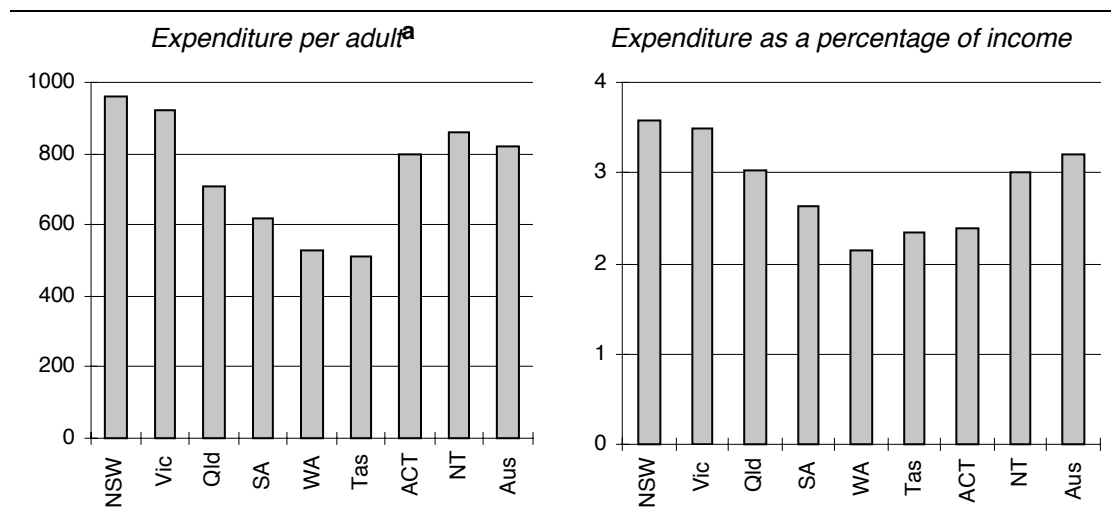
- Some 40 per cent of adults could be described as 'regular' gamblers (at least once a week), but
- only 20 per cent are regular *non-lottery* gamblers.

The skewed participation in gambling is reflected in spending patterns. On average, adult Australians currently spend (lose) about \$760 each year on gambling. That makes us among the heaviest gamblers in the world, spending at least twice as much on average on legalised gambling as people in North America and Europe.

- But just 10 per cent of gamblers accounted for around 70 per cent of total gambling expenditure in 1997-98.

Of the \$760 average 'spend' on gambling in 1997-98, about \$420 was lost on gaming machines. This helps explain the considerable gap in per capita spending between some jurisdictions — New South Wales, Victoria, the ACT and Northern Territory — where gaming machines are more established, and the others (see figure 4).

Figure 4 **Gambling expenditure by state, 1997-98**



<sup>a</sup> in dollars; includes some spending by foreign tourists.

Data source: Tasmanian Gaming Commission.

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- The states where people have spent least on gambling — both in dollars and relative to household incomes — are Western Australia and Tasmania, which have also had the lowest access to gaming machines. (In Western Australia they remain banned outside the casino.)

### **A profile of Australian gamblers**

With around 82 per cent of the adult population participating in gambling, it is to be expected that the socio-demographic profile of gamblers would resemble that of the population as a whole. However, there is some variation by mode of gambling:

- The profile of casino gamblers is biased towards males, people aged 18 to 24 and Asian communities.
- Unlike wagering, in which men predominate, the profile of gaming machine players has no gender bias (being relatively popular with women) but slightly favours younger people and middle income earners.
- Lottery players, with the highest participation rate, most closely resemble the general population (many of whom do not consider it to be real gambling).

Socio-demographic profiles are also more distinct for *regular* gamblers, where there is a greater participation of males, people aged 18 to 24 and those with lower levels of education.

## **3 Just another industry?**

The gambling industries clearly play a significant role in our economy and in the lives of many Australians, whether as employees or consumers. We don't seek to assess the costs and benefits of most other industries, so why do so for these industries? What makes them special?

Some people representing the industries have argued that there is little that *is* special about them: they are just like other entertainment businesses competing for the consumer's dollar — and they are excessively burdened by government regulation and taxation. But this was not the predominant view. Even within the gambling industries themselves, many of those with whom the Commission met accepted that their industry was indeed 'special'; in the words of one senior executive, gambling was seen as a 'questionable pleasure'.

The perceived 'questionable' nature of the gambling industries reflects their ability simultaneously to provide entertainment that is harmless to many people, while being a source of great distress — and even of financial and personal ruin — to a

significant minority. The imbalance between the consequences for each group can be very marked, a feature not found in other entertainment industries. (Alcohol consumption provides a closer analogy.)

Furthermore, the benefits which many derive from gambling — to the extent that they include occasional winnings — are derived in part from the financial losses of others. This helps explain long-standing ethical or moral objections within the community to activities seen as involving the pursuit of ‘easy money’.

The Commission’s national survey, consistent with earlier state-based surveys, found widespread community concern about the expansion of gambling, despite the equally widespread community involvement in the activity. Indeed, around 70 per cent of Australians (including a majority of regular gamblers) consider that gambling does more harm than good (see box 4). This again is not typical of the pattern of consumer response to most leisure activities.

**Box 4 Community attitudes to gambling**

Despite the widespread participation in gambling in Australia, surveys have consistently found a high disapproval rating within the community. The Commission’s *National Gambling Survey* found the following:

	<i>Gambling does more good than harm</i>	<i>Gambling has provided more opportunities for recreational enjoyment</i>	<i>Should numbers of gaming machines be increased, decreased or stay the same?</i>	
	%	%		%
Strongly agree	3.8	7.0	A large increase	0.6
Slightly agree	11.2	25.5	A small increase	1.1
Neither agree nor disagree	11.9	11.0	Stay the same	41.1
Slightly disagree	23.9	20.9	A small decrease	17.1
Strongly disagree	47.4	33.7	A large decrease	33.5
Don't know/ can't say	1.8	1.9	Don't know/can't say	6.6

Thus governments through the ages have generally placed restrictions or outright bans on gambling activity. The gambling industries, more than many others, are creatures of government regulation. But social mores and community attitudes change over time, and gambling regulation can be expected to evolve as well. In addition to these broader influences, what should guide government policy?

The task for government policy towards these industries, as for any others, is to regulate them in ways which, by taking account of their special characteristics, will

help to bring the greatest net benefits to society. This does not mean eliminating their costs, but striking a balance such as to maximise the net benefits. In the Commission’s view, such a balance has not always been sought or achieved in gambling policy, and the information required for that task has been lacking.

## 4 What are the benefits?

While the gambling industries have some important defining characteristics, they are also like other industries in seeking both to satisfy consumer demand and to expand that demand.

### Many consumers enjoy gambling

The misconception that gambling generates no worthwhile benefits is based on the ‘materialist illusion’ that only tangible goods or services yield economic gain. This ignores the pleasure that people derive from some activities regardless of any tangible output. Thus many people gamble because of the enjoyment they get from the venue, the social interaction, the risk, the thrill of anticipation, or some combination of all of these (see table 2). Gambling venues such as casinos and clubs can also provide an accessible, comfortable and safe social environment, which many people — particularly women, elderly people and ethnic communities — have found appealing.

Table 2 Why do people gamble?

<i>Motivation</i>	<i>All gamblers % of respondents</i>	<i>Regular gaming machine/casino gamblers % of respondents</i>
Dream of winning	59	66
Social reasons	38	65
For charity	27	26
Beating the odds	9	14
Favourite activity	10	19
Atmosphere/excitement	13	19
Belief in luck	12	16
Boredom/pass the time	9	13

Source: Roy Morgan 1999.

The industry has rightly emphasised that many people who gamble are simply ‘buying time’ or seeking distraction, as with other forms of entertainment. A distinguishing feature of gambling, however, is that they are also buying hope of a win — in some circumstances, perhaps a life-transforming one. For recreational

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gamblers, that anticipation is part of the enjoyment (which is an economic benefit); but for problem gamblers, it is a big part of their problem.

Thus an important task in evaluating the benefits of these industries is to estimate the extent to which consumers are better off, recognising their different characteristics.

### **‘Production-side’ gains from liberalisation are limited**

Perhaps reflecting the popular misconceptions about intangible goods, even advocates for the gambling industries often underplay the gains to consumers from increased access to a valued or desired activity. Instead, they typically point to benefits in terms of the expenditure, incomes, jobs and trade associated with the expansion of their industry, both directly and indirectly.

These ‘production-side’ benefits from liberalising gambling have often been greatly exaggerated. In fact, they are modest compared with the economic benefits derived by consumers. This was the subject of apparent misunderstanding by some participants.

If these industries had not been permitted to expand, the money spent on gambling would have been spent elsewhere. And most of the resources that went into the gambling industries would have been employed in other uses, creating similar levels of income and jobs to gambling itself. For example, the skills required of personnel in gambling venues are very similar to those required in most entertainment and hospitality industries.

Thus while there may be instances where additional jobs or income may have been generated — say in depressed regions — most of the resources in the gambling industries will have been diverted from other industries. The vocal opposition of retail traders to the expansion of gambling outlets is a visible sign of this underlying economic reality. By the same logic, however, that diversion should not in itself be of concern to policy-makers, unless it *reduces* the efficient use of economic resources, rather than simply reshuffling them.

That is *not* to say, however, that the gambling industries as they have developed, make no contribution to the economy — or that the jobs involved are ‘worthless’ (as some have interpreted it). As already documented, the gambling industries currently generate substantial income and employ many people. And, reimposing prohibitions or cutbacks on these industries now could result in significant losses and transitional unemployment. Even in this case, it is likely that most of the people involved would find alternative employment. As the Australian Hotels Association submission

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acknowledged, ‘in the long-term, industry policy affects the industry pattern of employment, not the total level’ (sub. D231, p. 22).

An economy-wide assessment of the contribution of the gambling industries can really only be gained with the aid of quantitative economic models, notwithstanding their particular limitations in dealing with the social costs of gambling. Such economy-wide modelling was conducted by the industry, as well as by consultants commissioned by the inquiry. The Commission’s analysis of these various studies, taking into consideration their different methodologies and assumptions, supports the qualitative reasoning about the industries’ likely net contribution to the economy. In short, the modelling indicates that changes in the size of the industry would have little impact on Australia’s GDP, consumption levels or labour market outcomes over the long term.

The real net contribution of the gambling industries thus depends on the extent to which consumers are better off through any enjoyment they obtain from gambling. But to gauge that requires some understanding of problem gambling.

## **5. The costs of problem gambling**

Because the social and economic costs of these industries stem largely from those who are now generally referred to as ‘problem gamblers’, the Commission has devoted considerable effort to understanding the nature and extent of this phenomenon. In addition to conducting three surveys to supplement existing data sources, it has conferred with a range of specialists in this field (researchers and practitioners) as well as meeting with problem gamblers themselves.

### **What is ‘problem gambling’?**

There are a variety of definitions of problem gambling (box 5), but most emphasise:

- a lack of control by the gambler over his or her gambling behaviour; and/or
- adverse personal, economic and social impacts which result from a gambler’s actions — particularly the financial losses (relative to the gambler’s means).

There is no clear point, however, at which a ‘recreational gambler’ becomes a ‘problem gambler’ and, for problem gamblers, there is a continuum of behaviour and impacts of escalating severity (see figure 5).



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**Box 5      Some definitions of ‘problem gambling’**

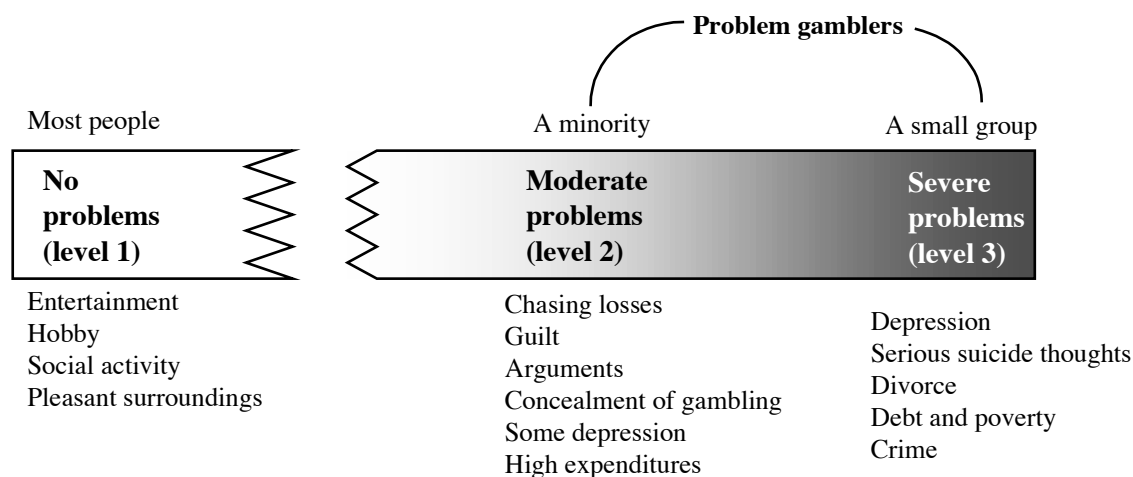
- The situation when a person’s gambling activity gives rise to harm to the individual player and/or to his or her family, and may extend to the community (Market Solutions and Dickerson 1997, p. 2).
- Problem gambling encompasses all of the patterns of gambling behaviour that compromise, disrupt or damage personal, family or vocational pursuits (National Council on Problem Gambling (US) 1997).
- Problem gambling may be characterised by a loss of control over gambling, especially over the scope and frequency of gambling, the level of wagering and the amount of leisure time devoted to gambling, and the negative consequences deriving from this loss of control (Select Committee on Gambling, ACT, 1999, p. 12, based on Hraba and Lee 1996).
- Problem gambling is any pattern of gambling behaviour that negatively affects other important areas of an individual’s life, such as relationships, finances or vocation. The mental disorder of “pathological” gambling lies at one end of a broad continuum of problem gambling behaviour (Volberg et al. 1998, p. 350).
- ... we will use ‘pathological’ and ‘compulsive’ gambling in an equivalent sense to describe gamblers who display clear signs of loss of control. ‘Problem’ gambling is used to refer to the wider group of people who show some but not all signs of developing that condition (Blaszczynski 1998, p. 13).

These can be categorised under the following headings (not all of which need be present):

- *personal and psychological characteristics*, such as difficulties in controlling expenditure; thinking about gambling for much of the time; anxiety, depression or guilt over gambling and thoughts of suicide or attempted suicide;
- *gambling behaviours*, such as spending more time or money on gambling than intended, chasing losses and making repeated but failed attempts to stop gambling;
- *interpersonal problems*, such as gambling-related arguments with family members, friends and work colleagues; relationship breakdown and other family stresses;
- *job and study problems*, such as poor work performance, lost time at work or studying, and resignation or sacking due to gambling;
- *financial effects*, such as large debts, unpaid borrowings, and financial hardship for the individual or family members; and
- *legal problems*, such as misappropriation of money, passing bad cheques, and criminal behaviour due to gambling, which in severe cases may result in court appearances and prison sentences.

The main trigger for the problems of most problem gamblers is the financial loss — which then has a range of social and personal repercussions for the gambler, his or her family and contacts. Problem gambling is generally not regarded as a mental illness for the bulk of people affected, though some will need clinical assistance to resolve their problems.

Figure 5 **The gambling continuum**



### Identifying the problem gamblers

The lack of precision in the definition of problem gambling poses difficulties for the identification of those affected. In particular, no single existing test instrument is perfect for measuring the extent (‘prevalence’) of problem gambling in the population. The dominant tool used to date has been the South Oaks Gambling Screen (or SOGS as it is commonly known), first devised in a clinical setting in the United States. The SOGS has some deficiencies which have prompted attempts to replace it. Having consulted experts in the field, the Commission nevertheless saw value in using the SOGS in its surveys, buttressed by self-assessment questions and other indicators of harm (see box 6). This three-way approach provides a more robust basis for assessing the prevalence of problem gambling. On the basis of this research:

- The Commission estimates that about 1 per cent of Australia’s adult population (130 000 people) have severe problems with their gambling, with another 1.1 per cent (163 000) experiencing moderate problems (table 3).
  - Among a range of public health concerns, this prevalence rate is lower than the rates for excessive smoking or alcohol consumption, but greater than that for use of illicit injection drugs (chapter 6).

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**Box 6      The SOGS and other screening instruments for measuring problem gambling**

Several measurement instruments or tests are used by researchers to try to determine whether a person is a problem gambler.

- One of the most common tests is the South Oaks Gambling Screen (SOGS). This test poses questions about a gambler's behaviour, such as whether they chase losses, have problems controlling their gambling, gamble more than intended, feel guilty about gambling and believe that they have a problem.
- Another test is the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association, fourth edition (DSM-IV). This shares many features of the SOGS, but has a greater emphasis on psychological aspects of problems, such as preoccupation, development of tolerance, irritability, and gambling as an escape.

The SOGS has been the most widely used and validated test around the world and has been applied in all past Australian prevalence studies. It has also been used in contemporary studies in New Zealand and Sweden to examine the prevalence of problem gambling.

Nevertheless, like all screening instruments, the SOGS has a number of limitations, including:

- Identifying some people as having severe problems when they do not, but missing out on others who do have severe problems; and
- perhaps not working well for all cultural groups in the population.

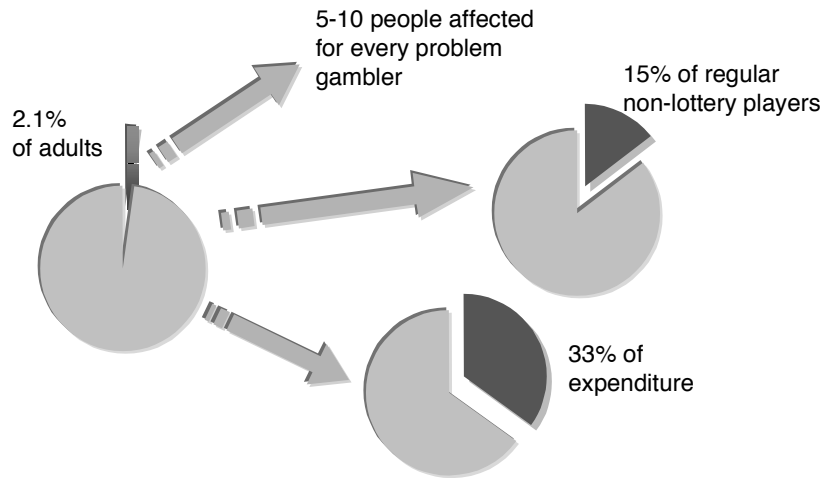
US, Canadian and Australian researchers are developing replacements for the SOGS that try to deal with some of these limitations — a move the Commission believes will be useful for the future measurement of the prevalence of problem gambling, and obtaining a better understanding of its wider impacts, beyond the more narrow concerns of existing tests.

However, having consulted experts in the field, the Commission employed the SOGS in its surveys, which enabled comparisons to be made with other Australian and overseas prevalence estimates using the same methodology. It should also be noted that the Commission:

- asked respondents many other questions about any harms associated with gambling (as well as detailed spending questions) to see whether people were likely to be problem gamblers; and
- has interpreted the SOGS as suggesting that problem gamblers lie on a continuum, with some having severe problems, but the bulk having moderate problems, and has been careful to distinguish these differing levels of harm in its results.

The Commission has used a threshold of 5 or more on the SOGS to indicate a problem gambler and has applied Dickerson's method (chapter 6) to estimate the number of severe problem gamblers.

Figure 6 **The share of problem gamblers**



Data source: PC National Gambling Survey.

Table 3 **Prevalence of problem gamblers and harm incidence in the adult population**

	SOGS 5+	Severe problems <sup>a</sup>	HARM incidence <sup>b</sup>
	%	%	%
NSW	2.55	1.25	1.96
VIC	2.14	0.82	2.05
QLD	1.88	0.76	1.79
WA	0.70	0.17	1.50
SA	<sup>c</sup>	<sup>c</sup>	1.44
TAS	0.44	0.09	0.12
ACT	2.06	0.73	1.32
NT	1.89	0.77	1.24
Australia	2.07	0.92	1.80

<sup>a</sup> As measured by the Dickerson method (chapter 6). <sup>b</sup> A self assessed indicator of significant adverse impacts on the life of the gambler. <sup>c</sup> The numbers derived for SA are 2.45 per cent for SOGS 5+ and 1.38 per cent for severe problems. These results appear to be unrealistically high and are likely to reflect sampling error.

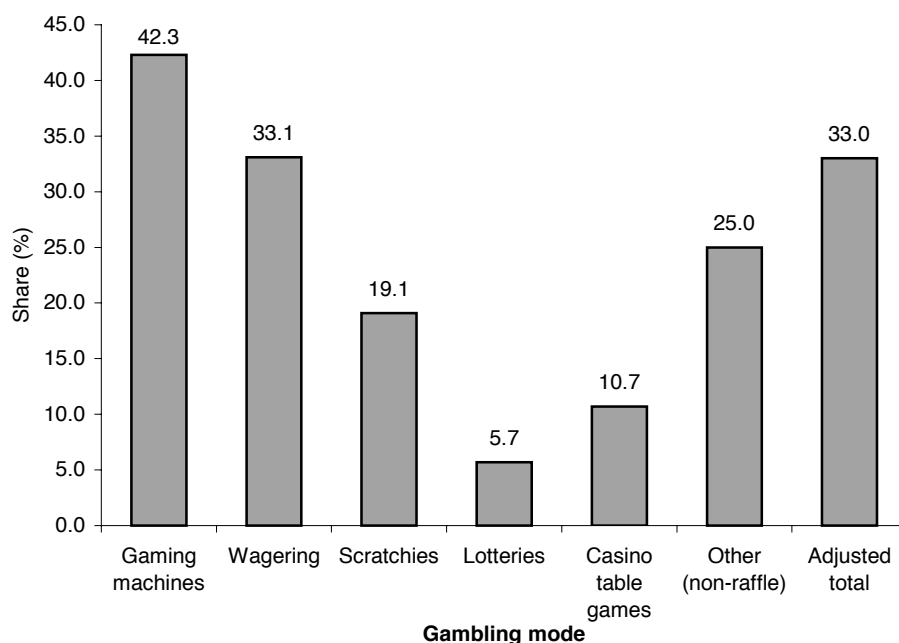
Source: PC National Gambling Survey.

- Problem gamblers are estimated to account for around one-third of total expenditure on gambling in Australia — about \$3.6 billion. Their annual losses average \$12 200, compared with just under \$650 for other gamblers (figure 7 shows this expenditure by mode).
- About 250 000 adults are estimated to have experienced significant harmful effects from gambling in the last 12 months.
- About 0.8 per cent of those surveyed (equating to 111 000 adults Australia-wide) indicated that they wanted help for gambling-related problems.

- The incidence of problem gambling varies by mode. It is highest for gaming machines and racing, and lowest for lotteries. The popularity and widespread availability of gaming machines has meant that they are associated with 65 to 80 per cent of those problem gamblers who are receiving counselling.
- The extent of problem gambling varies across the states and territories, with New South Wales having the highest rates and Western Australia the lowest — probably reflecting the relative availability of gaming machines.

The Commission’s review of the evidence also suggests that problem gambling is significantly greater in Australia than in North America.

**Figure 7 Expenditure shares of problem gamblers**



<sup>a</sup> The adjusted total takes account of the fact that the *National Gambling Survey* underestimates total spending in some gambling modes, while overestimating others. Problem gamblers are defined as SOGS 5+ (see box 6).

Data source: PC *National Gambling Survey* and appendix P.

Some participants disputed these findings on the basis of perceived flaws in the screening instruments or other aspects of the survey. The Commission considers that its estimates are more likely to *understate* than overstate the number of people in Australia with severe gambling problems. (For one thing, many people are understandably reluctant to give honest answers to an interviewer about their gambling problems — see table 4.) A brief explanation of the survey methodology is contained in box 7.

**Table 4 Do problem gamblers admit their problems?**

The Commission asked 401 problem gamblers in counselling whether they would have participated in a survey prior to seeking help, and whether they would have revealed the true nature of their problems.

<i>Answer</i>	<i>%</i>
Would have:	
Answered honestly	28.9
Refused to answer the survey	23.7
Somewhat concealed any problems	13.7
Mostly concealed any problems	9.7
Completely concealed any problems	9.2
Exaggerated any problems	0.2
Told them you did not know	1.7
Don't know what they would have said then	12.7
Total	100

*Source: PC Survey of Clients of Counselling Agencies.*

### *Who are the problem gamblers?*

There appear to be few socio-demographic factors that significantly affect the likelihood of someone being a problem gambler: neither gender, ethnicity, education nor income appear to be significant guides. The main exception is age, with younger people being significantly more highly represented (although less so among those in counselling).

### **What are the impacts?**

The main cost impacts stem from the characteristics of problem gambling as classified above. They are depicted in figure 8. Importantly, many of these impacts are not confined to problem gamblers themselves, but involve the imposition of costs on family members, employers and other unrelated people (for example, through larceny and theft). The evidence suggests that 5 to 10 other people can be directly affected to varying degrees by the behaviour of a problem gambler. In addition, there are demands on the resources of community and public services.

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## Box 7      **The Commission's National Gambling Survey**

The Commission's *National Gambling Survey* was the first fully national survey on gambling patterns and behaviour to be carried out in Australia. It was implemented as a telephone survey, and covered the general adult population (18 years or older). The survey was conducted for the Commission by Roy Morgan Research — one of Australia's most experienced market research companies.

To ensure the representativeness of the sample, it was stratified by:

- area — all states and territories were included, with metropolitan and country areas separately identified (except in the ACT), resulting in 15 geographic areas;
- age — 4 age categories (18-24 years, 25-34 years, 35-49 years, and 50 years or older); and
- gender.

In determining the sample size and design necessary to achieve reliable estimates of gambling behaviour, the Commission was guided by the approach used by the Australian Bureau of Statistics in its *Household Expenditure Survey* (HES).

While the HES uses a sample of around 8,500 households, the Commission chose to use an even larger sample size for the *National Gambling Survey* — more than 10,600 participants completed screener interviews.

The distribution of the sample by area was also very similar to that used in the HES — roughly in proportion to population, with coverage in the smaller states/territories boosted to increase statistical precision.

The Commission's gambling survey is the largest ever conducted in Australia and one of the largest carried out anywhere in the world. There is a strong basis therefore for regarding its results as more reliable than earlier Australian studies.

The questionnaire was vetted by leading Australian researchers in the gambling field, and the use of the South Oaks Gambling Screen as the problem gambling measurement instrument was endorsed by the same panel of experts.

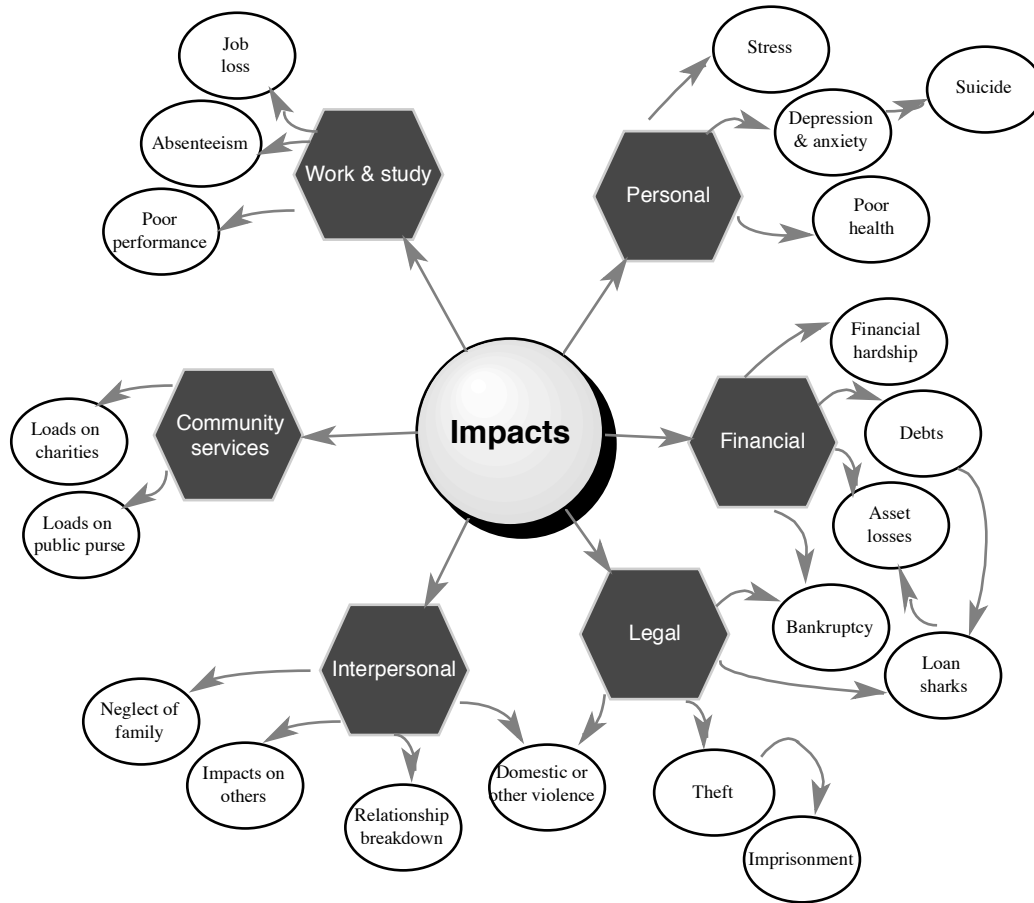
The resulting estimates of problem gambler prevalence derived by the Commission follow standard statistical practice. The sample data were post-weighted on the basis of area, age, gender, and household size, with an adjustment also for the random selection of 1 in 4 non-regular gamblers and 1 in 2 non gamblers.

The response rate achieved was equal to or better than previous Australian surveys and very similar to the recent survey undertaken in the United States for the National Gambling Impact Study Commission.

A reputable survey will inevitably find some outliers. The Commission has flagged instances where they arise (for example, in relation to prevalence of bankruptcy and divorce among problem gamblers) and in these cases supplemented the survey findings with other sources and information.

(For a detailed explanation of the survey methodology, see appendix F.)

Figure 8 **Impacts of problem gambling**



Among the Commission’s survey findings:

- one-tenth of those with significant gambling problems — and 60 per cent of those in counselling — admitted seriously contemplating suicide as a result of their gambling;
- nearly one-half of those gamblers in counselling reported losing time from work or study due to gambling;
- gambling losses averaged around 20 per cent of *household* income for problem gamblers (compared with a little over 1 per cent for recreational gamblers), and
- one in five problem gamblers admitted ‘borrowing money without paying it back’, with one in two going into debt to finance their gambling.



Table 5 **Estimated number of gamblers experiencing adverse impacts<sup>a</sup>**

<i>Adverse impact</i>	<i>Number of people affected</i>
Went bankrupt	300
Adversely affected job performance (sometimes to always)	49 200
Changed jobs due to gambling	5 600
Crime (excluding fraudulently written cheques)	9 700
Trouble with the police	6 300
Appeared in court	700
Prison sentence	300
Breakup of a relationship	39 200
Divorce or separation	3 200
Violence	700
Suffered from depression (often to always)	70 500
Seriously considered suicide	12 900
Attempted suicide	2 900
Completed suicides	35-60

<sup>a</sup> The estimates mainly relate to questions asked in the *National Gambling Survey* about impacts ‘in the last 12 months’; or where they relate to a lifetime impact, they have been annualised.

Source: chapter 7, appendix J and appendix R.

## Just ‘people with problems’?

One industry leader asked himself at the Commission’s public hearings:

Do problem gamblers exist? I am yet to be convinced of this; however I fully acknowledge that there are people with problems who gamble (sub. 161, p. 3).

ACIL’s submission on behalf of a number of members of the industry also suggested that ‘the alleged causal link may be quite spurious’ (sub. 155). This is clearly a threshold consideration in assessing the impacts of problem gambling and the policy implications. If gambling does not cause or contribute substantially to the observed problems, then a major source of cost vanishes.

The literature on problem gambling shows that, while prior problems *can* precipitate problem gambling for some people, there are many pathways which go the other way (see figure 9). In some cases, the problems stem from behaviour conditioned by the nature of the rewards offered by gambling. In others, problems stem from misperceptions about the chances of winning or recouping losses. In yet others, the problems occur because of boredom, social isolation, depression or cultural factors.

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## Box 8 Experiences of problem gamblers

... I had a wonderful life and was on top of the world. ... I don't know what drove me to seek diversion in poker machines. I just can't remember. ... So pretty soon I was going to play the pokies quite often and yes I was enjoying myself and sometimes even won a few dollars ... I lost interest in music, in my car ... dining out, friends, my girlfriend; everything ... except those reels spinning before my eyes, in my head, in my dreams. I was totally consumed and, in what seemed such a short time. Anyway the whole story is long and covers the last seven years and though I have tried to be unemotional I must say now that I have been through hell ... I have contemplated suicide many times, and many times, I've actually felt as if I was already dead (Comments from a gambler to the Productivity Commission's inquiry).

I know I was addicted and out of control, but I felt powerless to stop. I had tried many, many times to just stop, but the urges that had a grip on me always won. ...I ended up just as bad, and hating myself even...thinking that I deserved this pain because I was so stupid and knew what the outcome would be, but went anyway. ... So of course, my health suffered, my finances were in ruin, and yet I didn't have the so-called willpower to stop (Comments from a gambler to the Productivity Commission's inquiry).

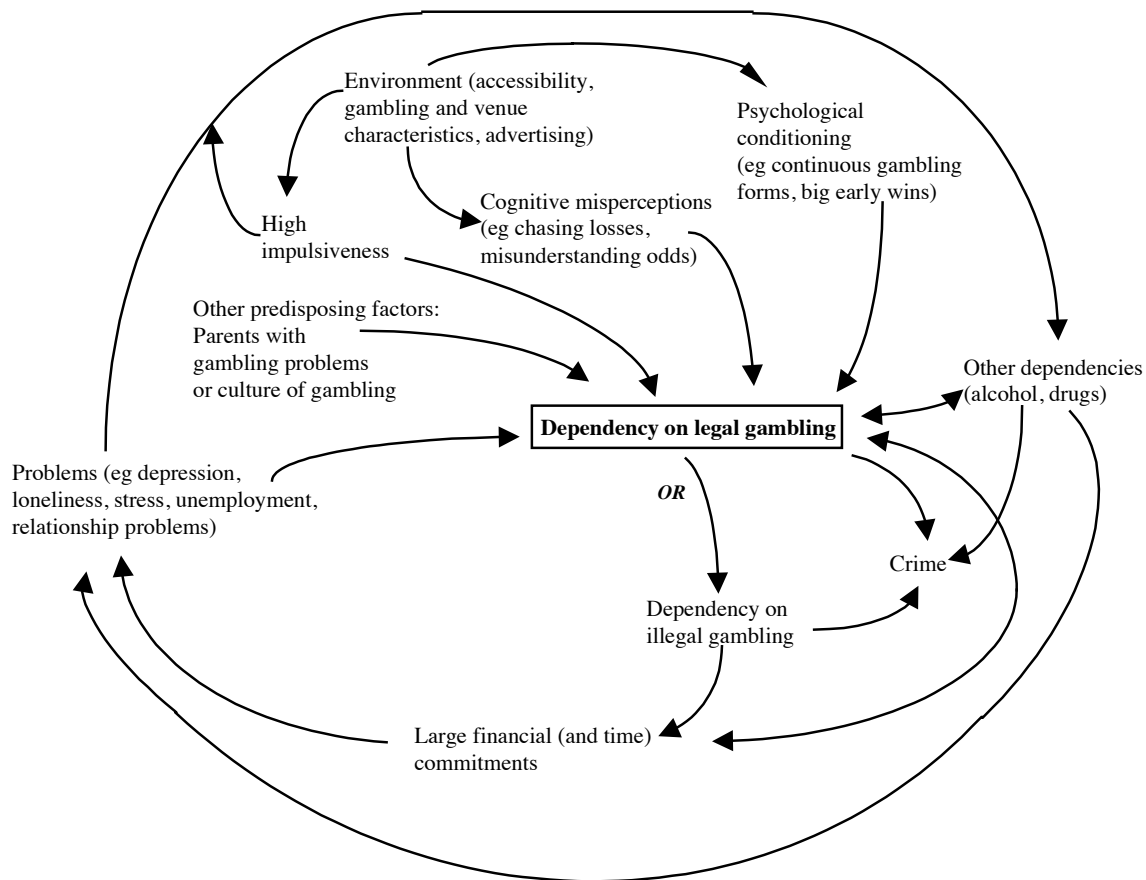
I have had gambling problems for the last nine years betting on horses. My gambling has caused me to appear before the courts on no less than four occasions. I have been homeless many times and my life has become unmanageable. When I am gambling, I do not think of the consequences, I don't care about anything else. I have readily blown my rent and food money to have one more chance to win. It doesn't worry me. My second wife has left with the two children, both under three years of age. Even so, all I can dream of is the big win which will turn my life around for the better (quoted in Blaszczynski 1998, p. 18).

Elaine is 48 years old ... and is from a wealthy Asian background. Elaine had never previously set foot in a club before. ... Elaine decided to go inside the club. ... While there she was fascinated by the flashing lights and sounds emanating from the poker machines. She cashed \$10 and began to play. She recalls she was instantly hooked. Some 3 years later and \$600 000 in liquid assets ... she eventually had to declare bankruptcy and ... faced the inevitable marriage breakdown ... she attempted to chase her losses, and embezzled a further \$30 000 from a family member. She was eventually charged and sentenced to 6 months jail (*BetSafeNews* April 1999, p. 3).

What seems clear, is that for those for whom prior problems or disorders are contributory factors, gambling appears to *exacerbate* their problems in ways that would be hard to achieve though alternative outlets (alcohol and drug abuse being the exceptions).

Having considered the evidence and analysis, the Commission's assessment is that while problem gambling may in some cases be precipitated by prior conditions or problems, many of the harms experienced by problem gamblers can be traced to gambling itself. (Nevertheless, the Commission has adjusted its estimates of the social costs of problem gambling to account for partial causality.)

Figure 9 **Causal pathways and problem gambling**



### But are they ‘relevant’ costs?

The industry has also drawn on aspects of economic theory to argue that the adversities suffered by some gamblers and their families have arisen from informed choices and therefore do not warrant special policy measures, apart from the usual social safety nets.

The Commission has not found this theory of ‘rational addiction’ compelling, at least as it has been applied to problem gamblers.

- For one thing, it fails a basic reality check. It does not accord with the way problem gamblers describe their problems and it is not consistent with the way they attempt to stop gambling — such as having themselves excluded from gambling venues.

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- There are also features of the activity which can lead to poorly informed decisions by many consumers, including the opacity of the odds and ignorance or misunderstandings about what determines gaming machine payouts.

Problem gambling is sometimes also trivialised as a public policy issue by referring to its low prevalence in the population. Apart from the point that even 2.1 per cent of the adult population equates to a significant number of people, the proportions loom larger with respect to regular gamblers and total gambling expenditure (figure 6 above).

## 6 Broader community costs?

There are other potential social costs from the gambling industries to consider, separate from those stemming directly from problem gambling.

### More or less crime?

The gambling industry, particularly casinos, has always been associated in the public's mind with crime, dating from the time when gambling itself was largely an illegal and unsupervised activity. Drawing on limited research for Australia and information from participants (including at a special Roundtable on Crime and Gambling) the Commission has concluded that crime associated with the industry itself is no longer a significant issue — indeed the legalisation of gambling and associated probity and other controls may have *reduced* associated criminality.

- *Street crime in the vicinity* of gambling venues does not appear to be any greater and, if anything, is of less concern than in other public places.
- *Petty crime* does arise within gambling venues, but this is true of any forum with concentrations of people carrying money and valuables.
- *Loan sharking* is a serious issue and may be a more prominent feature, but whether this represents a cost of the gambling industries depends on what its incidence and effects would have been with illegal gambling.
- The potential for *money laundering*, a major issue for some participants, appears to have been greatly reduced by AUSTRAC processes; although it is inevitable that proceeds of crime will be spent in gambling venues — to the extent that criminals choose that form of recreation over others. (This would also serve to bring more of that illicit spending into the tax net.)
- *Organised crime* has little opportunity to get a foothold in Australia's casinos — given their strict probity controls — or in other public corporations involved in

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gambling. The potential is greater in parts of the hotel gaming sector, but the Commission was provided no evidence of it happening.

### **Preying on disadvantaged regions?**

Several submissions raised concerns about apparent targeting of low income and socially disadvantaged communities by gaming machine providers.

- Analysis of the data suggests that in Victoria, New South Wales and South Australia, gaming machines are more densely located in lower income areas, whereas there is no correlation in Queensland.
- One explanation for the difference may be in the distribution of hotels, although the analysis does not bear this out for Melbourne. In Victoria — where there are caps on machine numbers and duopoly control — there may be greater incentives to allocate machines to areas where they will be used most intensively. Indeed, the most likely explanation is that the potential returns are highest in lower income areas, reflecting consumers’ preferences.
- Nevertheless, where it happens this can serve to concentrate the social costs in communities that are less able to bear them. It can be compounded by the withdrawal of income from such communities through the relatively high taxes on gaming machine expenditure.

### **Changing our society?**

While most participants focused on the ‘tangible’ (though difficult to measure) social costs of gambling, some raised concerns about the undermining influence of those industries on more abstract dimensions of community life and the ‘social fabric’.

- One manifestation of the expression of gambling has been the displacement of other entertainments (such as live music in long established venues). While this clearly has adverse impacts on some people, it reflects the preferences of others, and thus is hard to see as involving a net social cost.
- Similarly, some people will be affronted by the sights and sounds of gambling activities, just as others are attracted to them. While in principle such psychic ‘externalities’ can be regarded as a cost of the industries’ existence, they are pervasive in society and generally only warrant government intervention where they are large and able to be reduced without incurring greater costs.
- On a wider canvas, are concerns about changes in behavioural norms and social ethics. Some also see government promotion or facilitation of gambling as

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compromising its role, undermining the community's trust in public institutions. As noted previously, such considerations contributed to the much tighter controls on gambling in the past. If liberalised gambling has had wider impacts on the 'social fabric', this would involve costs that governments should take into account. However, their existence and valuation are not readily ascertained.

## 7 Judging the *net* impacts

As discussed, the benefits of liberalisation of the gambling industries largely comprise the increased satisfaction that consumers gain from having access to legalised gambling, whereas the costs relate mainly to problem gambling and its social repercussions.

Quantifying all these benefits and costs is a hazardous task, given the lack of information about key aspects. Attempting to estimate the costs of the gambling industries is especially problematic, as many of them involve impacts on individuals which are inherently difficult to measure. Nevertheless, in responding to its terms of reference, and because certain estimates by participants and others are being used in public debate, the Commission has attempted to quantify as many of the benefits and costs as possible, to help inform judgments about what the net impacts could be.

The psychic or emotional impacts on problem gamblers and their families are costs for which a value should be assigned, in the same way that the pleasure or entertainment from gambling has a value. The difference is that only the latter value is expressed through actual market prices — proxy values have to be found for the former (appendix J). That said, the range of estimated values for both the benefits and the costs is necessarily wide, given the uncertainties involved.

The net outcome, deducting estimated costs of problem gambling from net consumer benefits (including tax transfers), ranges in aggregate from a net loss of \$1.2 billion to a net benefit of \$4.3 billion for 1997-98. Box 9 explains how this was done.

These estimates differ somewhat from those in the draft report, as the Commission has refined its estimates of the individual components of costs and benefits. The estimates still leave out some potentially significant sources of cost which the Commission has not been able to quantify, including gambling-related suicides and potential community impacts unrelated to problem gambling.

## Box 9 'Ballpark' estimates of the benefits and costs of gambling

There are two dimensions to the calculations: the first involves estimating net benefits to consumers; the second involves estimating the costs of problem gambling.

### *The consumer benefits*

Consumer benefits are measured by economists as the extra value that consumers derive from a product — in this case, gambling — above what it costs. This is known as 'consumer surplus'. Estimates were based on current consumption levels, with the most critical assumptions being about:

- the sensitivity of gamblers to changes in the 'price' — information is very poor, so that a range of plausible estimates were used; and
- the value that problem gamblers place on their (excessive) consumption of gambling; where it was assumed that they would spend on average an amount equal to that of a regular recreational gambler and get similar satisfaction levels (a generous assumption compared to US studies).

On this basis, the estimates of net benefits from consumption (including tax revenue) ranged from \$4.4 billion to \$6.1 billion per annum for 1997-98.

### *The costs of problem gambling*

The surveys asked respondents about a range of impacts from their gambling. Using this and other information about impacts, and drawing on various sources in valuing them, the Commission came up with the following cost ranges:

<i>Impact</i>	<i>low (\$m)</i>	<i>high (\$m)</i>
Bankruptcy	1.3	1.3
Productivity loss	28	200
Job change	59	59
Police, court and jail	14	14
Distress of family and parents	756	2 933
Breakup, divorce and separation	417	1 120
Violence	2.8	8.3
Depression and suicide	502	1 230
Gambling counselling services	20	20

In total, these costs range from \$1.8 billion to \$5.6 billion. The wide range reflects the difficulty of putting dollar values on the intangible but important emotional impacts. (The methodology used, and differences from the estimates in the draft report, are explained in appendix J).

### *The net outcome*

Deducting the estimated costs of gambling from the net consumer benefit numbers, yields a range from a net social cost of \$1.2 billion to a net benefit of \$4.3 billion for 1997-98. There are significant differences by gambling mode, however, with lotteries showing a clear net benefit, whereas gaming machines and wagering include the possibility of a net loss.

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In addition, there are some distributional implications to consider. The benefits from gambling, for the majority of ‘normal’ gamblers, are individually very small relative to the costs borne by the minority of problem gamblers. Economists have tended to ignore such skewed distributional effects from policy changes, on the basis that if the gains in aggregate exceeded the costs, the ‘losers’ could in principle be compensated. This has not always occurred, raising questions in some cases about whether the community was better off in practice. But the notion of cash compensation *for a problem gambler* seems misplaced, even in principle.

But even putting these considerations aside, it should be emphasised that the highly aggregated numbers are of limited usefulness for policy.

- For one thing, they mask significant variation among different gambling modes. Using estimates of the incidence of problem gambling to assign social costs reveals, for example, that lotteries yield a clear net gain, whereas the range of numbers for gaming machines and wagering includes the possibility of a net loss.
- Similarly, there are likely to be considerable differences in net outcomes among the states and territories and, in particular, at the regional or local government levels, especially when tax flows are taken into account.
- Thirdly, as many participants observed, the disparity between the low and high estimates of net benefits limits their usefulness for policy purposes, especially given lack of knowledge about the probability of different outcomes across the range (the low and high points are unlikely to be equally probable).
- But even a single aggregate number would not necessarily give adequate guidance for a policy decision involving incremental change in the industry.

Nevertheless, what can be concluded from this quantification exercise, with all its limitations, is that the social costs as well as the benefits of the gambling industries are likely to be substantial. This demonstrates the importance of care in regulating the conditions of access to gambling and, in particular, the need to focus on policy measures — such as harm minimisation and prevention — which can effectively limit costs from problem gambling, without significantly reducing the benefits for recreational gamblers.

## **8 An incoherent regulatory environment**

The current regulatory environment falls short of that regulatory ideal. Policies for the gambling industries lack coherence: they are complex, fragmented and often inconsistent.



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For example:

- Governments are participants in and promoters of gambling activity, while also attempting to reduce the social harms from gambling.
- Governments monitor the probity of gambling to protect consumers, but neglect other important aspects of consumer protection, such as informed consent.
- Probity requirements are inconsistently applied across gambling modes and venues — being particularly stringent for casinos.
- While clubs differ in some respects from hotels, the basis for the widely differing treatment in their access to machines and in taxation is unclear, and has varied greatly over time and across jurisdictions.

These and other apparent anomalies have arisen in part because of poorly defined policy rationales and because of the uncoordinated way in which policies have been developed for the different gambling modes, compounded by the multiple jurisdictions and institutions involved.

They also reflect tensions between different policy objectives of government. The most fundamental of these has been the incentive to exploit gambling as a source of taxation revenue, in the context of the states' increasing dependence on Commonwealth revenue and a perceived lack of alternative state taxes.

### **Which policy rationales?**

Revenue raising has not only influenced approaches to taxation, but also how access to gambling services has been regulated, or de-regulated. But the key underlying rationales that should guide government regulation for these industries relate to:

- amelioration of the social costs of gambling;
- the need to ensure that consumers are adequately informed, and
- probity controls — both to protect consumers and to reduce potential criminal activity.

Other apparent government objectives in this area, such as the promotion of tourism or assisting particular groups or activities, appear not to have a strong basis.

The main features of the regulatory environments in the different states and territories include licensing criteria for operators, probity controls, technical standards, restrictions on under-age access, and taxation and community levy arrangements. But two central aspects in all jurisdictions are restrictions on competition and the regulation of access to gambling. It is important to assess what these are achieving.

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## Are constraints on competition justified?

In contrast to most other industries, the gambling industries are typically protected from competition. For example:

- Lotteries have monopolies in nearly all jurisdictions.
- TABs also have monopolies, and they can accept phone bets from interstate, but not ‘solicit’ them.
- Casinos have acquired exclusive licences for lengthy periods within specified market boundaries. The extensiveness of licences in some states has constrained governments’ options in relation to gaming machines and internet provision.
- Several jurisdictions have allocated the rights to own, distribute and /or monitor gaming machines to a limited number of operators.

This anticompetitive regulation is subject to scrutiny under the current legislative review program of the National Competition Policy. Some reviews have already taken place in particular jurisdictions, and more are in prospect. The Commission has attempted to contribute a broad perspective on the key public benefit issues under consideration. A key point, with problem gambling in mind, is that restraints on competition are generally not necessary to restrict the accessibility of gambling.

- *Revenue raising?* Notwithstanding the states’ imperatives, this is not in itself a sound rationale for restricting ownership. Governments have generally rescinded the practice of selling monopoly privileges to most goods and services, because of the costs imposed on consumers through higher prices and restricted choice. Such effects also arise in the gambling industries. The likely overall outcomes are clouded, however, by regulatory controls on prices and availability, and the presence among consumers of problem gamblers.
- *Reduce social costs?* In practice, ownership restrictions have not served to reduce the accessibility of gambling, other than for casino table games. And monopoly rights are unlikely to facilitate harm minimisation strategies for problem gamblers.
- *Facilitate probity checks?* Economies are likely to be gained with fewer operators to monitor. But the costs of probity regulation should in any case be borne by venues and this would partly determine their appropriate size.
- *Some efficiency benefits?* Scale is important to lotteries, but with the ability to pool across lotteries, does not necessitate exclusivity. There is a case for government intervention to address potential market failures for wagering on horse racing, but monopoly TABs do not appear necessary for this.

Competition is also constrained through restrictions on the venues permitted to provide gambling services. For example, the preferential access to gaming machines afforded to clubs over hotels is hard to justify on either harm minimisation or economic grounds. However, any regulatory change now to allow hotels equal access would have a significant impact on the availability of gaming in some jurisdictions.

In sum, with the possible exception of casinos, current restrictions on competition within the gambling industries have little justification.

## Regulating access to gambling

In addition to constraints on competition, there are direct restrictions on the ‘quantity’ or availability of gambling. Apart from casinos, these are most evident in relation to gaming machines.

There are caps on the number of machines — at a venue level or jurisdictional level or both — in all states and territories. For example, Victoria currently has a state-wide cap of 27 500 machines (excluding Crown Casino), with hotels and clubs limited to 105 machines each. In New South Wales, where legalised gambling has a much longer history, caps apply only to hotels and the casino (table 6).

Table 6 **Gaming machine access varies across jurisdictions<sup>a</sup>**

	<i>Total machines</i>	<i>Global cap?</i>	<i>Casino cap?</i>	<i>Global cap on clubs and hotels?</i>	<i>Cap on individual clubs?</i>	<i>Cap on individual hotels?</i>
New South Wales	99 672	-	1 500	-	unlimited	30
Victoria	29 611	30 000	2 500	27 500	105	105
Queensland	32 394	-		-	280	35
Western Australia	1 180	-		no gaming machines permitted		
South Australia		-		-	40	40
Australia	12 912					
Tasmania	2 492	-	-	-	25	15
ACT	5 013	5 200	no gaming machines permitted	5 200	unlimited	13
Northern Territory	1 252	-	-	target of 680 (indicative maximum)	45	6

<sup>a</sup> For more details and qualifications to the figures, see table 13.4.

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Both the concept of caps and the levels at which they are set are contentious issues. In the Commission's view, supply restrictions can only be justified to the extent that they can reduce social costs sufficiently to warrant any adverse impacts on recreational consumers.

*Is there a causal link between access and problem gambling?*

There are a number of dimensions to accessibility. They include not only the number and distribution of gambling opportunities among the population, but also opening hours and conditions of entry to venues, ease of use of a gambling form and the degree of social acceptance. Among the major gambling forms, gaming machines and lottery products are the most accessible, followed by TABs and lastly, casinos.

While a link between the extent of problem gambling and the accessibility of gambling might seem self-evident, it is possible that most problem gambling could emerge with only limited opportunities to gamble (including 'informal' or illegal gambling) and not rise much further with increased access. Nevertheless, the evidence from Australian surveys and other sources does confirm a significant connection, other than for lotteries.

- Problem gambling rates are higher in those states where per capita expenditure on (non-lottery) gambling is higher, such as New South Wales and Victoria, and lowest where such expenditure is lowest — namely, Tasmania and Western Australia (figure 10).
- Patterns of help-seeking by problem gamblers are also strongly associated with accessibility.
- There has been a sharp rise in the involvement of women in gambling, which is correlated with the increased access to poker machines.
- And survey data indicate that problem gambling rises more than proportionately with the number of regular gamblers.

*Impacts of state-wide (or regional) caps*

Assessing the impact of caps is complex, as it depends not only on how tightly they are 'binding' (demand exceeding supply), but also on other aspects of the regulatory environment (such as price controls and governance) and on the way consumers and venues respond to constraints.

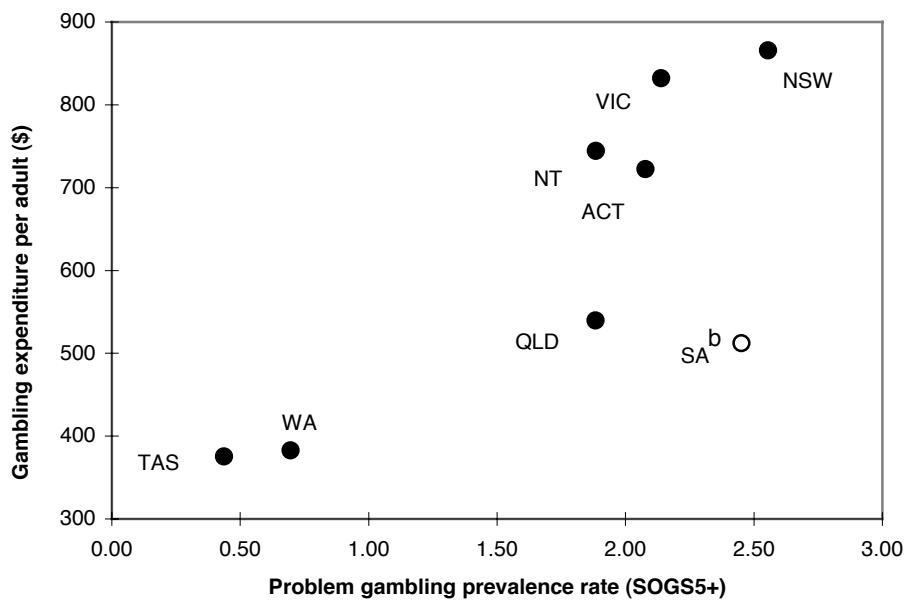
- For one thing, once demand pressures mount there will be incentives on operators and gamblers for the more intensive use of machines, which could

exacerbate problem gambling. (Machine intensity is much greater in Victoria, where there are caps, than in New South Wales.)

- To the extent that venues can raise ‘prices’ (reduce the odds or payout ratios) in response to demand pressure on scarce machines, this is also likely to increase the spending of existing problem gamblers (although possibly deterring some new ‘recruits’).
- However, to the extent that venues cannot raise prices, sheer congestion and queuing could be expected eventually to constrain the scope for problem gambling.
- But all this would come at a significant cost to the majority group of recreational gamblers.

Figure 10 **Problem gambling prevalence also varies across states**

Results from the Commission’s National Gambling Survey<sup>a</sup>



<sup>a</sup> The spending is per capita gambling expenditure for 1997-98 where gambling includes racing, EGMs and casino gambling, but not lotteries or minor forms of gambling. <sup>b</sup> The South Australian prevalence rate is outside expected bounds and is likely to reflect random sampling error.

*Data source:* The spending data is from the 1997-98 Tasmanian Gaming Commission dataset, while the prevalence data are from the Commission’s *National Gambling Survey*.

### Venue caps?

Similar considerations apply in assessing the likely effects of venue-based caps. Caps with controls on payout ratios are likely to be preferable — taking account of

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effects on problem gambling — than without them. However, venue caps have potential advantages over global caps with respect to problem gambling.

- There would be less scope to reduce payouts where venues face nearby competition.
- Smaller concentrations of machines confine them to a role of being just one element among a mix of social activities within a venue.
- Problem gamblers may be inhibited by their greater conspicuousness in a smaller, and more mixed social environment.

By the same token, larger venues may be better placed to implement effective harm minimisation strategies, to the extent that there are significant fixed costs involved.

More generally, venue capping can enable a more controlled expansion of gambling, while impacts are monitored. However the introduction of venue caps ‘after the event’ would face the practical difficulties of higher machine numbers than may be desirable in some venues and adjustment costs of imposing a lower limit.

On balance, venue caps can play a role in moderating the accessibility drivers of problem gambling from gaming machines — and are preferable to global caps for this purpose. But more targeted mechanisms for harm minimisation would involve less collateral disadvantage to recreational gamblers and would be more effective in reducing social costs.

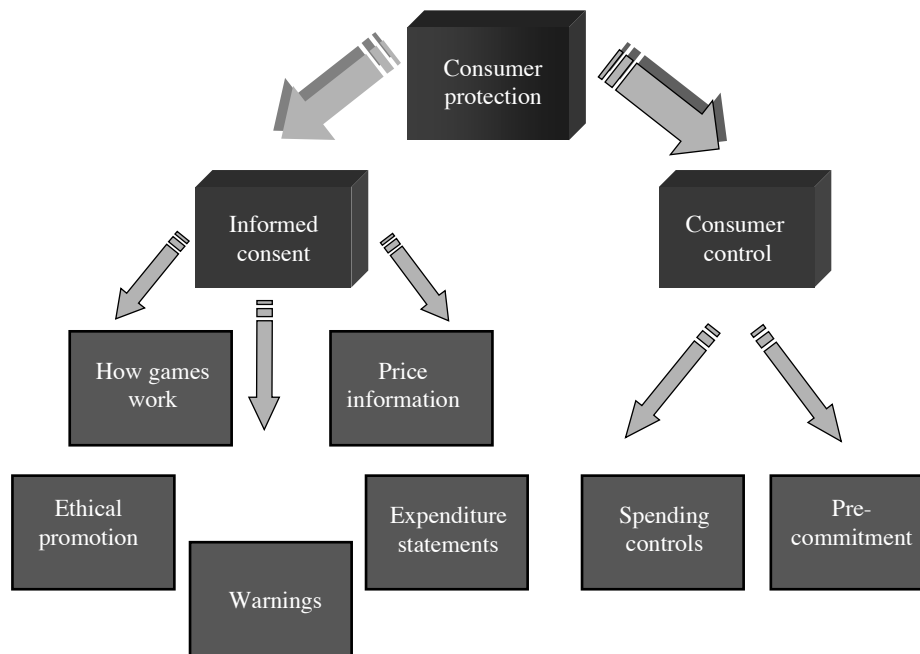
## **9 A key role for consumer protection**

The principle of informed consent should apply with particular force to the gambling industries, given the potential for consumer losses. But the Commission found a lack of basic information about the price and nature of some gambling products, let alone the potential dangers from ‘excessive consumption’. Effective consumer protection measures are needed in a number of areas (figure 11). Individually they may not have a major impact, but collectively they could make a significant contribution in ameliorating social costs. That said, most would first require pilot testing or experimentation to determine their cost effectiveness and most appropriate design.

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Figure 11 **Consumer protection measures**

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### Meaningful ‘price’ information

The industry has emphasised that consumers are buying ‘time’ or entertainment when they gamble. However, unlike many other consumption items, there is little basis for consumers to know the expected ‘price’ of their purchase. Many people have little understanding of the expected return on a lotto ticket, for example. And minimum payout ratios for gaming machines convey little information about likely spending rates.

- While there are complexities involved, the Commission sees considerable scope for providing more meaningful information about the effective ‘price’ of playing poker machines and lotteries, including the likelihood of receiving high paying winning combinations. For example, how many poker machine players would appreciate that the chances of getting say ‘five rhinos’ would be only one in ten million — even less than winning the lottery (box 10).
- Apart from other considerations, the absence of adequate price information in this area provides some justification for the statutory minimum payout ratios.

The prime objective of better information is simply to empower consumers, not to deal with problem gambling. However, better information about the odds and average costs of gambling might help reduce the false perceptions that sometimes underlie problem gambling.

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## Box 10      **Communicating the price of gambling**

Displaying the mathematical odds of different outcomes on a gaming machine may be informative for many people, but may do little for those consumers who find odds hard to interpret. But there are more evocative ways of representing the odds that may be more understandable. For example, in the case of Black Rhinos (a popular gaming machine), consumers could be told that (as confirmed by the manufacturer), if they bet one line per button push, in order to have just a *50 per cent chance* of getting 5 rhinos:

- it would take them 6.7 million button presses; or
- at ordinary rates of playing, it would take them 188 years of playing or 392 days of absolutely continuous play (24 hours a day); or
- it would cost them nearly \$330 000.

(Of course, this is an extreme example of a general point. Clearly, this machine also pays out many smaller prizes with much higher probabilities.)

The best measure of the effective price of playing poker machines is the expected loss (one minus the return rate). Together with information on the odds of different payouts, this could be shown in real time on the poker machine screen. Machines already have versatile displays which provide graphics and information to players. They are effectively computers with an in-built colour monitor. Incorporating such further information would involve no radical re-design of the machines (and therefore should not pose high compliance burdens).

Indeed, AGMMA (sub. D257, p. 7) suggested a display card format that could be usefully employed — reproduced in chapter 16 (box 16.4).

However, the Commission considers that trials with consumers would need to be conducted to assess:

- the exact form in which information should be provided;
- the usefulness of complementary information pamphlets to consumers that help explain how poker machines work, including information on how to interpret any posted ‘prices’; and
- the extent to which consumer behaviour changes as a result of this information.

## **How games work**

Erroneous beliefs about what determines ‘success’ in gambling are legion. Apart from leading to poor decision-making by the average consumer, psychologists see these false perceptions as major contributors to problem gambling (table 7).



**Table 7 Beliefs about gambling**  
per cent

<i>Belief</i>	<i>Agreeing</i>
The chances of winning a substantial amount of money at the casino are quite high	15.5
I think I'll win a good prize in Tattsлото (over \$10 000) one day	16.6
One day I'm going to strike it lucky at gambling	13.7
Sometimes I think I might have the power to 'will' my numbers to come up in gambling games	8.4
To win at gambling you have to think positively	19.0
If I concentrated hard enough I might be able to influence whether I win when I play the pokies	6.9
I'm more likely to win at lotto/gambling if I use my 'lucky numbers'	10.0
You can win at the pokies if you adopt the right system	10.1
You can 'beat the system' at the casino if you know how	11.1

<sup>a</sup> Based on a survey of gambling attitudes among 1017 Victorian young people.

Source: Moore and Ohtsuka (1998).

One of the most widespread misconceptions (evident in problem gamblers' frustrated 'chasing of losses') is the notion that gaming machine payouts depend on previous outcomes from a machine (box 11).

**Box 11 Some facts about pokies**

- The payout tables on poker machines indicate the winnings that are associated with certain combinations. They do not tell the player the probability of the combination occurring.
- In most jurisdictions, operators must return at least 85 per cent of turnover to players as winnings. It will usually take hundreds of thousands of games for a machine to come close to this average 'set' return.
- Each game played on a machine is independent of results from past games — machines which have not paid out for some time have no higher chance of paying out now or in the near future (and vice versa).
- Actual outcomes on machines are extremely volatile, with player returns and the amount of time that it takes to lose a set amount of money varying between sessions.
- If a gambler 'reinvests' the winnings, he or she will eventually lose the lot.

Information in this area is essential to inform consumer choice and could help prevent the development of gambling habits and attitudes that lead to problem gambling. Such information could be made readily available through pamphlets and signs (in a range of languages) — as is done now in casinos to introduce people to the rules of table games.

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## Statements of expenditure

Many gamblers appear to have poor awareness (or biased recollections) of their losses relative to their wins. This has been borne out by surveys. (For example, the *ABS Household Expenditure Survey* indicates gambling expenditure in 1993-94 was about one-quarter of the actual level.) As a result, a potential early-warning signal about problem gambling is muted.

One advantage of the internet as a gambling medium is that it provides a gambler with ready access to comprehensive information about his or her spending pattern and levels. There is scope to provide more such information within other gambling forms. This has been facilitated by the advanced information technology in gaming machines. Accounts could already be made regularly available to existing holders of ‘loyalty cards’ in casinos and clubs, and to TAB account holders. If information is collected by the industry on consumer spending patterns, it is only reasonable that it be divulged to consumers themselves.

## ‘Health (or wealth) warnings’

As noted, a variety of people within society can become problem gamblers. The continuum of impacts and the costs which each problem gambler can impose on others, define it as a public health issue. That in turn implies the need for better and more readily available information for consumers about:

- the risks and consequences of excessive gambling;
- the signs of an emerging problem; and
- sources of assistance and advice.

Such information needs to be disseminated within the general community, as well as at gambling venues — where it needs to be much more accessible than is currently the case in many venues. For example, the effectiveness of many warning signs currently provided by venues is doubtful. As box 12 illustrates, they are rarely as explicit as in other areas of public health.

## Advertising and promotion

As with other products, gambling advertising generally accentuates the positives and ignores the negatives, so as to simulate consumer demand. In this case, that can be hazardous. As one former industry leader commented at the public hearings, ‘all advertising for gaming is misleading because it only shows people winning. That is not the experience of most people in gaming’ (transcript, p. 25). The message is that

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everyone can be a winner. This can help foster the sorts of erroneous beliefs about gambling that lead to problems. As noted, unlike most other products, it is difficult for many consumers to learn the truth for themselves.

This provides grounds for going beyond existing trade practices restraints. The voluntary codes examined by the Commission are useful, but none requires the ‘warnings’ that apply to other public health issues, or targets the misconceptions.

**Box 12      Gambling ‘health warnings’ compared**

***Used in other areas of public health***

‘Speed Kills’

‘Hot water burns like fire’ (Queensland scalds prevention campaign)

The Australian National Tobacco TV ad campaign shows pictures of blackened lungs and a smoke-damaged aorta oozing yellow fluids ([www.quitnow.info.au](http://www.quitnow.info.au)).

A Road Safety Campaign TV ad shows a weeping man who has run over a child while drunk.

***Used in gambling venues***

‘Have fun, but play it safe’ (Tattersall’s)

‘Bet with your head, not above it’ (Star City Casino)

‘Gambling can be addictive’ (Canberra Club)

A Victorian responsible gambling TV ad pictured a group of quirky people having fun with gambling, ending with the slogan ‘If it’s no longer fun, walk away’

‘If you play with real dollars, play with real sense’ (awarded best slogan, American Gaming Association, [www.americangaming.org](http://www.americangaming.org))

***Not used in gambling venues but suggested to the Commission***

‘If you think you can win, you’re a loser!’

## **Access to cash and credit**

It is generally illegal for venues to provide credit to gamblers and many do not cash cheques. That the underlying principle is widely supported within the industries further illustrates their special nature. By similar logic, casinos have taken a lead by situating their ATMs away from the gambling floor. The Commission’s *National Gambling Survey* found that problem gamblers were more likely than non-problem players to withdraw money from an ATM at a venue whilst playing the pokies (table 8). Among other evidence, problem gamblers surveyed by the Commission ranked ATM location as one of the most important issues for effective harm minimisation.

**Table 8 How often do you withdraw money from an ATM at a venue when you play the poker machines?**

	<i>Never or rarely</i>	<i>Often or always</i>
	%	%
Recreational players	90.0	4.6
Problem gamblers (SOG 5+)	47.0	37.8
Problem players (SOGS 10+)	25.2	58.7

Source: PC National Gambling Survey.

Outright bans on ATMs in venues with gambling may inconvenience recreational gamblers and other patrons. But more targeted and potentially cost-effective options include restrictions on the location of ATMs and lower withdrawal limits in gambling venues.

### **Exclusion and self-exclusion**

The ability of establishments to exclude problem gamblers and for problem gamblers to exclude themselves, can play a useful role in reducing social costs. Such arrangements appear to have operated most effectively in casinos, where there are statutory provisions protecting the venue from liability and enabling relatively simple contractual arrangements. There is a case for extending statutory cover to all venues, while making it mandatory to advertise the facility and for venue management to act on all requests for self-exclusion.

### **Modifying game features and design**

Evidence from surveys and counselling services suggests that gaming machines are a major source of problem gambling. In addition to their wider availability, sources of risk include their continuous nature, the ability to increase the size of successive bets and the structure of payouts. An important question is whether changes could be made to the machines which would temper the ‘hazards’, without significantly diminishing recreational gamblers’ entertainment.

The Commission has canvassed a variety of options. Many of these could be programmed into the machines to allow interaction with the gambler. They include:

- precommitment strategies and mechanisms, whereby a gambler could in advance place self-imposed limits on gambling duration or expenditure;
- curtailing or eliminating the use of ‘bill acceptors’ on machines;
- limitations on spending rates;

- 
- enforced breaks in play at convenient intervals (such as after a significant win); and
  - big payouts being made only by cheque (as currently occurs on leaving a casino).

While such measures appear likely to have a beneficial effect for problem gamblers, their impacts on recreational gamblers are unclear and would need to be assessed. The Commission considers that mechanisms which allow gamblers to pre-commit to certain spending limits offer the most promise, and are potentially applicable to most gambling modes. Their effectiveness would be enhanced by being widely available among venues. They should be an essential feature of any move to smart card technology in gambling. Some other measures proposed by participants, such as altering the lighting and sound effects for machines, are unlikely to be effective.

A listing of the options and a summarised indication of their effects on different groups is included in table 9, along with measures applicable to other gambling forms.

### **What level of enforcement?**

Reflecting different motivations, many gambling providers have already developed codes of practice covering such areas as advertising, signs about risks and counselling services, the training of staff and responsible serving of alcohol to gambling patrons. Most of these are recent (or yet to be implemented) and their efficacy is largely untested. In some cases compliance is clearly inadequate.

The question arises as to whether introducing a legislative duty of care involving broad standards, leaving the detailed approach to patron care as part of a self-regulatory model would be more effective. In a gambling context, however, enforcement of such a broad duty of care could prove more difficult than in other situations — because of the scope to shift the ‘blame’. The incentive to comply is also likely to be compromised by the substantial proportion of takings derived from problem gamblers.

On these grounds, the Commission considers that there is a strong case for mandatory regulations, rather than simply relying on voluntary codes of practice. Since the Commission completed its draft report, regulatory initiatives have been signalled in a number of jurisdictions, including the New South Wales *Gambling Legislation Amendment (Responsible Gambling) Act 1999*.

**Table 9 Options for harm minimisation and prevention<sup>a</sup>**

	<i>Relevant modes<sup>b</sup></i>	<i>Aids consumer consent?</i>	<i>Impacts on recreational gamblers</i>	<i>Possible benefits for problem gambling</i>	<i>Overall rating</i>
A ban on gambling	A	x	x	✓	x
Information on odds of losing	G,L	✓	✓	✓	✓
Odds on payout tables on gaming machines	G	✓	✓	✓	✓
Information on the nature of games	A	✓	✓	✓	✓
Regulation of payout ratios	A	?	✓	✓	✓
A record of transactions	G,R	✓	✓	✓	✓
Awareness of the risks of problems	A	✓	✓	✓	✓
Restrictions on advertising	A	?	✓	✓	✓
Risk warnings on advertising	A	✓	✓	✓	✓
Opening hour restrictions	A	x	x	?	x
Quantity restrictions	A	x	x	?	?
Limiting social accessibility	A	x	x	?	x
Increasing the initial outlay	A	x	x	?	x
More stringent entry conditions	A	x	x	?	x
Limiting access to ATMs and credit	A	?	x	✓	✓
Simple system of self-exclusion	A	✓	✓	✓	✓
Player controls (eg card systems)	G, R, C	✓	✓	✓	✓
No bill acceptors	G	?	x	✓	✓
Limits on the rate of loss	G,R,C	x	x	✓	?
No linked jackpots	G	x	x	✓	?
Enforced breaks	G	✓	x	?	?
Cheque payouts for wins > \$250	G,C	x	x	✓	?
Longer times between button pushes	G	x	x	?	x
Less lights and sounds	G	x	x	?	x

<sup>a</sup> A tick denotes a likely positive or at least benign effects, a cross an adverse effect and a ? an uncertain or mixed effect. The overall rating provides an initial judgement about the priority for assessment of regulatory options, with ticked items having the highest priority for policy evaluation. Options for harm minimisation of internet gambling are separately considered in chapter 18. <sup>b</sup> A denotes all gambling forms, G denotes gaming, R denotes racing, L denotes lotteries and C denotes casino table games.

## Probity regulation

This is an area where existing regulation is highly prescriptive, although the strictness of the regulations varies considerably among the states and between modes. It is applied most stringently to casinos in all jurisdictions. The imbalance in probity regulation between casinos on the one hand and clubs and hotels on the other is difficult to justify, especially given the significant overlap in their gambling activities. While risk management is important to cost-effective probity regulation, there is a good case for consistency of treatment according to the gambling mode as well as the venue.

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## 10 Problem gambling counselling services

All jurisdictions have problem gambling strategies in place. Some are more comprehensive than others, but most involve the provision of funding for problem gambling counselling and support agencies, as well as a community education strategy and research into the impacts of gambling. This funding is generally a small proportion of government taxes or levies on the industry.

- In most states, the government funded counselling agencies are organised as a geographically-based network called Break Even.
- 24-hour telephone crisis counselling services operate in all states, and are an important first point of contact for problem gamblers seeking help. Typically between 20 and 40 per cent of clients seeking help at counselling agencies have been referred by these services.

### A rapidly growing clientele

The number of people presenting for help with gambling problems appears to have been increasing rapidly. The Commission's *Survey of Counselling Services* reveals a 33 per cent increase in caseloads over the past twelve months. Overall, 79 respondent agencies reported counselling or helping around 11 600 problem gambler clients and other clients affected by someone else's problem gambling during the past year.

- But this excludes the significant numbers participating in Gamblers Anonymous and other group support sessions, as well as those who may obtain help from generic community service, financial or relationship counselling agencies.
- Moreover, there is evidence that only a small proportion of those with gambling problems seek help, and less than half of those in the Commission's *National Gambling Survey* who admitted that they wanted help had actually sought it. Those gamblers who *do* seek help have generally reached a crisis, which may involve legal proceedings, job loss, family break-up, or attempted suicide.

The majority (65 to 80 per cent) of those receiving assistance have problems related to their involvement with gaming machines, with horse racing and casino gaming accounting for most of the rest. This is a consistent finding across most agencies and jurisdictions.

- The exception is Western Australia, which has relatively few people seeking help and much more limited access to gaming machines.

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## Effective treatment?

Treatment methods appear to vary considerably, from self-help at one end to ‘cognitive’ therapy (designed to correct misperceptions) and ‘medical’ treatment at the other. However, there is little reliable information on which approaches work best.

Given the importance of ensuring effective treatment — and the outlays already involved — some additional expenditure on monitoring and evaluation would be a good investment.

- This should include follow-ups conducted 6 to 12 months after the cessation of treatment (there are indications that earlier follow-ups may greatly understate the extent of relapses) and clinical research on best practice treatments.

There is also a need for some minimum, nationally consistent data set on the numbers and key characteristics of those being treated, as well as treatment methods and durations. The data that are available tend to be fragmented. And data that have been collected should be made widely available.

- Lack of evaluative information is also an impediment to the development of appropriate training and accreditation schemes (which desirably should be national) and, potentially, to future funding.

## Funding arrangements for counselling

There are a variety of funding sources and mechanisms for gambling counselling across jurisdictions. Some have a statutory basis, derived from gambling taxes or special levies, and some are voluntary industry-based arrangements.

- Given the potential for conflicting incentives, there would seem to be an advantage in the former over the latter, with decisions about allocation of funds being made independently of industry interests.

The contributors to problem gambling funding within the gambling industries also vary by jurisdiction. For example, in South Australia the clubs and hotels make voluntary contributions, whereas in Victoria the hotels pay a prescribed amount. Funding should be derived from all gambling activities. While gaming machine revenue should be the predominant source, contributions should be derived from all gaming machine venues.

In most jurisdictions funding occurs on an annual basis. Agencies have raised concerns about the difficulties which this poses for planning and retention of skilled counselling personnel. There would be advantages in rolling triennial funding



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arrangements, but these should be accompanied by a requirement for, and additional funding of, information on the performance of counselling agencies.

Funding levels are always hard to assess. There is evidence of excess capacity in some jurisdictions and waiting lists in others. Overall, the number of people in counselling is only a small proportion of those who wanted help, as indicated by the Commission's survey. Advertising, information collection and assessment activities appear under-funded in most jurisdictions.

## **11 Implications of the internet**

Technological changes are having a rapid and marked impact on the delivery and nature of gambling services. The internet and interactive television allow the delivery of a wide range of gambling opportunities into everyone's home — the ultimate in 'convenience gambling'. These new technologies offer potential gains to many businesses and consumers, but also pose fresh challenges for regulation, harm minimisation and taxation.

State and territory governments have broadly agreed to a code for implementing interactive internet gambling, involving a range of probity and consumer protection requirements and specifying that taxation revenue will be repatriated to the jurisdiction of the gambler. A number of jurisdictions now have legislation in place, not all of which is consistent with this code.

In addition to the sports and racing betting that have been available over the internet (as an alternative to the telephone) for some time, Lasseters Casino, located in the Northern Territory, was the first online site offering interactive casino-style gambling. Others are poised to follow, including one on Norfolk Island.

Online gambling and interactive TV potentially represent a quantum leap in accessibility to gambling, and will also involve new groups of people. They will thus pose new risks and uncertainties for problem gambling. However, there are also some moderating features, such as the greater potential for proximity of family members, and scope for more effective consumer protection mechanisms and controls.

- Risks to minors, a major concern for many, are probably not significant for licensed sites — given screening requirements, ease of monitoring of accounts and the inability to gain access to any winnings.
- Supplier integrity can be monitored domestically, if not internationally, and could become largely self-enforcing to the extent that gamblers have access to

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and are informed about preferred reputable sites where payment of any winnings is assured.

## **Approaches to regulation**

Regardless of what regulatory approach is taken, there are strong grounds for governments to pursue ‘palliative’ measures, such as provision of information about suitable sites, gambling help services, and software for exercising greater control over online gambling.

There are also good grounds for the regulation of internet gambling along lines appropriate for other gambling forms. The Commission considers that there are ways of sufficiently inhibiting access to (foreign-sourced) unlicensed sites to make such regulation effective. It would also be considered fair and be complied with by most consumers — whereas complete prohibition may not. Moreover, prohibition would eliminate some potential benefits from the technology (including potential competitive advantages in trade).

‘Managed liberalisation’ — with regulation of licensed sites to ensure probity and consumer protection — has the potential to meet most concerns, provided a national approach to regulation and taxation is taken. A Commonwealth role, in cooperation with the states, could be of significant benefit to all jurisdictions by (among other things):

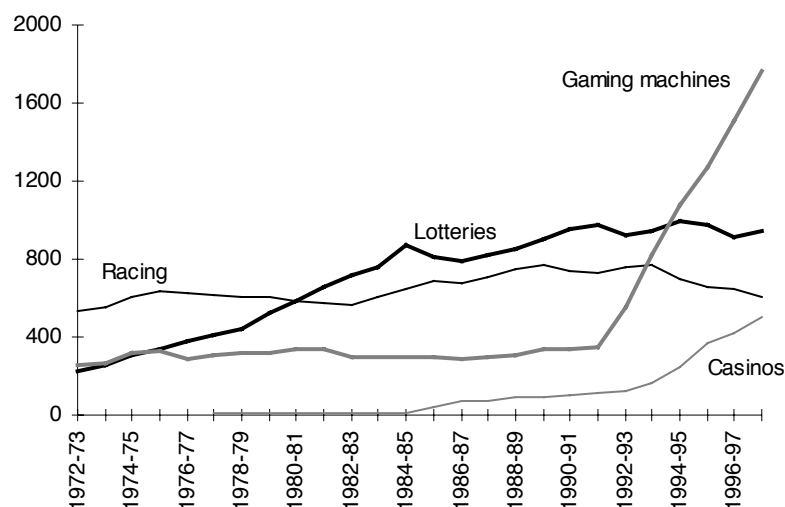
- allowing a single control system for blocking access to unlicensed sites;
- providing one national site for information and problem gambling referrals;
- providing a single voice when negotiating international agreements relating to consumer protection and taxation issues; and
- enabling one effective system for tax collection, revenue distribution and rate setting that would preserve the tax base.

## **12 Taxing gambling**

As noted, taxation has played a major role in the recent evolution of gambling policies. It is a sizeable proportion of the revenues of all states and territories and has grown significantly over the past decade, particularly following the introduction of gaming machines in Victoria, South Australia and Queensland. Tax rates are high in all jurisdictions, and vary considerably among gambling forms and venues (figure 12 and table 10).

**Figure 12 New forms of gambling provide revenue growth**

Total state and territory revenue from different forms of gambling: 1972-73 to 1997-98 (1997-98 dollars million)



Source: ABS Taxation Revenue, Cat. no. 5506.0, various issues and Commission estimates.

**Table 10 Gambling taxes are a significant share of state tax revenue**

Gambling tax revenue as a percentage of total own-tax revenue<sup>a</sup>

	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas</i>	<i>ACT</i>	<i>NT</i>	<i>Average</i>
1975-76	12.8	9.4	6.7	6.4	5.1	6.0	na	na	9.8
⋮									
1985-86	11.6	9.1	10.1	5.8	7.6	9.6	na	na	7.9
⋮									
1995-96	11.0	12.6	13.1	7.4	11.5	8.8	10.1	8.4	11.4
1996-97	10.2	13.0	12.8	6.4	13.0	9.8	8.6	9.4	11.2
1997-98 <sup>b</sup>	10.4	15.2	12.5	5.7	13.8	10.3	8.3	9.6	11.7

<sup>a</sup> Tax includes licence fees and charges. <sup>b</sup> Figures for 1997-98 are preliminary.

Source: chapter 19.

The states' distorted incentives to use gambling as a revenue raiser — because of their lack of broad-based taxes and dependence on Commonwealth transfers — have been compounded by the distribution methodology of the Commonwealth Grants Commission, which penalises below average tax raising efforts.

Gambling taxes, like other taxes, need to be evaluated on efficiency, equity and social grounds.

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## Are the higher taxes justified?

High gambling taxes can be partly justified as appropriating for the community what otherwise would be excess profit from licensing or access restrictions. (There is some evidence of excessive returns even after tax — illustrated by the premium paid for additional poker machine licences under last year's auction in New South Wales.) This justification depends in turn on the (questionable) rationale for exclusivity and other restrictive ownership arrangements.

### *Effects on 'efficiency'?*

Taxes generally change the behaviour of those who bear them. In general, the greater this distortion in behaviour, the less efficient the tax. So relatively high taxes can be efficient in this sense if demand is unresponsive to a resulting price increase.

Unfortunately there is very little reliable empirical information on the price responsiveness of 'recreational' gamblers. (Conclusions about efficiency cannot be based on the behaviour of problem gamblers.) If anything, the weight of evidence and other more qualitative considerations support the presumption of relatively insensitive demand.

In these circumstances, there would not necessarily be a payoff to efficiency from significantly reducing gambling tax rates. Lottery taxes may be an exception, however, being so high as to possibly outweigh the effects of inelastic demand.

### *Effects on problem gambling?*

Normally there are grounds for taxing more heavily those activities with undesirable side effects, to reduce their production or consumption. But in this case, the adverse side effects stem from excessive *spending*. And it seems clear that, irrespective of any doubts about recreational gamblers, most problem gamblers are unlikely to be sensitive to price changes. So higher taxes generally make for greater financial burdens on existing problem gamblers.

However, not enough is known about the behaviour of problem gamblers to predict the outcome for them from lower taxes. Also, lower taxes could serve to encourage increased gambling activity by people who are at risk of becoming problem gamblers. This and other complications have led the Commission to conclude that taxation is too blunt an instrument for reducing the social costs of gambling.

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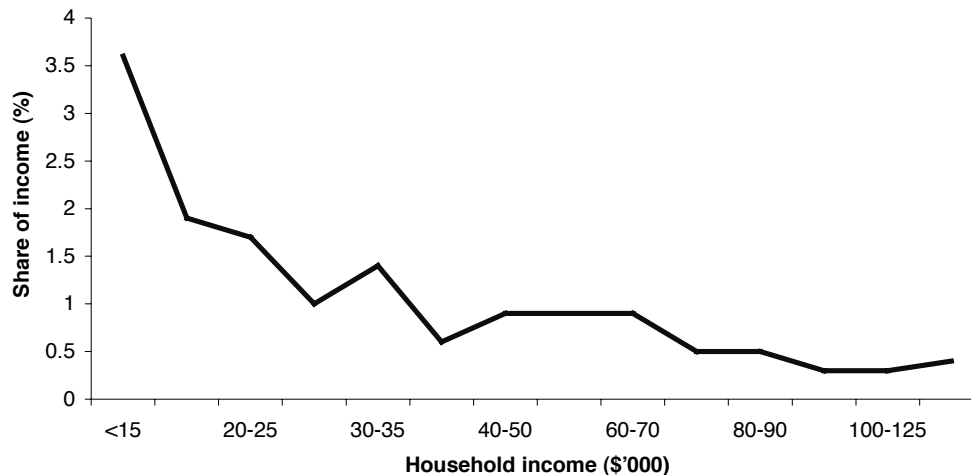
## *An inequitable tax?*

It is well established that gambling taxation is regressive, with lower income groups generally spending proportionately more on gambling — and thus shouldering more of the burden (figure 13).

**Figure 13 Gambling taxes are regressive**

Tax as a percentage of gamblers' household income, by income groups.

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*Data source: PC National Gambling Survey.*

The Commission's analysis suggests that taxes on lotteries and gaming machines are the main sources of this regressivity. The equity issues are heightened by the unevenness of the tax burden among the poorest households, with some paying much higher proportions of their income in gambling taxes than others.

However, equity outcomes from reducing gambling taxes would also depend on what alternative taxes were available to states and territories to replace lost revenue, and their degree of regressivity.

In sum, there are both efficiency and equity grounds for experimenting with lower lottery taxes. While the levels of other gambling taxes are unlikely to be optimal, on the basis of available information there is not a strong, or unambiguous, case for general reductions.

## **Preferential treatment of clubs?**

Community clubs pay much lower taxes on their gambling revenue than other industry members. State taxes are generally lower than for hotels or casinos, and no Commonwealth income tax is paid on 'mutual' income, which can include proceeds

from gambling (table 11). This has been a major source of contention, with hotels and retailers arguing that the lack of competitive neutrality is hurting them and leading to excessive growth of clubs.

**Table 11 Clubs' preferential gambling tax treatment, New South Wales**  
Electronic gaming machines

	<i>Clubs</i>	<i>Hotels</i>	<i>Casinos</i>
<b>State tax</b>			
Gaming machine tax:	Tax levied on annual profits from gaming machines: <ul style="list-style-type: none"> <li>• up to \$100 000 (0%);</li> <li>• \$100 001 to \$200 000 (1%);</li> <li>• \$200 001 to \$1m (20%);</li> <li>• over \$1 000 001 (26.25%).</li> </ul>	Tax levied on annual profits from gaming machines: <ul style="list-style-type: none"> <li>• up to \$25 000 (15%);</li> <li>• 25 001 to \$400 000 (25%);</li> <li>• \$400 001 to \$1m (35%);</li> <li>• over \$1m (40%).</li> </ul>	22.5% tax levied on gross revenue from slot machines.
Community contributions	Clubs will be permitted a tax rebate for expenditure on approved community programs, effectively reducing the top tax rate to 24.75%.		Community benefit levy of 2 per cent of gross gaming revenue.
Income tax:	None	Corporate or personal tax rate	Corporate tax rate

Source: NSW Treasury 1999, p. 29.

At the state level, preferential tax treatment has been based largely on the presumption of community benefits from clubs' operations which do not hold for hotels. Clubs not only provide benefits to their members, they also make contributions in kind and in cash to a range of community organisations and activities. However, it is not clear that these external contributions are of sufficient magnitude to warrant major differences in state taxes.

### *The 'mutuality principle'*

At the Commonwealth level, the 'mutuality principle' has exempted club income from taxation. The principle holds that one cannot make a profit from selling to oneself, and an amount received from oneself is not income — and therefore not subject to tax. The concept has been extended to defined groups of people who contribute to a common fund, controlled by the group for common (not individual) benefit.

This longstanding principle has only raised concerns with the rapid expansion in gaming machine revenue and consequent changes in the nature and economic significance of clubs, the largest of which resemble casinos. Matters are complicated by the fact that in Victoria and Tasmania, where clubs do not 'own'

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their machines, the income derived from them *is* taxable. The same applies to income from Club Keno and TAB outlets in all clubs.

*How distorting?*

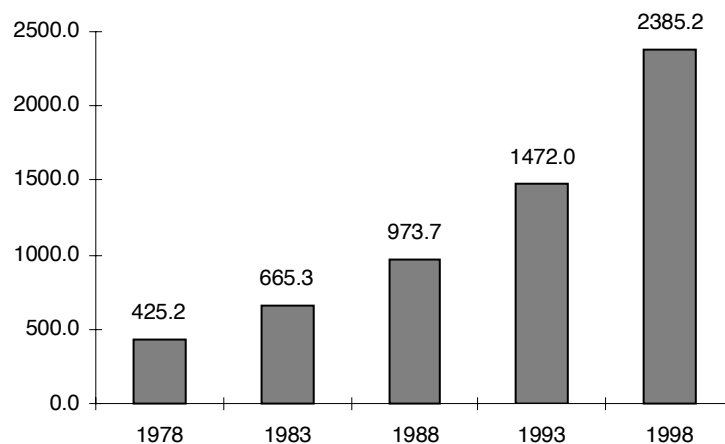
Club revenue from gaming machines has grown rapidly, as have clubs in those jurisdictions — such as New South Wales and the ACT — where the revenue is treated as mutual income and where there are no caps on machine numbers (figure 14).

Gaming machine revenue for some of the large New South Wales clubs ranges from 65 per cent to 88 per cent of their total revenue. These ‘super clubs’ have many of the characteristics of major commercial enterprises. While their income is derived largely from ‘members’, membership is generally readily granted at minimal expense.

A major distinction with other commercial enterprises is the inability of clubs to distribute any surpluses to ‘shareholders’. Together with the tax advantages, that has led to:

- cross-subsidisation of restaurant, hotel and other services, and
- major programs of capital expansion and upgrading of facilities.

**Figure 14 New South Wales clubs – gaming machine revenue**  
\$million, current prices



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*Data source:* NSW Department of Gaming and Racing.

These have clearly also been a source of benefit to those who use the tax sheltered facilities and services. But the potential for distortion in consumption and investment is significant where poker machine numbers are unrestricted. That said,

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it is unclear how to deal with it, from the income tax side, in a way that would be effective and would not introduce new distortions or inequities.

### *Options for reform*

A number of the proposed options have been examined in the report. They include:

- applying income tax to the surpluses derived from poker machines alone;
- increasing existing state taxes on clubs' gaming machine revenue;
- limiting maximum poker machine numbers in clubs (as already occurs in some jurisdictions); and
- demutualisation (changing clubs' corporate form).

While each has advantages and disadvantages, the Commission considers that the state tax option is likely to be the only effective one. (Any such move would need to involve phasing to minimise transitional losses on existing investments).

### **'Earmarking'**

The hypothecation of government revenue from gambling for 'good works' or civic projects has a long history in Australia and overseas. About one-third of gambling revenue is currently 'earmarked', involving one or more of three mechanisms in most jurisdictions:

- *Hospital funds* are the largest category. They generally receive a fixed percentage of revenue from particular gambling activities, which is then reappropriated through budget processes to the hospital sector.
- *Community benefit funds* are a second form, with grants being made from the fund consistent with its objectives. They typically fund problem gambling services, but also many other activities.
- The third mechanism is the provision of *direct grants* from gambling organisations, such as the WA Lotteries Commission's program for funding community groups.

Earmarking of gambling revenue for problem related gambling services, gambling research and community awareness campaigns is appropriate, since gambling creates the need for such services. This tangible expression of the link may also have a public education role. And, without such pre-commitment, sufficient funding may not be forthcoming.



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Earmarking for other purposes does not appear to have created major allocative distortions. However:

- direct grants generally escape budget scrutiny and prioritisation,
- there is evidence that fluctuations in gambling revenue have affected funding of health services, and
- accountability and transparency of funding decisions have not always met budgetary standards.

Such problems, together with the questionable basis for using the funding of ‘good works’ as a promotional and compensating vehicle for an activity generating significant social costs, are grounds for not earmarking gambling revenues beyond activities related to problem gambling (such as research, and harm minimisation). Instead, those other activities would be best funded through the budget process from the expanded consolidated revenue.

## **13 Improving regulatory and informational processes**

Many of the deficiencies in current regulations are the legacy of the way policies have been made. While some jurisdictions have done better than others, the approaches of most have at times been characterised by:

- poorly specified and sometimes conflicting objectives and rationales for regulatory decisions;
- often ad hoc decisions that have not taken into account the industry-wide implications;
- lack of rigour in assessment of the costs and benefits of alternative options;
- lack of community consultation about attitudes to and the possible social and other consequences of regulatory decisions, and
- little systematic monitoring and evaluation of the consequences of such decisions, once implemented.

Good policy-making and regulatory processes require that decision-makers have the appropriate degree of independence and control; that their objectives are clear and their decisions well-informed, and that the basis for their decisions is transparent and publicly accessible. Such features are especially important in a policy area such as gambling, which is characterised by conflicting pressures and incentives for government — and the potential for major winners and losers, within business and the community, from different regulatory outcomes.

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There are several distinct functions that need to be performed in any proper regulatory environment for the gambling industries, of which three key ones are policy development, ‘control’, and enforcement.

## **Policy development**

Some policy decisions are properly the preserve of Parliaments, with Ministerial responsibility for their development. In the Commission’s view, these include threshold decisions bearing on the extent and accessibility of different gambling forms — including caps, allocation rules and ownership decisions. Some important ingredients of good process at this level include:

- a requirement for regulation impact statements and the procedural steps that underpin them (see box 13) with independent public reviews to identify costs and benefits of different options, and
- public consultation about any options under consideration.

## **Independent ‘Control Commissions’ in each jurisdiction**

The resulting legislative standards within each jurisdiction need to be well administered. This involves such important decisions as who gets licences to offer different gambling activities, who may work in different venues, appropriate technical standards and when penalties apply for breaches of licence conditions and regulations (including any consumer protection and harm minimisation requirements).

### **Box 13 Regulation impact statements**

These are used widely by Commonwealth, state and territory governments and by member nations of the OECD. A RIS sets out:

- the problem or issues which give rise to the need for action;
- the desired objective(s);
- the options (regulatory and/or non-regulatory) that may constitute viable means for achieving the desired objective(s);
- an assessment of the impacts (costs and benefits) on consumers, business, government and the community of each option;
- a consultation option; and
- a strategy to implement and review the preferred option.

*Source:* ORR 1998, p. xv.

Good process at this level demands substantive independence of the regulator, who must exercise any discretion in an impartial manner, without undue influence or

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interference by industry, community or the government of the day. The control body, therefore, should itself be a statutory organisation, with authority vested in tenured commissioners who have no connection to the industry and report to Parliament through the relevant Minister(s) in each jurisdiction.

Other features should include:

- jurisdiction over the gambling industries as a whole (to allow more coherent decision-making in relation to the different modes);
- an advisory role to the Minister and Parliament on major public interest matters, including those requiring legislative change.

## **Regulatory enforcement**

The enforcement function is about ensuring that venue operators comply with licensing conditions and other regulatory requirements. Under regulatory provisions for harm minimisation, compliance with these requirements would be part of this function.

This ‘policeman’ role is generally regarded as needing to be undertaken separately from the control function (the ‘judge’) — a principle embodied in the so-called New Jersey model of gambling regulation. IPART endorsed the principle in its recent review in New South Wales. The Commission can also see benefits in this separation, including from public confidence in the implied checks and balances.

## **What role for local government?**

To the extent that decisions about gambling accessibility have their predominant impacts at the level of local communities, this would suggest the need for a collective say at that level. Local communities have generally had little such opportunity. Local government’s main influence has been confined to its planning approval powers for new establishments or extensions to existing ones. However, even these mechanisms have been overridden by state gambling legislation in some jurisdictions.

The principle of local communities being consulted has force. The control authority should at least be required to consult with local communities in making decisions about licence applications. This could include surveys or, on major issues, referenda.

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## **What role for the Commonwealth?**

While many issues are most appropriately dealt with at state level, there are a number of aspects with ramifications at the national level. For example:

- internet gambling can really only be effectively regulated and taxed with the assistance of the Commonwealth Government;
- to the extent that problem gambling leads to calls on Commonwealth welfare services, some cost shifting is involved; and
- there may also be economies in having a more national focus on key issues, such as the coordination and assessment of counselling services.

Commonwealth involvement could facilitate inter-governmental cooperation on issues of mutual importance, perhaps initially at Ministerial Council level.

There is also a need for a national research facility to provide a central focus for data collection and research, including achieving greater national consistency in information. While this could be a Commonwealth body, it would clearly require the cooperation of the states and territories and may need to be jointly funded.

## **Information needs**

The Commission has sought to make this report as information rich as possible, to provide a better basis for public discussion and government policy on gambling. But the report also identifies many information gaps which could not be filled in this single national inquiry. These necessitate an ongoing commitment by all jurisdictions and a strategic, coordinated approach to research and data collection, which has been largely absent. The processes and allocation of responsibilities outlined in the report are integral to the longer term effectiveness of this important government role.

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# 1 The inquiry

Gambling is a controversial issue. It provides enjoyment for many, problems for some, employment and income for thousands, and much taxation revenue for governments. But very little is known about the industry. What information we have is patchy, of variable quality and in some cases, quite dated — a particular problem for a rapidly growing and changing industry. Available data often sheds light on one jurisdiction only: detailed comparative analysis across states and territories (or between modes of gambling) is not possible. This dearth of quality information has been an obstacle to good public policy making in an area where the debate in the broader community has become increasingly polarised.

## 1.1 The reference

On 26 August 1998 the Treasurer asked the Productivity Commission to undertake a public inquiry into Australia's gambling industries. The Commission was asked to report on:

- the economic impacts of the gambling industries, including interrelationships with other industries such as tourism, leisure, other entertainment and retailing; and
- the social impacts of gambling industries, including the incidence of gambling abuse, the cost and nature of welfare support services, the redistributive effects of gambling and the effects of gambling on community development and the provision of other services.

Other matters to be examined included the effects of regulatory structures (including licensing arrangements, entry and advertising restrictions and differing taxation arrangements), the implication of new technologies such as the internet, the impact on Commonwealth, state and territory budgets and the adequacy of ABS statistics on gambling.

The Commission was asked to provide an information report which can serve to enhance public understanding of the issues and assist government decision-making. Some participants were unclear as to the implications of this, thinking it precluded the Commission from policy analysis. This is not the case: the report does provide a range of policy-relevant findings and assessments intended to be of assistance to all

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governments. But it does not contain policy recommendations of a kind which require a formal response from government.

## **1.2 Inquiry processes**

Contentious policy issues such as gambling lend themselves well to an independent public inquiry process. It provides an effective way of allowing the views of many diverse interests, including those who would not normally take part in a government inquiry, to be represented. To this end, the Commission advertised in the national press at the commencement of this inquiry, inviting public submissions. It established a website (at [www.pc.gov.au](http://www.pc.gov.au)), and prepared and released an Issues Paper to guide individuals and organisations wishing to take part — and many have done so. The Issues Paper was distributed widely, and placed on the website.

### **Visits and discussions**

A round of visits and informal discussions commenced almost immediately, continuing until the end of the year. Over 60 meetings were held, some with groups of participants. In some cases, meetings were organised by, for example, government departments and agencies in several jurisdictions, counselling agencies and problem gamblers.

These discussions have helped the Commission come to grips with key issues and questions that it needed to address. The Commission is very grateful to all those who participated.

### **Submissions**

The inquiry has attracted considerable public attention. The Commission received 290 public submissions, ranging from short letters to 200 page reports. In addition, there were 39 confidential submissions, many relating personal experiences from gamblers and their families.

Submissions have come from a wide range of interests: about 18 per cent have come from government agencies (including local government), 19 per cent from gambling providers, 29 per cent from welfare and community organisations and 21 per cent from individuals.

Copies of public submissions were placed on the inquiry's website, which has seen a high level of usage.

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## Public hearings

During November and December 1988, first round public hearings were held in all capital cities, to allow interested parties to discuss their submissions with the Commissioners. The hearings were advertised in the main newspaper in each location, by circular, and on the inquiry website. A supplementary public hearing was held on 30 March 1999 to consider key industry submissions deferred from the earlier scheduled hearings.

About 65 submissions were presented at the initial public hearings, and some 120 people took part in the discussions with Commissioners.

Following the release of the draft report on 19 July 1999, a further round of public hearings was held in Canberra, Melbourne, Sydney, Hobart and Brisbane to take submissions on the draft report. Fifty-six submissions were presented, and 86 people took part. Between July and November, some 120 submissions were received in response to the draft report.

## Roundtables

The Commission held six formal roundtables, with the intent of tapping the expertise of well-informed people in particular areas to supplement its own research resources (box 1.1). Further details are provided in appendix A.

### Box 1.1 Roundtable discussions

In addition to a variety of group meetings and consultations, six roundtables were initiated by the Commission:

- an initial roundtable of key people with a close interest in the issues, including from academia, industry and counselling services, to help the Commission identify questions for its Issues Paper;
- consultation with experts on survey methodology and data interpretation, to better inform the Commission's thinking about the nature and type of surveys which needed to be undertaken;
- two roundtables on the impact of gambling on regional areas, held in Goulburn and Port Augusta;
- a crime and gambling roundtable, held in conjunction with the Australian Institute of Criminology; and
- a roundtable discussion on assessing the incidence and costs of problem gambling.

More details, including names of all attendees, are provided in appendix A.

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## The information challenge

Lack of good information has been a problem, and an issue for this inquiry. It became apparent early on that some of the gaps could only be overcome by the Commission undertaking one or more surveys itself.

Three surveys were undertaken during the first half of 1999 (box 1.2). The methodology and results are discussed in detail in part C.

### Box 1.2 The Commission's gambling surveys

Three surveys were undertaken:

- a *National Gambling Survey* of some 10 600 persons, looking at gambling preferences and spending, attitudes and impacts;
- a *Survey of Clients of Counselling Agencies* covering some 400 gamblers attend a counselling agency, to see who they are, examine the problems they face and the means they use to address the problem; and
- a *Survey of Counselling Services*, asking about their funding, caseload, methods of approach and outcomes.

In addition, the Commission had access to many other surveys — including, in many cases, unit record data — together with data provided by participants from their own activities. The Commission is grateful for the assistance it received.

However, there were several areas where the Commission was not able to contribute significantly. These include:

- the incidence and effects of gambling within ethnic communities. Some submissions on this matter were made to the inquiry, and are reflected in the discussion. And the Commission had discussions with principal researchers in that field, and was favourably impressed with the methodological approaches being undertaken (for example, interviewers from the same ethnic group were being used to undertake surveys to minimise misinterpretation of responses). But in the time allowed, the Commission has not been able to add significantly to this information base; and
- gambling in indigenous communities is another area where the Commission has not been able to advance currently available knowledge (appendix E).

Both of these areas are listed in chapter 23 in a discussion of matters for future gambling research.



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## **Extension of the inquiry**

The need to design and conduct the three national surveys listed in box 1.2, and the extensive public interest in the inquiry (requiring extra time for submissions and supplementary public hearings), led the Commission to seek additional time for the inquiry. The Assistant Treasurer agreed to extend the reporting date for the final report by three months, to 26 November 1999.

## **Response to the draft report**

On 19 July 1999, the Commission released a draft of its report. This was widely disseminated — about 2300 copies of the full report, and about 800 of a shorter version comprising the Summary and Findings only, were made available to interested persons and organisations without charge. The report was also able to be read and downloaded from the Commission’s website, which received a high level of usage.

The Commission’s draft report evoked considerable media and public attention. As was inevitable for an independent inquiry into a controversial topic, there were a variety of responses, including from those who thought the draft report was too generous to industry, or gave insufficient attention to the ethics of gambling, or was too heavily focused on problem gambling.

Constructive criticism was received from umbrella organisations which account for the bulk of the spending on gambling (that is, lotteries, clubs and hotels). However, particular segments of the industry expressed strong concern at the report’s focus on the social impacts of gambling, arguing that an opportunity to ‘demystify’ the industry had been lost. A selection of responses is given in box 1.3.

The Commission has given careful consideration to all of these views in preparing its final report. In response, it has made significant changes to many areas, such as in respect of the industry’s importance in the economy, the social costs of divorce, the emotional costs of problem gambling to families and partners, and an analysis of the proportion of world gaming machines accounted for by Australia. In other areas, the Commission has attempted to make the discussion clearer, and new material has been added. Indeed, most chapters and appendices have been changed to a greater or lesser degree, and consequently, the report has increased in size by some 400 pages!

The Commission thanks all participants for their contributions.

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### Box 1.3 **Some reactions to the draft report**

The Queensland Government said that it broadly supported the views of the draft report regarding the benefits and costs of gambling. Those findings and analyses:

... broadly concur with those of the Queensland Government. The Draft Report .... has been a very useful resource to the Queensland Government and will support some of the recommendations of the Queensland Gaming Review (sub. D275, p. 3).

Representatives of local government, particularly from Victoria, saw the inquiry as an opportunity to publicly discuss the impact of gambling on their communities. And many interests from the counselling and welfare sectors saw it as providing firmer evidence on the nature and extent of the social costs of gambling. For example, the Interchurch Gambling Task Force said:

We were very, very impressed by your report that you've already issued and it told us far, far more than we thought it was going to ... We thought we knew an awful lot about it until we read that and discovered there was so much more we should be taking into consideration (transcript, p. 1122).

Similarly, Break Even Victoria said it acknowledged:

... the breadth and depth and the process of the inquiry which has been very thorough ... the thorny issues are well researched, such as the use of what kind of assessment tool, and why is it or is it not applicable in Australia ... The important thing is that focus has been not just on the money side of things but on what is problem gambling and ... how may it impact on people (transcript, p. 1099).

The response from the gambling industry was mixed. Aristocrat, while critical of aspects of the report, observed that:

The Commission's draft report has contributed to a better understanding of Australia's gambling industries and promoted discussion of policy options for consumer protection. At the same time the report has identified the need for continued research and consultation (sub. D266, p. 5).

Some lottery providers, and the national representatives of clubs and hotels (sectors which account for the bulk of gambling spending), made helpful suggestions and constructive criticisms. But others, while agreeing with parts of the draft report, were highly critical.

For example, the Australian Hotels Association (NSW) said the Commission exceeded its terms of reference by including policy analysis and what amounted to recommendations, and said the report reflected a 'jaundiced narrow-minded dismissal of a pleasure that most Australians enjoy' (sub. D208, p. iii). The AHA (NSW) said that the draft report employs:

... comments, assertions and statistics to reach conclusions that are not consistent with the truth about the industry and its contribution to the Australian economy ... the Commission's survey is fundamentally flawed, its assumptions are wrong and its expression of the numbers and survey results is political rather than statistical (sub. D208, pp. i, ii).

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**Box 1.3 (continued)**

ACIL, representing Tabcorp, Star City Casino, Tattersall's, TAB Ltd, Crown and Jupiters, was equally scathing:

... the Draft looks as if it wishes to portray the industry in the worst possible light ... the statistical analysis of access and risks ... is fraudulent ... [there are] serious factual errors in sensitive areas ... the PC's surveys are fundamentally flawed ... there is a lack of balance in the Draft Report (sub. D233, pp. 1, 2, 3, 5, 7, 9).

The Australian Casino Association referred to the 'considerable media and public attention' which 'has been largely unfavourable to the gambling industries':

While there are some positive aspects to the Draft Report, these have been overshadowed by negative impressions, arguments and quantitative material ... the Draft Report is not balanced, contains a number of incorrect 'facts' (some significant); is based on surveys which have serious faults; in effect presents policy recommendations (which were not part of the terms of reference) and then does not test the benefits and costs of these policy options (sub. D234, p. 1).

The Australian Gaming Machine Manufacturers Association, while endorsing some of the draft report's findings, criticised the Commission for 'unsupported claims' and its 'incorrect analytical approach'. It also:

...[took] exception to the Commission's view that "problem gambling" — in all its dimensions — is a public or community health issue similar to that of alcohol (sub. D257, p. 20).

In contrast, the Australian Medical Association said the draft report provided an:

... excellent overview of the beneficial and detrimental impacts that gambling has on Australian society ... The Draft Report's critical assessment of the anecdotal and empirical evidence surrounding such issues as the association between problem gambling and accessibility and the association between problem gambling and psychological disorders is extremely comprehensive. It presents evidence related to problem gambling in a fair and seemingly unbiased manner (sub. D204, p. 1).

And Prof Jan McMillen of the Australian Institute for Gambling Research said the draft report:

... provides the most comprehensive and detailed information on Australian gambling yet produced ... [it] effectively identifies the complexity and dynamic nature of Australia's gambling industries, the policy framework and their impacts. The Commission is to be commended especially for its attempt to relate the economic benefits to analysis of social costs ...

My principal concern is that the Commission's Inquiry will be portrayed by critics as an event staged to pander to a vocal minority. But the process of consultation and research undertaken by the Commission has been thorough, balanced and transparent ... the Commission has enabled the Australian community to voice its views on the extent and nature of contemporary gambling ... It would be irresponsible for industry and state governments to ignore these findings (sub. D216, p. 1).

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## 1.3 Scope of the inquiry

### Defining gambling

Gambling has been formally defined as ‘staking money on uncertain events driven by chance’. As some participants observed, this can encompass many activities, including the more speculative areas of commodity and financial markets. Nevertheless, gambling retains the distinguishing feature that, over time, for gamblers as a group, their gambling will inevitably cost them money — it is more like consumption than investment.

The Commission has focused predominantly on what are generally accepted to be the principal gambling forms — gaming, wagering and lottery products. The gambling ‘industries’ accordingly encompass those organisations that provide these services — including casinos, clubs, hotels, TABs, sports betting enterprises and lottery organisations.

- ‘Minor’ gambling activities (such as art unions and bingo) have been taken into account only where most relevant, as has informal and illegal gambling.
- The inquiry has also recognised, but not looked in any detail at, activities related to gambling such as poker machine or other manufacturing, horse breeding and racing, or other sports that are the object of wagering activities.

### A changing industry

The growth of gambling reflects the liberalisation of previously illegal activities. While many forms of gambling have been around since the earliest days of European settlement, others — most importantly electronic gaming machines — are a relatively recent development in nearly all jurisdictions.

The uneven process of liberalisation has influenced the shape and direction of the industry. And it is reflected in the nature of the regulatory (and taxation) arrangements which have accompanied this growth.

The industry continues to change. New technologies such as the internet are emerging. Lotteries are becoming more regular, and changing character in the process. New gaming machines are continually being developed in response to the market (and, indeed, Australia’s manufacturers have become world leaders in gaming machine innovation and design). And sports betting is becoming more popular.

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In such an environment, the Commission has sought to make its analysis and findings relevant to today while also taking account of future developments.

### **Many economic and social aspects to consider**

The economic and social consequences of the increase in gambling types and opportunities are complex, difficult to measure, and subtle.

Generally, impacts which are seen as ‘social’ are often described, but not valued, while benefits which are seen as ‘economic’ are estimated but not examined qualitatively. In such circumstances, it is easy for social impacts to be given insufficient attention in analysis and in policy development.

The Commission’s report does not draw this artificial distinction, nor does it treat social impacts as less important, simply because they are harder to quantify. Economic analysis is about measuring the value of things for people, whether they have prices or not. Crime, relationship breakdown and emotional impacts have an economic dimension, even though they do not have obvious price tags. And there are techniques to investigate (and to some extent, measure) these impacts, notwithstanding their limitations. The Commission considers it better to make even rough estimates rather than none — which could be taken to imply that there are no costs associated with these impacts.

The report devotes more chapters to the costs than the benefits, as they have a particular policy importance. Without them, the gambling industry would be just like most other recreation and entertainment industries, and would seemingly require no different a set of policy, regulatory or taxation measures. But the social dimension, and in particular, problem gambling, makes the industry different. It is an area of clear policy relevance, and one where there have been significant information deficiencies.

To this end, the Commission invested considerable effort in examining methodological questions about, for example, how clinicians make a judgment about who is a problem gambler and how social statisticians estimate the prevalence of problem gambling in the general population. In so doing, it drew on the advice of a number of leading practitioners in these fields. All of this helped inform the Commission’s analysis and, in particular, the design of its surveys, for which the Commission is grateful.

In addition to providing information and analysis on the economic and social impacts of the gambling industries and the effectiveness of current regulatory frameworks, the Commission has explored a variety of measures for reducing the

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social costs associated with problem gambling. Some are reasonably straightforward, and could be implemented on the basis of existing evidence as to their likely effectiveness and costs. But others would require further evaluation and possible trials before implementation. It is beyond the scope of this inquiry to undertake that more detailed work. However, it forms part of the wider research agenda proposed in chapter 23.

## **1.4 How to read this report**

The issues surrounding gambling are complex. They have required detailed analysis of a wide range of issues — and the report reflects this. It covers much material which is controversial, difficult to interpret and often incomplete.

The overview at the front of the report attempts to go beyond just drawing out the main themes, to provide a summary of the report.

The report itself (contained in volumes 1 and 2) has been prepared in four parts, each of which can be read separately:

- part A contains information on the conduct of the inquiry, and a guide to the report;
- part B contains background information on the industry, its size and importance and its growth and changing character;
- part C analyses (and where possible, evaluates) the social and economic consequences of increased gambling in Australia; and
- part D covers a range of policy issues, including regulation, taxation and consumer protection.

Parts C and D include ‘framework’ chapters (chapters 4 and 12) which provide a guide and a framework for looking at the issues covered in that part of the report.

In addition, each chapter begins with a box of key messages, providing a guide to the key matters covered.

Volume 3 contains supporting material in 22 appendixes.

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## 2 An overview of Australia's gambling industries

### Box 2.1 Key messages

- Gambling is big business — over 7000 businesses provide gambling services throughout Australia.
  - The industries are estimated to have generated value added of about \$3.5 billion in 1997-98 and accounted for about 1.5 per cent of GDP.
  - In 1997-98 they had revenue in excess of \$11 billion.
- Gaming machines dominate gambling activity — they account for half the total business and taxation revenue collected from all forms of gambling.
- Australia's gambling industries are characterised by a mix of private and public ownership.
- Employment is significant — over 100 000 people are employed, both directly and indirectly in Australia's gambling industries.
- Gambling taxation represents a significant and rising share of state and territory governments' own tax revenue.
- Gambling is a growth industry.
  - Liberalisation (driven by governments' revenue needs and constrained tax bases) and new developments in technology have led to the proliferation of new gambling products. The range of gambling products has expanded from lotteries and racing to include gaming machines, scratch tickets, keno, and sports betting.
  - Gambling revenues have more than doubled over the last decade, driven primarily by growth in the gaming machine sector.
- A number of trends are emerging, including:
  - growth in internet gambling and sports betting and the prospect of Pay TV gambling;
  - increased competition between suppliers of gambling products; and
  - the development of safeguards to minimise the adverse social impacts of gambling.

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This chapter looks at the structural characteristics and development of gambling industries. It presents information on the types and number of gambling businesses, their revenues and profit, employment, taxation and how the industry has grown over time.

What emerges is a major industry characterised by a diversity of products and a multitude of businesses. It is an industry with a long history, but it is also a growth industry.

## 2.1 Historical and social context

Gambling was imported into Australia with the new settlers, primarily from Britain but with some Asian and European influences. Settlers and soldiers organised card games such as *cribbage* and *all fours* and *pitch and toss*, an early form of two-up. These games thrived despite attempts by colonial administrators to stamp them out. By the mid 1800s turf clubs had been established in most regions of Australia and betting on horse races had become a popular recreational activity.

Selective legalisation of gambling was introduced. Gambling was permitted at racing clubs and gambling by the elite and army officers in private clubs was tolerated. At the same time, Asian gaming and public gaming such as two-up were regarded by many as immoral and were prohibited. In contrast to the blatant prohibitive regimes in Britain and the United States this was a relatively liberal approach. Racing became the most popular form of leisure activity for working-class men. Club facilities and racecourses were improved and a range of sweepstakes based on horse racing were set up (McMillen 1996a).

In 1916 a non-profit lottery was run in Queensland to raise revenue for war programs. This was followed by a number of lotteries that were so successful that the activity was taken over by the state government (box 2.2). Other states introduced their own lotteries and permitted charitable organisations to conduct minor gaming such as bingo, raffles and art unions. By the 1930s lotteries and minor gaming were legitimised throughout Australia and the association with welfare gave gambling a new respectability.

Poker machines began to appear in New South Wales clubs as early as the 1920s. Some machines were also operating in hotels, but in 1921 were declared illegal by the full bench of the Supreme Court. The ruling was ambiguous for clubs, where profits from the machines contributed to the club rather than an individual machine owner.



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## Box 2.2 The Golden Casket

The Golden Casket Art Union began in 1916 when the Queensland Patriotic Committee, a charitable organisation, approached the government for permission to run a lottery to raise money for the soldier repatriation fund. Its success prompted four more caskets in the following three years, raising £60 000 for the victims of war. Another casket was approved in 1919, this time to assist the Hospital for Sick Children in Brisbane.

In 1920 the Queensland Government assumed control of the Art Union, viewing it as a source of much needed revenue. Between 1920 and 1930 the Golden Casket expanded from drawing a casket twice a year to every ten days and by the 1960s a draw was held nearly every day.

Consumers were attracted to the Golden Casket by the size of its prizes. In 1916 a first prize of £5000 was offered — an extremely large prize considering that the average salary of an adult male at this time was between £2 and £3 per week. The odds of winning the Golden Casket were one in a million — whereas the odds of winning Gold Lotto today is one in eight million. Gamblers were willing to pay large amounts of money to win a life-altering prize. Tickets initially cost the equivalent of nearly half a day's pay. However to accommodate smaller punters, from 1932 one sixth share tickets were offered.

The Golden Casket was extremely successful as a revenue earner. Within only one year profits provided 2 per cent of government revenue and in the first 10 years over £2 million was raised. The Golden Casket remained a substantial contributor to government revenue up until its decline in popularity in the early 1980s.

The decline in the popularity of the Golden Casket was the result of a number of factors. These included a decline in the real value of prize money as the result of high inflation in the 1970s, the chances of winning decreased, profits were no longer seen as being beneficial to the community and other gambling alternatives were introduced.

The Golden Casket Lottery Corporation introduced new products as the popularity of the Golden Casket waned. Since the 1980s a number of new products have been marketed and today the corporation offers Saturday Gold Lotto, Oz Lotto, Powerball, The Pools, Super 66, Jackpot Casket and Instant Scratch Its.

The Golden Lottery Corporation continues to provide a source of revenue for the government. In 1996-97 for example, the Golden Casket Lottery Corporation earned an operating profit of nearly \$207 million dollars of which \$199 million was remitted to the Queensland Treasury.

*Source:* Selby (1996).

As a result, poker machines began to spread exclusively throughout clubs. When machines again began to reappear in hotels in the early 1930s they were removed from both hotels and clubs. However by 1939 the machines had returned to the

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clubs under the 1921 ruling. Their use was not widespread, but clubs which operated them generated substantial revenue from the machines (O'Hara 1988).

By the 1940s legal gambling was thriving, but governments were becoming concerned at the growing illegal market comprising private gaming clubs and SP bookmakers. The illegal market created problems (such as corruption) for government in the control of gambling and deprived it of revenue. A solution to SP bookmakers was found in the establishment of government-run agencies for off-course betting — known as Totalisator Agency Boards (TABs). TABs not only reduced the problem of SP bookmaking but they generated new interest in racing and increased revenue for the development of the racing industry.

In the 1950s gaming machines spread throughout New South Wales. In 1956 the Government introduced the *Gaming and Betting (Poker Machines) Act* which formally gave registered clubs the exclusive right to operate gaming machines so that funds could be used for community benefit. This resulted in a rapid increase in the number of registered clubs and members. By 1959, there were over 7000 poker machines operating in about 1100 clubs throughout New South Wales (Wilkinson 1996).

By the 1960s, gambling in most states was characterised by liberalisation, government ownership (lotteries, TABs) and tight regulation of private operators (bookmakers, gaming clubs). The rationale behind the legalisation of gambling was to control the illegal gambling market and to raise funds for community services (McMillen 1995a).

In the 1970s and 1980s the rationale for expanding gambling opportunities shifted away from social considerations towards economic opportunities. A series of economic recessions and tightening government fiscal positions, compounded by narrow state tax bases, resulted in governments seeking new methods of raising revenue and facilitating economic growth. The first initiatives involved the development of casinos:

The two jurisdictions most vulnerable to the 1970s global economic slump (Tasmania and the Northern Territory), were the first to legalise casinos for regional development ... Australia experienced a second wave of casino legalisation during the 1980s global slump as the newly developing states (Queensland, Western Australia, South Australia) sought to expand into tourism to diversify their economies. A third period of casino expansion occurred as the previously affluent industrialised states, New South Wales and Victoria, suffered the consequences of the 1990s recession (McMillen 1995a, p. 14).

The current stage of development is characterised by market expansion, competition and privatisation. Continuing pressures for government revenue, and from private

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enterprises looking for market opportunities, has resulted in the proliferation of modern forms of gambling. Today there are 13 casinos operating in Australia — with at least one in each state and territory. Gaming machines have also spread to hotels and clubs throughout Australia (except Western Australia) and there has been an expansion in lottery products to include lotto, soccer pools and instant *scratch-its*. Competition for the gambling dollar has in turn seen a transformation in horse racing, with innovations such as night racing and satellite telecasting. And new technological forms of gambling such as internet gambling, have emerged.

There has also been a marked shift from government to private ownership of TABs. In 1994 Victoria became the first state to privatise the TAB, which was commercialised as Tabcorp. New South Wales followed and other states are also considering the privatisation of TABs.

Today, gambling is big business, with providers earning net takings over \$11 billion annually. Along with the expansion in gambling, however, there have been growing community concerns about the social harm caused by gambling and this has begun to influence government programs and the practices of gambling establishments (chapter 16).

## **2.2 A snapshot of the industries**

The gambling industry covers a wide range of activities, provided by a variety of organisations, including:

- keno and gaming machines in hospitality clubs, pubs, taverns and bars;
- lotto, lotteries or caskets, football pools and scratch tickets provided by lottery operators and agencies;
- casino games such as two up, roulette, blackjack, baccarat, poker, craps, mini dice and money wheel games;
- betting on horse and greyhound races and sporting events provided by on and off-course bookmakers and totalisators; and
- minor gaming including raffles, bingo and lucky envelopes.

This section examines the characteristics of Australia's major gambling *suppliers* — including industry structure, profitability, employment and taxation. A description of the various forms of gambling and the odds of winning is provided in box 2.3.

### Box 2.3 Forms of gambling

**Gaming machines** are available in casinos, clubs and hotels throughout Australia — except in Western Australia where they are only available in the casino. In most jurisdictions operators must return at least 85 per cent of wagers to players as winnings, either by cash or a mixture of cash and product. Gaming machines have the capacity to be linked in order to offer jackpots such as cars, holidays, and mystery cash prizes up to \$1 million.

**Keno** is typically played in clubs, casinos and hotels. It is also offered by lottery agencies in some jurisdictions. Prizes and the odds of winning vary according to how many numbers are chosen and matched. In Tattersalls keno the probability of winning the jackpot is almost one in 9 million and the average jackpot is \$840 000.

**Lotto** games are conducted at both a state and national level. Oz-Lotto, drawn every Tuesday is the national lotto game. Saturday night Lotto conducted by the Australian Lotto Bloc, is similar to Oz-Lotto with all states except New South Wales participating in the draw (table below).

#### Saturday Lotto prize money and the chance of winning

<i>Numbers matched</i>	<i>Share of pool and average prize</i>	<i>Chance of winning</i>
6	shares 26% of pool (\$470 000)	1:8 145 060
5 & 1 supplementary	shares 7% of pool (\$10 000)	1:678 755
5	shares 12% of pool (\$1 000)	1:36 690
4	shares 21% of pool (\$34)	1:733
3 & 1 supplementary	shares 34% of pool (\$11)	1:298

Source: Tattersalls (1999).

At the state level a number of lotteries are run. For example, New South Wales Lotteries draws Lotto on Monday and Wednesday; South Australian Lotteries draws X-Lotto on Monday and the Queensland Golden Casket Lottery draws Gold Lotto on Wednesday.

**Powerball** is similar to lotto but its two draw structure means that the chance of winning the major prize (about one in 55 million) are significantly lower.

**Football pools** is a lotto style game, where the winning numbers are based on the outcome of English or Australian soccer matches. There are five prize divisions — the odds of winning division one (an average prize of \$450 000) are over one in a million while the chance of winning division five (an average prize of \$14) is 1 in 149.

**Instant scratchies** are tickets (ranging in price from \$1 to \$10) which are scratched to reveal symbols. Prizes are paid on a set return to players and are based on the number of tickets in a set, the cost to purchase the tickets and a set percentage retained by the operator for costs. Prizes range from \$1 to \$500 000. The chance of winning a prize varies with the type of ticket — The chance of winning a prize on a New South Wales ticket, for example, is about one in five.

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Box 2.3 (continued)

**Lotteries (caskets)** are drawn Australia wide by both government and commercial operators. For example, the Golden Casket Lottery Corporation in Queensland sells \$2 and \$5 casket tickets. Prizes range between \$10 and \$250 000 in the \$5 lottery and between \$5 and \$100 000 in the \$2 lottery. In addition, free tickets are awarded to every ticket holder that is one number away from a winning ticket. Over 7000 tickets in each draw win a prize.

New South Wales Lotteries conducts a similar style of lottery but also offers a jackpot prize. The \$2 jackpot starts at \$500 000 and grows by \$50 000 until it is won. And the \$5 lottery jackpot starts at \$750 000 and grows by \$100 000 until it is won. The odds of winning a prize in the \$2 lottery are 1 in 18, and 1 in 11 for the \$5 lottery.

**Casinos** offer a range of games. Some such as roulette and the money wheel are based entirely on luck. Others such as blackjack and poker require some skill. The average percentage of each bet that is retained by the casino varies with the table game. Blackjack for example has the lowest of all house percentages ranging from 0-1 per cent. In comparison, the average house advantage on the money wheel is 5 per cent, on two-up it is 3 per cent, on baccarat it is 1 per cent on player and banker bets and 14 per cent on tie bets, on craps it is 2.5 per cent and on other dice games such as mini-dice, sic-bo, heads and tails the average house percentage is 5 per cent.

**Racing** comprises betting on horse and greyhound races with on-course and off-course bookmakers and totalisators. At on-course totalisators and TABs betting is in the form of a "unit" wager (a unit being a multiple of 50c or \$1 depending on the jurisdiction). The operator deducts a percentage of the total units wagered and the remainder is returned as winnings to players in multiples of the unit wagered. Types of TAB betting include win and place betting, quinella betting, trifecta betting, doubles and treble betting and mystery betting.

Unlike totalisators, bookmakers offer win and place bets on racing events at fixed odds. A gambler can wager any amount above a set minimum and will receive the bookmaker's odds at the time of making the wager. Those odds stand, irrespective of whether the bookmaker alters the odds at a later time.

**Sports betting** is wagering on local, national or international sporting events (other than horse and greyhound racing), with bookmakers, and TABs. Sports bets can be made at the betting agency, by telephone, or on the internet. Prize money and the odds on sports betting at TABs, (such as footy-bet) is dependent on the total amount wagered, while at bookmakers sports betting is based on fixed odds.

**Bingo** is a numbers game where each player has one or more cards with differently printed numbers (between 1 and 99) on which to place markers as numbers are called. The odds of winning and prize money vary with the number of cards sold to players. Other forms of minor gaming such as raffles and lucky envelopes are not within the scope of the inquiry.

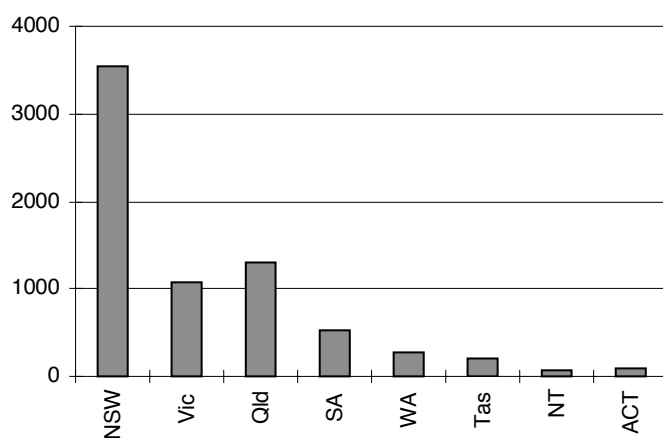
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## Industry structure

Over 7000 businesses provide gambling services throughout Australia, either as their primary activity (for example casinos and TABs) or as secondary source of income (for example clubs, and hotels). The majority of gambling businesses are hospitality clubs, pubs, taverns and bars and totalisator agencies.

Half of Australia's gambling businesses are located in New South Wales, with Victoria and Queensland the next largest but with a significantly lower number of businesses (figure 2.1).

Figure 2.1 **Number of gambling businesses by state and territory<sup>a</sup>**



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<sup>a</sup> Multi-state businesses are counted in each state which they operate, hence states do not sum to the Australian total.

Data source: ABS (1999b).

Gaming machines dominate gambling activity in Australia — as discussed later they account for about half the total revenue and taxation collected from all forms of gambling.

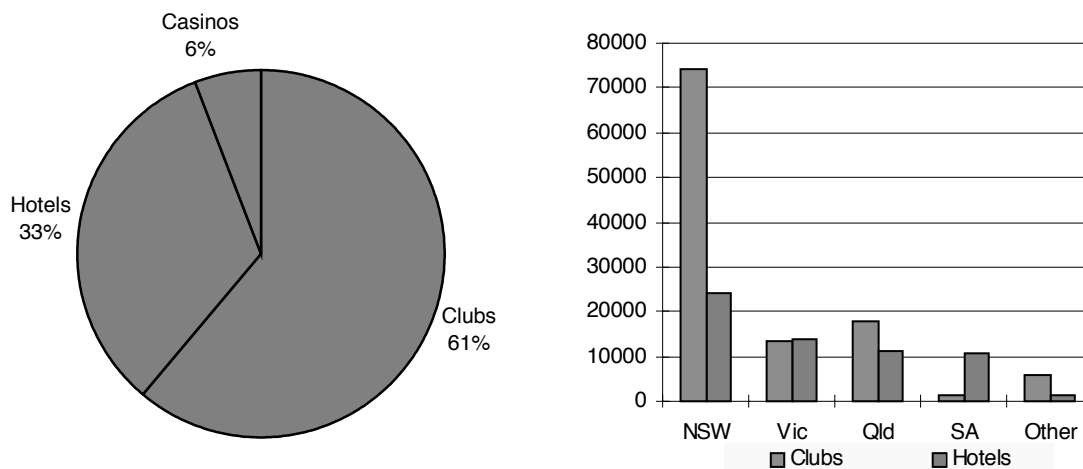
Australia currently has around 185 000 gaming machines, roughly half of which are located in New South Wales (figure 2.2).

In the draft report, the Commission used data from Aristocrat's 1998 Annual Report indicating that Australia had 21 per cent of the world gaming machine market, which the industry subsequently disputed. Further data on machine numbers and characteristics, from a variety of sources, indicates that Australia has about one-fifth of the most relevant market segment ('high intensity' machines). However, its share can be reduced to 2.5 per cent if a range of other machines are included (box 2.4).

It is clear that Australia has a much wider dispersion of gaming machines than in North America. In per capita terms, there are roughly five times as many machines in Australia than in the United States or Canada, where their availability is more restricted.

**Figure 2.2 Location of gaming machines**

*Location of gaming machines, Australia      Gaming machines in clubs and pubs, taverns and bars, by state/territory*



Data source: State/territory gambling authorities, see chapter 13 for data table.

In contrast, Australia accounts for less than two per cent of world lottery sales — Europe and North American lottery sales comprise over 80 per cent of the world total (table 2.1).

**Table 2.1 World lottery sales, 1998**

<i>Region</i>	<i>US \$ million</i>	<i>Percentage of world total</i>
Africa	273	0.2
Australia and New Zealand	2 335	1.9
Asia & Middle East	13 391	10.8
Europe	61 247	49.3
Central, South America	4 115	3.3
North America	42 826	34.5
Total	124 185	100.0

Source: Lottery Insider (1999).

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#### Box 2.4     **The world gaming machine market**

In its draft report the Commission reported data from Aristocrat's 1997-98 annual report which, consistent with earlier estimates, indicated that Australia had 21 per cent of the world's gaming machines.

A number of industry participants argued that this estimate was greatly overstated. Aristocrat (sub. D266) commented:

The figure used by the Commission ... refers only to the types of gaming machines Aristocrat produces, in regulated gaming jurisdictions. It is not an estimate of the total number of machines worldwide.

The world gaming machine market is highly fragmented. There are a great variety of machines which differ in terms of technology, turnover, prizes, payout rates and accessibility. This creates difficulty in defining and measuring the size of the world market, and different segments within it.

Professor Marfels, in a submission to the inquiry (D222) and in his consultancy report (through Marecon International Research) for Crown Casino, included casino gaming machines, pachinko, pachislo, video lottery terminals and amusement with prizes machines in his definition of the world gaming machine market. He found that Australia has less than 3 per cent of the world's gaming machines and ranks sixth after Japan, the United States, Great Britain, Germany and Spain.

Similarly, a study by Taylor Nelson Sofres, commissioned by the AGMMA (sub. D257, p. 4) which included the same styles of machines, found that Australia had less than 2.4 per cent of the world's gaming machines.

The aggregation of machines at this level is not very meaningful, however, because it does not allow comparison of like with like. Following closer examination of the various devices, the Commission considers that the gaming machine market can be divided into three relatively distinct segments:

- high intensity machines — where spending per game and the speed of play is high relative to all other gaming machines — these include Australian gaming machines, US slot machines and video lottery terminals;
- amusement with prizes machines — where spending and the speed of play is comparatively slower — these include UK amusement with prizes and club machines and Japanese pachislo machines; and
- Japanese pinball style pachinko and other machines (such as UK crane grab) — where the stakes and speed of play are the lowest and prizes are toys (for crane grabs) and biscuits, cigarettes and magazines for pachinko (although prizes can be exchanged outside the venue for money).

Appendix N describes these market segments and the variety of gaming machines worldwide in more detail.

(continued)



### Box 2.4 (continued)

Australia's share of the gaming machine market varies considerably depending on how the market is defined. It can be as high as 20 per cent or as low as 2.6 per cent if pachislo, pachinko and other amusement with prize machines are included (table below).

#### Country shares of gaming machines<sup>a</sup>, selected market segments (per cent)

	<i>High intensity machines</i>	<i>'Amusement with prizes' machines</i>	<i>Pachinko and other<sup>b</sup></i>	<i>Total</i>
Australia	20.4	0.0	0.0	2.6
United States	64.4	0.0	0.0	8.2
Canada	6.4	0.0	0.0	0.8
France	5.9	0.0	0.0	0.7
New Zealand	1.7	0.0	0.0	0.2
South Africa	1.2	0.0	0.0	0.2
United Kingdom	0.0	14.8	0.0	3.7
Germany	0.0	13.3	0.0	3.2
Spain	0.0	12.9	0.0	3.1
Japan	0.0	58.9	100	65.8
Other	na	na	na	12.9

<sup>a</sup> Not including internet or illegal machines; <sup>b</sup> excludes 'UK crane grab', pinball and pusher machines.

Source: Appendix N.

The Commission considers that the 'high intensity' sector is the most appropriate benchmark for comparison of Australian style gaming machines with the world market. This grouping of machines has comparatively high turnover, credits, lines, speed of play and winnings. They also pose potentially a higher risks for problem gambling (see chapter 6 and appendix N).

## Ownership

Australia's gambling industries are characterised by a mix of public and private ownership.

- All Australia's casinos are regional monopolies. Most are owned and operated by Australian companies and listed on the Australian Stock Exchange. The two exceptions are the Adelaide Casino, which is government owned and MGM Grand International Hotel Casino in Darwin, which is a subsidiary of MGM Grand in Las Vegas.
- Traditionally, TABs have been managed by government appointed boards. However Victoria and New South Wales have moved away from this structure with the privatisation of their TABs. Queensland and the Northern Territory are also in the process of privatising their TAB assets.

- Lottery operators are also predominantly government owned. The two exceptions are Tattersalls in Victoria and the Territory Lottery Company in the Northern Territory.

## Contribution to national product

The conventional measures of an industry's contribution to the national economy is value added, and the share of its value added in Gross Domestic Product (GDP — notionally, the sum of value added for all industries). However there are no official estimates of value added for gambling.

Instead, table 2.2 lists ABS estimates of value added at *basic* and *producer* prices for industries where gambling is a primary or secondary activity. The ABS (sub. D290, p. 2) noted that at the industry level the preferred measure is value added at basic prices. However for a comparison with GDP (at market prices) value added at producers prices is the appropriate measure (sub. D290, p. 2).

Table 2.2 **Value added, industries that provide gambling services, 1997-98<sup>a</sup> (\$ million)**

	<i>Lotteries</i>	<i>Casinos</i>	<i>TABs, bookmakers &amp; other</i>	<i>Clubs</i>	<i>Hotels</i>	<i>Total</i>
Value added (basic prices)	342	744	764	2 663	2 497	7 010
Gambling taxes	1 321	426	903	715	352	3 717
Value added (producers' prices)	1 663	1 170	1 667	3 378	2 849	10 727

<sup>a</sup> Estimates are approximations only — they are based on the assumption that gambling taxes is a reasonable proxy for taxes less subsidies in the gambling industries

Source: ABS (sub. D290, p. 4).

The above table provides estimates of value added for industries that provide gambling services, it does not provide estimates of value added from gambling. In the casino, club and hotel sectors, income is also sourced from accommodation and the sales of food and liquor. In casinos, 85 per cent of income is from gambling, in clubs 53 per cent of total income is from gambling and in hotels 16 per cent of income is derived from gambling (ABS catalogues 8687.0 and 8683.0). Using these shares, non-gambling services can be netted out of the ABS industry estimates of value added to provide approximations of value added from gambling.

The Commission estimates that total value added (at basic prices) from gambling in 1997-98 was \$3.5 billion. Clubs accounted for the majority, at about 40 per cent of total industry value added (table 2.3). Value added in producer prices was \$7.2 billion, which equates to about 1.5 per cent of GDP in 1997-98 .

**Table 2.3 Estimated value added from gambling, 1997-98 (\$ million)**

	<i>Lotteries</i>	<i>Casinos</i>	<i>TABs, bookmakers &amp; other</i>	<i>Clubs</i>	<i>Hotels</i>	<i>Total</i>
Value added (basic prices)	342	632	764	1 411 <sup>a</sup>	400 <sup>a</sup>	3 549
Gambling taxes	1 321	426	903	715	352	3 717
Value added (producers' prices) <sup>b</sup>	1 663	1 058	1 667	2 126	752	7 266

<sup>a</sup> Estimates do not take into account that gambling services may attract increased expenditure on non-gambling services such as meals and drinks. <sup>b</sup> Estimates in producers prices would be lower to the extent that there are any subsidies to deduct from taxation revenue (see ABS sub. D290, p.2).

*Source:* Commission estimates based on ABS (sub. D290, 1998b, 1999b).

## The profitability of gambling industries

Gambling businesses can generate two sources of revenue from gambling — takings and commissions.

- Net takings are total gambling income less prize money.
- Gambling commissions are moneys paid to agencies with TAB operations, lotteries, keno, lotto-type games and to hotels and clubs with gaming machines (when the venue does not own the machines).

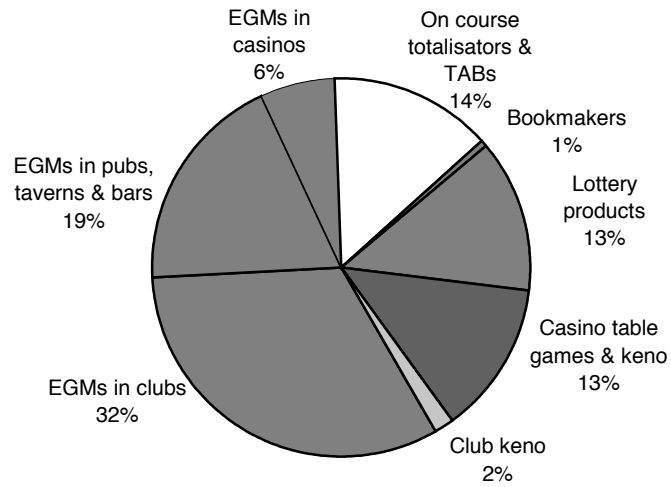
In 1997-98, gambling businesses generated over \$11 billion in net takings and \$650 million in commissions. The largest source of net takings was from gaming machines in clubs, pubs, taverns and bars which accounted for over 50 per cent or \$5.7 billion in total gambling net takings (figure 2.3).

New South Wales is the largest revenue earner, accounting for over \$4.5 billion or 40 per cent of Australia's total net takings and commissions from gambling. Victorian gambling businesses also generate significant revenue from gambling (figure 2.4).

Together, Australia's gambling businesses generated \$1.5 billion in profit (before tax) in 1997-98, or an average of \$217 000 per business.

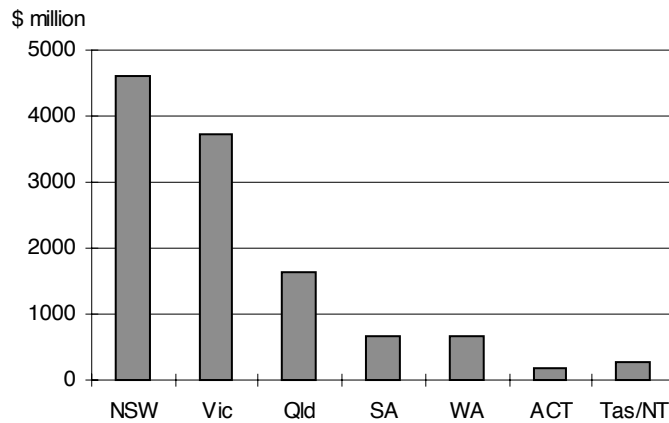
- The most profitable sector is that comprising clubs and hotels with gambling facilities. In 1997-98 the sector generated over \$1 billion in profit — an average profit of \$200 000 per business.
- In contrast, in 1997-98 the casino industry made an operating loss of nearly \$300 million — an average of \$22 million per casino (figure 2.5).

**Figure 2.3 Net takings by type of gambling and venue, 1997-98**



Data source: ABS (1999b).

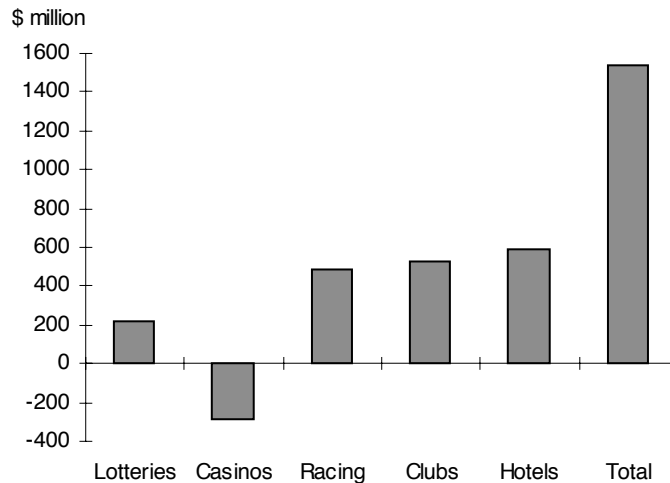
**Figure 2.4 Gambling net takings and commissions by state and territory<sup>a</sup>, 1997-98**



<sup>a</sup> The ABS did not publish separate net takings and commissions data for the Northern Territory and Tasmania, their total was calculated as the difference between the Australian total and sum of the other states and territories.

Data source: ABS (1999b).

Figure 2.5 Operating profit of gambling businesses<sup>a</sup>, 1997-98



<sup>a</sup> Profit is measured as operating profit before tax; the racing sector includes TAB and totalisator operators, TAB agencies, bookmakers and sports betting shops.

Data source: ABS (1999b, 1999a).

## Employment is significant

The gambling industry employs large numbers of people, both directly and indirectly. In 1997-98 it is estimated that over 107 000 people, or one per cent of Australia's workforce were employed directly in Australia's gambling industries (see below). Its significance is demonstrated by comparison with employment of 75 000 in mining, 67 000 in electricity, gas and water supply, and 114 000 in sport and recreational services (noting that the relative importance of gambling employment would diminish if employment was measured as full time equivalents).

In 1997-98 over 37 000 people were employed in businesses where the predominant activity was gambling. This represents about 17 per cent of total cultural and recreational employment.

- Over 20 000 were employed in casinos, more than 13 000 at TABs, sports betting shops and bookmakers and nearly 3 000 in lottery businesses.
- Their main occupations were licensed gambling staff in casinos, TAB agency clerks and on-course clerks and managers, administrators and clerks (figure 2.6).

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Figure 2.6 Occupations of staff in gambling industries<sup>a</sup>, 1997-98

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<sup>a</sup> Other staff includes maintenance, security and computer service staff.

Data source: ABS (1999b).

In addition, about 120 000 people were employed in clubs, pubs, taverns and bars with gambling facilities in 1997-98. As gambling is a secondary activity in these businesses, it is difficult to estimate how much of this employment was generated by the provision of gambling services. Indeed, the main occupations in clubs, pubs taverns and bars are bar managers, attendants, waiters and waitresses. In 1997-98, on average, clubs and hotels with gambling facilities employed 23 people, compared with an average of 9 people employed in clubs and hotels without gambling facilities. This suggests that more than 70 000 people are employed in clubs, pubs, taverns and bars as a result of gambling.

The Commission has taken a broad interpretation of the members of staff associated with gambling in clubs and hotels. If staff classified as 'gaming staff and cashiers' was the only category included, gambling employment in clubs would be 9200 and in hotels 6400, a total of 15 600. On the other hand, the Commission has not included other businesses which employ staff directly in the gambling industry for example, gaming machine manufacturers such as Aristocrat and parts of the racing industry.

Gambling businesses are characterised by a high proportion of part time, casual and female employment.

- In 1997-98, in businesses where gambling was the primary activity, over 50 per cent of employment was on a part time or casual basis and women were employed in 51 per cent of the positions.
- In pubs taverns and bars, 74 per cent of employees were part-time or casual and 54 per cent were women.

- Similarly, in clubs 65 per cent of employees were part-time or casual and 49 per cent were women.

High levels of part-time employment are characteristic of the cultural and recreation services sector (of which gambling is a segment). Over 50 per cent of people employed in the cultural and recreational sector are employed on a part time basis compared with about 30 per cent for all industries.

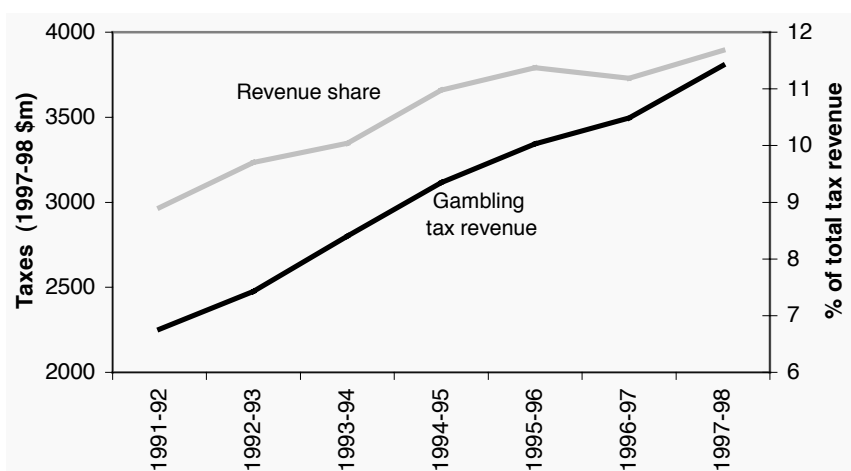
The gambling industry also employs people indirectly in a diverse range of fields and professions. For example, it employs technicians to manufacture and maintain gaming machines and totalisator systems; veterinarians and hospitality workers in the racing industry and construction workers to build casinos.

### Taxation revenue from gambling

As noted, the liberalisation of gambling has in part been driven by governments' revenue needs and constrained tax bases. A variety of taxes and fees are levied on the gambling industry by state and territory governments. In 1997-98 state and territory governments collected over \$3.8 billion in taxation revenue from gambling.

Gambling taxation represents a significant and rising share of state and territory governments' own-tax revenue. In 1991-92, states and territories raised about 9 per cent of taxation revenue from gambling. In 1997-98, taxes on gambling accounted for about 12 per cent of taxation revenue (figure 2.7).

Figure 2.7 Taxation revenue from gambling, 1991-92 to 1997-98<sup>a</sup>

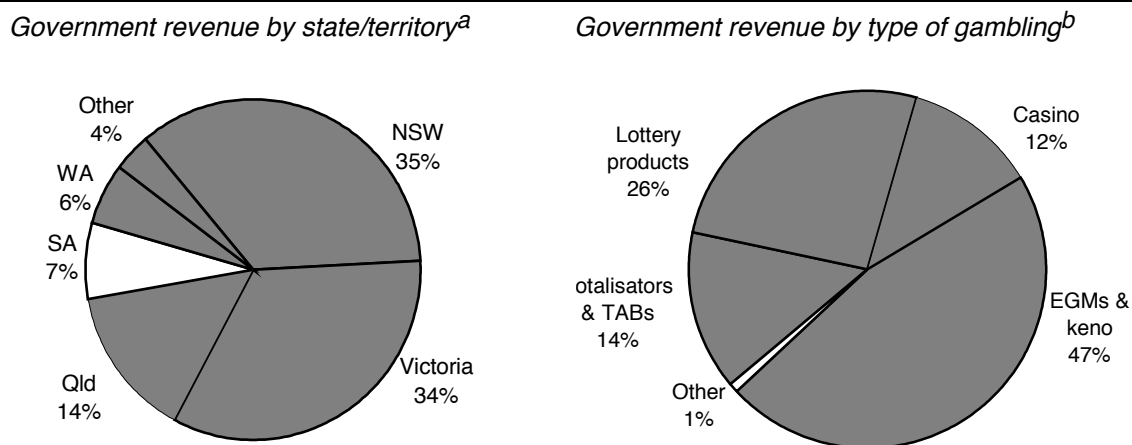


<sup>a</sup> 1997-98 data are preliminary; taxation revenue was converted to 1997-98 prices using the CPI deflator reported in Tasmanian Gaming Commission (1999).

Data source: ABS (1998c).

Nearly 70 per cent of gambling taxation revenue is collected in two jurisdictions — New South Wales and Victoria — and the largest source of revenue is from gaming machines (figure 2.8). The importance of gambling taxes as a source of revenue, and the differences between jurisdictions is discussed further in chapter 19.

**Figure 2.8 Government revenue from gambling, 1997-98**



<sup>a</sup> *Other* includes Tasmania, the Northern Territory and the ACT. <sup>b</sup> *Other* includes bookmakers, sports betting and minor gaming.

*Data source:* Tasmanian Gaming Commission (1999).

## 2.3 Gambling is a growth industry

### The changing pattern of gambling

Two decades ago the main forms of gambling in Australia were betting on horse racing, lotteries and raffles. Since then liberalisation has led to the proliferation of gambling products. Today, the range of gambling products have expanded to include keno, casino games, scratch-tickets and gaming machines. We are also seeing the emergence of internet gambling.

Gambling revenues have doubled over the decade and this is reflected in expenditure data. Growth has been driven by the gaming sector, where expenditure has grown from \$1.3 billion in the early 1970s to over \$9 billion in 1997-98 (figure 2.9).

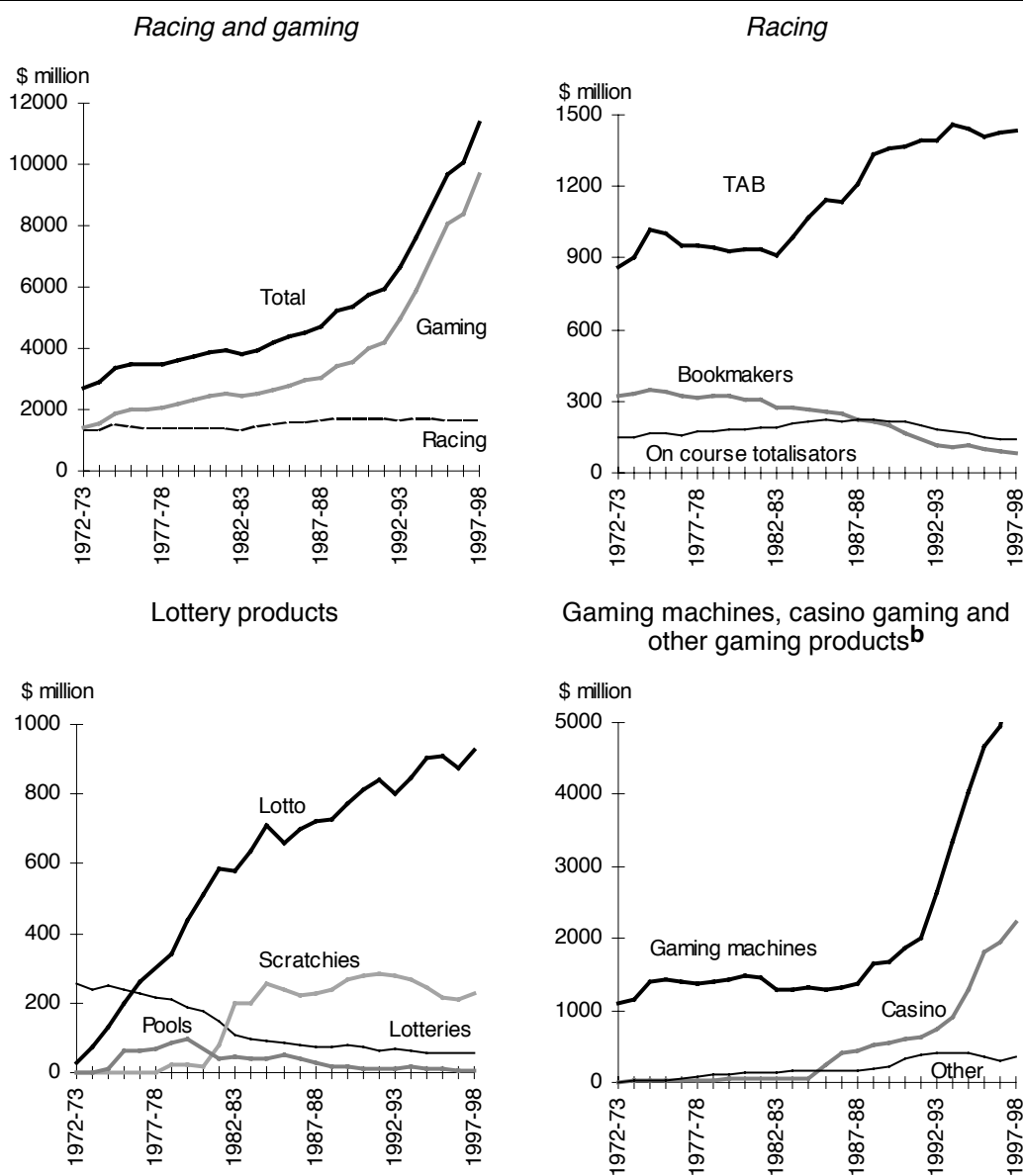
The legalisation of gaming machines in hotels and clubs has created the largest area of growth in the gambling industry. Expenditure on gaming machines has increased



from \$1 billion in 1972-73, (when only New South Wales had gaming machines and only in clubs) to \$6 billion in 1997-98.

The expansion of gaming into hotels and clubs has yielded a considerable boost in profit for those establishments with gambling facilities.

**Figure 2.9 Expenditure<sup>a</sup> by type of gambling activity, 1972-73 to 1997-98**



<sup>a</sup> Expressed in 1997-98 values. <sup>b</sup> Other includes minor gaming sports betting (gaming) and keno.

Data source: Tasmanian Gaming Commission (1999).

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- In 1991-92 clubs operating profit before tax was \$178 million — in 1997-98 it exceeded \$530 million.
  - Similarly, in pubs, taverns and bars, operating profit before tax increased from less than \$100 million in 1991-92 to \$590 million in 1997-98.

Revenue from casinos has also increased significantly over the period. Casino gaming has increased from expenditure levels below \$60 million a year prior to 1984-85 (when only Tasmania and the Northern Territory operated casinos) to over \$2 billion in 1997-98 (with all states and territories operating at least one casino) (figure 2.9).

Competition for the gambling dollar and a fall in the popularity of lottery tickets has resulted in the development of new lottery products, going well beyond the traditional weekly draw.

- Lotteries now sell instant scratch tickets, lottery or casket tickets and a range of lotto products.
- Lotto draws are conducted nearly every day of the week. For example, NSW Lotteries sells tickets in Lotto (drawn Monday and Wednesday nights), Oz Lotto (drawn Tuesday nights), Powerball (drawn Thursday nights) and 6 from 36 pools (drawn Saturday nights).

Expenditure on traditional lottery tickets has declined from over \$250 million a year in the early 1970s to \$57 million today. In contrast, expenditure on lotto products has increased steadily over the period (figure 2.9).

Despite innovations in racing products (such as increased numbers of meetings, night racing and mystery bets), the racing industry has seen its market share decline in recent years. Nevertheless, total expenditure on racing has increased over time.

- In 1972-73 gambling expenditure on racing was about \$1.3 billion (in today's prices) and it had a 49 per cent share of the market.
- In 1997-98 racing expenditure was higher at \$1.7 billion, but its market share was much lower — about 15 per cent.

Within the racing sector, TAB revenue has increased from \$865 million in 1972-73 to more than \$1.4 billion in 1997-98. In contrast, expenditure at the race track (on bookmakers and on-course totalisators) has declined marginally (figure 2.9).

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## 2.4 Technological change and future trends

Clearly, the last few decades have seen rapid change in Australia's gambling industries. Gambling has evolved from an industry which offered race betting and lotteries, to one which offers a multitude of gambling products and opportunities. The growth of Australian gambling industries has been made possible by liberalisation — as subsequent chapters show regulations have influenced the structure, profitability and development of the industry — but technological change has also shaped the industry and contributed to its growth. Indeed, Australian industries have been at the forefront of technological innovation world wide.

- Technological advances have enabled gambling suppliers to improve their services and increase the entertainment experience for consumers. For example, gaming machines are continually being updated with new graphics, feature games and linked jackpots to maintain consumer interest.
- Technological change has also created much greater access to gambling products — so called *convenience gambling*. Gaming machines are available in pubs and clubs throughout Australia; and the proliferation of interactive gambling products such as internet gambling and telephone betting, mean that consumers no longer have to leave home to gamble.
- Technological developments have also increased the tempo of gambling. The traditional forms of gambling (lotteries and racing) were non-continuous — there was a time delay between when a ticket or bet was purchased and the event took place. Today, the trend is toward continuous forms of gambling. For example, a new keno game starts every five minutes; it takes only a few seconds for each spin on a gaming machine; and the introduction of bill acceptors on gaming machines, in some jurisdictions, has meant that players do not have to leave their machine to get change.
- Further, technology has created higher levels of security for players and service providers. For example, Star City Casino (sub. 33, p. 34) has introduced Pitcam (small cameras located on each gaming table to record play) to resolve disputes, deter criminal behaviour, and ensure the integrity of gaming operators. It also has a computer system to monitor gaming machines and more than 1000 cameras providing perimeter surveillance.
- Finally, advances in information technology have enabled gambling providers to collect considerable detail on their clients. For example, many casinos and clubs provide gamblers with membership cards which when inserted into gaming machines can earn consumers free prizes or money. The cards simultaneously collect information about each consumer's expenditure pattern and level.

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Regulation and technological advances are bound to further shape the gambling industry in the future. A number of new developments are already becoming apparent:

- One is growth in internet gambling, bringing a range of interactive gambling products directly into the homes of consumers (chapter 18). With the spread of broadband cable throughout Australia, a new technological form of gambling is also set to emerge — gambling through Pay TV. Indeed, products for this medium are already being developed in Australia.
- A particular area of growth likely to be driven by new technologies is sports betting. In 1997-98, Australians lost over \$20 million on sports betting products and expenditure is expected to increase significantly in the future.
- Competition for the gambling dollar has intensified. In recent years a number of new lottery and racing products have been introduced to compete with the newer forms of gambling such as gaming machines. Competition within the gambling industry is likely to increase further. Indeed, the advent of internet gambling would mean that gambling providers will not only compete with interstate products, but with gambling products from all over the world.
  - The National Lotto Bloc (sub.158, p.11) for example, see their major competition in the future coming from jackpot linked gaming machines, TAB mystery bets (especially if they are offered through TV or the internet) and sports betting.
- In the past, gambling products have not been highly substitutable. For example, when gaming machines were first introduced in Australia, racing industry revenues remained unchanged. However, in recent years gambling products have converged. For example, the TAB mystery bet is similar to the *luck bet* on a scratch ticket or a gaming machine; casino games on the internet are the same as those in physical casinos; and keno and lotto products are similar numbers type games. Clearly, gambling products are becoming more substitutable over time.
- Some participants have also suggested that a development in the gambling industry will be the use of new payments mechanisms. The Adelaide Central Mission for example cite further growth in the use of ATMs and EFTPOS, in addition to the development of new payments mechanisms such as smart cards (credit cards incorporating a micro-chip which is able to store information and value) (sub. 108, p. 22). Indeed, moves to a cashless society could see pressures to have such facilities incorporated in gaming machines — a major issue in problem gambling.
- A number of new trends in the ownership of gambling businesses are also emerging.

- 
- Share ownership (including Tabcorp, Star City Casino, Aristocrat and Jupiters Casino) is becoming more mainstream throughout the community.
  - Some companies, previously unrelated to gambling, are acquiring gambling assets. For example, Publishing and Broadcasting Limited is currently being merged with Crown Casino and Fosters Brewing has purchased Austotel (a Queensland hotel chain) and hotels throughout New South Wales, making it one of the largest gaming machine operators in Australia.
  - Companies with existing gambling operations are expanding into other forms of gambling. For example, Jupiters Casino has moved into sports betting and internet gaming with the purchase of Centrebet and Tabcorp is currently finalising its takeover of Star City Casino.
  - Recent growth in the gambling industry has brought with it increasing community concern about adverse social impacts. This is likely to lead to the development of new safeguards to reduce adverse social impacts from gambling. Indeed, internet gambling legislation introduced in some states and territories involves a number of safeguards that go further than ever before in allowing gamblers control over their play including limits on losses, duration of play and the prohibition of credit betting (chapter 18).

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## 3 Consumption of gambling

### Box 3.1 Key messages

- In 1997-98 Australians lost \$10.8 billion on commercial gambling. A further \$500 million was lost by foreigners in Australian casinos.
- This equates to an average loss of \$760 per Australia adult, or 3 per cent of household disposable income.
- In 1997-98 residents of New South Wales and Victoria spent the most on gambling.
- Gaming machines are the most popular form of gambling, comprising more than 50 per cent of total gambling expenditure (outside casinos).
- Over the last decade, gambling expenditure has increased strongly in all states and is absorbing an increasing share of household income.
- About 80 per cent of Australian adults participate in gambling — but the majority gamble less than once a week.
- It follows that the socio-demographic profile of gamblers as a whole reflects that of the population. However, the profile of gamblers varies by gambling mode. For example:
  - the profile of gaming machine players is slightly biased towards middle income earners and those aged between 18 and 24;
  - the profile of lottery gamblers reflects that of the general population with a small bias towards people aged between 50 and 64 and incomes over \$35 000; and
  - the profile of casino and sports gamblers is strongly biased towards males, and people aged between 18 and 24.
- Socio-demographic profiles are more distinct for regular gamblers, and non-gamblers.
  - Regular gamblers are strongly biased towards males, people aged between 18 and 24, pensioners, people with lower levels of education, and people living in non-metropolitan regions.
  - Non-gamblers are biased towards females, people over 65, people with higher levels of education and people living in metropolitan regions.

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This chapter examines spending on gambling in Australia, why people gamble and who participates in gambling. It begins by looking at how much is spent on various gambling products by state and territory, and how expenditure has changed over time. It then looks at evidence on the motivation for gambling and factors that influence consumers' decisions. Lastly, evidence from the Commission's *National Gambling Survey* is presented on the socio-demographic profiles of gamblers and non-gamblers.

### 3.1 How much do Australians spend on gambling?

The \$10.8 billion that Australians spent on gambling in 1997-98 equates to about \$760 per Australian adult or 3 per cent of household disposable income (box 3.2). Its significance is demonstrated by a comparison with annual household expenditure of \$6 billion on energy, \$9 billion on household appliances and \$13 billion on alcohol.

While international gambling statistics are patchy, evidence suggests that Australians are amongst the biggest gamblers in the world.

- International Gaming and Wagering Business (1996) estimated that gambling expenditure per capita (not per adult) in Australia was \$400, significantly higher than \$170 in the United States and \$370 in Hong Kong.
- Gambling activity is also lower in New Zealand — International Gaming and Wagering Business (1997) estimated that turnover in New Zealand was about \$3 billion, much lower than the \$61 billion estimated in Australia. This equates to expenditure per capita in New Zealand of about \$170.

#### Box 3.2 Expenditure and turnover data

Some reports cite gambling activity at between \$70 and \$95 billion each year, while others cite levels around \$11 billion. The discrepancy arises from the difference between expenditure and turnover. Turnover is the sum of all money staked on gambling. Expenditure is turnover less winnings and prize money — in short, losses.

To understand the distinction between expenditure and turnover assume that a poker machine player wagers \$20 on a machine and receives back \$17 in winnings, which is again wagered and \$15 returned. At this stage the gambler has spent \$5 but turnover or amount wagered is \$37. On average, when a poker machine player has spent \$20, about \$150 will have been turned over or wagered (assuming a return of 87 per cent).

It is thus more meaningful to use expenditure as a measure of actual gambling activity.

(continued)

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### Box 3.2 (continued)

The \$10.8 billion expenditure figure cited in the text is an estimate based on ABS statistics (see appendix P). It excludes foreign gambling in casinos, private games and raffles. This measure of expenditure is not available over time — ABS gambling statistics have only been collected for the years 1994-95 and 1997-98. In addition, ABS estimates of expenditure by foreigners in casinos are not publicly available at the state level.

To analyse trends in gambling expenditure by state and over time this chapter uses data sourced from the Tasmanian Gaming Commission's annual gambling statistics.

There are two major deficiencies in the data series that should be taken into account when interpreting the statistics presented in this chapter.

- The data includes expenditure on gambling in Australia by overseas visitors — the main component being foreign expenditure in casinos. Tasmanian Gaming Commission statistics estimate that in 1997-98, Australian adults on average spent about \$820 on gambling — significantly higher than the \$760 estimate based on ABS statistics (when foreign gambling in casinos is excluded).
- The data does not include an estimate of total expenditure on gaming machines — gaming machine expenditure in hotels and clubs is included in the gaming machine sector while gaming machine expenditure in casinos is included with casino table games and keno in the casino sector.

While not perfect, the data is the best available to make comparisons in expenditure by state and over time.

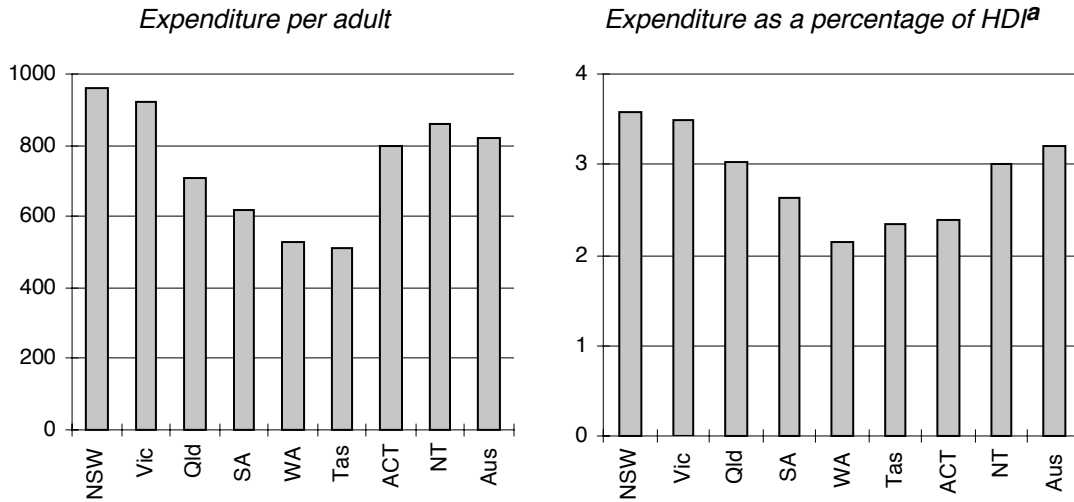
At the state level residents of New South Wales spent the most on gambling in 1997-98 — \$963 per person over the age of 18 or about 3.6 per cent of household disposable income. Residents of Victoria and the Northern Territory also spent relatively large amounts on gambling. In contrast, Tasmanians and Western Australians spent the least on gambling. And because of its high income levels, the ACT ranked fourth in per capita spending, but sixth in relation to expenditure as a percentage of household disposable income (figure 3.1).

### Expenditure by product

As noted in the previous chapter, the gaming sector dominates gambling activity. About 75 per cent of gambling expenditure is directed to the gaming sector. Within the gaming sector, gaming machines are the most popular form of gambling, capturing over 50 per cent of total gambling expenditure (outside casinos) or nearly \$6 billion each year (figure 3.2).



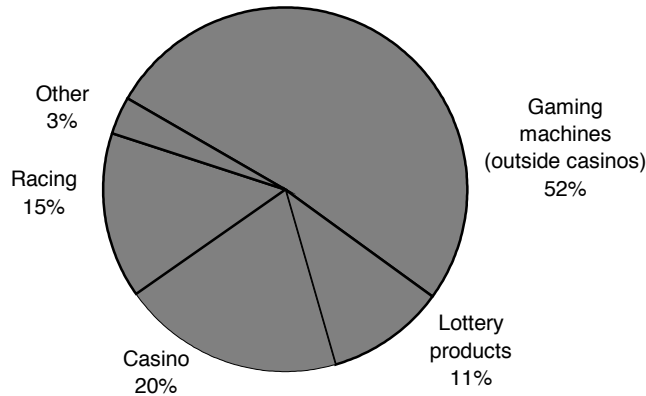
**Figure 3.1 Gambling expenditure by state and territory, 1997-98**



<sup>a</sup> Household disposable income — household net income (after the deduction of direct taxes).

Data source: Tasmanian Gaming Commission (1999).

**Figure 3.2 Expenditure by type of gambling activity, Australia 1997-98<sup>a</sup>**



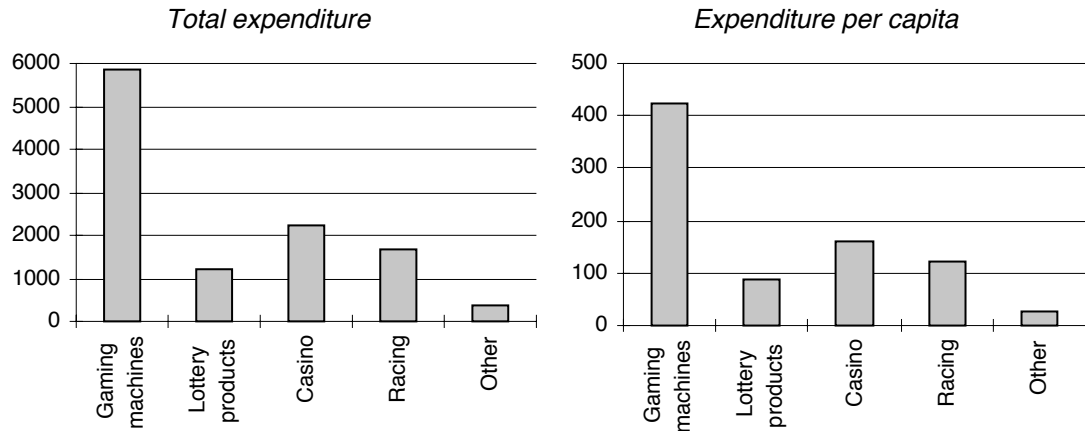
<sup>a</sup> Lottery products include lotteries, lotto, pools and instant scratch-its; casino gaming includes wagers on table games, gaming machines and keno systems; other includes keno, bingo and minor gambling;

If expenditure data from appendix P is used (ie. casino gaming machine expenditure is included in gaming machine expenditure outside casinos and foreign expenditure, private games and raffles are excluded) shares are gaming machines 59%, lottery products 13%, racing 15%, casino 8% and other 4% (other includes keno, bingo and internet casino games).

Data source: Tasmanian Gaming Commission (1999).

In per capita terms, on average each Australian over the age of 18 spends over \$420 a year on gaming machines outside casinos. This compares with \$160 on casino products, \$120 on racing products and less than \$100 a year on lottery and other gambling products (figure 3.3).

Figure 3.3 **Gambling expenditure by product, Australia 1997-98<sup>a</sup>**



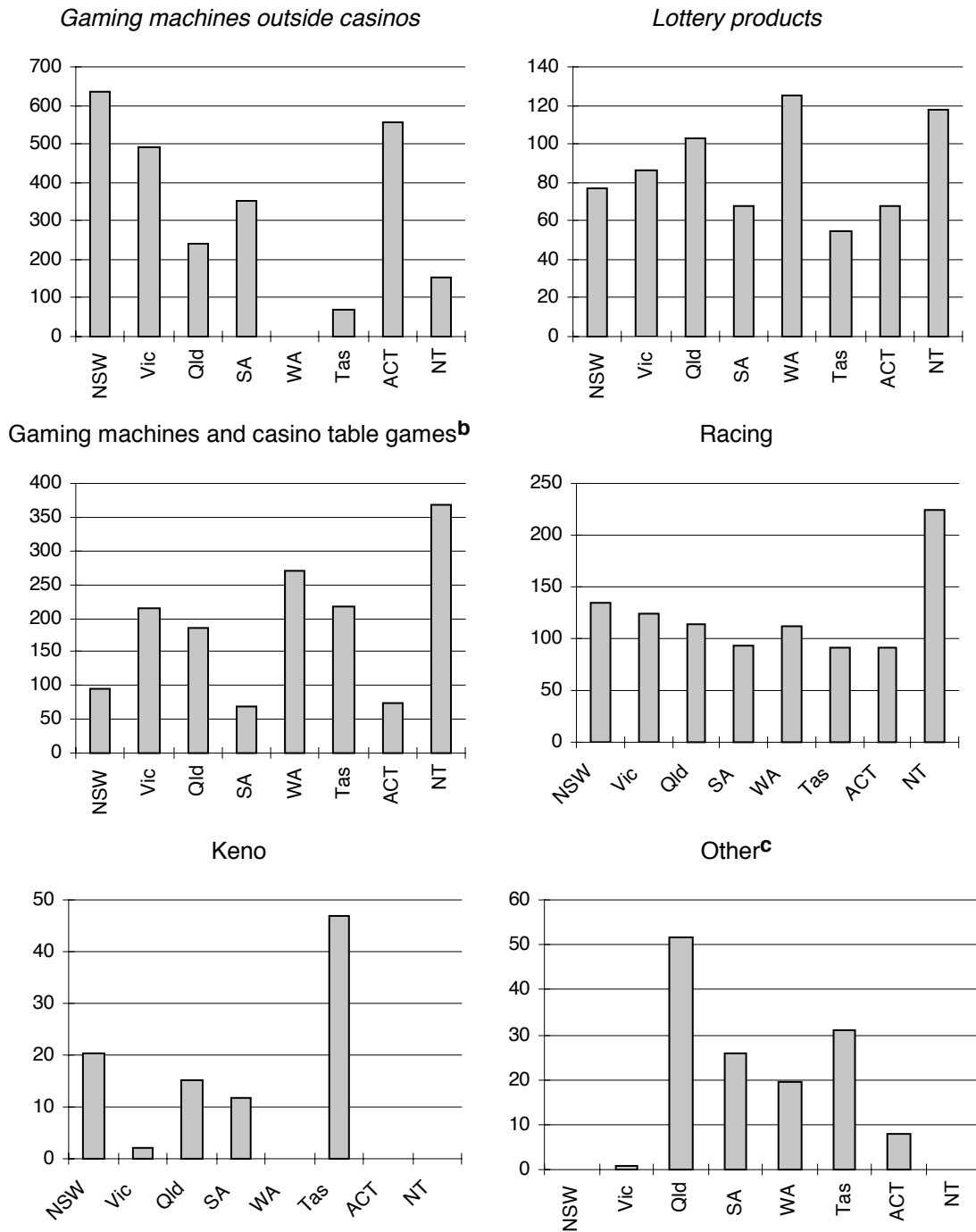
<sup>a</sup> Gaming machines include gaming machines outside casinos; casino includes gaming machines and other casino gambling; other includes bingo and minor gaming.

Data source: Tasmanian Gaming Commission (1999).

A number of differences are apparent between state/territory expenditures across gambling products (figure 3.4).

- Residents of New South Wales and the ACT spend the most on gaming machines — in excess of \$500 per person over the age of 18 each year.
- Casino gambling is most popular in the Northern Territory where on average, a person over the age of 18 spends over \$350 each year. Per capita expenditure in Western Australia at the casino is also over \$250. However, a significant proportion of expenditure at casinos is by overseas visitors. The Burswood Casino (sub. 113, p.8) for example, estimates that about 50 per cent of its gambling revenue is from high rollers (compared with an average of 25 per cent for Australian casinos calculated using ABS statistics) implying that Western Australians spend \$135 per capita each year at the casino.
- Western Australians spend the most on lottery products — an average of \$122 per person over the age of 18 each year. This largely reflects a lack of other gambling alternatives — gaming machines are prohibited in clubs and hotels.
- In the Northern Territory, expenditure on racing surpasses that in any other state — residents spend an average of \$200 a year on gambling products compared with a national average of \$120.
- Keno operates in New South Wales, South Australia, Victoria, Tasmania and Queensland. It is most popular in Tasmania where residents over the age of 18, spend an average of \$45 each year on this product.
- Expenditure on bingo and minor gaming is relatively low, with Queenslanders spending the most — over \$50 a year.

**Figure 3.4 Gambling expenditure per capita<sup>a</sup> by state and territory and product, 1997-98**



<sup>a</sup> Per capita represents persons over the age of 18. <sup>b</sup> Caution should be taken in reading casino data, which includes expenditure by overseas high rollers. <sup>c</sup> Other includes minor gaming and sports betting (gaming only); minor gaming statistics were not available for New South Wales, the ACT, Victoria and the Northern Territory.

Data source: Tasmanian Gaming Commission (1999).

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## An aside: interpreting the ‘price’ of gambling products

Unlike say consumer durables, the price, or monetary cost, of gambling services are not always apparent. The gambler is aware of the amount risked — \$2 on a lottery ticket or \$10 on a favourite horse. But only after the lottery is drawn, the race is run, and the winnings have been paid does the net cost to the gambler become apparent.

For gambling services there are two distinct measures of price:

- the initial outlay in placing a bet; and
- the net outlay or cost to a consumer when winnings are taken into account.

So, for a \$2 instant scratch ticket the initial outlay or price is \$2 but if say, on average \$1 is returned to the gambler as winnings, the real price (or *net* outlay) is \$1.

Similarly, for a \$5 bet on a gaming machine the initial outlay or price is \$5 but if say, \$2 is returned on average as winnings, the real price (or *net* outlay) is \$3.

For gambling services, the more meaningful measure of price is thus the net outlay. But for some modes of gambling this price is not readily apparent. For example, when playing gaming machines the frequency of playing and the regularity of payouts makes the net outlay reasonably clear. For lotteries, where payouts are much less frequent for the individual player, the price is less apparent.

The average net outlay or price of a gambling service can be calculated as the ratio of the amount spent to the amount outlaid (expenditure to turnover) or the percentage of each dollar that on average is lost. For example, if the average price of a gambling product is 12 per cent, for every dollar wagered 12 cents on average is lost.

Table 3.1 lists the prices of various forms of gambling on this basis. Gaming machines, casino games and racing products are relatively low in cost compared with pools, bingo and minor gaming, lotto and instant lotteries.

It is important to note that these prices are representative for gamblers as a group and over time. For an individual gambler this measure of price is highly imprecise. For example, the Australian Gaming Machine Manufacturers Association (sub. 50, p. 8) in a discussion on returns from gaming machines stated:

- Except by some colossal fluke, no single player will experience the average during a play session.
- Statistically, half the playing population will get less, and half will do better than the average.
- It takes millions of games for a machine to closely tend to its ‘setting’.

**Table 3.1 The price of gambling, by product, 1997-98**

	<i>Expenditure \$m</i>	<i>Turnover \$m</i>	<i>Imputed price %</i>
<i>TAB</i>	1 437	9 116	16
<i>On-course totalisator</i>	143	900	16
<i>On-course bookmakers</i>	83	1 595	5
<i>Off-course bookmakers</i>	0.2	2	8
<i>Sports betting</i>	20	266	8
<b><i>Total racing</i></b>	<b>1 684</b>	<b>11 861</b>	<b>14</b>
<i>Lottery</i>	57	162	35
<i>Lotto</i>	923	2 316	40
<i>Pools</i>	8	15	50
<i>Bingo and minor gaming</i>	195	373	52
<i>Gaming machines</i>	5 867	57 676	10
<i>Casino<sup>a</sup></i>	2 232	20 942	11
<i>Instant lottery</i>	225	585	38
<i>Keno</i>	171	701	24
<i>Sports betting (gaming)</i>	4	73	6
<b><i>Total gaming</i></b>	<b>9 643</b>	<b>82 692</b>	<b>12</b>
<b><i>Total all gambling</i></b>	<b>11 327</b>	<b>94 553</b>	<b>12</b>

<sup>a</sup> Caution should be taken in interpreting casino data. The casino turnover figure represents casino handle (the amount of money exchanged for chips) rather than true turnover. As a result casino turnover in column two is likely to be underestimated and the price of a casino bet overestimated.

*Source:* Expenditure and turnover data was collected by the Tasmanian Gaming Commission (1999) and imputed price was calculated as the ratio of expenditure to turnover.

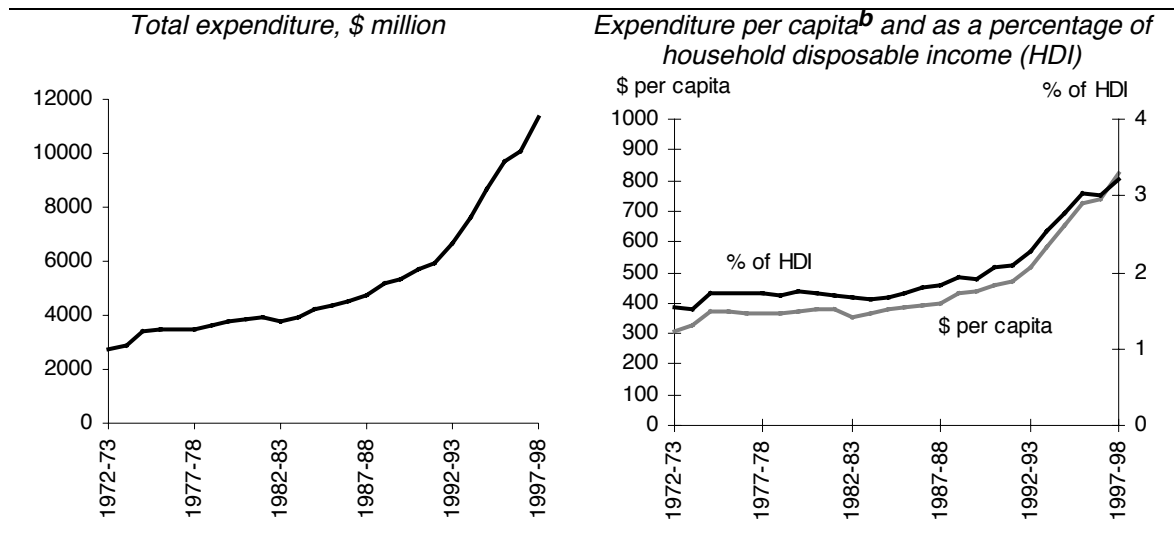
## **3.2 The increasing share of gambling in household expenditure**

Gambling is absorbing an increasing share of household income.

- In 1972-73, Australians spent \$2.7 billion (in today's prices) or 1.6 per cent of household disposable income on gambling.
- In 1997-98 over \$11 billion was spent on gambling in Australia— equivalent to 3 per cent of household disposable income.

Moreover, average annual gambling expenditure per person (over the age of 18) has increased from \$300 (in today's prices) in 1972-73 to over \$800 in 1997-98 (figure 3.5).

**Figure 3.5 Trends in gambling expenditure<sup>a</sup>, Australia 1972-73 to 1997-98**



<sup>a</sup> Expressed in 1997-98 values. <sup>b</sup> Per capita represents persons over the age of 18.

Data source: Tasmanian Gaming Commission (1999).

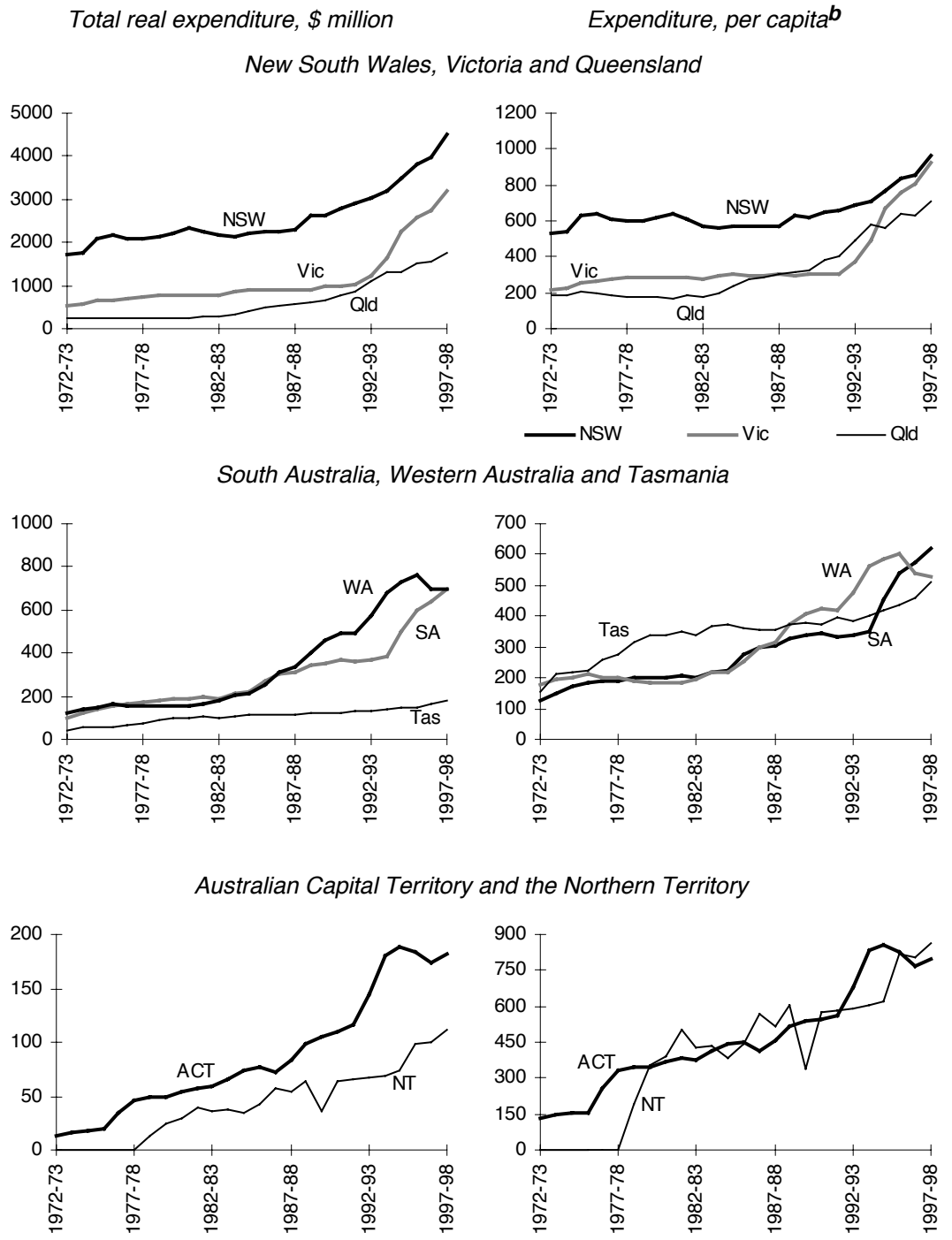
Gambling expenditure has increased strongly in all states in the last decade (figure 3.6).

Victoria has experienced the sharpest rise, with gambling expenditure more than doubling. Queensland and South Australia have also had sharp increases in gambling expenditure over the same period. In contrast, in New South Wales and Tasmania, gambling expenditure has risen more slowly.

Disparities in growth rates in gambling expenditure over time reflect differences in the timing of legalisation or liberalisation of gambling. For example, New South Wales has had gaming machines for over 40 years. In contrast, this form of gambling has only recently been introduced in Victoria, South Australia and Queensland and is prohibited in Western Australia. Hobart has had a casino for over 25 years, whereas casinos are still a recent development in New South Wales and Victoria.

Moreover, there were sharp increases in gambling expenditure in the early 1990s in Victoria when gaming machines were first introduced, and in 1994-95 in South Australia when gaming machines were first legalised in hotels and clubs. In contrast, in New South Wales, where gaming machines have been available for some time, gambling expenditure has increased by 40 per cent over the period 1990-91 to 1996-97 compared with a national average increase of 75 per cent.

**Figure 3.6 Trends in gambling expenditure<sup>a</sup> by state and territory 1972-73 to 1997-98**



<sup>a</sup> Expressed in 1997-98 values. <sup>b</sup> per capita represents persons over the age of 18.

Data source: Tasmanian Gaming Commission (1999).

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### 3.3 Why do people gamble?

#### The motivations for gambling

The average recreational gambler gambles for entertainment — as a way of spending leisure time. Centrebet (sub.75, p. 6) for example, said that some consumers gamble to add interest and excitement to a sporting event:

Although we have not surveyed our clients, the overwhelming impression formed from years of accepting bets is that a modest investment enhances the enjoyment the person gains from watching sport - in person or on television.

For some consumers, gambling is a means of social interaction — gambling venues provide a social setting to meet people. Other gamblers are motivated mainly by the dream of winning — they gamble with the hope of paying off a mortgage, to buy a new car or meet financial commitments. It is this prospect of winning that distinguishes gambling from other recreational activities.

Some consumers gamble to exercise skill or accumulate knowledge. For example, racing punters study form guides and place wagers to test their skill at picking winners; some casino blackjack players develop counting systems to test their skills against the casino and professional gamblers believe that their skills will enable them to earn a living from gambling.

Clearly, the motivations for gambling differ according to the form of gambling.

... people playing Lotto and Instant Tickets are motivated mainly by the dream of winning while it appears that people involved in other forms of gambling (such as TAB and casino) are motivated by a complex combination of a desire for entertainment, excitement, the application of knowledge or skill, along with the dream of winning and the potential of being seen as a winner (Lotteries Commission of Western Australia, sub. 25, p. 14).

For the majority of gamblers, as a recent survey in Victoria found, the primary motivation for gambling for all gamblers and regular gamblers is the dream of winning and to socialise (table 3.2). However, the motivations for problem gamblers differ from those for recreational gamblers (see chapter 6).



**Table 3.2 Motivations for gambling in Victoria, 1998**

<i>Motivation</i>	<i>All gamblers % of respondents</i>	<i>Regular gaming machine/casino gamblers % of respondents</i>
Dream of winning	59	66
Social reasons	38	65
For charity	27	26
Beating the odds	9	14
Favourite activity	10	19
Atmosphere/excitement	13	19
Belief in luck	12	16
Boredom/pass the time	9	13

Source: Roy Morgan Research (1999).

### What are the determinants of demand for gambling?

The attributes of gambling such as prize money, accessibility of product and the odds of winning can influence a consumer's decision on whether to gamble, how much to gamble and which product to choose. These are discussed below.

- *the price of the product* — some gambling products are more sensitive to price than others. Lotteries which have a low ticket cost combined with a low chance of winning are likely to be insensitive to price. Other factors such as the size of the prize (discussed below) are likely to be a more significant determinant of demand. In contrast, the demand for continuous forms of gambling such as casino table games and gaming machines (where prices or losses are easily observable) are likely to be more sensitive to prices (appendix D).
- *the odds of winning* — can also influence a consumer's decision on whether to gamble, how much to gamble and which product to choose. However, the majority of gamblers do not tend to choose products with the best odds. For example, participation rates in gambling are higher for lotto (where the probability of winning the jackpot is one in eight million) than casino table games such as blackjack (where the chances of winning are much greater).
- *the size of the prize* — this is a significant determinant of demand for jackpot gambling products such as lotteries, lotto and lotto-type games, keno and linked gaming machines. Many participants commented on how expenditure on gaming machines increases as the jackpot reaches its upper limit. And when the New South Wales \$2 lottery reached \$10 million early this year, expenditure more than doubled, resulting in the drawing of a new lottery 3 times a day in comparison to once a day when the jackpot was \$5 million.
- *the extent to which odds can be changed by skill* — while this may influence the choice of gambling product for consumers who gamble on skill-based products,

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it does not appear to be a determinant of demand for the majority of consumers. Spending on racing, sporting events and casino table games, where skill and knowledge is required, comprises less than 30 per cent of total gambling expenditure. The most popular gambling products, gaming machines and lottery products, are based entirely on luck. Indeed, TABs have recognised this feature of demand and have introduced their own luck-based product — Mystery Betting.

- *accessibility of the product* — the accessibility of gambling has increased significantly over the last two decades. Today, there is at least one casino in every state and territory, and gaming machines are available in hotels and clubs throughout Australia (except Western Australia). As discussed in detail in chapter 8 increased accessibility has lowered the cost of gambling and generated higher levels of demand for gambling products.
- *the experiences associated with the venue* — many consumers combine gambling with other social activities such as dining out, drinking with friends or watching live entertainment. As such, the demand for venue based forms of gambling, can be influenced by other services provided by the venue. Indeed, many venues offer cheap meals and drinks, subsidised by gambling revenue, to attract gamblers. Moreover, a recent survey (Roy Morgan Research 1999) found that the majority of gaming machine gamblers combine gambling with other social activities.
- *social acceptability of the activity* — community attitudes towards gambling have changed over time, impacting upon the demand for gambling services. From once being considered a vice by the general community, today gambling is an accepted social activity, although ambivalent attitudes remain.
- *the reliability of the activity* — consumers prefer gambling products that are free from fraud or malfunctions. For example, some gamblers have indicated an initial unwillingness to gamble on the internet for fear that payments mechanisms may not be secure or that the game may be biased.

### **3.4 Who are the gamblers?**

Drawing on participants' profiles and the Commission's *National Gambling Survey* this section examines the socio-demographic profiles of gamblers by gambling form. Characteristics examined include gender, age, income, personal status and location. It presents the profiles of average gamblers as distinct from the profiles of problem gamblers which are discussed in chapter 6.

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## Participants' profile of gamblers

A number of industry participants commented on the average profile of their clientele. Some commented on what they perceived as their typical client while others based evidence on market research.

Centrebet (sub. 75, p. 6), have a clear perception of the profile of their average sports betting customer. It states that their typical client is:

... a male, aged 25-36, who will bet \$20-50 per bet on his favourite Australian sport, 10-12 times per year.

In contrast, research by the Golden Casket Lottery Corporation (sub. 145, p. 6) found that the socio-demographic profiles of consumers of lottery products are broadranging and generally representative of the population as a whole. Their survey found that:

- about 55 per cent of lottery consumers are female;
- over 40 per cent of lottery consumers are between 25 and 39 years of age;
- 28 per cent of lottery players have annual incomes between \$21 000 and \$40 000; and
- over 50 per cent of lottery players have no post school qualifications.

Research on participation profiles by casinos also found that gamblers come from a wide range of socio-demographic backgrounds. Burswood Casino for example, (sub. 113, p. 27) said:

... casino patrons in general come from a wide range of backgrounds. All age groups are well represented and there is an even distribution between male and female casino patrons. The majority of casino patrons are married and come from a blue or white collar background. Unemployed, home duties, students, pensioners and retirees are less represented.

Similarly, Star City Casino (sub. 33, p. 8) stated:

There is no "typical" gambler although there may be a preponderance of type in certain forms of gambling which may relate to preference, cost and availability.

An analysis of their data found that:

- 60 per cent of customers are male and 40 per cent female;
- 39 per cent are broadly from Asian backgrounds and 61 per cent non-Asian;
- 71 per cent visit Star City with a friend and 29 per cent visit alone;
- 44 per cent are aged under 35, 21 per cent are aged 35-44 while 35 per cent are aged over 45; and

- 
- mature singles and older couples are the most likely to visit the casino and young families are least likely.

In addition, data from the Australian Casino Association (sub. 124, pp. 9,12) found that:

- over 80 per cent of visitors to casinos are from local areas, 14 per cent are from other regions of Australia and 3 per cent are international players; and
- the largest spenders are ‘premium international players’ which represent less than one per cent of total visitors to the casino but account for between 25 and 35 per cent of industry revenue or expenditure.

Industry research, while useful in providing a snapshot of the socio-demographic characteristics of gamblers, is limited to specific forms of gambling and based on small population samples.

Access Economics, ran a model for Tattersall’s (sub. 156) using 1993-94 ABS Household Expenditure data (HES) to assess the socio-demographic characteristics of gamblers. Its major findings on participation profiles include:

- over the two week survey period 39 per cent of the population gambled — females had a slightly higher gambling participation rate than males;
- females are more likely to participate in lotteries and lotto and males in gaming machine betting, casino table games and TAB and on-course betting;
- participation in gambling increases with income and age;
- unemployed persons have significantly lower participation rates;
- two-adult income households are more likely to gamble than single income households; and
- households with children are less likely to participate in gambling — particularly in TAB, gaming machine and casino gambling.

The strength of the HES is that it is a national survey of around 8400 households and it provides expenditure data for different forms of gambling by a range of demographic characteristics. However, it has two weaknesses when used to analyse gambling data.

- Firstly, the data is outdated. Real gambling expenditure in Australia has increased by almost 50 per cent — from \$7.6 billion to \$11 billion — since 1993-94, when the last HES was conducted. Moreover, it predates the latest expansion of casinos and the expansion of gaming machines in Queensland, South Australia, Victoria and Tasmania.

- Secondly, the data is understated. The 1993-94 survey found that the average household spends \$269 each year on gambling. This corresponds to an estimated expenditure of \$1.8 billion for Australia — significantly less than the \$7.6 billion estimate by the Tasmanian Gaming Commission.

### Findings from the Commission's survey

The Commission's *National Gambling Survey* conducted in April 1999, suggests that 82 per cent of Australian adults participated in at least one gambling activity in the last 12 months (table 3.3).

- Of those that gamble, 26 per cent gamble less than once a month, 24 per cent gamble one to three times a month, 37 per cent gamble one to three times a week and 13 per cent gamble more than three times a week.
- The highest participation rates were recorded for lotteries — 60 per cent of adults purchased lottery products in the last 12 months. Participation rates were also high for scratch tickets (46 per cent) and gaming machines (39 per cent).

**Table 3.3 Participation and frequency of gambling (per cent)**

<i>Form of gambling</i>	<i>Total participation</i>	<i>Less than once a month</i>	<i>1 to 3 times a month</i>	<i>1 to 3 times a week</i>	<i>More than 3 times a week</i>
Played poker or gaming machines	38.6	62.1	24.5	11.4	2.0
at a club	30.1	63.7	23.8	11.9	0.7
at a hotel/pub	17.8	66.2	23.9	9.5	0.3
at a casino	16.8	87.1	11.3	1.7	0.0
Bet on horse or greyhound races	24.3	70.9	13.6	13.4	2.2
on-course	13.4	84.2	10.7	4.9	0.2
off-course	19.0	73.0	11.8	13.9	1.3
by phone	3.3	45.3	24.9	28.2	1.6
via the internet	0.1	34.7	42.7	21.8	0.8
Played lotto or other lottery game	60.0	25.4	23.9	44.5	6.2
a weekly lottery game	57.0	26.4	23.4	45.6	4.6
a daily lottery game	12.5	38.9	30.2	29.0	1.9
Bought instant scratch tickets	46.2	51.9	33.4	14.0	0.7
Played keno at club/hotel/casino/other	15.9	72.2	19.6	7.1	1.1
Played table games at a casino	10.3	82.3	15.2	2.3	0.2
Played bingo at a club or hall	4.6	48.5	22.8	27.3	1.5
Bet on a sporting event	6.3	52.4	24.6	23.0	0.0
Played an internet casino game	0.4	60.3	15.2	20.9	3.6
Played games privately for money	5.3	68.1	22.5	7.4	2.0
Played any other gambling activity	0.6	70.9	10.2	18.9	0.0
Participated in any gambling activity	81.5	26.4	24.1	36.6	13.0

Source: PC *National Gambling Survey*.

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- Lottery gamblers have the highest frequency of gambling — 51 per cent of lottery gamblers purchase lottery products once a week or more. And casino gamblers have the lowest frequency of play — only 2 per cent of casino gamblers play casino games once a week or more.

The Commission's survey found that the socio-demographic profile of gamblers as a whole generally reflects that of the general population. For example, females are just as likely as males to participate in gambling and the participation of gamblers in varying age groups is similar to their representation in the population. However, socio-demographic profiles vary by gambling mode — although biases are generally small. For example, the survey found:

- gaming machine players have no gender bias but are slightly biased towards middle income earners (\$25 000 to \$35 000) and those aged between 18 and 24;
- racing punters are slightly biased towards males, middle income earners and those aged between 18 and 34;
- the profile of lottery gamblers reflects that of the general population with a small bias towards people aged between 50 and 64 and people with incomes over \$35 000;
- keno players are strongly biased towards people aged between 18 and 24 and middle income earners;
- gamblers on casino table games have one of the most distinct profiles — there is a strong bias towards males, singles, and those aged between 18 and 24;
- bingo gamblers are biased towards females, pensioners, people aged between 18 and 24 and over 65 and people with incomes less than \$10 000;
- sports gamblers are strongly biased towards males, people aged between 18 and 24, people with income over \$50 000, and singles; and
- gamblers that play games privately for money are biased towards males, people aged between 18 and 24, and singles.

Detailed data tables on the socio-demographic profiles of gamblers are presented in appendix B and the profiles of internet gamblers is discussed in chapter 18.

Socio-demographic profiles are more distinct for regular gamblers, and non-gamblers (table 3.4).

- Regular gamblers are strongly biased towards males, people aged between 18 and 24, people with lower levels of education, age and invalid pensioners and people living in non-metropolitan regions.

- Non-gamblers are biased towards females, people over 65, people with higher levels of education, and people living in metropolitan regions.

In contrast, the profile of non-regular gamblers reflects that of the general population. For example, 67 per cent of non-regular gamblers are married, similar to their 66 per cent representation in the population.

**Table 3.4 Socio demographic characteristics of gamblers and non gamblers<sup>a</sup>, 1999**

Per cent

<i>Characteristic</i>		<i>All</i>	<i>Non gamblers</i>	<i>Non-regular gamblers</i>	<i>Regular gamblers</i>
Gender	Male	49.1	45.0	48.6	60.4
	Female	50.9	55.0	51.4	39.6
Age	18-24	13.3	11.2	13.2	17.8
	25-34	20.4	17.4	21.4	18.2
	35-49	30.1	30.0	31.0	24.0
	50-64	23.3	22.7	23.2	25.4
	65+	13.0	18.7	11.3	14.7
Marital status	Married	66.1	66.3	66.9	60.2
	Separated or divorced	5.7	4.6	5.7	7.5
	Widowed	4.1	6.5	3.3	5.7
	Single	23.8	21.9	23.9	26.7
Household type	Single person	8.6	10.8	7.7	11.5
	One parent family with children	4.8	4.0	5.0	5.1
	Couple with children	50.0	48.5	51.2	43.9
	Couple with no children	22.3	23.7	22.1	22.7
	Group household	11.0	9.8	11.1	12.2
	Other	3.0	2.9	2.8	4.6
Education	Up to 4 <sup>th</sup> year high school	28.6	24.6	28.1	39.3
	Finished high school	27.7	24.0	28.3	30.3
	TAFE/technical education	10.5	7.8	11.3	10.5
	CAE/University	33.2	43.7	32.3	19.8
Income (\$'000)	<10	19.7	21.5	19.7	17.7
	10-25	24.7	27.9	24.1	23.9
	25-35	18.6	16.1	18.9	20.4
	35-49	18.5	15.9	19.0	18.6
	50+	18.5	18.5	18.3	19.5

(continued)

**Table 3.4 (continued)**

<i>Characteristic</i>		<i>All</i>	<i>Non gamblers</i>	<i>Non-regular gamblers</i>	<i>Regular gamblers</i>
Work status	Working full-time	47.2	41.9	48.2	49.7
	Working part-time	15.9	15.3	16.4	13.4
	Home duties	10.0	9.2	10.7	6.4
	Student	5.6	6.6	5.4	5.1
	Retired (self supporting)	9.6	12.8	8.5	11.8
	Pensioner	7.5	9.3	6.6	10.8
	Unemployed/looking for work	2.8	2.4	2.9	2.6
	Other	1.2	2.0	1.1	0.3
Main income source	Wages/salary	61.6	52.8	64.0	60.8
	Own business	14.6	18.2	14.2	10.7
	Other private income	3.2	4.4	3.0	2.8
	Unemployment benefit	2.2	2.0	2.4	1.9
	Retirement benefit	4	5.1	3.6	5.1
	Sickness benefit	0.2	0.3	0.2	0.1
	Supporting parent benefit	1.3	0.5	1.5	1.5
	Aged/invalid pension	9.2	12.5	7.8	13.3
	Other	2.5	2.1	2.5	2.7
Location	Metropolitan	64.7	70.1	64.0	59.8
	Non-metropolitan	35.3	29.9	36.0	40.2
Country of birth	Australia	76.7	72.1	77.4	80.2
	Elsewhere	23.4	27.9	22.6	19.8
Aboriginal or TSI	Yes	1.5	1.0	1.5	2.5

<sup>a</sup> Regular gamblers are those who participated in any single gambling activity (apart from lottery games or instant scratch tickets) at least once per week in the last 12 months, or whose overall participation in gambling activities (apart from lottery games or instant scratch tickets) was the equivalent of weekly (that is, at least 52 times per year). Non-regular gamblers includes those who participated in any single gambling activity less often than weekly in the last 12 months, but also includes those who only played lottery games and instant scratch tickets weekly. Non gamblers are those who did not participate in any gambling activity (apart from raffles) in the last 12 months.

Source: PC National Gambling Survey.



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## 4 Impacts of gambling: a framework for assessment

Following widespread liberalisation, the gambling industries — in particular, gaming machines and casinos — have experienced rapid growth in Australia over the last two decades. For many consumers, this liberalisation has widened entertainment and recreational opportunities. For them, gambling has been largely a positive experience. Notwithstanding this, popular perceptions of the impact of the liberalisation of gambling have been ambivalent. The fast pace of the change, combined with the increased accessibility of continuous forms of gambling, the strong promotion of gambling and an increased awareness of problem gambling, has led to concerns about the negative impacts.

Part C of this report contains a detailed examination of many of the competing positive and adverse impacts of gambling. In doing this, the Commission has two main goals:

- to identify and provide a general understanding of as many of these impacts as possible; and
- to highlight and more deeply explore those impacts which are most relevant for the formulation of government policy.

To this end, the Commission has used a broad framework that allows the analysis and comparison of tangible and intangible impacts and provides scope to incorporate the insights and findings of other academic disciplines, such as psychology, psychiatry and sociology. In other words, contrary to many popular conceptions, this broad economic approach is not simply about ‘money, markets and materialism’.

The first steps in the approach involve:

- identifying the impacts associated with the industry or activity in question;
- differentiating between those impacts which are ‘private’ in nature, and those which are ‘social’ — see box 4.1;
- categorising the effects of the impacts as either ‘benefits’ or ‘costs’; and
- as far as practicable, assessing the magnitude of the benefits and costs, particularly the social benefits and costs, either qualitatively or quantitatively.

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**Box 4.1 Private impacts versus social impacts**

*Private benefits and costs* are those impacts of an activity which:

- are borne by those who were party to a decision to undertake the activity (called ‘internal’ impacts); and
- were rationally considered when they decided to undertake the activity.

*Social benefits and costs* are:

- the proportion of the ‘internal’ benefits and costs which an individual did not rationally take into account when deciding to undertake the activity; plus
- all ‘externalities’, which are those effects of an activity which are imposed involuntarily on others in society.

Different definitions of private and social costs (and benefits) are found in the economics literature. Often, private costs are used to refer to those incurred by the individual decision-maker, while social costs are defined to include those costs plus external costs – in other words, all costs. The definitions used in this report are based on those in Markandya and Pearce (1989).

Ultimately, what matters is not the particular definitions chosen, but rather that the definitions are used in the right way for the matter at hand. In the present context, this means ensuring that the right sub-set of benefits and costs is identified as being ‘policy relevant’. As discussed in box 4.2, ‘social costs and benefits’ as defined in this report are the benefits and costs that are relevant as a basis for possible government intervention in private decisions.

This distinction between ‘private’ impacts and ‘social’ impacts is important because the private benefits and costs associated with an industry or activity generally do not justify government action to modify the private decisions of individuals and the businesses that supply goods and services to them (see box 4.2).

Where social costs or benefits exist, however, there is a potential rationale for government to act to improve on market outcomes. This is because most people will not properly ‘account for’ social costs and benefits in their daily life decisions. Of course, it is still important to weigh up the pros and cons of government action against the size of the imperfections identified in the private market. But the identification and assessment of social costs or benefits is a key step in this process.

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#### Box 4.2 Private impacts and public policy

Why are private benefits and costs often of little relevance for determining whether government action to encourage or regulate an industry or activity may be needed?

Not because they are unimportant — in fact, often they are far more significant than the social benefits and costs of an activity.

Rather, they generally do not justify government action on the basis that:

- individual actions based on adequately informed and rational decision-making will generally accord with the best interests of the individual concerned;
- if there are no impacts on other people resulting from those actions which are not accounted for\*, then what is in the individual's best interests will also be best for society; and
- if this is the case, there is no way that governments could intervene in individuals' decisions that would improve the welfare of either the individuals concerned or society more broadly.

While private benefits and costs do not normally provide a justification for government policy, an exception is that governments may want to take into account the distribution of private benefits and costs among members of society for equity or fairness reasons. Governments have several broad measures to address equity, such as the progressive taxation and social security system. However, in some cases, the fairness of a particular potential policy change on the distribution of private benefits and costs may be relevant. Indeed, it is one matter that the Commission has considered in its assessment of taxes applying to gambling (see chapter 19).

Further, when considering an action to address the social benefits and/or costs of an activity, it is also important for governments to consider any impacts such actions might have on private benefits and costs.

\* Of course, many actions — from saying 'hello' to an acquaintance to driving a car — involve at least some impact on other people, but often these impacts are effectively 'internalised' through implicit or explicit agreements (or contracts) between the people involved. Where such agreements exist and have been voluntarily entered into, the costs and benefits entailed will again be of a 'private' nature. They would only be 'social' costs in these cases if one or other of the people concerned had insufficient information or for some reason made an irrational choice to enter the agreement.

Subsequent steps in the Commission's approach — relating to the development, assessment and, where appropriate, implementation of policy options for dealing with social impacts — are set out in chapter 12 of Part D.

In this chapter, the Commission provides a framework for understanding the assessments of the impacts that follow. It:

- lists the various impacts;
- identifies which impacts, or sources of impacts, are most likely to generate social costs;

- 
- examines the nature of the benefits that flow from the liberalisation of gambling and whether there are likely to be any ‘social’ benefits; and
  - outlines its approach to assessing and quantifying the impacts.

## 4.1 The impacts of gambling: a listing

Like most industries or activities, gambling has an array of impacts. Some apply directly to people who work in the industry, some apply indirectly to people in other industries, some affect those who consume gambling products and the people with whom they interact, and some of the impacts operate at the community-wide level.

Within the industry itself, land, labour and capital resources are used in providing gambling services.

- The industry is thus a source of income and job satisfaction for its workers, rent for the owners of gambling venues, and profits (or sometimes losses) for its investors, as well as taxes for governments.
- At the same time though, these resources all come at a cost to the economy, in that their use in the gambling industry means that they are unavailable for use elsewhere.

Another set of impacts within the gambling industry itself is that the growth of some forms of gambling, such as (legal) casinos and gaming machine venues, may come at the expense of other parts of the industry, such as horse racing and illegal gaming. These impacts will in turn affect people who work or invest in these different industry segments.

The growth of the gambling industry also affects the economic performance of other industries.

- It boosts jobs and profits in related industries which either supply the gambling industry’s needs (like gaming machine manufacturers or the horse racing industry), or which receive their own flow-on boost because they complement gambling. Taxis and restaurants, for example, may gain custom from the growth of gambling.
- On the other hand, the gambling industry competes against other suppliers of goods and services for the consumers’ dollar, so growth in gambling inevitably has an impact on the jobs and investments in these other industries, and the taxes the government earns from them. Retailers are one group that would be expected to lose from the growth of gambling.

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Gambling naturally also affects the people who do it — gamblers.

- It requires time, money and some concentration to gamble, and gambling also provides an array of feelings, from great joy for some people to great despair for others.
- It may also affect the day-to-day mood of people who, for example, rather than remaining at home as they once may have, now get ‘out of the house’ to attend gambling venues.

Where gamblers exhibit ‘problem gambling’ behaviours, they will have impacts on others.

- Problem gambling may bring grief not just to gamblers but also to their families, friends, people they work with, and their employers who may get less productive effort for the wage they pay.
- Problem gambling also necessitates expenditures by governments or welfare agencies, and sometimes the court or prison system, on measures to deal with and ameliorate the impacts of problem gambling.

More broadly, the growth of gambling can affect aspects of the nature and ‘feel’ of community life, such as:

- the array of services provided by community clubs funded with revenue from pokies;
- the nature and provision of entertainment venues and recreational activities, and the type of interaction people in the community experience;
- people’s day-to-day feelings about the community they live in; and even
- people’s behavioural norms and social ethics, and through them, the way people act in their relationships with others in all aspects of life. This can show up in matters such as the level of volunteerism and community-mindedness in society, and the level of basic trust between people.

Gambling can also have different local and regional impacts, depending on its prevalence in different areas and the nature of the areas themselves.

Finally, the growth of gambling provides a new source of interest for people and the media, and of activity for consultants, lobby groups, governmental bodies and policy advisers, and, ultimately, Ministers and Parliaments.

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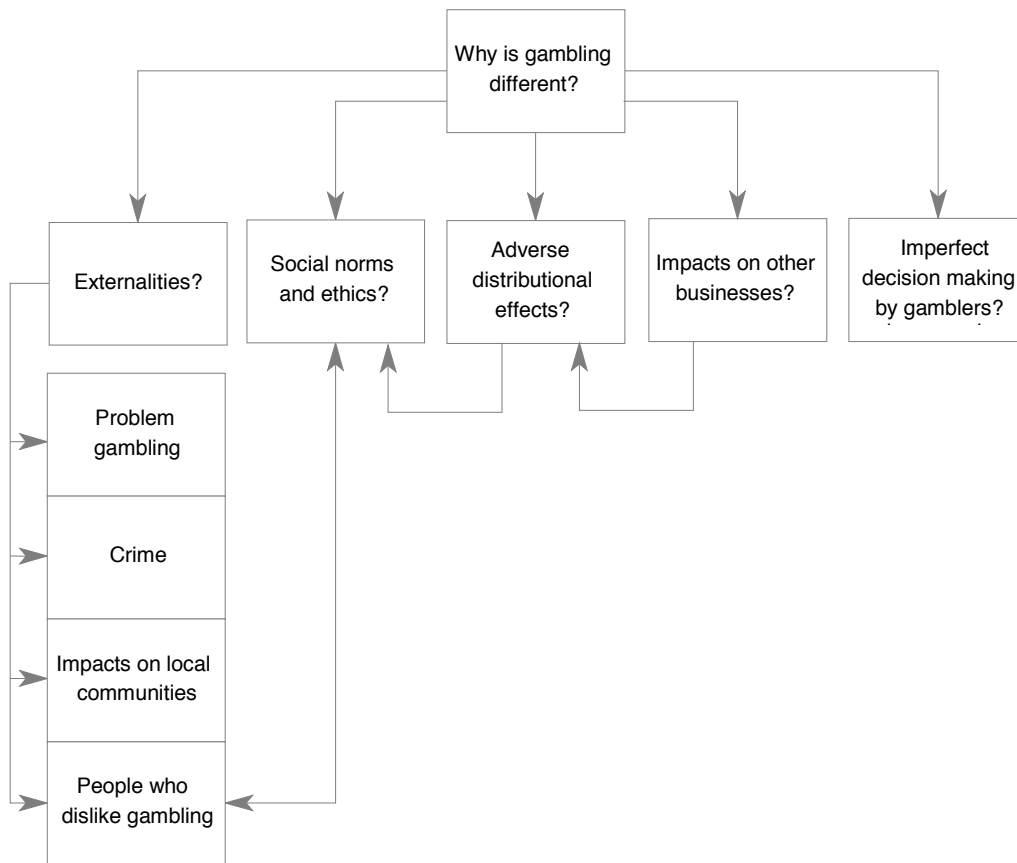
## 4.2 The sources of gambling-related social costs

Which of these impacts are of a private nature and which are social? Some submissions have sought to identify a range of social benefits accruing from gambling. These are discussed in section 4.4. However, most submissions have focussed on the wide range of social costs that it is claimed that gambling brings.

The possible sources of these social costs, or of other negative impacts that participants have suggested are relevant for government policy, are summarised in figure 4.1 and discussed in turn below.

Figure 4.1 **Why might gambling be different?**

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## Decisions made by gamblers

A key issue for this inquiry is the extent to which the gamblers' decisions to gamble can be considered appropriately informed and rational<sup>1</sup> and, thus, that the personal costs and benefits flowing from their decisions to gamble are 'private' matters.

### *Rationality?*

Normally, what people undertake voluntarily is regarded as a reasonable revelation of their preferences, and any anticipated costs from their actions are not considered, therefore, to constitute social costs.

This seems to be a reasonable depiction of the vast majority of gamblers who are able to control their expenditure and engage in gambling as a form of entertainment or of passing time. This is not to say that the majority of gamblers base their decision to gamble on accurate information or perceptions about gambling, nor that their preferences are not influenced by external factors such as advertising (which are matters addressed further below). Rather, it is to say that, *given their perceptions*, there is no obvious indicator that their decisions to spend time and money gambling derive from anything other than the rational fulfilment of their preferences.

However, some gamblers encounter severe difficulties controlling at least some forms of gambling. Such people say that they often feel guilty or depressed about their gambling, and sometimes engage in 'problematic' behaviour, such as chasing losses, stealing and lying. At the extreme, their gambling problems can lead to poverty, relationship breakdown, depression and suicide. Many of these people say that they wish they could stop gambling, but cannot do so.

These people exhibit psychological traits and behaviours that do not appear to accord with conventional notions of rational decision-making. To the extent that their decisions are irrational, it would be appropriate to classify the costs these gamblers suffer from as 'social' rather than 'private' costs, and thus matters about which governments ought to concern themselves.

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<sup>1</sup> There is no such thing as a perfectly informed and fully rational person. All human beings may suffer from 'bounded rationality' or 'cognitive limitations' to some degree and rarely have 'perfect information' about the matter they are considering. However, as government decision-makers are also hampered by these same problems and have highly imperfect knowledge of the preferences of different individuals, economists classify costs as private costs unless there is a *significant* divergence from the criteria of rationality and full information (and no externalities – a matter discussed later in this section).

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Against this view, the submission prepared for key members of the gambling industry by ACIL (sub. 155, pp. 71-105) argues that problem gamblers can in fact be seen as ‘rational’ agents whose decisions are, on average, intended to make them as happy as possible. Under this theory of ‘rational addiction’, problem gamblers would carefully calculate the tradeoffs between, on the one hand, the personal satisfaction they get from gambling (and the anticipated difficulties of giving up gambling) and, on the other hand, its costs (such as the money they pay out, the arguments with their family, and the risk of job loss or criminal prosecution). The fact that some gamblers end up in dire straits would not, under this approach, necessarily indicate that they had acted irrationally — just that they had taken a calculated gamble, and lost.

If problem gambling were a truly rational phenomenon in this sense, any problems faced by problem gamblers would not involve net costs either to themselves or the economy. If they did, the gambler would stop gambling.

As part of its assessment of the nature and costs associated with problem gambling in chapters 6-9, the Commission critically examines the theory of rational addiction and its application to gambling to determine to what extent problem gambling entails social rather than private costs.

In short, while the rational addiction model can provide useful insights, the Commission does not consider the rational addiction model an appropriate framework for the analysis of problem gambling. The Commission has thus concluded that most of the costs incurred by problem gamblers are social costs, and has sought to quantify these costs accordingly.

#### *Information problems and misperceptions?*

Quite apart from problem gambling, there are a number of other potential consumer problems posed by the gambling environment. These mainly relate to poor information, misperceptions by consumers and persuasive and misleading advertising.

These aspects of the gambling environment have the potential to cause consumers to overestimate the benefits they are likely to gain from gambling and may lead to an excessive level of consumption of gambling or, at least, of certain gambling forms. Such over-consumption would entail a social cost. Viewed alternatively, it would mean that the benefits that consumers gain from gambling are less than implied by their willingness to pay for it (chapter 5).



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That said, there are of course many goods and services with attributes as complex as gambling, and strong promotion is not isolated to the gambling industries. The question then arises as to whether a case exists that the consumer issues and impacts arising from gambling are distinctive enough to warrant special regulatory and legislative approaches, or whether they should be dealt with via the generic mechanisms developed by government (such as through the Trade Practices Act).

Nevertheless, these areas remain relevant for policy analysis as potential sources of social costs and, by implication, potential areas where policy changes could reduce the social costs of gambling.

## **Externalities**

‘External’ costs and benefits (called externalities) are one form of social costs and benefits. An externality is said to occur when the consumption or production of a good by one person affects the welfare of another. Pollution is a common example, but there are many others.

Several sources of possible externalities arise in the gambling context.

### *Costs to problem gamblers’ families?*

Problem gambling affects not only the gamblers themselves but also those with whom their lives are entwined, particularly their families. These costs can include impoverishment, psychological problems including stress, loss of trust and depression, relationship breakdown and violence in the home.

These costs are significant and the Commission explores them in chapters 7 and 9.

Without suggesting that these impacts are not costs to the people involved, in its initial submission ACIL argued that many of these costs are not genuine externalities:

Another externality candidate which is not altogether convincing is when gambling causes budget problems within the gambler’s household and disadvantages some family members relative to some prior position or norm. The difficulty here is that, viewed strictly from an economic standpoint, the spillovers between members of a household are usually covered by a web of ‘implicit contracts’ (sub. 155, p. 92).

It elaborated on this in its submission on the draft report as:

Our reasoning is that the spillover costs of problem gamblers’ activities are predominantly confined within their families or household. In these domains one would expect any such impacts to be covered by implicit contracts with the gambler which

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would internalise them. Indeed, it is very difficult to imagine a family or household where the spillovers were not substantial or where there were not mutual agreement on the sharing of the costs and benefits between those involved follows (sub. D233, p. 28).

The Commission agrees that family relationships necessarily involve a range of social norms and implicit rules or agreements governing the behaviour of family members and that, for many circumstances, ACIL's argument has merit.

However, relationships governed by informal arrangements only work well if those involved abide by the informal agreements. By their very nature, informal agreements are difficult to enforce in extreme situations.

Problem gambling is a clear case of where such behavioural norms and informal agreements break down. It is difficult to see how informal family 'contracts' can be enforced in the face of persistent deception, the disproportionate use of the family's resources and often theft, among other things, that characterise the behaviour of a problem gambler.

Indeed, the Commission received a number of submissions highlighting the inability of individuals to make family members with gambling problems comply with previously accepted behavioural norms and understandings. As the Sunshine Coast Community Services Council (transcript p. 1528) commented:

I think the social reality that we live in today is that when people have an alcohol problem or they have a drug problem or a gambling problem, the family often is unable, or not resourced enough, or perhaps unskilled enough to respond effectively to that problem. To isolate gambling out as a problem that can be dealt with in the family ignores several symptoms and several aspects of gambling, which is its often a very hidden problem and by the time the problem has emerged the family may well have lost their house... When people are under considerable financial strain, whether that's from unemployment, underemployment or a gambling problem, the family will be under enormous pressure and can possibly disintegrate. So with the best will in the world I don't believe that families can be expected to deal with a gambling problem on their own.

Overall, the Commission considers that the costs to family members flowing from problem gambling are genuine social costs.

#### *Costs to others from problem gambling?*

As well as affecting their families, people's problem gambling can also affect their friends, employers and the wider community.

Costs incurred by governments in providing welfare or counselling services are clearly externalities.

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Reduced productivity in the workplace is less so.

Employers enter explicit agreements with employees, and the potential of declining performance due to any one of a variety of reasons, of which problem gambling is only one, is one of the risks that employers accept when hiring workers. There are also some penalties in place to deter poor performance, or to terminate employment arrangements where performance falls substantially. Hence, to some extent the costs of lost productivity are ‘internalised’ between the employer and employee.

That said, employers do not have perfect employee performance monitoring mechanisms, and there may be lags between the time that performance starts declining until when this is discovered. This reduces the extent to which the costs to the employer are efficiently ‘internalised’.

In any case, since these costs of poor workplace performance derive originally from problem gambling then, irrespective of how they are shared between employer and employee, they remain social costs.

### *Crime?*

Worldwide, there is a strong perception of a link between crime, particularly organised crime, and gambling. For example, Margolis and Grey (1997, p. 4) commenting on the US situation said:

The legend of 1920’s gangster Bugsy Siegal and the subsequent rise of Las Vegas as the premier gambling location in the world is almost American folklore today. This story established an image of the gambling industry in the minds of many Americans and it was not unusual or unwarranted at the time.

The popular perception of the link is based on three separate concerns:

- organised crime may control gambling because of its apparent inherent profitability, use legal gambling to launder money, or act as loan sharks for people desperate for gambling funds;
- gambling venues and their precincts may become ‘honey-pots’ for other criminal acts, such as theft and assault; and
- problem gamblers may commit crimes to finance their gambling.

While some such crime may bring genuine externalities, it is important to separate transfers (such as stolen money) from the real economic costs (such as the costs of disruption, fear, or of heightened security). It is also important, as in the case of problem gambling, to consider the counterfactual. If governments had not legalised gambling, what would the extent of crime be? Prohibition often leads to the illegal

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and secretive supply of the prohibited goods by organised crime, with none of the safeguards for the consumer provided under a legal regime. It may be that criminal impacts under prohibition would be greater than under a legal regime. While that might, by itself, point to a legalised regime, it would still leave open the question of what sort of legalised regime minimised the costs of gambling-related crime.

The Commission examines evidence of criminal activity associated with problem gambling in chapter 7, and the other aspects of crime sometimes associated with the gambling industry in chapter 10 and appendix O.

### *Psychological costs of living in a society that ‘condones’ gambling?*

When economists talk of goods, they don’t just mean what people buy. They are really talking about anything that an individual feels they value in some way. So a sunny day, freedom of expression, and a nice view are all ‘goods’ (at least to some people) with the same legitimacy as more tangible products like toothpaste and cars.

Once it is recognised that goods (and bads) are so broadly defined, it is easy to see that externalities are very common. One person’s pretty garden also provides pleasure for the neighbours, even though they have made no payment for it. Similarly, if a person has a phobia about the colour red, then someone else’s red dress inadvertently causes distress. Indeed, other potential sources of externalities nominated by one participant include “traffic, conspicuous consumption, television programs we don’t like, the buildings on Circular Quay, SOCOG, Pauline Hanson, and the dentist” (sub. D217, p. 6).

So too with gambling. Whatever the origin of their preferences, some people do not like aspects of the gambling environment (whether it be glitzy venues, gambling advertising, or what they may see as pandering to greed or evidence of a degenerating society). Economists generally do not judge the validity of preferences. A preference which is strongly averse to gambling is as valid as one which is strongly in its favour.

The pragmatic problem with trying to assess this sort of externality is quantification. Externalities based on intangibles are all around us, but most are not considered relevant to policy because too few people are affected, they are hard to identify, they are often of minor impact and the costs of correcting them are too high. Any restrictions on red dresses would be misplaced unless the bulk of the population have this aversion. But in some cases, the grounds for action to limit the externalities arising from the consumption choices of individuals are more clearcut — for example, as in the case of passive smoking.

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There is evidence that many people do feel significant disquiet about Australia's gambling industries, stemming not so much from its existence as from its emerging pervasiveness.

Of course, any attempt to restrict gambling on this basis not only affects those who enjoy gambling, but may in turn produce negative externalities for those with more libertarian ideals.

Even so, the concept of a negative externality stemming from the widespread visibility of gambling has some validity. The Commission examines the issue in chapter 10.

### *Adverse community impacts?*

The liberalisation and widened accessibility of gambling may have had a number of adverse impacts on local communities, which might be viewed by some as externalities. The nature of local facilities may change in ways that some people regret. Hotels may no longer employ bands, small community facilities may close as patronage falls below some critical mass, volunteering may decline and the 'character' of the community may change.

Some of these effects are not in fact externalities, and those that are remain hard to measure or to ascribe to any particular causes, among which gambling may only be one. For example, declines in volunteering may be due to other pressures, such as the growing participation rates of Australians in the labour market and increased average working hours.

As well, there may be unforeseen *positive* outcomes, with people using gambling venues as safe and accessible de-facto community facilities.

Possible beneficial and adverse community effects are discussed in chapter 10.

### **Adverse impacts on other businesses?**

The expansion in gambling must come at the expense of current or future reductions in spending on other goods. People who increase their expenditure on gambling appear likely to spend less than otherwise on cafes and restaurants, theatres and general retailing. Accordingly, some non-gambling businesses will not grow as fast as they would have done and some may contract or close, shedding labour and capital. A number of submissions to the inquiry have naturally seen these as adverse impacts, implicitly requiring governments to moderate the process of gambling liberalisation:

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Spending on gambling continues to impact negatively on traditional areas of retailing expenditure and continues to place great strain on the viability of once profitable businesses (sub. 93, p. 7).

Gambling industry proponents put a different perspective on these apparent adverse effects:

Structural change due to changing tastes and new technologies or changes in regulation is a fundamental part of Australian economic life. There are many examples of this: the decline in the carriage and blacksmith industries due to the motor car, the shutting down of petrol stations due to the new independent retailers like Woolworths entering the market, the decline of drive-ins as a result of the video revolution (VHS not Beta!) and so on. Resources will flow to those activities which consumers prefer (sub. 124, p. 12).

From this viewpoint, business closure and employment shifts are part of the process by which resources are reallocated to higher value uses — the essence of a well operating economy, not of market failure.

There are a few qualifications to this argument, but they are relatively minor and tend to disappear over time. Not all resources are allocated to higher value uses instantaneously — for example, people lose jobs and don't get new ones immediately, and capital may lay idle. And some businesses and employees clearly lose income relative to what they had before, raising possible equity and distributional issues.

To the extent that there are potential social costs<sup>2</sup> arising from such structural change, they are:

- realised only if the rate of unemployment and business closure is higher because of the growth of the gambling industries than it would have been — a much harder test; and
- largely temporary, as resources are matched to new uses.

Moreover, in recognition that such impacts are the general consequences of change throughout the economy, governments tax all activities and income to fund measures to address such frictions (eg re-training and labour market search institutions). It would be hard to mount a case that the growth of the gambling

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<sup>2</sup> These costs are not the income lost by the businesses nor the wages forgone by the worker. However, they may include the cost of idle resources, the personal costs of unemployment and business closure, the costs of matching the unemployed with a new job, additional congestion in search markets for jobs, and the reduced scope for a bankrupt entrepreneur to own another business (under the bankruptcy provisions). Other possible 'costs' arise if directly unaffected people feel bad about any social impacts of unemployment or business closure, although these costs are extremely difficult to measure.

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industries required measures *beyond* those applying to change generally. Any argument, therefore, that governments should restrict or slow the liberalisation of gambling on the grounds that it has some negative effects on other businesses, appears to have a weak foundation.

However, it is still important to look more closely at evidence on the effects of gambling liberalisation on other businesses:

- to test the hypothesis that the impacts are small relative to the scale of background change facing all businesses; and
- to provide independent assessment of effects which may be underestimated by some interest groups and overestimated by others.

This issue forms a part of chapter 10.

### **Adverse distributional effects?**

Survey evidence suggests that people on lower incomes spend a proportionately greater amount on gambling than people on higher incomes gamble.

Some commentators see this pattern as inherently problematic, since they see poor people getting poorer as a result of gambling expenditure. Some lower income people may be problem gamblers or suffer from systematic misperceptions about gambling (issues dealt with above). For them, one aspect of their problem with gambling would be its impact on their income.

But for the majority of lower income gamblers, it is plausible to see them making rational choices amongst competing expenditures. The implicit view of those who see these expenditures as wasteful for this group is a value judgement about gambling itself, rather than an objective analysis about the welfare of lower income people.

There is a second strand of concern about distributional effects of gambling which does not rely on value judgements about the worth of gambling. Gambling is subject to high tax rates. This implies that poorer people pay higher levels of gambling tax as a share of their income than richer people do. This issue of tax regressivity is an important impact of the *combination* of growing liberalisation of gambling and the taxation regime. But because it stems from the policy environment, rather than inherently from gambling, the Commission defers discussion of this potentially significant impact to part D and chapter 19 of the report.

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## Social and ethical norms: a ‘questionable pleasure’?

All societies have ethical and social norms, some strongly enshrined in legislation, which go beyond the individual preferences of some of its citizens. For example, we deem it wrong to appear naked in public, or to be cruel to animals. These norms affect and reflect what the community at large thinks is right, and are still enforced even if they run counter to personal preferences.<sup>3</sup>

Gambling is sometimes represented as a recreational and entertainment pursuit like others — such as going to a film or a fun park. This implies that the regulatory and taxation environments should be ‘normalised’ to be like those for other industries (sub. 155, p. 157).

On the other hand, other people feel that community norms are eroded by having ‘too much’ gambling. This includes concerns that the close connections between government and gambling, fuelled partly by revenue needs, undermines the confidence that people have in the institution of government altogether.

As the Commission observed in the draft report, gambling tends to be perceived by the public as a ‘questionable’ pleasure, an expression offered by a senior industry figure. The Australian ambivalence to gambling persists in a number of ways.

- Children are not able to gamble for money like adults, and no one is advocating that they should. Why is this so? If gambling were like ice creams or board games, then children would be able to gamble. The fact that there is no gradation in the legal availability of minors’ gambling in Australia (as is the case for films and computer games) suggests that many Australians are uncomfortable about making gambling legally accessible to children in any form, which in turn implies a judgment about gambling.
- Gambling, while highly accessible in many jurisdictions, is still far less accessible than many ‘normalised’ goods. If a person wants to sell an ice-cream, he or she can do so almost anywhere. They can (with a licence) sell ice-creams in the park, from a vehicle, from a newsagent, a supermarket and a hundred other places. No one, including the gambling industry, has suggested that it should be as accessible as ice-cream. But if gambling is a perfectly normal good, like ice cream, why aren’t people and businesses advocating that it be sold on an equivalent basis?

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<sup>3</sup> There is an economic literature about the interaction of norms and consumption. Where people are compelled to consume goods ‘for their own good’ (such as elementary education and safety belts), these are referred to as merit goods. The flip side of the coin are merit ‘bads’ where governments introduce restrictions for the apparent welfare of the individual consumers or to uphold social norms (sub. 155, p. 91).



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- In jurisdictions where gambling is not highly accessible, such as Western Australia, the only lobbying for an expansion in the accessibility of gambling appears to come from gambling providers, not the potential customers. This again would be consistent with people having norms that accept some degree of control over access to gambling in their communities.

In response to the draft report, Star City stated:

Australians do want to gamble. Nor for the most part do they feel that there is any stigma at all attached to this activity. We do not think it is a questionable pleasure. They are aware that excessive gambling can be a problem and there may be a stigma attached to that just as there is to any form of personal excess. We believe that we have matured sufficiently as a society not to have any religious or ethical hang-ups about gambling (sub. D217, p. 2).

While there is some validity in this view and while Australians *are* among the world's greatest gamblers, surveys of community attitudes suggest that they do not regard gambling as just like any other good. The surveys (including the Commission's *National Gambling Survey*) reveal an unease about 'too much' accessibility to gambling. The process of gambling liberalisation may, therefore, have adverse effects if people see that process as contrary to their norms.

Of course, it is hard to define 'too much', and norms can change over time. Generally adverse community attitudes to casinos prior to their legalisation seem to have declined after their legalisation. Measuring norms is also difficult, with people having dual attitudes about personal freedom and the sort of society they would like to live in. Nevertheless, given that social attitudes to gambling clearly distinguish it from many other goods and services, it is legitimate to gauge the social acceptability of differing regulatory approaches to gambling — an issue taken up in chapter 10.

### **4.3 The benefits of gambling**

While the costs of gambling often attract the greatest attention, the fact is that most Australians gamble in some form, and clearly derive benefits from this activity.

#### *Consumer benefits*

The notion that the activity of gambling yields consumer benefits irrespective of any winnings — and abstracting from problem gambling — has not gone uncontested. Paul Samuelson (1970), a Nobel prize winning economist, wrote that gambling added nothing to the economy because winners were matched by losers:

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There is a substantial economic case to be made against gambling. It involves simply sterile transfers of money or goods between individuals, creating no new money or goods. Although it creates no output, gambling does nevertheless absorb time and resources.

This is the ‘materialist’ illusion — it is not the weight or tangibility of a good which produces value, but the extent to which individuals like or dislike what they consume or do. Gambling engages people for a host of reasons (VCGA 1997, pp. 64-5). They enjoy the (usually safe) environment of risk, the venue, the dream or actual thrill of winning, the social activity or the event being gambled on:

A day (or night) at the races presents a magnificent spectacle. There is colour, movement, the vitality of the racing animals, the pre-race parade, the expectation, the thrill of “they’re racing”, the changes in running, the arrival at the winning post, the salute to the winner, and the satisfaction of collecting a payout. In short, racing is a total entertainment (Windross 1996, p. 9).

Similarly, the Australian Hotels Association (NSW) commented:

A great many people obviously enjoy gambling and do regard it as an enjoyable pastime. For example, the history of racing extends over thousands of years and a day at the races is obviously viewed and remembered by many people as an enjoyable day. Many retired people enjoy a club or hotel outing, including investment in the ‘pokies’ as their major social activity (sub. D208, p. 13).

In this sense, it is not true to say that the gambling industries ‘do not produce anything’. Nor is it true to say that because gamblers lose money on gambling over time, the industry does not contribute to the well-being of gamblers. Gambling, like other entertainment industries, such as cinemas and theatres, provide their consumer benefits as experiences rather than as tangible goods.

The Commission assesses these consumer benefits in chapter 5. Economists refer to these as ‘consumer surplus’: the difference between what *is* paid and what people would be *willing* to pay for their gambling experiences (chapter 5).

### *Production-related benefits*

Perhaps reflecting the popular misunderstandings about intangible goods such as gambling, advocates for the gambling industries often largely ignore the consumer gains when quantifying the economic benefits of their industries. Instead, they point to other benefits from gambling, such as the value-added, new jobs, multiplier effects on other activities and trade.

Employment and small business enjoy both direct and indirect advantages as a consequence of racing and betting activity. As regards employment, independent

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studies have concluded that some 50,000 full-time equivalent positions exist as a consequence of racing in NSW (Windross 1996, p. 3).

Golden Casket's revenue also makes a direct contribution to the economy through an estimated Gross Industry Product in Queensland of \$225.5 million (1995-96). Golden Casket directly employs over 200 people with a further 1,600 jobs indirectly dependent on lotteries in newsagencies and other small businesses. Agents, printers, advertising agencies, transport and distribution workers all benefit from the operation of Golden Casket and pass money back to the economy (sub. 145, p. 5).

However, these other 'benefits' to the economy from liberalisation and additional gambling activity are unlikely to be significant.

At the individual business level, a new TAB agency, gaming venue or casino clearly employs people, orders inputs, such as food and paper, and may sell to tourists. It seems quite natural to suppose that the economic benefits of these activities are the activity, jobs, downstream effects and trade they provide.

But this intuitively attractive idea suffers a number of limitations.

First, the value-added, trade and job creation arguments need to be considered in the context of the economy as a whole. Resources in an economy are not stamped 'to be used only for the gambling industry' — they have alternative uses. If liberalisation of gambling had not occurred, then people would have spent their money elsewhere, and jobs and investment would have flowed to these activities rather than gambling. And since gambling is still relatively small compared with the economy at large, the next best uses of these resources would create nearly the same levels of value-added as gambling itself.

Second, apparent increases in trade as a result of gambling (casinos for high rollers, tourist use of gambling in hotels, sportsbetting on the internet by foreigners) can similarly be overstated. Income from trade uses real resources, which could have been employed to generate benefits elsewhere. However, there may be gains from shifting resources to an area where Australia has a competitive advantage, and this may apply to parts of the gambling industries.

These arguments do not mean that jobs, trade and activity are unimportant in an economy. To the contrary, they are critical to people's well-being. However, any *particular* industry's contribution to these benefits is much smaller than might at first be thought, because substitute industries could produce similar, though not equal, gains.

The idea of multiplier effects — whereby a new project multiplies its benefits by increasing demand in associated industries — is similarly flawed. ACIL, in its

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submission on behalf of six gambling service providers, questions the relevance of such multipliers for the gambling industries:

The main problem with equating multiplier or flow-on effects with true economic benefits is that no regard is paid to the costs involved in generating them. The cost side often goes unnoticed because perceptions of benefits created are sharper than perceptions of benefits sacrificed. The issue was explained recently as the “broken window fallacy”. The story goes that a hoodlum tosses a brick through a baker’s window. The baker is furious at having to pay the glazier \$250 for repairs, but observers console themselves that the glazier will then have to \$250 to spend on the wares of other merchants, who in turn will have money to buy things they would not otherwise have demanded. Through this kind of thinking the hoodlum can be seen not as a public menace, but a public benefactor. This is because it is easier to notice the benefits of the new window and its flow-ons, than to recognise that the unfortunate baker has been deprived of \$250 to spend on other things (such as a new suit), which also would have produced benefits for third parties (sub. 155, pp. 64-5).

Only if the growth of an industry stimulates otherwise idle resources are such multiplier gains real. It is possible that a gambling venue may employ someone who had been formerly unemployed (or employ a formerly part time worker for longer hours). But it would also need to be shown that some other business would not have employed that person if the gambling venue had not been there. Employees in new firms tend to be displaced from other employment options. Thus, while there may be instances where new jobs are generated in some depressed areas, multiplier effects are mainly like shuffling the economy’s cards.

These arguments were the source of some apparent misunderstanding among industry participants following release of the draft report.

The Commission emphasises that this reasoning does not imply that the gambling industries as they have developed have made no contribution to the economy, or that the jobs involved are ‘worthless’ (as some have interpreted it). In fact, the industries generate considerable benefits, as documented in chapter 5. Nor should the Commission’s conclusions be taken to imply that reimposing prohibitions or cutbacks on these industries now would not lead to significant losses and transitional unemployment.

Rather, as discussed further in chapter 5, the important message is that measures of an industry’s size (denoted by such things as investment, turnover, employment etc) are not measures of the net contribution of an industry to the economy, but a measure of the amount of the community’s resources that are used in the industries, in response to the spending of consumers. There are alternatives available for consumer spending and, thus, alternative uses for the resources used in the gambling industry. These alternatives would also ‘contribute’ to the economy in terms of the use of labour and capital, and the benefits people derive from consumption. It is the

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*extra* benefits consumers gain from their consumption of gambling products, rather than less preferred alternatives, that hold the key to the benefits that the industry provides (chapter 5).

## 4.4 Measuring the impacts

For a variety of methodological and data reasons, rather than conceptual ones, impacts which are seen as ‘social’ are often described in qualitative terms, but not valued quantitatively, while benefits which are seen as ‘economic’ are expressed in quantitative terms, but not given a qualitative dimension.

Economics is concerned with the value of things for people, and this extends beyond things which have observed market prices. A night of hot passion is not necessarily of any less value to an economist than a roll of bank notes. Likewise, such things as crime, relationship breakdown and weakened communities are social impacts which are amenable to economic analysis — it’s just that they do not have price tags that are revealed by markets. There is a range of techniques to investigate these ‘invisible’ prices so that at least some social impacts can be measured (chapter 9).

The approach taken in part C of this report does not draw an artificial distinction between the ‘social’ and ‘economic’ effects of gambling, nor does it subordinate the former to the latter because they are harder to quantify.

Chapter 5 and parts of chapter 10 assess the qualitative and quantitative benefits of gambling. In looking at the *net* consumer benefits, chapter 5 takes into account the price people pay to gamble.

The costs of gambling are covered in chapters 6 to 10. Chapters 6 to 8 look closely at some key adverse social impacts of problem gambling, with chapter 9 providing quantification to the extent practicable. Chapter 10 examines some of the broader community costs (and benefits) flowing from the growth of gambling.

While the Commission thus devotes more chapters to the costs than the benefits, this should not be taken to imply that the benefits are less important, simply that in some respects they are conceptually less complex than the costs. Moreover, as discussed above, many of the costs have a particular policy importance. It is important to know a lot about the nature and magnitude of the social costs because, as alluded to above, without those costs the gambling industry would be just like most other recreation and entertainment industries, and would seemingly require no different a set of policy, regulatory or taxation measures — matters discussed in Part D.

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Beyond seeking to legitimise some important impacts which might otherwise be deemed unimportant, the Commission has gone through the (hazardous) process of attempting to estimate the costs and benefits of current gambling activity to illuminate certain policy issues. For example:

- the fact that consumers gain substantial benefits from gambling suggests that any government actions to simply curtail gambling activity would come at a considerable cost; and
- the fact that there are such significant ‘social costs’ associated with problem gambling appears to justify at least an examination by governments of means of addressing problem gambling and its effects.

In chapter 11, the Commission also brings together its estimates of the consumer benefits of gambling with the less tangible and harder-to-measure costs, to try to assess the overall impact of gambling liberalisation in Australia. The Commission’s focus is on the net benefit of the gambling industries. It is equivalent to seeking to answer the question: what have been the benefits of making gambling legally available?

Importantly however, this exercise needs to be treated with caution. Information gaps and quantification quandaries mean that any estimates can at best be considered ‘ball park’ figures — indeed, the Commission has chosen to provide a range of estimates, rather than just one figure. Further, the use of an aggregate net impact figure (or range) for the entire gambling industry can obscure differences in the distribution of benefits and costs between different parts of the industry and between different regions. Finally, while net benefit or net cost figures can help raise community awareness of both the costs and the benefits of gambling, from a policy viewpoint the more relevant issue is whether there are means of increasing the net benefits or reducing the net costs, *whatever they may be at present*.

For these reasons, the Commission also explains in chapter 11 how its net impact figures should *and should not* be interpreted. In particular, it gives greater attention to the net impacts of the different gambling modes, which helps focus attention on those areas of gambling which may be of greater concern to policy.

## **4.5 Important aspects of the impacts**

So far, the focus has been on which possible impacts of the expansion of gambling have policy significance, and which have a dubious or mythical basis. That forms a useful preliminary to the detailed analysis of the impacts which follow in the remaining chapters in part C, and explains why the Commission concentrates on particular impacts.

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There is, however, another set of important issues that is relevant to the analysis of the impacts of gambling — the range of questions that need to be addressed when looking at any given impact. These include:

- What research methodologies and data are appropriate for analysing the impacts?
- Who is affected? What are the types of people (income, socioeconomic status, family status, age, gender) of people who are adversely or beneficially affected by gambling?
- What factors need to be present for gambling to have an impact? Could an apparent causal link be illusory, with other ‘hidden’ factors really explaining the impact?
- How do the impacts vary by the type of gambling and by the type of venue offering the gambling?
- What are impacts of small changes in gambling compared to the impact of big changes in gambling?
- How uncertain are the impacts?
- What are the duration of any impacts?

Where information is available, the Commission has applied these sorts of questions in the analyses which follow.

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## 5 Assessing the benefits

### Box 5.1 Key messages

- The benefits from liberalisation of the gambling industries come primarily from the satisfaction that consumers obtain from the ability to access what for many is a desired form of entertainment.
- The gambling industries employ a large number of people in Australia, but the net production-side benefits of liberalisation have been small when account is taken of substitution effects and the alternatives available for gambling spending. Benefits in terms of employment and activity in the gambling industries are largely offset by declines in industries that have lost the consumers' dollar to gambling.
- Even when discounted for excessive spending by problem gamblers, the value of the consumer benefit remains substantially positive — estimated to be at least \$4.4 billion (and possibly as high as \$6.1 billion) each year.
- This overall positive benefit has three components: a benefit of \$2.7 billion to \$4.5 billion for recreational gamblers; a transfer of \$4.3 billion principally to government in the form of tax revenue, licence fees and community contributions; and a loss for problem gamblers of around \$2.7 billion.
- In assuming that problem gamblers do not get 'value for money' for their very high level of spending, the Commission has nonetheless assumed that they do gain some benefit.

### 5.1 Introduction

In many respects the gambling industries are like any other industry. People are employed, investment is undertaken, export revenue earned and taxes paid. As would be expected in a growing industry, there is also considerable R&D dedicated to improving the attractiveness of the product to consumers. The Australian gambling industries are acknowledged to be among the most innovative in the world (particularly in the area of gaming machines and the development of internet gambling).

The benefits that an industry provides are usually taken for granted. If producers provide and consumers purchase a product or service, we presume that they do so because the benefit from that activity is greater than the alternatives available.



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The key feature that makes the gambling industries different is the existence of problem gambling and its attendant costs. Without this, the gambling industries would be like most other recreation and entertainment industries, and the extent of their contribution to the economy would not be an issue. Critics of the industries who call for reductions in the availability of gambling, or bans on some forms, consider the costs to be high, implicitly higher than any benefits the industries generate.

Thus, as the CIE commented in a submission prepared on behalf of Aristocrat (sub. 111, p. 22):

This estimate [of the contribution of gambling to the economy] is used to establish a threshold or reference value against which the social costs, such as those arising from problem gambling, may be assessed.

Another reason for focussing on the benefits relates to basic misunderstandings about their nature.

- Many regard the main benefits as being the jobs and economic activity associated with the gambling industries. But when the impacts on other industries of the shift in consumer spending to gambling is taken into account, these benefits are, on balance, much reduced.
- Others argue that the gambling industries provide no benefits to consumers because gamblers as a group lose money (box 5.2). However, this misunderstands the nature of gambling, which is more appropriately viewed as entertainment for which a cost or price is appropriate, rather than as an investment with a positive expected rate of return.

#### **Box 5.2 An 'industry' that produces nothing?**

Misperception about the benefits that the gambling industry provides is typified by the editorial in the *Canberra Times* on 21 July 1999, following release of the Commission's draft report. The editorial titled 'An 'industry' that produces nothing', observed:

The Productivity Commission is wrong when it says the gambling industry in Australia produces a benefit... Gambling creates no wealth for anyone: it merely shifts wealth from some people to other people. There is no value-adding in the gambling "industry".

A letter to the editor of that paper on the 26th of July expressed a similar view, saying:

I buy lottery tickets. I get no enjoyment from this. I buy them to win. If I do not, I only get disappointment. There is no consumer benefit. But the commission assumes: I buy, therefore I benefit. This is nonsense. What if the product is heroin, or alcohol or cigarettes? Then, according to the commission, the cheaper the price, the greater the consumer surplus. Does anyone out there in the real world believe this?

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That said, most would accept that, in this industry, not all spending is rationally made or provides commensurate benefits, particularly for those with significant problems arising from their gambling.

The chapter examines:

- the nature and size of the benefits for consumers that result from being able to purchase gambling products;
- the impact that problem gamblers may have on this benefit; and
- the broader benefits for consumers and the economy as a whole, including the benefits cited by those in the industry (employment and activity) and drawing on a number of studies which have used models of the Australian economy to assist our understanding of the wider economic effects of the industries.

The impacts on particular industries, communities and regions, including the impact on retailing and the growth of local clubs, are discussed in chapter 10.

## 5.2 What benefits do consumers gain from gambling?

Many people purchase gambling products. The Commission's national survey indicates that just over 80 per cent of the adult population gamble at some time each year, and almost 40 per cent of adults are regular gamblers (playing, on average, at least weekly). Problem gamblers — ranging from those with mild to severe problems — are estimated to comprise only 2.1 per cent of the adult population (although they account for a much larger share of gambling expenditure). Liberalising access has resulted in a significant switch of consumer spending to gambling products, with expenditure by Australians averaging just over \$760 per adult in 1997-98. In addition, the demand for gambling appears to respond little to changes in price, indicating that consumers place a high value on the opportunity to play.

What is the nature of this benefit? Certainly gamblers as a whole, and the vast majority of them individually, lose money by gambling over any extended period of time. Because of this, gambling cannot realistically be viewed as a form of investment, other than for a tiny minority of professional gamblers and in only a very limited range of gambling products (box 5.3). Rather, gambling is best characterised as a form of entertainment, albeit one where a major element of that entertainment is the *chance* of winning some money<sup>1</sup>.

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<sup>1</sup> Indeed, a key source of gambling problems arises when people see gambling as a means of realistically increasing their wealth, rather than as a form of entertainment that is, on average, going to cost them money.

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### Box 5.3      **Gambling vs investment**

The boundary between gambling and investment is often blurred. Many approach traditional forms of gambling as an investment activity — indeed, it is often described as such in the industry. In a very few forms of gambling some gamblers may make money over time<sup>2</sup>. Conversely, some activities traditionally classified as investment may be approached as a gamble, and some particularly risky business investments (often referred to as ‘speculation’) are described as such. So is there an essential characteristic that leads society to classify one form of activity as gambling and one as investment?

A key characteristic of an investment, even a risky one, is that it can realistically be expected to offer a positive rate of return over time. This return may vary from time to time, but with enough transactions, and over a reasonable period of time, the expected rate of return is positive, even after tax and commissions for the providers. This is true for investors as a group and also typically for each individual investor. This is not to say that investors are ‘guaranteed’ a positive return. There is always a risk of loss, but with traditional investments, there is a realistic expectation of a positive return over time. Similarly, someone could certainly approach an investment such as the stock market as a pure gamble — some people do — but this is not fundamental to that activity.

For products traditionally classified as gambling, while the return may vary from time to time, with enough transactions, the expected rate of return to the *venue* is positive but that for the *gambler* is negative. Other than for a small minority of ‘professional’ gamblers in a very limited range of products (for example, wagering on racing and sports), this negative expected rate of return holds true for individual gamblers and gamblers as a group.

It is this fundamental difference in the expected rate of return that differentiates gambling from investment, even when both activities involve ‘staking’ money where there is an element of risk, or uncertain outcomes.

Even where some gamblers win over time — such as in wagering on races — the wider group of players as a whole must lose, with the few ‘professional’ gamblers relying on the losses of the others to pay for their wins.

As Barrett (sub. D251, p. 3) observed:

Secondly, investment does not entail that anyone loses; betting does... Although investors may “lose”, their “winning” does not typically depend on others losing. Investing is not a zero-sum game.

The value of the service provided by gambling is essentially the enjoyment or entertainment from playing and having access to a *chance* of winning some money, not a positive expected return on the funds employed.

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<sup>2</sup> Blackjack is one area where skillful play can create a small advantage over the casino. However, casinos generally will ban such skilled players or severely restrict their play (see BJ Masters Professional BlackJack School, sub. D285, p. 3).

The fact that gamblers lose money does not mean that they derive no benefit, nor does it mean that the industries do not make a contribution to the economy. Many other activities (such as sport, theatres etc) represent consumption rather than investment, with the net cost to the consumer representing a payment for the entertainment provided.

Thus, ACIL (sub. D233, p.11) commented:

The expected financial return is only one of the variables that enters into an individual's estimation of the utility of the transaction. It is not even the most important variable to the gambler.

The dream of winning appears to loom large in the minds of gamblers, as indicated by a 1999 survey in Victoria (table 5.1). But it is clear that a range of other reasons also influence the decision to gamble, highlighting its role as a form of entertainment.

**Table 5.1 Why do people gamble?**  
(Victoria, survey of 1326 gamblers conducted in 1998)

<i>Motivation</i>	<i>All gamblers</i>	<i>Regular gaming machine/Casino gamblers</i>
	% of respondents	% of respondents
Dream of winning	59	66
Social reasons	38	65
For charity	27	26
Beating the odds	9	14
Favourite activity	10	19
Atmosphere/excitement	13	19
Belief in luck	12	16
Boredom/pass the time	9	13

Source: Roy Morgan Research (1999).

Similarly, survey evidence in New South Wales indicates that winning ranks highly with players, but the entertainment aspects of gambling again appear important (table 5.2).

While most gamblers report positive factors associated with their gambling activities, their level of satisfaction has been questioned. Critics of the gambling industries express concerns about the degree of satisfaction that gamblers receive from their gambling activities. For example, at the public hearings Anglicare commented:

I would ask anybody to go into a pokie venue and look around at people sitting playing the machines and see the joy and pleasure on their face, and I'll tell you something, it doesn't exist. To me, something which is a happy experience or an entertaining experience or a good time causes you pleasure and there are signs that human beings

can sort of put out to show that. I find an awful lot of people in there are sitting frozen (transcript, p. 772).

**Table 5.2 Motivational aspects of gambling**  
(per cent of respondents answering in the affirmative)

	<i>Lotto only<sup>a</sup></i>	<i>Other gambling</i>
	%	%
I daydreamed of getting a big win	75.7	79.9
Gambling has given me pleasure and fun	72.1	87.4
Gambling has been a hobby and interest for me	53.6	78.0
When I was gambling I felt excited	52.1	79.2
When I gambled I felt relaxed	37.1	72.3
I am more likely to gamble for celebration	29.3	56.6

<sup>a</sup> The 'Lotto only' group comprise respondents who played lotto/lottery/instant lottery weekly or more often, but no other form of gambling weekly or more often.

Source: Drawn from Table 20 in Dickerson et al (1996a, p. 43).

However, appearances can be misleading. Star City observed (sub. D217, p.2) that:

Football fans do not expect their team to win every match. At the match they will be engrossed and generally not laughing. And they can look very unhappy when and after they lose. Yet, they go again the following week and no one suggests that even losing a game is a net disbenefit. Joggers and bush walkers are notoriously solemn. Concertgoers rarely laugh.

The Commission's *National Gambling Survey* asked regular gamblers to rate their gambling experience according to the extent to which it made their life more enjoyable. The survey results indicated that most (67 per cent) considered that it made no difference, and only 24 per cent considered that it made their life a little more enjoyable (chapter 6).

A survey of gamblers in inner city municipalities in Melbourne (Melbourne Institute et al 1997), asked gamblers to rate the satisfaction derived from their gambling experiences. The report commented (p. 58):

The vast majority of males and females, gamblers and non-gamblers, EGM users and non-EGM users report that they do not find EGM gambling appealing, i.e. they responded in the 1-5 range on a 1-10 scale from "not at all appealing" to "extremely appealing". EGM users find EGM gambling slightly more appealing than do other individuals, but surprisingly, not by much.

Similarly, a survey of gamblers in regional Victoria (Deakin Human Services Australia and The Melbourne Institute, 1997), found that 90 per cent of gamblers considered playing gaming machines to be an unappealing leisure activity. However, the study also found that 83 per cent were satisfied with their gambling life generally.

In contrast to the other studies, Tabcorp, (sub. D232), concluded on the basis of AMR Quantum survey of 262 patrons of gaming machine venues that:

... 85 per cent of customers — even those who lost money — enjoyed their visit to a gaming venue ... (p. 1);

and that this level of satisfaction was higher than that of alternative forms of entertainment. Tabcorp also said:

In addition, the survey confirmed that gaming machine players consider that gaming venues provided comparable value for money to other entertainment options (p. 4).

Tabcorp subsequently provided the Commission with a copy of the survey, which provided more detail on the patrons' responses (tables 5.3 and 5.4). This indicated that, while the overall enjoyment of the visit to the venue, and the overall perception of value for money, were similar to that stated for alternatives, both the level of satisfaction and perception of value for money were noticeably lower for gaming machine play than for other forms of entertainment.

While the sample is small, and is likely to involve an element of self-selection, the two tables indicate that players' perceptions of value for money from gaming machines are significantly lower than their perception of enjoyment.

**Table 5.3 Enjoyment by venue patrons<sup>a</sup>, 1999**  
Survey of 262 patrons of gaming machine venues

	<i>Very enjoyable</i>	<i>Quite enjoyable</i>	<i>Not very enjoyable</i>	<i>Not enjoyable at all</i>
	%	%	%	%
Visit to the venue	27	58	10	4
Playing the gaming machines	21	58	14	7
Having a meal or snack in the bistro or restaurant	67	29	2	2
Using the bar	35	62	1	1
Using the TAB/sportsbet	32	68	-	-
Going to the cinema/movies	41	38	9	8
Watching live sport at a venue	38	24	15	21
Going to opera theatre or a rock concert	27	26	16	27
Playing bingo	13	15	21	45
Going to a restaurant or café	64	29	4	2
Going to a once a year sporting event	44	23	10	20
Going to an exhibition or show	35	37	14	13

<sup>a</sup> Rows may not add due to rounding. In a few areas a small percentage of respondents did not provide an answer.

Source: sub. D286.

**Table 5.4 Perceptions of value for money<sup>a</sup>, 1999**

Survey of 262 patrons of gaming machine venues

	<i>Very good value</i>	<i>Quite good value</i>	<i>Not very good value</i>	<i>Not good value at all</i>
	%	%	%	%
Visit to the venue	23	41	21	13
Playing the gaming machines	14	38	24	23
Having a meal or snack in the bistro or restaurant	71	20	6	2
Using the bar	31	51	1	10
Using the TAB/sportsbet	36	44	12	4
Going to the cinema/movies	32	44	13	7
Watching live sport at a venue	26	39	18	13
Going to opera theatre or a rock concert	22	33	18	19
Playing bingo	16	18	16	40
Going to a restaurant or café	45	48	4	3
Going to a once a year sporting event	33	32	13	15
Going to an exhibition or show	30	40	19	7

<sup>a</sup> Rows may not add due to rounding. In a few areas a small percentage of respondents did not provide an answer.

Source: sub. D286.

The importance of winning on reported perceptions about satisfaction is demonstrated in table 5.5 using data from the same survey. Those who reported their experience as being ‘not very enjoyable’ or ‘not enjoyable’ were predominantly people who perceived that they were ‘down’ (had lost money) in their gambling activities.

**Table 5.5 Relationship between perceived gambling outcome and reported of satisfaction<sup>a</sup>, 1999**

Survey of 262 patrons of gaming machine venues

<i>Satisfaction</i>	<i>Perceived outcome</i>				<i>All respondents</i>
	<i>Winning</i>	<i>Losing</i>	<i>About even</i>	<i>Not sure</i>	
	%	%	%	%	%
Very enjoyable	58	26	16	0	100
Quite enjoyable	22	57	19	1	100
Not very enjoyable	6	94	0	0	100
Not enjoyable at all	0	100	0	0	100

<sup>a</sup> Rows may not add due to rounding. In a few areas a small percentage of respondents did not provide an answer.

Source: sub. D286.

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Information on ex-post perceptions of enjoyment and value for money from a product such as gambling should be treated with some caution. Gambling involves two aspects, the chance of winning money and the entertainment in playing. The potential for winning money is an attribute that exists only so long as play continues. As most players lose money by the end of a gambling session, perceptions of value and satisfaction after gambling has occurred need not give an accurate picture of the value of that activity to consumers. In much the same way, asking someone at the end of the year whether they have got value for money from their insurance would be misleading when, in most cases, claims had not been made. The insurance is nonetheless valued and can be expected to be renewed into the next year. The fact that most people continue to spend significant amounts on gambling products means that, notwithstanding some reservations about consumption by problem gamblers, the industry does provide services that consumers value.

### **5.3 How can we measure the benefits to consumers?**

The benefits that consumers gain from the consumption of any good or service is commonly measured within an economic framework as ‘consumer surplus’ — a measure of their preparedness to pay over and above the cost of purchasing the product (box 5.4).

#### **Box 5.4 What is consumer surplus?**

Consumer surplus is a term used in economics to refer to the difference between what a consumer pays for any particular quantity of a product and the maximum amount which he or she would be prepared to pay rather than do without it.

Take, for example, water. Water for drinking is highly valued, and consumers would be prepared to pay a very high price for that essential use. Other uses are less important and consumers would pay less for water for such uses. However, water is abundant and quite cheap to provide. Its high value uses are readily supplied, with considerable excess left over for lower value uses. Consumers pay for water at the low price reflecting its additional (or marginal) lower value uses. This same price typically applies to all the water consumed, even that (for drinking) with a very high value to the consumer. Consumers are thus paying less for the water than its value to them. That difference is the consumer surplus.

This preparedness to pay reflects the value that consumers place on a product in comparison with alternative products and thus indicates the gain to consumers from



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that product or service being available<sup>3</sup>. Consumer surplus is measured by looking at the level of current consumption, and the extent to which this consumption would change if the price were to change. For example, if the price of a product were to rise significantly, but consumers continued to buy almost as much, we would say that they value the product highly. The way in which consumption changes when prices change is referred to as the ‘price elasticity of demand’ (box 5.5 and appendix C).

- Typically the less change there is in the quantity purchased when prices change (a lower price elasticity), the higher will be the estimate of consumer surplus; and
- conversely, the greater the change in the quantity purchased when prices change, (a higher price elasticity), the lower will be the estimate of consumer surplus.

#### **Box 5.5 What is the ‘price elasticity of demand’?**

The price elasticity of demand (referred to sometimes as the ‘own’ price elasticity of demand or just the elasticity of demand), measures the extent to which the quantity consumed of a particular good changes when its price changes. A product is said to have more elastic demand (that is, be more price sensitive) when the quantity purchased changes proportionately more than the price. For example:

- if the price halves, but consumers purchase three times as much, demand is said to be elastic; and
- if the price halves and consumers purchase only 10 per cent more, demand is said to be relatively inelastic.

A product will typically have more elastic demand (a higher price elasticity) if there are close substitutes, or if it is viewed as a discretionary item. That is, if the price were to rise, people could readily purchase something else as a substitute, or just more easily do with less of it. If there are few substitutes, or the product is a necessity of life, consumers may not be able to reduce the quantity purchased, even if the price were to rise considerably. Such products are said to have inelastic demand, or a low price elasticity.

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<sup>3</sup> In measuring the consumer surplus from gambling liberalisation, pre-existing illegal gambling is ignored. To the extent that some consumers gambled prior to liberalisation (albeit at higher cost) some of the measured surplus already existed. Conversely, there are some gains for consumers and society from the displacement of illegal gambling which are also not measured (appendix O).

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## 5.4 Measuring consumer benefits from the gambling industries

Estimates of consumer surplus for the Australian gambling industries are scarce. The Commission has come across one conducted for New South Wales (box 5.6), and ACIL (sub. 155) made an indicative estimate in its original submission to this inquiry (box 5.7).

### Box 5.6 A consumer surplus estimate for New South Wales

In estimating the consumer surplus resulting from the introduction of the Casino in New South Wales, Swan (1992) said:

When the Sydney Casino is introduced, a kind of gambling service that is presently not available (or at least only illegally) becomes available. Not only does it compete to some extent with existing types of gambling such as poker machines but, more importantly, those who enjoy gambling in casinos receive a considerable benefit. This benefit is over and above what they pay for the service. What they will pay has been estimated ... at between \$450 and \$550 million p.a. in 1997.

The benefit which gamblers will receive is estimated ... to be of the order of \$162 million per annum for 1996-97 .... This represents 29% of the anticipated casino revenue (gambler's casino expenditure) [\$550 million].

In assessing the estimated benefit of \$162 million p.a. it must be acknowledged that the magnitude of the benefit could be influenced by the assumptions of the model, in particular the CES specification and the fairly arbitrary way in which a prohibitively high 'price' was assigned to the casino prior to its introduction.

*Source:* Swan (1992, pp. 55-57 and p. 86).

### Box 5.7 ACIL's consumer surplus estimate for Australia

Using a linear demand curve, three numerical examples have been calculated:

1. If price elasticity of demand equals  $-1\frac{1}{2}$ , the rule is: "multiply total expenditure by 0.3"
2. If price elasticity of demand equals  $-1.0$ , the rule is: "multiply total expenditure by  $\frac{1}{2}$ "
3. If price elasticity of demand equals  $-\frac{1}{2}$ , the rule is: "multiply total expenditure by 1"

Broadly speaking these statements explain the relationship between consumer surplus and total expenditure. Since we believe price elasticity of demand for gambling as a whole is between  $-\frac{1}{2}$  and  $-1$ , but closer to  $-1$ , it seems we can support a general statement along the lines of: "consumer surplus is likely to be more than half the cash outlay."

On this basis, in 1996-97, when according to the Tasmanian Gaming Commission the net outlay on gambling in Australia was \$10,037 million, a gambling consumer surplus estimate of greater than \$5,000 million but less than \$10,000 million seems reasonable.'

*Source:* Extracts from sub. 155, p.91.

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## The Commission's estimates

There are essentially three components of the Commission's estimates of the benefits derived from the availability of gambling:

- the benefits accruing to the majority group of recreational gamblers (measured as their consumer surplus retained after consumption taxes);
- the revenue accruing to government through taxes on gambling (essentially a transfer of part of the consumer's potential surplus to government); and
- the estimated shortfall in value-for-money for problem gamblers as a result of their excessive level of spending on gambling.

Of these, the third represents a significant departure from the normal presumptions in economic modelling of consumer sovereignty and rational consumption behaviour.

### *Should problem gamblers be treated differently?*

This question is central to the approach used by the Commission to 'discount' the benefit that problem gamblers gain from their consumption of gambling products.

Chapter 4 looks briefly at the literature on 'rational addiction', and chapter 6 looks in some detail at people with gambling problems and their behaviour. These indicate that problem gamblers (particularly those with more severe problems) behave quite differently from the vast majority of recreational gamblers. In particular, they demonstrate an impaired capacity to control their gambling expenditure.

On the basis of this, the Commission has concluded that problem gamblers should be treated differently from other consumers when estimating the benefit they derive from their gambling activities. The Commission's estimate of the 'discount' to the benefit that this group receives, however, is considerably less than that implied in many other studies — which typically count all the expenditure by problem gamblers as a cost for which they receive no benefit. This is one of the reasons why some estimates of the social costs of gambling, particularly in US studies, are so high.

The Commission considers that it is unrealistic to presume that problem gamblers gain no benefit at all from the money that they spend. Among other things, survey evidence suggests the contrary. Consequently, the Commission has included some benefit for problem gamblers in its estimates. This is explained in more detail in appendix C and summarised later in this chapter.

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ACIL (sub. 155), in presenting their indicative estimate of (at least) \$5 billion per annum for the consumer surplus generated by the gambling industries in Australia (box 5.7), took a different approach in the treatment of consumption by problem gamblers. They said (p. 61):

Quite apart from the very approximate nature of the estimate, it will be noted that we see no need to make any downward adjustment to account for the claim that part of the consumption of gambling is addictive... In our view, there are no credible grounds for doubting that expenditure on gambling reflects the true preferences of consumers. In other words, we contend that the willingness to pay in excess of costs is, in this case as in others, a *genuine* addition to the welfare of the consumers involved.

The Commission maintains that it would be misleading to treat demand by problem gamblers in the same way as the majority of recreational gamblers. In particular, it is unrealistic to believe that problem gamblers (who spend a very high share of their income on gambling, and suffer a range of other financial, family and personal costs) are not only receiving benefits equivalent to their spending, but are also receiving a significant consumer surplus. The behaviour of many problem gamblers — reporting an inability to control their gambling despite a desire to do so, and their use of self exclusion policies and other devices to constrain their behaviour — strongly suggests that they are not making consumption decisions in this area in the same way as recreational gamblers (see chapter 6).

There may also be reservations about the nature of preferences for gambling products for consumers in general, which, if accepted, would have significant implications for the long-run cost to society of any significant reduction in the availability of gambling opportunities (box 5.8). While this is an interesting area for speculation, the Commission has not included it in its analysis.

**Box 5.8      What if tastes change over time?**

There are many apparent inconsistencies in community attitudes towards, and values placed on, access to gambling.

- Revealed demand indicates that consumers value the product highly, yet the majority of the same consumers say that the industry does more harm than good, and typically they report low levels of satisfaction after consuming.
- At the same time, those opposed to the expansion of gambling point to the fact that in the remaining jurisdiction without extensive access to gaming machines (Western Australia) the pressure for expansion comes not from consumers 'deprived' of an apparently highly valued product, but from the suppliers.

(continued)

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**Box 5.8 continued**

If the consumers' taste for gambling is not as high or as stable as assumed by the standard economic analysis underpinning the estimates of benefit, this could have significant implications for the balance of costs and benefits for society over time.

The estimate of consumer surplus measures the value to consumers from the availability of gambling. It also indicates what could be lost if gambling were unavailable. Were the industry to be banned, consumers would suffer a net loss equivalent to their consumer surplus each year in perpetuity. But this assumes that consumers' tastes for products and services are unchanging over time — an assumption that underpins neo-classical economic analysis, though one that is not universally accepted.

If preferences were not stable, and the preference for gambling declined over time with the lack of availability, the costs in terms of lost consumer satisfaction would reduce as the years went by, but the gain from restricted access in terms of gamblers who do not become problem gamblers in the future would be a permanent and ongoing benefit. In time, the balance of costs and benefits would well change to one where the benefits of restricting access to gambling exceeded the costs.

The implications for policy, however, are problematic. Accepting that exogenous preferences are an important component of consumer demand could lead to calls for the banning or restricting of a whole range of products and services, from X rated videos to fatty foods, on the grounds that consumers will, in time, no longer miss the product. The danger is that a range of, at best paternalistic, and at worst intolerant and authoritarian, restrictions could evolve. Nevertheless, it does suggest that some caution should be exercised when using estimates of consumer surplus derived for the gambling industries.

Key data required to make these estimates are:

- the share of expenditure accounted for by problem gamblers;
- the sensitivity of the demand for gambling to changes in its price, for each category of consumer; and
- the level of tax collected.

*What is the share of expenditure by problem gamblers?*

The Commission's *National Gambling Survey* indicated that an estimated 2.1 per cent of the adult population are experiencing significant problems associated with their gambling. This is equivalent to 293 000 people. The extent of problems faced by those in this group are, however, quite varied, and in estimating the benefits derived by problem gamblers, the Commission has distinguished between two broad groups of problem gamblers — 'moderate', and 'severe' problem gamblers. The basis for identifying the two groups of problem gamblers is outlined in appendix P.

Of the estimated 293 000 problem gamblers, the Commission estimates that 163 000 have moderate, and 129 000 severe problems. While problem gamblers are a small percentage of the number of adults in Australia, their expenditure on gambling is high. As a group, they accounted for an estimated 33 per cent of the money spent on gambling in 1997-98 (table 5.6).

**Table 5.6 The number and spending of problem gamblers<sup>a</sup>**

		<i>Moderate</i>	<i>Severe</i>	<i>All problem gamblers</i>
Number	No.	163 388	129 348	292 736
Per cent of adults	%	1.2	0.9	2.1
Per cent of gambling expenditure	%	8.3	24.8	33.0
Per person spending	\$	5 443	20 662	12 168

<sup>a</sup> The number of people involved, and the shares of expenditure are from the Commissions' 1999 *National Gambling Survey*. The dollar values of expenditure are based on annual gambling expenditure for 1997-98.

Source: PC *National Gambling Survey* and PC estimates.

The significance of problem gambling varies considerably among the different modes of gambling (table 5.7)

**Table 5.7 Share of spending (loss) accounted for by problem gamblers by different gambling products, 1997-98**

	<i>Annual spending (\$ million)</i>			<i>Share of spending (per cent)</i>		
	<i>Australians (1997-98)<sup>b</sup></i>	<i>Moderate problem gamblers</i>	<i>Severe problem gamblers</i>	<i>Moderate problem gamblers</i>	<i>Severe problem gamblers</i>	<i>All problem gamblers</i>
	\$m	\$m	\$m	%	%	%
Wagering	1 600	152	377	9.5	23.5	33.1
Lotteries	1 179	43	24	3.7	2.1	5.7
Scratchies	246	28	19	11.3	7.8	19.1
Gaming machines <sup>a</sup>	6 401	554	2 156	8.7	33.7	42.3
Casino games <sup>b</sup>	895	73	22	8.2	2.5	10.7
Other	449	38	74	8.5	16.5	25.0
<b>All gambling<sup>b</sup></b>	<b>10 771</b>	<b>889</b>	<b>2 673</b>	<b>8.3</b>	<b>24.8</b>	<b>33.0</b>

<sup>a</sup> Includes gaming machine expenditure in casinos. <sup>b</sup> Excludes tourist expenditure.

Source: PC *National Gambling Survey* and appendix P.

Shares for the individual forms of gambling should be treated as indicative only. For some forms of gambling — particularly 'casino gaming' and 'other gaming' — the number of survey respondents who were regular players or who were problem gamblers in that mode were relatively low, leading to significant standard errors

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associated with the averages used. The estimates are more robust for gaming machines and lotteries, where the number of players is much greater.

Overall, the Commission is confident that its estimates of expenditure shares for the gambling industry in aggregate are robust, given the size of the Commission's *National Gambling Survey* and the similarity of the result with those generated by earlier studies in Australia (chapter 7).

*How sensitive is the demand for gambling products to changes in price?*

Most studies have generated relatively high estimates for the price elasticity of demand for gambling. They imply that, as the price rises, the quantity of gambling (that is, the amount staked) falls by significantly more than the increase in price, and thus the amount of money spent (lost) falls. As discussed in appendix D, the Commission has reservations about the robustness of these estimates and considers that they overstate the sensitivity of gambling demand to changes in price.

This view was implicitly shared by those undertaking modelling work on behalf of the industry (notably the CIE and ACIL). These participants commented on, but did not use, the literature results, preferring to use numbers implying considerably more inelastic demand for gambling products. That is, they considered that, with any rise in the price of gambling, the quantity consumed would fall, but by significantly *less* than the price rise, resulting in consumers spending more on gambling than they did previously.

A number of participants questioned the value of estimating consumer surplus when there is some uncertainty about the responsiveness of gamblers to changes in price. The AHA (NSW) (sub. D208, p. 14) said:

Given the range, our view is that the elasticity concept employed is explaining nothing about the behaviour of gamblers when prices change. It follows that if elasticity cannot be measured within a meaningful range then consumer surplus cannot be measured.

Uncertainty about the elasticities of demand for gambling does not mean that consumer surplus does not exist, or that consumers do not benefit from access to gambling products. It does mean that some caution should be exercised in using estimates of consumer benefit. Such estimates can only be indicative. However, as the subsequent analysis by the Commission shows, the benefit to consumers is found to be substantial, and remains so when using a wide range of elasticities.

In estimating consumer surplus, the Commission has treated problem gamblers differently from the majority of recreational gamblers. In addition, to reflect the fact

that problem gamblers are not a homogeneous group, a distinction has been drawn between moderate and severe problem gamblers.

- Recreational gamblers are likely to be more sensitive to changes in the price of gambling products. For these consumers, gambling is just one of a range of recreational activities and thus it is reasonable to consider that they could more readily shift to alternatives if the price of gambling increased. This category would thus have a higher price elasticity of demand than other gamblers.
- Moderate problem gamblers are considered to be less sensitive to price changes. Such gamblers report some problems with control of their gambling activity, and thus a lower price elasticity is assumed for this group.
- Severe problem gamblers are a more difficult category. They could be expected to be the least sensitive to price changes, as the need to continue gambling is so great. But some may already be gambling with all the money that they have at their disposal, thereby constraining their ability to respond to price changes. It is likely, however, that this situation only arises at the extreme end of the problem gambling spectrum. The Commission has therefore assumed that severe problem gamblers are the least sensitive to changes in the price of gambling products.

Because of the lack of certainty about the way individual groups of gambling consumers react to price changes, the Commission has used a high and a low elasticity for each of the identified groups. These elasticities have been chosen to reflect a reasonable range of the likely responses of gambling consumers. The range of elasticities for the demand for gambling used in estimating consumer surplus for each category of gamblers are shown in table 5.8.

**Table 5.8 Price elasticities of demand for gambling used in the Commission’s estimates of benefits<sup>a</sup>**

	<i>Low demand elasticity</i>	<i>High demand elasticity</i>
Recreational gamblers	-0.8	-1.3
Moderate problem gamblers	-0.6	-1.0
Severe problem gamblers	-0.3	-1.0

<sup>a</sup> Percentage change in expenditure on gambling given a 1 per cent change in the price of gambling.

### *An estimate of recreational gamblers’ surplus*

For most consumption (that undertaken by recreational gamblers), the presumption that the surplus represents a *genuine* addition to the welfare of consumers is a reasonable one. While the Commission has identified widespread and persistent misperceptions about the nature of gambling products in the general community (chapter 16) which may imply some ‘overconsumption’ of gambling products, even



by recreational gamblers, no adjustment has been made to the estimate of consumer surplus for this group.

The Commission has estimated that, for the two thirds of expenditure on gambling accounted for by recreational gamblers, the consumer surplus is some \$2.7 billion to \$4.5 billion each year. The higher estimate results from the low elasticity assumption, the lower estimate represents the higher elasticity situation. This represents the consumer surplus retained by recreational gamblers after tax has been paid to government (table 5.9). The total benefit should include the tax paid, and this is presented in the following section.

**Table 5.9 Estimated consumer surplus retained by recreational gamblers, 1997-98**

<i>Consumer surplus for recreational gamblers</i>	
	\$ million
Wagering	410 – 666
Lotteries	427 – 693
Scratchies	77 – 124
Gaming machines	1 404 – 2 281
Casino games	305 – 495
Other	129 – 210
<b>All gambling</b>	<b>2 745 – 4 460</b>

*Source:* PC estimates: appendix C.

### *Tax revenue, licence fees and community contributions*

State and Territory governments collected \$3.8 billion in tax revenue from the gambling industries in 1997-98. In addition, gambling providers have paid a range of gambling licences to the various state and territory governments, some as up-front fees at the time of the granting of the licence, and some as an annual payment. The Commission has estimated an annual value for these licence payments of \$233 million. Clubs, particularly those in New South Wales, make a range of community contributions (for which, in part, they receive concessional tax treatment). In these estimates of benefits, an annual figure of \$246 million has been used as the community contribution of clubs from their gaming machine revenues (chapter 21).

These payments represents a transfer of some of the consumer surplus potentially available to consumers to the government, or to others in the community via community contributions. That is, in the absence of the tax, the estimated consumer surplus retained by consumers would be higher to the extent of the tax revenue collected (together with a small amount representing the impact that the high prices have on the level of consumption), and thus the tax collected should be included in

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estimates of the consumer benefits generated by the availability of gambling products.

For simplicity, the Commission has assumed that all the tax revenue collected from the gambling industries is ultimately borne by consumers, and thus the full value of taxes is included with other consumer benefits estimated here. In practice, not all of the tax may be borne by consumers, some may be carried by the gambling industries. The extent to which tax falls on consumers and producers depends on the nature of the demand and supply conditions associated with the industry. Box 5.9 presents an estimate made by ACIL of the distribution of tax between consumers and producers).

**Box 5.9 Industry estimate of the distribution of taxes between consumers and producers**

“Revenue from product taxation is sometimes not regarded as part of producer surplus (or consumer surplus). Yet here taxation is very high, and unquestionably producers bear a proportion of it. Their burden depends on the tax rate and the ratio of the supply and demand elasticities.”

“Assume for illustrative purposes a supply elasticity of 2.5, a demand elasticity of -0.7 (which is the lower bound of the PC’s preferred range of demand elasticities), and a tax rate of 40 per cent. Of the total of almost \$4 billion in gambling taxes collected last year, the producers’ share of the taxation burden would be one-seventh, or \$0.6 billion.”

“This figure would represent a lower bound of the producer surplus measured according to our preferred methodology. First, the total tax estimate excludes the annualised equivalent of the substantial lump sum licence fees that have been paid by most operators. Second, to reflect traditional producer surplus, any earnings above cost earned by producers (such as those with special skills, or sites) should be added.”

*Source:* Excerpt from sub. D233, pp 34-35.

This allocation of the tax burden between consumers and producers does not, however, have any impact on the estimate of the total benefit derived from the availability of gambling in Australia. The total of the tax revenue collected, including that from licence fees, would be included in such an estimate of benefits whether borne by consumers or producers. Nonetheless, the Commission considers that it is more appropriate to allocate the tax revenue to consumers as there are few signs that costs in the gambling industries would go up as the industry expands. Indeed, in many areas, economies of scale are an important factor. This implies that a supply elasticity of 2.5 (box 5.9) is too low. A higher elasticity would result in a greater share of the tax being borne by consumers.

Table 5.10 below presents information on the total of tax revenue collected, licence fees paid and community contributions for gambling as a whole and for the different forms of gambling.

**Table 5.10 Gambling tax revenue, licence fees and community contributions, 1997-98 (\$ million)**

	<i>Estimated tax revenue paid by recreational gamblers</i>	<i>Estimated tax revenue paid by moderate problem gamblers</i>	<i>Estimated tax revenue paid by severe problem gamblers</i>	<i>Estimated revenue from tourist spending</i>	<i>Tax revenue collected 1997-98</i>
Wagering	409	58	144	-	611
Lotteries	784	31	17	-	832
Scratchies	140	20	14	-	174
Gaming machines	1 364	205	797	-	2 365
Casino games	170	16	5	89	280
Other	38	4	8	-	51
<b>All gambling</b>	<b>2 826</b>	<b>349</b>	<b>1 048</b>	<b>89</b>	<b>4 312</b>

Source: PC estimates: appendix C.

### *Estimates for problem gamblers*

As noted, in making its estimates, the Commission has assumed that problem gamblers benefit only from part of their gambling expenditure. The part from which they derive a benefit is the level of spending that they are assumed to have undertaken had they not become subject to compulsive gambling behaviour. The Commission has estimated this non-compulsive or 'recreational' level of spending based on the expenditure by regular recreational gamblers in each mode of gambling (table 5.11).

Problem gamblers are estimated to be spending an average of \$12 200 each on their total gambling activities in 1997-98. Based on the level of spending by regular non-problem gamblers, the Commission has assumed that, in the absence of their compulsive behaviour, problem gamblers would have spent \$1496 per head, some 13 per cent of their current level of spending, but more than twice that of the average for recreational gamblers as a whole.

In relation to this smaller level of expenditure, problem gamblers are treated in the same way as recreational gamblers, with their consumer surplus being confined to the smaller level of consumption that would occur in the absence of their compulsive behaviour.

**Table 5.11 Spending by recreational gamblers and a ‘recreational’ level for problem gamblers, 1997-98 (all gambling)**

<i>Type of gambler</i>	<i>Current spending</i>	<i>Current spending per head</i>	<i>Alternative ‘recreational’ spending</i>	<i>Alternative ‘recreational’ spending per head</i>
	\$ million	\$	\$ million	\$
Recreational	7 209	644	-	-
Moderate problem	889	5 443	244	1 496
Severe problem	2 673	20 662	194	1 496
All problem	3 562	12 168	438	1 496

Source: appendix P.

Spending in excess of the estimated ‘recreational’ amount for problem gamblers is assumed not to provide them with ‘value for money’. That is, the benefit they receive is less than the amount of money spent. Overall, the lack of value for money on their excess spending exceeds the consumer surplus from the ‘normal’ level of spending, resulting in a ‘negative’ consumer surplus or ‘deficit’ for this group of consumers.

This is not to say that problem gamblers get *no* benefit out of the spending in excess of the recreational level. In its response to the draft report, the Australian Casino Association (sub. D234, p. 13) wrongly concluded that ‘... the PC arbitrarily applies an expenditure cap, above which it is assumed that problem gamblers receive no benefit’. Problem gamblers do get a benefit, but this benefit declines progressively as expenditures increase and is less than the amount that they pay for the higher consumption.

In making its estimate of the level of spending by problem gamblers that would occur in the absence of their compulsion, the Commission has taken the hypothetical situation where those concerned had not progressed to problem gambling — a situation that could exist if effective harm minimisation and prevention measures were in place in the gambling industry. Under this scenario, it is reasonable to presume that such gamblers would be more enthusiastic players than most, and thus the level of play of *regular* non-problem players is considered a more appropriate benchmark than the level of play of all non-problem players.

As with other assumptions in this analysis, this is a contestable point. Were, for example, the alternative level of spending chosen on the basis of the level of spending that problem gamblers would undertake were they to be ‘cured’ of their compulsive gambling habit, the level of spending is likely to be considerably lower than that used by the Commission. Some 80 per cent of gamblers in counselling say that they wish to quit gambling completely rather than continue at ‘managed’ levels. Assuming a lower level of spending for problem gamblers in the absence of their

compulsion would increase the ‘loss’ attributed to the problem gambling group and decrease the level of benefit estimated for the gambling industries.

The Commission has also assumed that, at the ‘recreational’ level of consumption, the demand characteristics would be the same as for recreational gamblers; that is, a range of demand elasticities of -0.8 to -1.3, rather than the more inelastic demand assumed to apply to their level of consumption as problem gamblers. This is consistent with the Commission’s treatment of the alternative level of spending for problem gamblers as the level of spending that they would have undertaken had they not developed problems.

On this basis, problem gamblers would be spending \$438 million a year on gambling activities, rather than their current expenditure of some \$3.6 billion. The ‘loss’ (lack of value for money) on their spending in excess of this \$438 million, is considerably greater than any consumer surplus on the lower consumption amount. The net ‘consumer surplus’ for this group thus becomes negative — estimated to be a shortfall of \$2.7 billion each year (table 5.12)<sup>4</sup>.

**Table 5.12 Estimated loss for problem gamblers, 1997-98 (\$ million)**

	<i>Annual spend by moderate problem gamblers</i>	<i>Annual spend by severe problem gamblers</i>	<i>Loss for moderate problem gamblers</i>	<i>Loss for severe problem gamblers</i>
Wagering	152	377	76 – 77	315
Lotteries	43	24	20	7
Scratchies	28	19	19	13
Gaming machines	554	2 156	244 – 245	1 908 – 1 910
Casino games	73	22	18 – 19	(15) <sup>a</sup>
Other	38	74	18	59
<b>All gambling</b>	<b>889</b>	<b>2 673</b>	<b>404 – 406</b>	<b>2 288 – 2 290</b>

**a** Note that for casino games, severe problem gamblers are estimated to receive a positive benefit rather than a loss.

Source: PC estimates: appendix C.

In contrast, Blandy and Hawke (subs. D193 and D211) considered that the inelastic demand observed from current consumption by problem gamblers should be retained when estimating the benefit and loss in relation to their assumed ‘recreational’ level of spending. The Commission does not consider this appropriate

<sup>4</sup> Note that, despite the significant difference in the elasticities used in relation to problem gamblers’ ‘recreational’ level of consumption (-0.8 and -1.3), there is very little difference in the estimates of the losses they face. This is because there are two competing factors at work. When a lower elasticity is used, the surplus on their ‘recreational’ level of spending is greater, but conversely, the estimated loss on their excess spend also increases. Because the two elasticities chosen are symmetrical around an elasticity of -1, this results in a very close offsetting result.

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as both the high level of spending by problem gamblers and their insensitivity to price changes compared to other players are the result of their compulsive behaviour. In looking at spending in the absence of this compulsive behaviour developing, it seems reasonable that both the level of spending and the sensitivity to price changes would need to be modified.

Blandy and Hawke's assumption is more relevant to an alternative scenario of regarding the alternative consumption situation as relating to problem gamblers' likely behaviour *after being 'cured'*. To be consistent, however, it would also be necessary to impute a zero value for this alternative level of consumption (see above), which means that problem gamblers would be assumed to derive no benefit at all. As noted, the Commission does not regard this as reasonable.

**Box 5.10    Alternative view on the treatment of problem gamblers**

In a submission on behalf of the Hon. Nick Xenophon and others, Professor Richard Blandy and Dr Anne Hawke questioned the assumption that problem gamblers, in the absence of their compulsion, would have the same demand characteristics as recreational gamblers. Blandy and Hawke (sub. D193) described the Commission's analysis of the consumer surplus for gamblers as "clear and innovative", but considered that, for problem gamblers, the elasticity of demand used in the analysis should be lower than that used by the Commission, (0.3 rather than the Commission's lower estimate of 0.5) and the elasticity of demand for recreational gamblers should be higher (1.7 rather than the Commission's high estimate of 1.3). Blandy and Hawke further considered that, even as relates to the assumed level of recreational spending by problem gamblers, the very low price elasticity for compulsive consumption should be used.

Using these elasticities, and the Commission's methodology as outlined in Appendix C of the Draft Report, Blandy and Hawke (sub. 211) estimated that the consumer surplus would be \$3.2 billion. This compares to the Commission's current lower estimate of \$4.3 billion.

The choice by Blandy and Hawke of a price elasticity at the high end of the range for recreational gamblers and at the low end of the range for problem gamblers even for the assumed 'non-problem' level of consumption, serves to minimise the estimate of consumer surplus. For example, if the Commission were to use an elasticity of -1.7 rather than the -1.3 chosen for its 'high elasticity' estimates, the estimated consumer benefit would be \$599 million lower. At the hearing in Brisbane, Chris Murphy of ECONTECH was critical of Blandy and Hawke's choices of elasticities, noting that there was no hard evidence based on people's actual behaviour.

The Commission acknowledges that there is no hard evidence either way, but considers its own elasticity range to be more tenable for the ball park estimates provided here.

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### *The overall benefits from consumption*

Despite the net 'loss' for problem gamblers, the consumer benefits from the gambling industries are positive overall, estimated at between \$4.4 billion and \$6.1 billion each year. This benefit is made up of:

- between \$2.7 billion to \$4.5 billion of satisfaction or entertainment value (consumer surplus) for recreational gamblers;
- \$4.3 billion of tax revenue for government, licence fees and community contributions; and
- a loss of \$2.7 billion for the 2.1 per cent of the adult population classified as problem gamblers (table 5.13).

**Table 5.13 The value of benefits for gambling consumers, 1997-98 (\$ million)**

	<i>Consumer surplus for recreational gamblers</i>	<i>Tax, licences and community contributions 1997-98</i>	<i>Consumer loss for problem gamblers</i>	<i>Net total benefit/surplus</i>
Wagering	410 – 666	611	391 – 392	629 – 885
Lotteries	427 – 693	832	27	1 232 – 1 498
Scratchies	77 – 124	174	32	219 – 266
Gaming machines	1 404 – 2 281	2 365	2 152 – 2 155	1 617 – 2 491
Casino games	305 – 495	280	3 – 4	580 – 769
Other	129 – 210	51	77	103 – 184
<b>All gambling</b>	<b>2 745 – 4 460</b>	<b>4 312</b>	<b>2 692 – 2 696</b>	<b>4 365 – 6 076</b>

Source: PC estimates: appendix C

The adjustments to the consumer surplus estimates to account for the lack of value-for-money received by problem gamblers relate only to the direct dollar amount spent on gambling by the problem gambler. They do not include the other costs that problem gamblers face, nor the costs imposed on families or the community by problem gambling. These additional costs are estimated in chapter 9.

The treatment by the Commission of consumption by problem gamblers differs from that of many other studies (which have assumed that all of the money spent by problem gamblers represents a loss to both the gambler and society) and from the view of many in the industry (which is that all of the spending by problem gamblers should be treated in the same way as spending by any other consumer). While the Commission does not accept these views, a comparison of the results based on them is presented in table 5.14.

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**Table 5.14 Comparison of alternative benefit estimates (\$ million)**

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	<i>All spending by problem gamblers is a loss</i>	<i>All spending by problem gamblers is a gain</i>	<i>Productivity Commission estimate</i>
High elasticity	3 495	8 497	4 365
Low elasticity	5 210	12 613	6 076

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Source: PC estimates.

The Commission also examined how the estimates of the benefits from gambling would differ if moderate problem gamblers were treated in the same way as recreational gamblers, and were thus allocated the full apparent benefit from their consumption.

**Table 5.15 Results if moderate problem gamblers are treated as recreational gamblers: all gambling, 1997-98 (\$ million)**

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	<i>Benefit if adjusting only the consumption of severe problem gamblers</i>	<i>Productivity Commission estimate</i>
High elasticity	5 176	4 365
Low elasticity	6 444	6 076

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Source: PC estimates.

As can be seen from table 5.15, treating moderate problem gamblers as recreational gamblers goes only a little way towards the estimated benefits using the industry's assumption that all problem gamblers gain the full benefit from their consumption. This is because severe problem gamblers account for the bulk of gambling expenditure by all problem gamblers. While the extent to which moderate problem gamblers benefit from their expenditure may be debatable, it is difficult to accept that severe problem gamblers are gaining full consumer benefits from their excessive levels of spending.

## **5.5 What other benefits are there for the Australian economy?**

### *Contribution to economic activity*

The gambling industries are now a significant part of the Australian economy. Some 20 000 people were employed in casinos, 13 000 at TABs, sports betting and bookmakers, and nearly 3000 in lottery businesses. In addition, about 120 000 people were employed in clubs and hotels with gambling facilities in 1997-98, although this includes employees associated with non-gambling aspects of these



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organisations. Based on data supplied by the ABS, the Commission has estimated that the value added in the gambling industries amount to some \$3.5 billion, or about 1.5 per cent of GDP in 1997-98 (chapter 2).

Gambling has links to other sectors of the economy, including the suppliers of gambling equipment, which rely on the demand generated by gambling. In some regional locations, establishments providing gambling services have become major players in the local recreational and entertainment sector. In the gaming machine manufacturing sector a successful and growing export business has been developed, with Australian machines recognised as among the most sophisticated in the world (see appendix N).

Industry representatives typically identify the employment and activity of the gambling industries as the principal benefit they provide to the Australian economy. ACIL (sub. D233 p. iv) said:

if government were to treat the industry more like other industries, its GDP and job contribution would be bigger than these figures suggest.

Similarly, the Council of Community Clubs of Australia and New Zealand (sub. D226, p.3) said:

The Club Movement is a significant generator of economic activity and wealth creation. There are some 3,868 licensed clubs in Australia (ABS 1999b). The majority of clubs are located in regional Australia. Country clubs are a major local hub of economic activity. Clubs are important in terms of capital expenditure and expenditure on training. Total employment for all clubs in 1997-98 was 67,272. In addition there are a substantial number of voluntary workers that do not appear in the ABS figures. Club directors alone are estimated to provide over 3 million hours annually in voluntary labour.

In looking at the contribution of an industry to the economy, it is important to distinguish between measures of an industry's size and measures of its net contribution, especially when considering liberalisation. It is also important to distinguish between the net economic impacts associated with the policy-induced expansion of an industry and that of policy-induced contraction.

### *Industry size and net contribution*

Some \$11 billion was spent by Australians on gambling in 1997-98. Spending on gambling has also grown rapidly as more jurisdictions have legalised an increasing range of gambling opportunities. However, in the absence of gambling, this spending would largely have occurred elsewhere (the impact of changes to the rate of savings is discussed later in this chapter). In the absence of gambling those other industries that would have received the consumers' dollar would have grown,

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invested, employed people, and produced value added in much the same way as the gambling industries have done.

The important message is that measures of an industry's size (denoted by such things as investment, turnover, employment etc) are not measures of the net contribution of an industry to the wellbeing of the community or the economy. They are essentially a measure of the amount of the community's resources that are used in the industries, in response to the spending of consumers. In the absence of any particular industry, including gambling, neither the consumer spending, nor the resources of labour, capital, land etc, would disappear. There are alternatives available for both the consumer spending and for the resources used in the industry. While consumers prefer these alternatives less, they would nevertheless also have contributed to the economy in terms of their use of capital and labour, had gambling not been liberalised.

The AHA (NSW) expressed reservations about the ability of resources used in hotel gambling to move to other uses. They said (sub. D208, p. 15):

There is not prima facie evidence that capital would flow to other industries in Australia...

Specifically, the Commission's arguments on full employment of resources would, if taken to their conclusion, mean that no individual industry creates an economic benefit for the Australian economy. The sum of all industry's economic value would be nil which is absurd.

The AHA (NSW) comment raises a number of points. First, full employment is not essential to the argument that, over time, labour and other resources will shift to alternative uses in response to the redirection of consumer spending, only that the level of unemployment is largely unchanged by such developments. While there is considerable debate over the causes of systematic levels of unemployment, there is little evidence that unemployment rates are significantly affected by policies assisting particular industries. In its report on *Telecommunications Equipment, Systems and Services*, the Industry Commission (1998b, p. 93) noted:

Empirical studies of unemployment among different countries suggest that industry policy does not have a large roll to play in ameliorating the problem [unemployment] (Layard, Nickell and Jackman 1991; Nickell 1997). Factors such as employment programs, industrial relations laws and institutions, and the social security and tax system are much more important long run determinants.

Similarly, Chris Murphy, in work presented by the Australian Hotels Association (sub. D231, p.22), said:

In the long-term, the unemployment rate depends on labour market policy rather than industry policy. That is, in the long-term, industry policy affects the industry pattern of employment not the total level. Thus the PC [Productivity Commission] is correct in

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arguing that the gambling industry, like any other industry, does not affect the unemployment rate in the long term.

This is not to say that there cannot be some regional effects from development projects. The existence of high rates of unemployment, which can persist for long periods of time at the regional level, together with other rigidities in markets that limit the ability for price signals to reflect the availability of such underutilised resources, means that there may be gains from some regional development policies. For the economy as a whole, the effect is more questionable. However, subsidised growth in one region can still be at the expense of a more efficient location elsewhere.

There can also be significant regional impacts where the location of gambling changes the pattern of consumption. For example, the Queensland Government (sub. D275, p. 5) pointed to the increase in Queensland club and hotel revenues and associated declines in revenues for clubs in Northern New South Wales which previously relied heavily on the patronage of Queenslanders.

Second, the fact that there are alternative uses for resources does not imply that the sum of all industries' contribution to the economy is nil. Obviously if the government stopped production in all industries the resources would be idle and there would be little left of the Australian economy. But this is not the comparison in question. The comparison is between the use of the resources in one particular industry compared to the many alternatives available, not between the use of the resources in an industry and not using them at all.

Third, to say that there is no evidence that capital would flow to other industries is clearly at odds with the history of the growth of the Australian economy. Over the last 50 years or more there have been huge changes in Australia's industrial structure. And the aggregate level of unemployment, while it has varied over time has been remarkably robust in the face of these structural changes.

The comment by the AHA (NSW) does, however, raise an important distinction between what would have been had the gambling industries not been liberalised, and the situation that would occur if those industries were now to be significantly curtailed. While in time resources would shift to other uses, there would be adjustment costs in the short-term. Skills and knowledge may be specific to the industry and staff may need to be retrained. The AHA (NSW) (sub. D208, p.ii) said that '... resources ... would not flow seamlessly to other uses in the absence or contraction of the gambling industries.' and:

The vast majority of hoteliers are in the business because it is their work as well as their investment. Their skills and experience would not be transferable to other industries. ... Obviously, in long business cycles there will be periods of greater and lesser

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profitability and participants will stay in an industry waiting for better times rather than lose their intangible investment (i.e. their knowledge of the industry) and have to pay for capital movement, adjustment costs and imperfect resource mobility. (p. 15)

In addition to industry-specific skills, much capital equipment is unique to the gambling industries and could not be converted to other uses (though some could be exported). Too rapid a contraction would mean that gambling enterprises could sustain significant capital losses.

The CIE (sub. 111) explored these adjustment costs by modelling (on behalf of Aristocrat) the impact of a tax increase that reduced activity in the gambling industry by 1 per cent. They undertook this analysis by using a general equilibrium model using 'short-run' conditions which include limits on the ability of labour and capital to adjust to changes in the industry. The model showed a reduction in GDP of \$105 million and an increase in unemployment of 2539 people in the short-run as the result of a 1 per cent contraction in the gambling industries. However, the long-run modelling yielded only minor changes (see below).

In this chapter the Commission has measured the benefits that have resulted from the growth of the gambling industries in Australia, not the costs of dismantling them. In so doing, it has not 'discounted' its estimate of the benefits to take account of the adjustment costs to other industries that were associated with the growth of gambling. In the same way that the benefits are not 'discounted' by the adjustment costs for other industries, they are not 'inflated' by estimates of the adjustment costs that would result from the contraction of gambling.

### *Measuring changes in the economy*

The Australian economy contains a complex network of linkages between industries, consumers, governments and the international economy. Some industries are suppliers to others, some are in competition for the consumers' dollar. Some are labour intensive, some are not. The general equilibrium model is the tool that has been developed to assist in understanding the impacts that a change in one industry can have elsewhere in the economy.

A number of such modelling studies have been undertaken to look at the impact of the gambling industries on the Australian economy (NIEIR 1997a; CIE, sub. 111; ACIL, sub. 155). ECONTECH also undertook economy-wide modelling for the Commission to help it to understand the effects of the expansion of gambling on the

economy, and to assist in understanding other modelling results presented by participants in the inquiry<sup>5</sup>.

A summary of the studies and their findings are presented below.

**Table 5.16 Economy-wide impacts from modelling changes to the gambling industries.**

<i>Model and simulation</i>	<i>Change to the gambling industries</i>	<i>GDP</i>	<i>Employment</i>	<i>Real wages</i>	<i>Private consumption</i>	<i>Exports</i>	<i>Retail trade</i>
NIEIR (rise in gambling from 1992-93 to 1995-96)	\$1 500m 150% rise	\$1 143	20 200	na	\$829m 1%	na	na
CIE (1 per cent reduction in gambling industry)	(-\$100m)	-\$106m	-2,539	fixed	-\$133m	na	0.2%
ACIL (50 per cent cut in gambling taxes)	2.09 (\$209m)	0.00%	fixed	0.36%	0.03%	-0.11%	0.00%
ECONTECH (reduction in gambling to 1993-94 level)	gaming machines (-19%) casino (-55%)	0.0%	fixed	-1.9%	0.0%	0.1%	0.2%
(1 per cent reduction in gambling industry)	-1%	0.0%	fixed	0.0%	0.0%	0.0%	0.0%

*Sources:* NIEIR (1997a); CIE, sub. 111; ACIL, sub. 155; ECONTECH (1999).

### *What do these results tell us?*

While each of the models presented in table 5.16 above have been structured in different ways, and have modelled the results of different changes to the gambling environment, they all indicate that there is a benefit to Australia from the liberalisation of the gambling industries. The overall gains are small, reflecting the fact that general equilibrium models take into account the range of alternative goods and services on which consumers can spend their money, and the range of activities in which resources can be used in response to the change in consumption patterns. It is important to note, however, that none of the models include any of the external or

<sup>5</sup> A copy of the ECONTECH report *Taxation and Regulation of the Australian Gambling Industries*, July 1999, is on request from the Productivity Commission, and is available from the Commission's internet site [www.pc.gov.au/inquiry/gambling](http://www.pc.gov.au/inquiry/gambling).

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social costs of problem gambling, which can be expected to offset some proportion of the estimated benefit (chapters 9 and 10).

That aside, other aspects of the models also raise questions about the scale and nature of the impacts estimated.

- The NIEIR modelling generated significant net gains for Victoria because it assumed that the increased spending on gambling was all new spending. That is, other than some minor substitution between different forms of gambling, consumers did not reduce their spending on other goods to finance the increased spending on gambling. Increased spending was drawn from savings, and thus there was little offsetting contraction in other consumption industries. (The likely role of savings is discussed in the following section.)
- The CIE estimated the impact of an increase in the tax rate on gambling and the subsequent contraction in gambling activity. Importantly, as already noted, the CIE ran the general equilibrium model in short-run mode, which severely limits the extent to which resources leaving the gambling industries can find alternative uses in the economy. These unemployed resources thus show up as a significant loss to the economy. While the results tell us something about the short-term effect of a shock to the gambling industry and the economy, they tell us little about the contribution of an industry to the economy, which is more appropriately evaluated over the longer term when investment and other decisions can change in response.
- The ACIL and ECONTECH results presented above are run in a more traditional fashion and over the longer term. ACIL modelled the impact of a reduction in gambling taxes, while ECONTECH modelled the effect of industry re-regulation and an increase in gambling taxes. Both indicate that the gambling industries make a positive net contribution to the Australian economy. Both models assume that, over the longer term, real wages adjust to maintain the same level of employment in the economy.

That said, ACIL's results involved tax reductions for gambling that were not offset by increased tax revenue elsewhere in the economy, but were offset by increased productivity in the public sector. These results have not been presented in table 5.16, as they tell us more about the potential gains from increased efficiency in government than about the gains to the economy from the gambling industries.

While general equilibrium models can help us understand the likely effects of a change throughout the economy, they are necessarily simplifications of the real world, and the results are presented in quite an aggregated form. Significant changes can be occurring at lower levels, notwithstanding even a quite small net effect. Nonetheless, general equilibrium models do allow us to take into account alternative

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uses for the consumers' dollar and alternative uses for the employment and capital in an industry. Importantly, they allow us to avoid the misleading impression of large gains that are indicated by the often used (but inappropriate) input-output based multiplier analysis.

### *What is the role of savings?*

An issue that has arisen in the debate over the impact of the growth of gambling is whether the expansion of gambling expenditure has come from a decline in the rate of savings in Australia, or has come from consumers switching their expenditure from other forms of consumption. The issue is important because if expenditure in the new industry were to come from consumers running down their levels of savings — that is, they do not reduce their consumption of other goods — it is possible to have increases in the overall level of activity in the short-run.

The proposition that increases in consumer spending on gambling have been derived largely from savings, originated in a report by NIEIR and Spiller Gibbins Swan Pty Ltd (1997). This study concluded:

The decline in household savings between 1990 and 1996 funded increased outlays on gambling, retail and services in Australia and Victoria. (p. iii)

and:

The funding of increased gambling expenditure at the state level from savings is supported by empirical analysis at the state-wide level and some industry perceptions (p. v).

The conclusion of this study was used by the NIEIR in its modelling of the effect of gambling on employment in Victoria. It said:

... the fundamental position adopted is that up to 1995-96, at least new gaming expenditure largely represents new expenditures in the Victorian economy that would not otherwise have been made. This is in contrast to earlier methodologies applied by NIEIR in gambling studies which argued that expenditures of Victorian residents on new gambling activities would largely represent displacement of other forms of expenditures (NIEIR 1997a, p. 79).

The consequence of this assumption is that little displacement occurred and the model indicated that the expansion of gambling in Victoria increased employment by 34 700, and that this was sufficient to have reduced the Victorian unemployment rate by 1 percentage point in 1995-96 (p. i).

The extent to which the increased expenditure on gambling is drawn from reductions in savings is debatable. ACCESS Economics, in a submission for

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Tattersall's (sub. 156), reviewed trends in gambling expenditure and savings and concluded:

The overall conclusion from this material is that changes in gambling expenditure have been only one of a number of substantial changes in household expenditure over the last decade or so. There is no reason to single out changes in gambling as having in any way a "special" impact on savings (p. 15).

In addition, as much gambling expenditure is undertaken by people with low incomes and little discretionary savings, it is hard to see how the increase in gambling expenditure could be funded by a fall in savings.

The Commission's *National Gambling Survey* asked regular gamblers the following question: 'if you hadn't spent the money on gambling, could you please tell me in what other ways might you have used it?' The results, presented in chapter 6, indicated that only 15 per cent would have saved the money, while one third indicated that they would have spent it on other forms of entertainment.

Other studies have generated similar results (box 5.11).

Even without these reservations, any benefits to employment and output are short term. Savings are essentially deferred consumption. If savings are reduced to increase consumption in the present, consumption in the future must be lower. Drawing additional expenditure from savings does not, in the longer-term increase the level of activity in the economy, and to the extent that savings are essential for investment and growth, it is likely to generate a larger reduction in future consumption.

**Box 5.11 Alternative uses of gambling expenditures**

A number of surveys have asked gamblers about the alternative uses for gambling expenditure, either in terms of where the current spending has come from or what the money would be used for if gambling were not available. One survey of community gambling patterns and perceptions (Roy Morgan Research 1999, p. 65) said:

Respondents were also asked where the money they used to gamble with came from. Most (38%) said they used money from their wage/job or pension. While 32% of respondent used 'pocket money' to gamble with, 9% said they took money from their entertainment budget. Money for transport, food or other bills, from general savings or from a special gambling budget were each the source of gambling outlay for 2% of gamblers ...

Another survey, (Melbourne Institute et al. 1997), conducted as part of a report on the impact of gaming venues on inner city municipalities in Melbourne, asked gaming machine users what they would do with the money and time that they spend on gaming machine gambling if they could not use it on gaming machines.

(continued)



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**Box 5.11 continued**

The study commented (p. 65):

... 65.1 per cent of respondents indicated that they would not devote any of the money they devote to EGMs to savings. On the other hand 13 per cent indicated that they would devote all the money to savings. The remainder said that they would devote some of the money to savings. On average it emerges that respondents indicated that they would devote about 21 per cent of the money to savings.

The response for “other entertainment” were very similar, indicating that on average about 21 per cent of the funds would be devoted to “other entertainment”. A smaller proportion, about 15 per cent would be devoted to household necessities and much the same again to other personal items.

Other gambling would not increase much at all with nearly 90 per cent saying that they would not spend any of the money on other gambling and under one half of one per cent saying that they would spend it all on other gambling.

### *Spillovers*

A number of participants also referred to ‘spillover’ or multiplier effects from their activities. The Council of Community Clubs of Australia and New Zealand (sub. D266 p.3) said:

‘The Club Movement provides spin off benefits to other industries, particularly the tourism sector. The Club Movement supports campaigns that promote tourism activity nationally, statewide and in regions to the benefit of a wide range of non-contributing businesses.’

Others pointed to the purchase of a range of goods and services by their businesses and the employment and activity associated with their supply. These links are generally referred to as multipliers, and these multiplier ‘benefits’ — the activity and employment in supplier industries — are often added to the employment and activity in the particular industry in question.

But these multipliers just compound the fallacy that an industry’s net contribution to the economy is the amount of resources it uses. As consumer spending shifts to other areas, they too employ people and invest, and equally ‘generate’ employment and activity in supplier and associated industries. There is no reason to believe that these links or multipliers are any greater or smaller than those of the gambling industries. Multipliers are simply measures of the links that an industry has in the economy, not a measure of the net benefits that it generates (chapter 4).

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### *How important are tourists to gambling revenues?*

Gambling facilities, particularly casinos, are often established with the objective of gaining significant revenues from tourists, typically out-of-state visitors, but also overseas visitors. The South Australian Government (sub. D284, pp. 7-8) said:

However, although it [regional development] may be a zero sum game nationally, there may be some benefits from a regional perspective if South Australia can preserve a stake in the national tourism market.

The Australian Casino Association (sub. 124, p. 13) said that, in 1996-97, 13.6 per cent of casino visitors were from outside the local region, 0.4 per cent were international commission players, and a further 2.8 per cent were other international players. While international visitors are a very small percentage of the number of visitors, they represent a much more significant percentage of casino revenues. The ABS estimated that, in 1997-98, overseas visitors accounted for \$536.5 million (or 25 per cent) of casino revenue.

The deregulation of gambling has enabled Australia to offer new or better tourist packages for overseas visitors and, to the extent that this generates additional tourist spending, there are likely to be benefits for the economy as a whole. At the same time, the provision of gambling locally is likely to reduce the number of local residents travelling overseas to gamble, though the extent of this is unknown. Deregulation has an effect similar to the discovery of new mineral resources for the export market. While there will be some offsetting adjustments to other export activities to maintain Australia's overall balance of payments, there is nonetheless a net gain to the economy. However, the modelling conducted for the Commission, and by others in submissions to the inquiry, indicate that the net benefits are small.

#### **Box 5.12 Does the level of foreign equity matter?**

Tabcorp (sub. D232, pp. 6-7) referred to the low level of foreign equity in the Australian gambling industries, reporting that cinema distribution results in a much greater share of funds flowing offshore (23.8 per cent, presumably as a return on foreign equity) than the gambling industries (1.5 per cent). Given the high level of foreign investment in the Australian economy (and increasing investment by Australians overseas), it is inevitable that some industries will have a higher share of foreign equity than others. In much the same way Australians' overseas investments may be concentrated in particular industries. The fact that Australians have chosen to invest in the gambling industries rather than cinema distribution does not in any way mean that one industry in some way provides greater benefits for the Australian economy than the other. Were Australians to sell their shares in the gambling industries and purchase shares in cinema distribution, this would have no impact on the relative worth of the two industries to the Australian economy.

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## Summing up

The gambling industries generate a significant net benefit to consumers, even when discounted for the likely shortfall in value received by problem gamblers. This overall benefit is estimated at between \$4.4 and \$6.1 billion a year.

The gambling industries also account for substantial employment and value added in the economy. However, the net gain in employment and activity from the (policy-induced) expansion of the gambling industries are small at the aggregate level when account is taken of the impact on other industries that lose the consumers' dollar to gambling.

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## 6 What is problem gambling?

### Box 6.1 Key messages

- Problem gambling has many impacts — such as relationship breakdown, financial problems and crime.
- There are a number of frameworks for understanding problem gambling, but problem gamblers often share a common set of characteristics, such as ‘chasing’ losses, lying about their gambling and lack of control.
- Problem gambling is generally not regarded as a mental illness for the bulk of the people who are affected by it, but some will need clinical assistance to resolve their problems.
- It is not useful to look at problem gambling as a ‘rational’ addiction — the evidence does not support the view that problem gamblers’ decisions are well informed or always rational.
- It is difficult to measure problem gambling among populations, and no existing single test instrument is perfect. The Commission has used the South Oaks Gambling Screen, self-assessment questions and other indications of harm from gambling to try to estimate the prevalence of problems. This three-way approach is better than relying on a single measure.
- Problem gambling is *not* only about people with severe problems or those needing counselling help. It is very important to see problem gambling as a continuum — with some people having moderate problems and others more severe ones. Public policy is appropriately directed at those who need help to resolve their problems, those whose lives are adversely affected without needing clinical or counselling intervention, and those who are at risk of developing problems.
- The Commission estimates that about 130 000 people have severe problems with their gambling, or about 1 per cent of the adult population. But a further 163 000 people are estimated to have moderate problems, which while not requiring ‘treatment’, warrant policy concern. In sum, around 293 000 people or 2.1 per cent of adults, are estimated to be experiencing significant problems with their gambling. And still others are at risk.
- On the basis of self-assessment questions, the Commission estimates that 250 000 adults (or 1.8 per cent of the adult population) have experienced significant harms as a result of gambling in the past year.
- Gamblers were also asked to self-rate whether they experienced problems with their gambling. On this basis, about 6.3 per cent of adults experienced some problems with their gambling — though it should be stressed that these were mainly minor.
- The prevalence of problem gambling varies by the mode of gambling, with higher prevalence for regular players of gaming machines, racing and casino table games. For example, around one in five weekly gaming machine players have significant problems. The prevalence of problem gambling is much lower among lotteries.
- The average duration of gambling problems is around 9 years.
- Problem gambling varies by state, with New South Wales having the highest rate — probably reflecting the greater availability of gaming machines.
- There are few clear socio-demographic factors that pre-dispose people to a higher likelihood of developing problems, with the exception that younger people (aged 18 to 25 years) are disproportionately represented among problem gamblers.

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## 6.1 Introduction

While gambling is a pleasurable recreational pursuit for many, for a few it gives rise to problems. Those people spend increasing amounts of time and money on gambling, may lie about their gambling, find it difficult to control the impulse to gamble, and engage in socially destructive behaviour to continue to gamble (from relationship breakdown to crime).

This and the next two chapters examine aspects of problem gambling. In this chapter, we initially consider its definition and scope (section 6.2 and 6.3). The notion that problem gamblers are wholly rational — which has been proposed by some — is also examined. The Commission then considers some of the limitations in existing methods for trying to decide who is a problem gambler (section 6.4 to section 6.8). In particular, an obstacle to interpreting prevalence rates of problem gambling is that the level of gambling-related harms associated with scores on tests of problem gambling remains relatively unexplored. Section 6.6 therefore looks at these associations as a way of appraising the appropriate thresholds for measuring the prevalence of problem gambling.

Having developed an understanding about how to test for the presence of problem gambling, the Commission presents evidence on the prevalence of gambling problems (section 6.9). Section 6.10 then examines the socio-demographic characteristics of problem gamblers to help establish which groups are most vulnerable, while section 6.11 looks at the duration of gambling problems.

In the following chapter (chapter 7) the nature of impacts of problem gambling are discussed, including the extent to which these impacts reflect problem gambling, or pre-existing problems. Chapter 7 also examines empirical evidence on the financial impacts of problem gambling; the effects of problem gambling on the personal lives of problem gamblers, others and on Australian workplaces; and the issue of crime related to problem gambling.

Finally, chapter 8 examines evidence on the link between gambling accessibility and problem gambling — a link clearly relevant to government measures aimed at ameliorating problem gambling.

## 6.2 Defining problem gambling

There are a variety of definitions of problem gambling, from those that emphasise psychological features, such as loss of control, to those that list the variety of harms facing gamblers (box 6.2).

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## Box 6.2 Some definitions of problem gambling

The situation when a person's gambling activity gives rise to harm to the individual player and/or to his or her family, and may extend to the community (Market Solutions and Dickerson 1997, p. 2).

Problem gambling encompasses all of the patterns of gambling behaviour that compromise, disrupt or damage personal, family or vocational pursuits (National Council on Problem Gambling [US] 1997).

Preparedness to spend heavily, combined with frequent participation, implies that some gambling activities are strongly desired, and potentially habit forming. If the habit can become so strong that it leads to serious social consequences, then that is grounds for community concern about the regulation of gambling, and the measures in place to deal with its consequences (Tattersall's, sub. 156, p. 6).

Problem gambling may be characterised by a loss of control over gambling, especially over the scope and frequency of gambling, the level of wagering and the amount of leisure time devoted to gambling, and the negative consequences deriving from this loss of control (Select Committee on Gambling, ACT, 1999, p. 12 based on Hraba and Lee, 1996).

We use the term "normal" to define gambling behaviour over which the individual has control — that is, the person knows when to stop, having set pre-determined loss limits or having other work, family, or social commitments to attend to. On the other hand, we define "problem gambling" as gambling behaviour over which the person does NOT have control or which the person finds very hard to control and which contributes to personal, economic and social problems for the individual and family (Mental Health Association of Australia, sub. 51, p. 4).

Problem gambling is any pattern of gambling behaviour that negatively affects other important areas of an individual's life, such as relationships, finances or vocation. The mental disorder of "pathological" gambling lies at one end of a broad continuum of problem gambling behaviour (Volberg, Moore, Christiansen, Cummings and Banks 1998, p. 350).

...we will use 'pathological' and 'compulsive' gambling in an equivalent sense to describe gamblers who display clear signs of loss of control. 'Problem' gambling is used to refer to the wider group of people who show some but not all signs of developing that condition (Blaszczynski 1998b, p. 13).

Problem gambling is defined as a chronic failure to resist gambling impulses that results in disruption or damage to several areas of a person's social, vocational, familial or financial functioning.... Excessive gambling is used to describe a level of gambling expenditure that is considered to be higher than can be reasonably afforded relative to the individual's available disposable income and as a result produces financial strain (Blaszczynski, Walker, Sagris and Dickerson, 1997).

There is no concrete equation which formulates the sum of when gambling becomes a problem ... (Tasmanian Gambling Industry Group, sub. 120, p. 6).

Pathological gambling is a progressive disorder characterised by a continuous or periodic loss of control over gambling; a preoccupation with gambling and with obtaining money with which to gamble; irrational thinking; and a continuation of the behaviour despite adverse consequences (Richard Rosenthal quoted in Ferris 1995, p. 1).

There are a number of features widely recognised as characteristics of problem gambling, although not all of these aspects have to be present in a person who is

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regarded as being a problem gambler (for example, see Dickerson, Baxter et al. 1995, p. 97). The aspects include:

*Personal and psychological characteristics*, such as difficulties in controlling expenditure; anxiety, depression or guilt over gambling; thoughts of suicide or attempted suicide; use of gambling as an escape from boredom, stress or depression; thinking about gambling for much of the time; and giving up formerly important social or recreational activities in order to gamble. As one gambler put it to the Commission:

My feeling of head spinning and confusion stops me from resisting the clubs and pubs with those gaming machines which are located so conveniently close to my home and shopping stores. There is always a ghost pushing me to sit in front of those very attractive gaming machines and encouraging me to put all my money into the machine to see the magnificent magic it does to my money (telephone comments from a gambler to the Productivity Commission — translated from Mandarin).

*Gambling behaviours*, such as chasing losses, spending more time or money on gambling than intended and making repeated but failed attempts to stop gambling.

*Interpersonal problems*, such as gambling-related arguments with family members, friends and work colleagues; relationship breakdown, or lack of time with the family.

*Job and study problems*, such as poor work performance, lost time at work or studying, and resignation or sacking due to gambling.

*Financial effects*, such as large debts, unpaid borrowings, and financial hardship for the individual or family members (either in the present, in the case of high gambling commitments out of current earnings, or in the future, in the case of assets that are liquidated to finance gambling).

*Legal problems*, such as misappropriation of money, passing bad cheques, and criminal behaviour due to gambling. In severe cases, these may result in court cases and prison sentences.

The primary, though not only, source of the problem associated with problem gambling is the financial loss (and the context in which these have been made) — which then has a range of repercussions for the social and personal life of the gambler. This is unlike alcohol or tobacco, where the harms appear to stem mainly from the *quantity* consumed. This aspect of gambling has two ramifications:

First, affordability becomes very important. As Blaszczynski, Walker, Sagris and Dickerson (1997) note:

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Level of expenditure and time spent are in themselves inadequate criteria because they are relative to each person's available leisure time and disposable income, factors which are found to vary enormously across socioeconomic classes.

A high income gambler who loses \$10 000 a year out of an income of \$200 000 will probably not suffer significant adverse consequences, whereas the same expenditure out of an income of \$20 000 will probably entail highly problematic outcomes. This could be contrasted with alcohol, where high income is not an antidote to the ill-effects of high consumption.

Second, changes in the price of gambling (the odds) — whether brought about by altered tax arrangements or market developments — have their primary impact on problems through the change in expenditure they generate, not through the change in quantity consumed (cf alcohol or tobacco).<sup>1</sup> This is an issue taken up further in the taxation chapter (chapter 19).

### 6.3 A framework for assessing 'problem' and 'pathological' gambling

The *characteristics* of problem gambling — such as chasing losses, preoccupation, and conflict over gambling — are relatively easy to pinpoint and agreed on by many psychologists and psychiatrists. Different combinations of these characteristics form the basis for tests of whether a person is likely to be a problem gambler or not. However, the conceptual framework in which these problems are to be understood remains somewhat elusive. There remain disagreements over its causes, definition and framework. As noted by Star City Casino:

Analysis of the phenomenon is made more difficult by the various behavioural, psychological, medical and sociological explanations for it... Outside the pathological,

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<sup>1</sup> This has an implication for the way the effect of price changes are considered. In a product where there are some harms from consumption (like tobacco and alcohol), policymakers are interested in the price elasticity of demand — the extent to which a proportional increase in price affects the proportional level of demand:

$$\epsilon = \left| \frac{p \cdot \partial q}{q \cdot \partial p} \right|$$

For gambling, interest centres on expenditure, and policymakers are now interested in:

$$\mu = \left| \frac{p \cdot \partial(pq)}{pq \cdot \partial p} \right| = \epsilon - 1$$

So the responsiveness of gambling expenditure to price increases is much less than the responsiveness of the quantity of gambling (eg time spent playing). Clearly, if the demand for gambling is inelastic for a given problem gambler (ie  $\epsilon < 1$ ) then an increase in prices raises expenditure (and thereby probably harms).



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addictive behaviour the definition of what is a gambling problem is even more difficult. Every person would have their own opinion on what constituted a level of gambling that is a “problem” (sub. 33, p. 16).

### *What is the appropriate model?*

It is customary, for example in the United States, New Zealand and many other countries — as well as Gamblers Anonymous throughout the world — to see problem or ‘pathological’ gambling as a psychiatric disorder, in which problem gamblers are categorically distinct from other gamblers. In the United States, pathological gambling (the term given to what is seen as a psychiatric condition) is routinely tested using a series of questions from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, (DSM-IV) of the American Psychiatric Association. However, this ‘medicalised’ perspective of gambling has been questioned, particularly by Australian researchers<sup>2</sup> and also by those who prefer a broader epidemiological model that includes the impact of the environment in which gambling takes place (Politzer, Yesalis and Hudak 1992). For example:

I see pathological gambling as probably non-existent as a discrete entity. Evidence ... suggests that people who gamble may at times exceed certain arbitrarily defined limits... They may reflect little excesses, large excesses, episodic behaviour, frequent behaviour, accepted behaviour in a sub-culture, not accepted behaviour in a family culture (Allcock 1995, p. 114).

The concerns over the medicalised model arise because:

- the pattern of behaviours exhibited by problem gamblers do not consistently fit with typical conceptions of a genuine mental illness and ‘pathological’ gamblers do not appear to suffer a set of clearly defined mental symptoms which suggest a distinctive mental illness;
- the mental disease model tends to see problem gambling as a progressive disorder which can only be stemmed through lifetime abstinence, rather than as a continuum of problems of varying severity and duration;
- it tends to ignore the ways in which the social environment in which gambling takes place (including its promotion, education of users and machine design) affects prevalence rates and harm. A medicalised model tends to concentrate on ill people, rather than social processes which lead to harm;
- gambling has much greater social acceptability in Australia than in the United States or a number of other countries, and a wider spectrum of gambling behaviours are regarded as perfectly normal. It is argued that the use of

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<sup>2</sup> For example, Walker (1995); Allcock (1995); Dickerson, McMillen, Hallebone, Volberg and Woolley (1997); and Dickerson (1997).

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judgements about problematic behaviour based on another country's norms runs the risks of mislabelling some people as ill when they are not; and

- a concern that some of the nomenclature customarily used to describe the problem — such as the term 'pathological' gambler — may be perceived as pejorative and work against resolution of the problem (for example, Elliot Stanford and Associates 1998, p. 10).

However, some have noted that the avoidance of the psychiatric nomenclature in Australia may reflect a concern to downplay the significance of harmful impacts generated by gambling. The Commonwealth Department of Health and Aged Care noted:

Some researchers, however, consider that the process of re-definition can create a benign image for a potentially addictive activity while ensuring that responsibility for gambling-related problems is seen to rest with the individual rather than the gambling industry (sub. 163, p. 8).

Problem gambling sounds less severe than pathological gambling. More recent Australian nomenclature, which is couched in terms of departures from 'responsible' gambling, further weakens the perceived severity of these gambling behaviours, and thereby the motivation to intervene.

As well, there is a concern that if problem gambling is defined too imprecisely then it may lead to poorer outcomes for the people who are most affected. Walker (1998b, pp. 47-8) notes:

Interestingly, government policies in Australia and New Zealand differ in their stances towards gambling problems and their genesis. Excessive gambling in New Zealand is regarded as pathological, whereas in Australia a more pragmatic stance is taken. In Australia, whether or not excessive gambling is an illness is regarded as essentially irrelevant. Rather, excessive gambling causes problems for some people and it is those problems which must be addressed... In developing a coherent policy on the treatment of problem gamblers, this pragmatic stance constitutes a stumbling block.

Walker's concern is that because problem gambling is not seen as an illness, help services have mainly been oriented towards general counselling services, rather than the sort of therapies customarily used by psychiatrists or clinical psychologists in treating control disorders. Ralph Gerdelan, representative on the New Zealand Committee on Problem Gambling Management, echoed this viewpoint:

During 1997 the Compulsive Gambling Society, when it was running this service, ran an incidents book where there were some 411 suicide attempts out of a population of 1200 pathological gamblers engaged in treatment over the period of that calendar year. That's a very significant ratio... For that reason we see this disorder as fitting within mental health services where trained and registered clinicians working to best practice diagnostic standards are predominantly involved (transcript, p. 458).

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As well, some expressed concern that because ‘compulsive’ gambling is not recognised as a psychiatric condition, certain legal recourses are not available for affected family members:

A gambler may present three or four criteria for scheduling under the Mental Health Act, ie, be jeopardising their financial security, damaging their reputation and destroying their family relationships. In compulsive gamblers, it is obviously gambling which is jeopardising their financial security. However, under the NSW Mental Health Act, gambling is not recognised as a psychiatric condition, so therefore it is not possible to force a compulsive gambler to have a psychiatric assessment... This failure to deal with gambling as a possible psychiatric condition means that if compulsive gambling is an extension of some other underlying disorder such as manic depression or chronic depression, this disorder goes untreated because it is not possible to have a psychiatric assessment (sub. C16, p. 1).

However, most Australian research and policymaking concerning gambling has avoided the psychiatric nomenclature and framework for problem gambling, in favour of *wider*, but less precise, definitions of harm (such as that of MS-D 1997 in box 6.2). The problems are typically couched in terms of harms experienced or perceived by the gambler or ‘significant others’ (people close to the gambler). The virtue of this approach is that it admits aspects of problem gambling that are ignored by the previous framework — such as problems that arise within certain ethnic or cultural groups over gambling, systematic misperceptions consumers may have over gambling, and risks posed by the venue in which gambling takes place (for example, alcohol and gambling) — without straightjacketing the concept into a single category of medical illness. This has implications for social policy, for example, by placing an emphasis on considering issues of informed consent, venue and gambling design, education and community awareness and other harm minimisation strategies.

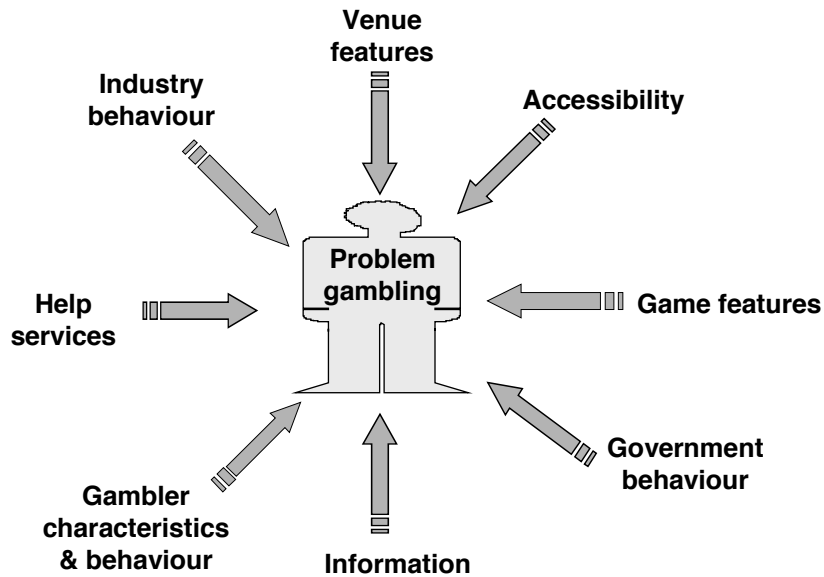
The two divergent frameworks can be somewhat reconciled if it is accepted that problem gamblers are a heterogeneous group (Blaszczynski 1996; Dickerson 1995, p. 100; O’Connor in sub. 105) and that the problems emanate from a multiplicity of environmental, social and psychological facets (figure 6.1). O’Connor, noted that:

The genesis of problem gambling is multi-factorial ... Many excessive gamblers have a monetary motive (with faulty beliefs as to the likelihood of winning and/or pressing debts), and some are seeking relief from boredom. Yet others seem to use gambling as a means of escape from low mood, stress and anxiety, sometimes associated with intolerable life circumstances (sub. 105, p. 2).

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Figure 6.1 **An epidemiological framework for problem gambling**

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Thus, in some cases, the problems may stem from behaviours conditioned by the nature of the rewards offered by gambling. In others, problems may stem from a false understanding of gambling (the cognitive model). In others, the problems occur because of boredom, social isolation, depression or cultural factors. And if the reasons for problem gambling vary, so do the impacts, from relationship breakdown to financial and legal problems to depression and suicide. Given that problem gambling is multi-dimensional in this sense, it would seem appropriate to consider *some* problems as inherently medical (requiring treatment by associated experts). Equally, however, other problems may require different models of help and resolution. This is taken up in greater detail in chapter 16.

*Is problem gambling a 'rational' addiction?*

The bulk of the literature concerned with problem gambling takes a sociological, psychological or a psychiatric approach to problem gambling. Whatever their disagreements, these approaches are based on observations on the experiences of large groups of problem gamblers, and see problem gambling behaviour as clearly adverse for the individual affected.

However, a submission by ACIL (sub. 155, pp. 91–6), on behalf of some major gambling providers, argues that these conceptual frameworks are faulty and rely on the questionable assumption of consumer irrationality. Instead, ACIL proposed that gambling addiction could be persuasively seen as forward-looking rational

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behaviour<sup>3</sup> — the so-called ‘rational’ addiction model. The rational addiction approach provides an internally consistent approach to ‘addiction’ that does not require unstable preferences. The assumption that agents are generally rational and systematic in their patterns of behaviour is a generally attractive feature of models of human behaviour — and a strength of the rational addiction approach.

The rational addiction model is an economic theory, based on the idea that ‘forward looking’ compulsive gamblers (or indeed ‘addicts’ of heroin or alcohol) weigh up the pleasure of their consumption of gambling (now and in the future) against its costs. In this model, they are habituated to gambling, not because of irrationality, but because what they have consumed in the past increases the pleasure of current consumption. The model does not ignore the harms that are posed by the addiction. It posits that rational addicts weigh these harms against both the forgone pleasure of current and future consumption, and the trauma of cutting down or ceasing consumption.

However, unlike alternative frameworks for addictive behaviour, the model assumes that people act rationally at all points, so that their decisions always reflect their preferences. This has the implication that problem gamblers are better off with their addiction than without it:

Some critics claim that the model ... is unsatisfactory because it implies that addicts are “happy”, whereas real-life addicts are often discontented and depressed... Although, our model does assume that addicts are rational and maximise utility, they would not be happy if their addiction results from anxiety-raising events, such as a death or divorce, that lower their utility. Therefore our model recognises that people often become addicted because they are unhappy. *However, they would be even more unhappy if they were prevented from consuming the addictive goods* (our italics) (Becker and Murphy 1988, p. 691).

Indeed, under this model, the concept of a genuinely *problem* gambler (alcoholic or drug abuser) virtually vanishes altogether, because any problems faced by the gambler must, by definition, be outweighed by some offsetting personal benefits to explain the decisions that are observed. The model has major implications for the enumeration of the costs and benefits of gambling; namely:

- that none of the personal costs of gambling should be counted in cost-benefit analysis (which the Commission does in chapter 9); and
- that it would not be correct to discount the consumer surplus of problem gamblers in any way (as done in chapter 5).

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<sup>3</sup> However, the ACIL submission also describes problem gamblers as a ‘small number of people with deep seated personality disorders’ (p. 71), with the seeming implication that they are not perfectly rational. In any case, there is little evidence that problem gamblers could be generally characterised as having personality disorders.

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However, the theory has a number of limitations, and it has not entered mainstream thought about addictions:

- The literature on rational addiction is relatively sparse. No empirical test appears to have been conducted applying the model to gambling in the economics literature.<sup>4</sup> The tests that have been conducted — predominantly of tobacco and alcohol — do not adequately distinguish the rational addiction hypothesis from other possible explanations for the phenomena observed. They also suffer from other methodological limitations (Ferguson 1996).
- It is not clear why a person would choose to pre-commit to zero consumption (for example, via self-exclusions) if, at all times, consumption reflects personal preferences. Pre-commitment implies that a person wishes to bind future consumption because they are concerned about what their future selves may do (O'Donoghue and Rabin 1999).
- The model does not fit with the lived experiences of people with gambling problems, or the persistent misconceptions they have about winning (which are the object of cognitive therapies).
- It also ignores the substantial literature on impaired control that seems to be a consistent feature of many people with severe gambling problems (Baron, Dickerson and Blaszczynski 1995).<sup>5</sup>

It should be emphasised that if problem gamblers are not rational addicts, this does not imply that there is no rationality in their decision making. The alternative to 'rational addiction' is not 'insanity' as ACIL implies (sub. 155, p. 96). People may be boundedly rational when making consumer choices, and may suffer from misperceptions and periodic impaired control. They may, nevertheless, still exercise some controls over their gambling. For example, they may commence gambling close to the last race, take a certain amount of money to a venue and avoid going alone when gambling. The fact that problem gamblers remain rational about some of their gambling decisions and that problems emerge as a result of periodic and partial lack of control offers some hope for harm minimisation measures (as noted in chapter 16). It may be that one of the contributions of the rational addiction literature is to give greater weight to the ability to provide useful information and reasoning tools to people when they are making decisions about their gambling — but without taking this to the extreme level posited in the formal model.

While the Commission does not consider the rational addiction model an appropriate framework for analysis of problem gambling, it is important to note that

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<sup>4</sup> Using the EconLit database of economic literature.

<sup>5</sup> While some aspects of what appears to be impaired control may not be inconsistent with rational addiction models (eg impulsivity could reflect high discount rates) others appear to be.

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*even* if it were viewed as a credible model, it has far fewer implications for policy than read into it by ACIL. They posited the rational addiction approach as a justification for a minimalist government role in regulating gambling:

... since compulsions of various kinds are readily explainable as behaviour within rational bounds, we believe governments are not entitled to treat compulsive gamblers as insane people whose habits warrant paternalistic intervention to force them to desist (sub. 155, p. 96).

However, it is not certain that this conclusion follows from the model, once information imperfections and externalities are considered. The rational addiction model does not necessarily rule out government action:

- While people are forward looking, they do not have perfect information about the risks of problem gambling or the harms that it can involve.<sup>6</sup> There may be public good grounds for providing information about the risks — and indeed Becker and Murphy (1988, p.687) point out the efficacy of government provided information in stemming tobacco use in the United States.
- The model does not preclude government involvement in trying to research better ways of helping people who develop gambling problems or (on equity grounds) providing general assistance to problem gamblers and their families.
- Since significant costs associated with problem gamblers fall on others as externalities — such as family members or crime victims — this still justifies potential government actions to prevent problem gambling.

The most important policy-relevant conclusion from the rational addiction model is that prices can, counterintuitively, have substantial long-run effects on the level of addictive demand (Becker and Murphy 1998, p. 695):

Permanent changes in prices of addictive goods may have a modest short-run effect on the consumption of addictive goods. This could be the source of the general perception that addicts do not respond much to changes in price. However, we show that in the long-run, demand for addictive goods tend to be more elastic than the demand for non-addictive goods.

Once it is accepted that there are externalities from problem gambling, the rational addiction model would appear to justify high taxes on gambling as a measure to control problem gambling — although empirical models to confirm whether price elasticities conform with the pattern predicted by the model have not been estimated.

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<sup>6</sup> A point that Orphanides and Zervos (1995) develop.

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*What evidence can be used to illuminate problem gambling?*

ACIL (sub. 155, p. 71) argued that ‘casual empiricism and folklore dominate most commentaries on problem gambling’ which raises the question of what sort of evidence should be adduced when looking at a phenomenon like problem gambling. The Commission does not consider that any one type of evidence is sufficient, and has considered a multiplicity of sources:

- the opinions of experts on gambling — such as sociologists, psychologists and psychiatrists;
- studies of people who have sought help for their gambling problems (and of associated significant others);
- surveys of special groups — such as prison populations;
- surveys of the general population;
- statistical techniques, which match data on problem gambling prevalence with social impacts — such as suicide and bankruptcy; and
- the personal anecdotes of problem gamblers and of counsellors and others who deal with problem gambling.

The use of personal anecdotes requires some comment, because they are sometimes rejected as sources of evidence.<sup>7</sup> In the Commission’s view, while they cannot be used to *measure* impacts, such anecdotes can cumulatively provide scientifically useful information about problem gambling. They better illuminate how problem gamblers see their world and what sort of problems are posed by their behaviours. It is easy to understand the distress caused by a broken leg, because we can quickly identify with the nature of the problem. With psycho-social problems like problem gambling, we need to understand the dimensions (or the categories) of harm and the control mechanisms used by problem players — and anecdotes can help do this. Anecdotes also have the virtue that they provide evidence about the plausibility of some explanations for problem gambling, such as ‘rational’ addiction, which seem inconsistent with the lived experiences of those affected.

As well as reviewing the available Australian research, the Commission has also examined relevant overseas research, mainly in the United States, Canada and New Zealand. Overseas research is examined because:

- where Australian research results are not extensive (for example, adolescent gambling, expenditure shares of problem gambling, co-morbidities), it is common for Australian commentators to use overseas research as a guide to

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<sup>7</sup> For example, O’Neill, acting as a consultant for ACIL, considered that the anecdotes were ‘not scientific’ (ACIL, sub. D233, p. 91).



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social impacts in Australia. In some cases this strategy may be appropriate, but in other instances, differences in gambling availability, demographics and social norms may render it inappropriate. By looking at comparisons of social impacts where both Australian and overseas data are available, it is possible to get an understanding of how valid it will be to use overseas data for circumstances where Australian data are thin;

- it provides scope for corroboration of Australian results. For example, if an Australian measure of a social impact of problem gambling is very different to that found overseas, and no obvious cultural, demographic or other factor seems to explain the difference, then it might suggest survey bias;
- it provides scope for better understanding the processes that underlie problem gambling. From an epidemiological perspective, it is desirable to have a variety of environments in which to measure risks. This is particularly important when looking at the question of the link between accessibility and problem gambling; and
- it may provide a guide to methodologies and data collection which should be undertaken in Australia.

In addition to already published research and existing databases (both in Australia and overseas), the Commission conducted three surveys to look more closely at problem gambling: the *National Gambling Survey*, the *Survey of Clients of Counselling Agencies* and the *Survey of Counselling Services*. Of these, we use the first two intensively in this chapter (box 6.3, appendix F and G).

## 6.4 How can problem gambling be tested?

In order to try to estimate how many Australians have gambling problems, a test is required. A range of tests are used by researchers to try to measure whether a person is a problem gambler, of which the two most common are:

- the South Oaks Gambling Screen (SOGS). This test — which has produced many minor variants — was developed by Lesieur and Blume (1987). The test poses questions about a gambler's behaviour, such as whether they 'chase' losses, have problems controlling their gambling, gamble more than intended, feel guilty about gambling and believe that they have a problem (box 6.4). Its prime focus is on the financial aspects of gambling; and

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**Box 6.3      The Commission's national and problem gambling client surveys**

**The National Gambling Survey**

This survey was the first fully national survey into gambling behaviour and problem gambling prevalence to be carried out in Australia (appendix F). The survey was also the largest prevalence survey conducted in Australia and one of the largest carried out anywhere. It was implemented as a telephone survey of the general adult population (18 years or older). The sample of about 10 600 telephone interviews was stratified by area, age and gender. The sample was distributed across state/territory and metropolitan/country regions roughly in proportion to population, using the latest available Australian Bureau of Statistics (ABS) census data. However, coverage in the smaller states/territories was boosted to allow comparisons across jurisdictions to be made with reasonable statistical precision.

A sampling strategy was developed as a two stage approach. In *Stage 1*, a brief questionnaire (or 'screener') was completed by 10,600 adults, for the purpose of identifying whether a respondent was a non-gambler, a regular (weekly) gambler or a non-regular gambler. In *Stage 2*, a more detailed questionnaire was completed by respondents on the basis of a selective interviewing strategy: *all* respondents classified as regular gamblers were interviewed; 1 in 2 respondents classified as non gamblers were interviewed; and 1 in 4 respondents classified as non-regular gamblers were interviewed. Survey protocols were put in place to maximise the contact rate and to minimise non-response (refusals). The response rate achieved was equal to or better than previous Australian surveys and very similar to the recent survey undertaken in the United States for the National Impact Gambling Study Commission.

The questionnaire was vetted by leading Australian researchers in the gambling field.

**The Survey of Clients of Counselling Agencies**

This survey was implemented as a structured face-to-face survey (appendix G), with counsellors from counselling agencies acting as paid interviewers, using detailed instructions and random selection of candidate clients. It asked questions about expenditure, the nature of gambling, and comprehensive questions about the impacts of gambling (including some positive effects). It also included a standard set of socio-demographic questions.

The survey was implemented throughout Australia, and the results presented here are based on 404 returns, though in some cases, some respondents did not answer some questions. A non-response survey was also implemented for those clients who refused to participate at all, so as to confirm whether the sample of respondents who replied were statistically different from those who refused.

The survey went through a process of professional appraisal by Australian experts in the gambling field, and also obtained approval from the Ethics Committee of the Commonwealth Department of Health and Aged Care (since it amounted to human subject research).

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#### Box 6.4     **The South Oaks Gambling Screen: the lifetime version**

1. When you gamble, how often do you go back another day to win back money you lost? (never; some of the time [less than half the time] I lost; most of the time I lost; every time I lost)
  2. Have you ever claimed to be winning money gambling but weren't really? In fact you lost? (never or never gamble; yes, less than half the time I lost; yes, most of the time)
  3. Do you feel you have ever had a problem with gambling? (no; yes, in the past, but not now; yes)
  4. Did you ever gamble more than you intended to? (yes, no)
  5. Have people criticised your gambling? (yes, no)
  6. Have you ever felt guilty about the way you gamble or what happens when you gamble? (yes, no)
  7. Have you ever felt like you would like to stop gambling, but didn't think you could? (yes, no)
  8. Have you ever hidden betting slips, lottery tickets, gambling money, or other signs of gambling from your spouse, children or other important people in your life? (yes, no)
  - 9a. Have you ever argued with people you live with over how you handle money? (yes, no)
  - 9b. If you answered yes to the previous question: Have money arguments ever centred on your gambling? (yes, no)
  10. Have you ever borrowed from someone and not paid them back as a result of your gambling? (yes, no)
  11. Have you ever lost time from work (or school) due to gambling? (yes, no)
- If you borrowed money to gamble or pay gambling debts, who or where did you borrow from? (check 'yes' or 'no' for each).
12. From household money? (yes, no)
  13. From your spouse? (yes, no)
  14. From other relatives or in-laws? (yes, no)
  15. From banks, loan companies, or credit unions? (yes, no)
  16. From credit cards (yes, no)
  17. From loan sharks? (yes, no)
  18. You cashed in stocks, bonds or other securities? (yes, no)
  19. You sold personal or family property? (yes, no)
  20. You borrowed on your checking account (passed bad checks)? (yes, no)

Scores are as follows. On question 1, score 1 if most of the time or every time I lost. On question 2, score 1 if less than half the time I lost or yes, most of the time. On question 3, score 1 if yes, in the past, but not now or yes. Ignore question 9a. On all remaining questions score 1 if a yes. A score of 5 or more suggests a person is 'probable pathological gambler' using the US nomenclature, and a problem gambler in Australia.

*Source:* Lesieur and Blume (1987, p. 1188).

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- the DSM-IV. This shares many features of the SOGS, but has a greater emphasis on psychological aspects of problems, such as preoccupation, development of tolerance, irritability, and gambling as an escape (box 6.5).<sup>8</sup>

A variant of the SOGS (that asks about current rather than lifetime problems) has been applied in all past Australian problem gambling prevalence studies. The SOGS (or close derivatives) has been the most widely used test around the world. For example, it has recently been used by the New Zealand official statistics agency to investigate the prevalence of gambling problems there. It was also employed in the recent Swedish national prevalence study, and will be used in a UK prevalence study also being undertaken in 1999. Of recent national prevalence studies, only the national US study did not employ a variant of the SOGS.

However, just because the Commission used a variant of the SOGS does not mean that it considers that the test is without faults or that it is not worth devising and testing new instruments. Other tests have been, or are being, developed — an issue to which we return in section 6.8.

The SOGS is used to identify a more narrow range of problems than is encapsulated by the broad definition of harm that is now often used by Australian policymakers. This suggests that the SOGS will tend to miss some of the broader set of gambling problems that interest Australian researchers. The Australian approach has been a pragmatic hybrid between one based on accepting that the community and personal dimensions of problem gambling are broader than a clinical problem, and using a US ‘clinical test’ approach to measure some aspects of the problem.

The Commission used a variant of the SOGS in which people were asked about behaviours over the last 12 months associated with gambling. This is different to the original SOGS which asks about behaviours associated with gambling *ever* experienced by the respondent.<sup>9</sup> The screen was used by the Commission in its *National Gambling Survey* and the *Survey of Clients of Counselling Agencies* so as to produce prevalence estimates of problem gambling which could be compared with others (although the Commission also used a number of other approaches to assess some of the prevalence of, and harms associated with, gambling).

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<sup>8</sup> Questions 1,2,3,4 and 5 on the DSM-IV have no counterpart in the SOGS, while item 3 matches SOGS question 7, item 6 matches SOGS question 1, item 7 matches SOGS question 8, item 8 matches SOGS questions 10 and 20, item 9 has weak associations with SOGS questions 5, 9b and 11, and item 10 has associations with SOGS questions 12,13,14,15,16 and 17. SOGS questions 3,4,6,18 and 19 have no counterparts in the DSM-IV.

<sup>9</sup> It is also different to the SOGS-R which asks the SOGS questions on both a lifetime and a current period basis.

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The original SOGS was validated by Lesieur and Blume in a clinical setting using a known group of client gamblers who satisfied the DSM-III criteria for ‘pathological gambler’. In the United States, a SOGS score of 3 or 4 is taken to indicate a ‘problem’ gambler; and a score of 5 or more a ‘probable pathological’ gambler (although these thresholds are hotly contested in Australia, as is the validity of using the test at all by some). In its development phase, the SOGS has been subjected to a range of validity and reliability testing — involving some 1616 subjects (Lesieur 1994). However, the original SOGS has been changed in many ways — from slight wording changes, to revisions for adolescent use, to changes in the period under investigation — and these versions have not been subjected to extensive validity tests.

There are a range of issues about how to interpret the results from any test of problem gambling. These seemingly esoteric academic issues are in fact crucial to policy analysis, since very different social impacts from gambling may be discerned depending on how the tests are interpreted. We turn to these issues next.

## **6.5 Problem gambling lies on a continuum**

Ultimately, precise tests of problem gambling are impossible, because, as noted by Shaffer et al. (1997, p. ii-iii), the phenomenon itself lies on a continuum of differing degrees of severity (figure 6.2) from no problems (level 1 gambling) to severe problems (level 3 gambling). Therefore, constructing a threshold depends on *judgements about what levels of severity are policy relevant*. For example, some gamblers report that they gamble to make up for past losses — ‘chasing losses’. Given the odds, this is a self-defeating strategy, which in itself points to a consumer awareness problem of some sorts and which conceptually can be counted as part of the costs of gambling.

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### Box 6.5 The DSM-IV

**A.** Persistent and maladaptive gambling behaviour is indicated by *five (or more)* of the following:

1. is preoccupied with gambling (eg preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble),
2. needs to gamble with increasing amounts of money in order to achieve the desired excitement;
3. has repeated unsuccessful efforts to control, cut back, or stop gambling;
4. is restless or irritable when attempting to cut down or stop gambling;
5. gambles as a way of escaping from problems or relieving a dysphoric mood (eg feelings of helplessness, guilt, anxiety, depression);
6. after losing money gambling, often returns another day to get even (“chasing one’s losses);
7. lies to family members, therapists or others to conceal the extent of involvement with gambling;
8. has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling;
9. has jeopardised or lost a significant relationship, job or educational career opportunity because of gambling;
10. relies on others to provide money to relieve a desperate financial situation caused by gambling.

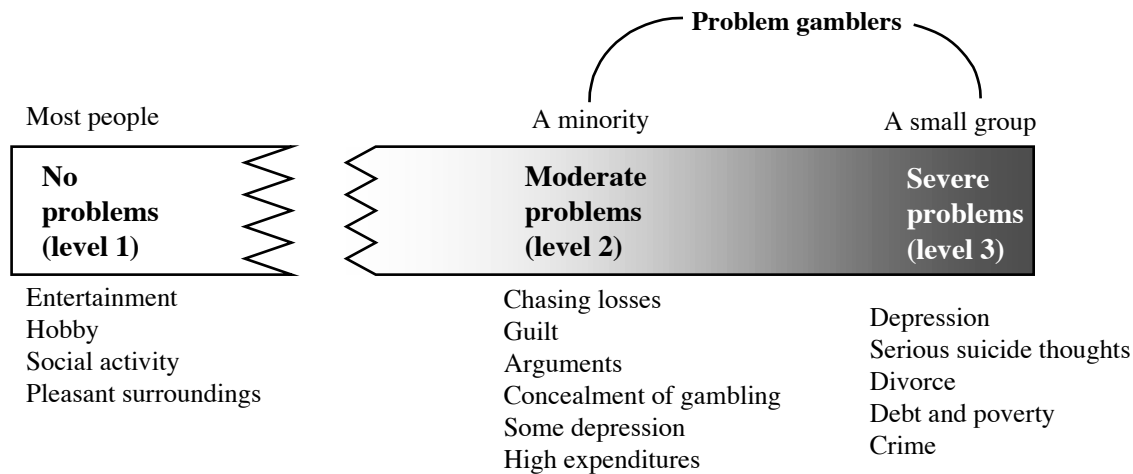
**B.** The gambling behaviour is not better accounted for by a manic episode.

The DSM-IV is a set of clinical criteria. On some occasions it has been implemented as a prevalence test. For example, the National Gambling Impact Study Commission used the criteria in a set of questions — the NORC DSM-IV Screen. The screen was implemented for people who has lost more than \$100 in a one day or across a year. A person getting a score of 1-2 is termed ‘at risk, a person scoring 3-4 is termed a problem gambler, while a person scoring 5 or more is termed a ‘pathological’ gambler.

*Source:* Dickerson et al. (1997, p. 14), National Gambling Impact Study Commission Report (1999, p. 4-6).

The difficulty of identifying the ‘right’ threshold for problem gambling stems from the fact that ‘cases’ are not clearly defined where the severity of the problems varies along a continuum. In some areas of public health it is easy to define a case. For example, someone either has HIV or they do not. But with problem gambling (and a range of other possible areas, such as obesity and diabetes) it is not clear where along the continuum people can be said categorically to have a ‘problem’. If the threshold for defining problems is set low then obviously a lot of people are said to be ‘problem’ gamblers, in the same sense that there will be a lot more ‘obese’ people if obesity is defined as being 10 per cent overweight rather than 20 per cent overweight.

Figure 6.2 The gambling continuum



How cutoffs for the SOGS (or for that matter a test of any problem which lies along a continuum) should be selected, depends on the purpose of the test. There are many possible purposes of tests, but we consider four in particular.

#### *A test for determining who needs help*

In some instances the purpose of the test is to calculate (from an epidemiological study of a national population) the number of cases of people who have problems relating to their gambling that require *intervention by help services* (level 3 problem gamblers). This number will be used to help estimate the resources needed to deal with the problem. Typically, in this instance a high threshold will be selected.

The method for rigorously determining this threshold is to examine how the harms associated with problem gambling vary as the test score rises. This is how thresholds are selected for other public health tests — such as diabetes and obesity.<sup>10</sup> At some point, public health officials decide that the risks of costly morbidities (or mortality) justify the identification of a group of people who need active help. While single thresholds may be chosen as rules of thumb (such as the notion of a score of 30+ on the Body Mass Indicator for obesity), it is often recognised that different thresholds are required for different groups of people (for example, males versus females).

The important point is that determining the threshold for direct intervention should be based on evidence, rather than arbitrarily selected.

<sup>10</sup> See for example, the evidence-based approach for diagnosis and treatment of obesity ([http://www.nhlbi.nih.gov/nhlbi/cardio/obes/prof/guidelns/ob\\_home.htm](http://www.nhlbi.nih.gov/nhlbi/cardio/obes/prof/guidelns/ob_home.htm)).

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### *A test of public health risks in the general population*

In other instances the purpose of tests, like the SOGS, is to identify the number of people with public health or other risks which are significantly higher than the average — clearly a larger group than the one identified above (level 2 problem gamblers in figure 6.2).

Dickerson et al. (1996a) have usefully developed the notion of the ‘at risk’ gambler.<sup>11</sup> People identified in this at-risk group may experience harms from gambling, but not at levels which justify specific individual interventions. However, such groups may have large policy significance — being the target for public health campaigns, information provision and preventative strategies (either intended to cut the number of people in this at-risk group or to prevent the likelihood of people moving to the group which do need individual interventions).<sup>12</sup> If tests reveal large numbers of people in this group, governments may consider regulations or other policy instruments to deal with the problems.

### *A screening test in clinical and counselling settings*

A test may be used as a screen to discriminate between people in a particular group who do not need ‘treatment’ and those who probably do. Screens are always intended to over-diagnose a problem, because it is recognised that the costs of under-diagnosis are often severe (for example, missing a genuine case of breast cancer because of poor screening is likely to be more costly than initial over counting of possible cases). Thus the thresholds set for screens are usually too low to be useful for epidemiological assessments of prevalence — and may generate excessively high prevalence rates.<sup>13</sup>

The SOGS had its origin as a screening tool — and this is one reason that some researchers have been concerned that it over-estimates the prevalence of problem gambling. In fact, there are some offsetting factors (see below) that suggest that the SOGS may still be useful for counting the number of people affected by gambling problems in the general population.

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<sup>11</sup> Again an analogy is the concept of being overweight or obesity.

<sup>12</sup> In the same way that government strategies aimed at limiting the excessive use of alcohol — especially when driving a car or using machinery — are not targeted at alcoholics, but at people whose consumption of alcohol is excessive for the context in which they find themselves.

<sup>13</sup> As noted by Culleton (1989), Abbott and Volberg (1992, p 83), and Dickerson (1993, 1997), what may be a useful and efficient screen in a group where problem gamblers form a sizeable group will perform less efficiently where problem gamblers comprise only a small group — the ‘base’ problem.



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### *A test to estimate costs*

A test may be used to help estimate the costs of a potential public health problem. Once a problem lies on a continuum, the costs need to be assessed by looking at the magnitude of problems for *all* people who are adversely affected by gambling, not just those people whose risks identify them as a ‘case’ under definitions of level 2 or 3 gambling above (box 6.6).

When a test like the SOGS can have at least four different purposes, it is possible to have a confused debate about where thresholds should be set. Someone trying to identify the resources needed to provide help services will use a higher SOGS score than someone trying to identify the number of at-risk cases for public health reasons. Someone trying to identify the costs of gambling will look at harms that span all SOGS scores. *Unless each researcher clearly indicates the purpose for which the SOGS (or any other test of problem gambling) is being used, then they may appear to be at loggerheads when they are not.*

Unfortunately, many of those who use the SOGS do not state the purpose for which they are using the test.<sup>14</sup> A claim that it is being used to identify the prevalence of problem gambling in the general population is not a clear-enough statement of purpose unless the term ‘problem gambler’ is unambiguous, which it is not. Moreover, unlike diabetes or weight problems, where substantial evidence about the costs associated with differing diagnostic test scores have been used to calibrate the tests, the level of harms associated with gambling have not been used to set threshold levels.

It should be emphasised that a test of problem gambling does not *itself* have to measure the harms associated with gambling (though the SOGS does in fact do this partially), nor does it need to establish a causal process for harms (for example, by trying to find a set of psychological processes underlying problematic behaviours). It only has to suffice as a predictive tool, where scores are sufficiently correlated with harms that it is useful. This in turn implies that the fact that SOGS only incompletely documents the harms from problem gambling is not necessarily a limitation of the test, rather that more information is needed to interpret any score on the test. An analogy is the ‘pinch test’ for body fat. It says nothing about the causes underlying the accumulation of fat, nor anything about the harms caused by being overweight. It just establishes a yardstick for measuring fat.

Before estimating the prevalence rates of problem gambling in section 6.9, we look at how the adverse impacts of gambling vary with differing SOGS scores. That

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<sup>14</sup> Dickerson and Baron (1994) represents one attempt to differentiate the various purposes of such tests and to discuss criteria for setting thresholds.

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information is used by the Commission to assess the now commonly employed 5+ and 10+ thresholds, as well as a range of possible alternatives.

**Box 6.6 Tests designed to measure social/economic costs: an illustration**

Suppose that out of a population of 1 million there was:

- a 'need treatment' (level 3) group of 0.5 per cent (ie 5000) and that 40 per cent of these engaged in a crime relating to gambling every year;
- an 'at risk' group (level 2) of 1.5 per cent (ie 15 000) and that 5 per cent of these engaged in a crime relating to gambling each year; and
- a residual 'least harm' group (level 1) — comprising 98% of the population (980 000) — and that 0.25 per cent of these engaged in a crime related to gambling.

The number of crimes committed because of gambling is therefore the sum of the three — 2000 plus 750 plus 2 450.

For convenience of exposition, suppose that the cost of each crime was identically \$2000. In this illustrative case the total cost of problems associated with gambling-related crime in this population is \$10.4 million. Of this cost, 38 per cent is accounted for the 'need treatment' group, 14 per cent by the 'at risk' group and a very large 47 per cent by the residual 'least harm' group. Whether, in fact, the 'least harm' group accounts for such a significant share of the economic costs of problem gambling is examined in chapter 9 — but the point is that conceptually it is important to look at the costs of harms across all groups of people, not just those which are determined as 'cases' for other public health policy purposes.

## **6.6 Getting the thresholds right to identify problem gamblers**

### **Defining the problem**

Few tests are perfect. A major problem in many tests is that they fail to classify people correctly:

- If a test score falsely indicates that someone is a problem gambler this is known as a 'false positive'.
- Conversely, if a test score falsely indicates a problem gambler as a non-problem gambler then this is known as a 'false negative'.

False positives are decreased for any given test by raising the threshold required to score positive, whereas false negatives are reduced by lowering the threshold.

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A central concern in Australian studies has been that many people with SOGS scores of between 5 and 10 may, in fact, be highly motivated regular gamblers who face little real risks from their gambling (Dickerson et al. 1996a, p. 61) and would, therefore, scarcely require individual intervention to help them. Most Australian surveys have tried to reduce the false positive problem by raising the threshold of the test score or by reducing the timeframe relevant for the test. This has led to the routine adoption of two variations in the implementation of the SOGS:

- the use of a higher cutoff SOGS score (10 or more) to indicate problem gambling.<sup>15</sup> In contrast, researchers in New Zealand, who have undertaken large scale multi-stage studies of problem gambling, advocate using the SOGS with a score of 5 or more as indicative of a problem, as do most other countries; and
- asking people to make judgements about their gambling over the last 6 or 12 months rather than over a lifetime. This revision to the SOGS recognises that someone who once had a problem may not have one currently<sup>16</sup> — and is now in routine use around the world (Delfabbro 1998, p. 122).

The Commission examined the extent to which different definitions of problem gambling were prone to false positives and negatives using a variety of methods. A threshold on the SOGS is too low if there is a low prevalence rate of harmful impacts in the identified group of ‘problem’ gamblers and a high prevalence of beneficial impacts. In contrast, a threshold on the SOGS is too high if the identified group of problem gamblers account for a small share of people experiencing adverse impacts.

### **How big are false positives and negatives for SOGS 10+ and SOGS 5+ measures?**

The Commission’s *National Gambling Survey* not only used SOGS questions (in a 12 month timeframe) but, as in some past Australian studies, it also included:

- a scale on the SOGS questions about the frequency of any behaviour;
- questions about the possible harmful effects of gambling (such as relationship breakdown and illegal acts) on both a lifetime and a last year basis;

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<sup>15</sup> Most of the Australian studies have judged the 10 or more SOGS measure as the most reliable and appropriate measure of problem gambling prevalence — a judgement which had its genesis in the excessively high apparent prevalence rate suggested by using the traditional SOGS 5+ rating in the first major Australian prevalence study (where the apparent rate of problem gambling — at 6.6 per cent — lacked credibility). However, none of the subsequent surveys have revealed problem gambling rates at anything like that suggested by the first survey.

<sup>16</sup> This is also consistent with the largely behaviourist view of problem gambling adopted in Australia and in contrast with the view that it is a progressive disease (Ferris 1995, p. 1).

- self-perception questions about the extent of any problem; and
- questions about the need for and attempts to obtain help for gambling problems.

This information allowed the Commission to assess whether differing scores on the SOGS were highly associated with self-perceptions of harms associated with gambling — providing the ability to examine what SOGS thresholds might be useful in our analysis. There seems little doubt that the group identified by a SOGS score of 10 or more represent people with severe problems (tables 6.1 and 6.2):

**Table 6.1 Responses to separate SOGS items**  
For definitions of problem gambler and harm incidence<sup>a</sup>

<i>SOGS item — what gamblers said</i>	<i>All gamblers</i>	<i>SOGS 0-2</i>	<i>SOGS 3-4</i>	<i>SOGS 5-9</i>	<i>SOGS 5+</i>	<i>SOGS 10+</i>	<i>In couns- -elling</i>	<i>HARM</i>
	%	%	%	%	%	%	%	%
Chasing losses often or always	3.5	1.0	3.6	20.0	27.5	66.7	64.2	27.3
Claimed to be winning when lost	10.0	4.0	21.6	47.4	52.7	80.6	58.1	32.7
Problem with gambling	8.9	2.5	12.0	63.6	67.6	88.7	96.5	62.6
Gambled more than intended	35.1	20.7	92.6	98.3	98.5	100.0	99.5	83.4
People criticised gambling	10.8	2.5	31.4	63.3	64.5	70.8	84.9	49.6
Felt guilty about what happens when gambling	19.2	5.8	64.3	87.7	89.7	100.0	99.0	88.8
Like to stop but can't	9.4	1.0	24.9	65.1	70.3	97.0	97.0	64.7
Hidden signs of gambling	5.8	0.6	17.5	33.2	39.7	73.9	76.5	37.6
Money arguments over gambling	7.7	2.2	22.8	35.4	46.2	96.7	73.6	50.4
Borrowed without paying back	2.6	0.8	3.9	14.1	18.7	42.9	53.3	13.2
Lost time from work or study	2.8	1.2	2.4	13.2	18.9	50.3	49.7	14.9
Borrowed from household money	5.8	0.6	18.0	32.5	41.0	87.0	85.7	34.5
Borrowed from partner	5.8	2.1	11.3	29.2	34.9	64.2	57.7	26.2
Borrowed from other relatives	2.2	0.4	3.4	13.1	18.7	47.8	53.6	12.6
Obtained cash advances using your credit card	4.9	1.1	10.7	28.8	34.6	64.5	63.6	29.3
Borrowed from banks etc	1.0	0.0	0.2	6.1	11.7	40.9	42.2	12.6
Borrowed from loan sharks	0.5	0.0	0.0	3.7	5.8	16.7	8.4	4.9
Cashed in shares	0.6	0.0	0.4	6.9	6.3	3.2	16.9	7.2
Sold property	1.0	0.0	0.9	5.2	11.0	40.8	36.7	10.3
Passed a bad cheque	0.4	0.0	0.4	2.2	4.1	14.2	21.2	2.9

<sup>a</sup> The in-counselling group are people who sought counselling from specialist problem gambling counselling agencies (based on the *PC Survey of Clients of Counselling Agencies*). The HARM group are people who said they had experienced at least one clearly problematic behaviour in the last 12 months (box 6.7). The data here and for other SOGS items are different from the Commission's draft report due to a coding error and some minor amendments to the weighting procedure.

Source: *PC National Gambling Survey* and *PC Survey of Clients of Counselling Agencies*.

- All of them feel guilty about their gambling.
- Most lie about or conceal their gambling.

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- The overwhelming majority have felt they would like to stop gambling, but did not think they could.
  - Nearly all (88 per cent) perceive themselves as having a gambling problem.
  - A significant number suffer serious personal consequences, with the bulk suffering severe financial difficulties, over 80 per cent depressed as a result of their gambling, and more than one in five seriously contemplating suicide.
  - Around 70 per cent are chasing losses often or always.

The SOGS 10+ group have a very similar pattern of SOGS responses to those gamblers who seek help from specialist problem gambling agencies — evidence that the SOGS 10+ threshold provides a measure of people suffering severe problems requiring assistance.<sup>17</sup> They also have similar responses for clearly adverse harms (table 6.2) except that the group seeking help have a higher prevalence of job loss, suicide ideation and crime. The false positive rate among SOGS 10+ is probably very small.

The SOGS 5+ group has a lower prevalence of self-assessed harmful impacts than the SOGS 10+ group, but nearly all of such gamblers suggest that they spend more than they intended, around 90 per cent say they feel guilty about their gambling, about 70 per cent feel they have a problem and *70 per cent indicate that they have control problems*. But there is evidence of false positives among the SOGS 5+ group:

- there is a sub-group that report that they derive considerable pleasure from gambling (table 6.3).<sup>18</sup> However, they account for only 5.7 per cent of the SOGS 5+ group, and so make a negligible difference to any calculated prevalence rate;
- regular gamblers were asked whether they had a problem and to rate that problem from 1 (not a problem) to 10 (a severe problem). Around 15 per cent of people in the SOGS 5+ group denied having any problem (table 6.4),<sup>19</sup> whereas all people in the SOGS 10+ group said that they had a problem.

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<sup>17</sup> A statistical test (a chi-square test) was used to see if the overall set of answers provided by the counselling group and the SOGS 10+ group could be regarded as being drawn from the same population. The result was a chi square of 25.9 with 20 degrees of freedom. The null hypothesis that they are drawn from the same population could not be rejected at the 5 per cent level. At the level of individual answers, however, there was a statistically significant difference between acceptance of a problem by those in the counselling group and the SOGS 10+ population group. However, there was also an indication that money arguments over gambling were *more* frequent among the SOGS 10+ population group than the counselling group.

<sup>18</sup> Examination of this sub-group suggests that they experience relatively few harms from gambling, scoring negative on almost all items in table 6.2.

<sup>19</sup> Although some of these may be concealing a problem (see table 6.9 for evidence of denial among problem gamblers).

**Table 6.2 Significant adverse impacts experienced<sup>a</sup>**  
By definition of problem gambling

Impact	<i>All gamblers</i>		<i>SOGS5+</i>		<i>SOGS 10+</i>		<i>HARM</i>		<i>In coun- selling</i>
	Ever	Last year	Ever	Last year	Ever	Last year	Ever	Last year	Ever
	%	%	%	%	%	%	%	%	%
Suffered from depression	8.2	5.8	58.7	53.2	82.3	82.3	59.6	52.9	95.7
Job adversely affected	4.7	2.7	31.6	25.7	51.6	48.3	30.6	28.0	55.1
Changed job due to gambling	0.8	0.2	6.0	1.9	15.2	12.0	4.6	2.2	18.3
Lost job	0.3	0.0	0.5	0.0	0.0	0.0	0.6	0.0	18.6
Bankruptcy	0.1	0.1	1.4	1.0	8.8	6.1	1.6	1.1	8.4
Obtaining money illegally	1.1	0.1	7.1	1.2	13.2	3.7	8.0	1.3	42.3
In trouble with police	0.7	0.2	4.1	2.1	13.8	7.6	4.7	2.4	18.3
In court on charges	0.4	0.0	3.1	0.2	13.4	1.4	3.6	0.3	15.8
Seriously thought about suicide	1.0	0.4	9.3	4.5	27.4	19.6	10.5	5.1	57.8
Spending more than could afford often or always	..	3.0	..	30.2	..	68.9	..	31.4	..
Led to relationship breakup	1.7	1.1	11.4	4.7	31.6	15.8	23.0	15.4	
Led to split-up of partners <sup>b</sup>	1.1	..	9.2	..	31.6	..	16.3	..	26.0
Not enough time to look after family's interests	2.1	1.3	19.7	13.7	51.3	48.6	17.5	13.7	..

<sup>a</sup> The SOGS 5+ and 10+ results are from the *National Gambling Survey*, as are the results for the HARM group (box 6.7). SOGS 5+ includes all people who score 5 or more (including those who score 10 or more). The counselling group results relate to people seeking help from specialist problem gambling agencies. <sup>b</sup> The question posed was whether a relationship breakdown had led to divorce or separation. In this context, the term separation refers both to the technical state of separation through divorce proceedings, but also to the physical parting of a couple, even if not married.

Source: PC *National Gambling Survey* and PC *Survey of Clients of Counselling Agencies*.

**Table 6.3 Do problem gamblers enjoy gambling?**

	<i>Made life a lot more enjoyable</i>	<i>Made life a little more enjoyable</i>	<i>Made no difference</i>	<i>Made life a little less enjoyable</i>	<i>Made life a lot less enjoyable</i>	<i>Can't say</i>
	%	%	%	%	%	%
SOGS 5+ <sup>a</sup>	5.7	24.1	20.1	15.9	34.2	0.1
NON-SOGS 5+	3.6	23.7	68.9	2.2	1.1	0.6
SOGS 10+	5.8	3.0	13.1	17.2	60.6	0.3
NON-SOGS 10+	3.6	23.8	67.8	2.5	1.7	0.6
HARM	3.1	18.3	24.8	15.8	38.0	0.1
NON-HARM	8.8	34.8	51.8	2.8	1.6	0.4
All gamblers	3.6	23.7	67.6	2.5	2.0	0.6

<sup>a</sup> SOGS 5+ includes all people who score 5 or more (including those who score 10 or more).

Source: PC *National Gambling Survey*.

**Table 6.4 Self rating of degree of severity by SOGS score**

<i>Rating of degree of problem</i>	<i>SOGS 3-4</i>	<i>SOGS 5-9</i>	<i>SOGS 5+</i>	<i>SOGS 10+</i>
	%	%	%	
1 (no problem)	48.3	14.9	12.5	0.0
2 to 3 (minor problems)	35.2	27.7	23.8	3.7
4 to 6 (moderate problems)	16.5	36.4	33.2	16.2
7 to 10 (most severe problems)	0.0	19.0	24.7	54.8
All	100.0	100.0	100.0	100.0

Source: PC National Gambling Survey.

Another way of looking at the degree to which these varying measures of problem gambling genuinely pick up the harms associated with gambling is to compare them with the group of people who say they have been harmed in some specific ways by their gambling.

The Commission blended questions on harmful impacts into an indicator of harmful gambling (box 6.7) — the approach being similar to that used by the Nova Scotia study of problem gambling (Focal Research, 1998). The measure omits most items counted in the SOGS — such as borrowing from friends, being criticised by others, and chasing losses — because while these may indicate problematic behaviour, they need not result in harm to the gambler.

It should be emphasised that this derived measure of harm is indicative only. It was intended to be a relatively stringent test of harm, so that people experiencing less pronounced harms will not necessarily score positively on these criteria. In that sense, a zero score on the HARM criteria should not be regarded as evidence that a person is suffering no harm from their gambling. For example, were someone to often have money arguments about gambling, often feel guilty, often lose time from work they would score zero on the HARM scale.

While the items on the HARM scale have good face validity and the correlation with SOGS suggests concurrent validity, the survey did not include any validity checks to assess whether people saying they were experiencing harms from gambling really did so, or that those denying them had no problems. Independent interviewing of respondents and corroboration by significant others would be needed to check the sensitivity and specificity of these HARM criteria as a proper test.<sup>20</sup> However, the Commission primarily sees the HARM scale as an *indicator* of harms, rather than as a prevalence testing instrument of the same ilk as the SOGS or the Fisher DSM-IV. However, it may be useful to incorporate items, such as those

<sup>20</sup> A point made by Mark Dickerson, one of the Australian gambling experts who helped advise the Commission.

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used in the HARM indicator, in future tests of the impact and prevalence of gambling problems (section 6.8), and subject these to full validity testing.

**Box 6.7 Elements of harmful gambling – the HARM indicator**

A person has experienced harm from gambling if they meet *any* of the following conditions for the last year. They:

1. found that gambling has made life a lot less enjoyable and they *always* feel they cannot control gambling, although they want to;
2. *always* have money arguments about gambling;
3. *always* borrow to gamble while not paying borrowings back;
4. *always* lose time from work or study due to gambling;
5. *always* feel guilty about gambling;
6. borrow from loan sharks to gamble *sometimes* to *always*;
7. fraudulently write cheques to gamble *sometimes* to *always*;
8. believe they have a current problem *and* they rate their problem from 5 or more on a 10 point Likert scale;
9. *always* spend more than they can afford;
10. have *often* or *always* suffered from depression due to gambling;
11. have *often* or *always* experienced adverse effects on their job due to gambling;
12. have changed jobs in the last year due to gambling;
13. have been sacked in the last year due to gambling;
14. have *often* or *always* not had enough time to look after their family's interests due to gambling;
15. have become bankrupt due to gambling;
16. have experienced a relationship breakdown due to gambling;
17. have obtained money illegally to gamble;
18. have been in trouble with police over gambling;
19. have appeared in court on a gambling-related matter;
20. have seriously thought about suicide because of gambling;
21. have wanted help for gambling problems; or
22. have tried to get help for gambling problems in the last year.

A person who records a single answer to any of the above is deemed to have experienced harmful impacts from gambling, simply because each individual impact is serious. The *PC National Gambling Survey* suggested that around 1.8 per cent of the adult population score one or more using the above measures (which is somewhat less than the number of people who are measured as problem gamblers using the SOGS 5+ cutoff). About 54 per cent of this HARM group score 2 or more.

Source: *PC National Gambling Survey*.



People who were categorised as experiencing harmful impacts (using the HARM indicator) scored on the SOGS test in almost an identical way to that of people categorised as problem gamblers using the SOGS 5+ threshold (table 6.1). This provides one basis for seeing SOGS 5+ as a reasonable measure of problem gambling.

On the other hand, it is certainly not the case that the people identified by the two measures are always the same (table 6.5). The harm indicator, and SOGS 5+ and 10+ are separate, but overlapping concepts.

There are estimated to be 293 000 problem gamblers in Australia using the SOGS 5+ threshold, but only 172 000 (or about 60 per cent of them) score 1 or more on the HARM scale. This reflects the relatively stringent nature of the HARM scale, and should not be taken to imply that these people are not suffering any harms from their gambling. In comparison, of the 47 000 problem gamblers based on the SOGS 10+ score, nearly 45 000, or about 96 per cent, report a HARM impact.

There are 83 000 people who report at least one HARM impact who do not score 5 or more on the SOGS and 209 000 people who report at least one HARM impact who do not score 10 or more on the SOGS.

**Table 6.5 Problem gambling and HARM**

	<i>People</i>			<i>% of adults</i>		
	Not SOGS 5+	SOGS 5+	Total	Not SOGS 5+	SOGS 5+	Total
No HARM	13 750 271	121 224	13 871 495	97.34	0.86	98.20
HARM	83 265	171 513	254 778	0.59	1.21	1.80
Total	13 833 536	292 737	14 126 273	97.93	2.07	100.00
	Not SOGS 10+	SOGS 10+	Total	Not SOGS 10+	SOGS 10+	Total
No HARM	13 869 558	1 937	13 871 495	98.18	0.01	98.20
HARM	209 922	44 856	254 778	1.49	0.32	1.80
Total	14 079 480	46 793	14 126 273	99.67	0.33	100.00

*Source: PC National Gambling Survey.*

It is apparent that the SOGS 10+ group fails to identify the bulk of people who are experiencing significant problems with their gambling, whereas this false negative problem is much less apparent for the SOGS 5+ group. To the extent that the HARM group adequately represents people experiencing significant problems, the prevalence rate given by the SOGS 5+ measure is out by about 15 per cent (because false positives are partly offset by false negatives). In contrast, the SOGS 10+ prevalence measure is less than one fifth of the rate suggested by the HARM measure.

The SOGS 10+ measure picks up many of the extreme outcomes from gambling, such as bankruptcy and being in court on charges connected to gambling problems (table 6.6).

**Table 6.6 Are problems exclusive to problem gamblers?<sup>a</sup>**

<i>SOGS item</i>	<i>SOGS 5+</i>	<i>SOGS 10+</i>	<i>Reported harmful impacts from gambling</i>	<i>SOGS 5+</i>	<i>SOGS 10+</i>
SOGS 1	64.7	25.1	Suffered from depression	74.9	18.7
SOGS 2	43.5	10.7	Job adversely affected	79.0	24.0
SOGS 3	62.8	13.3	Changed job due to gambling	100.0	100.0
SOGS 4	23.0	3.7	Bankruptcy	100.0	100.0
SOGS 5	48.9	8.6	Obtaining money illegally	100.0	50.9
SOGS 6	38.2	6.9	In trouble with police	100.0	56.6
SOGS 7	61.2	13.7	In court on charges	100.0	100.0
SOGS 8	56.9	16.9	Seriously thought about suicide	100.0	71.0
SOGS 9	46.0	17.0	Spending more than could afford <sup>b</sup>	92.2	34.0
SOGS 10	59.0	21.6	Led to relationship breakup	35.2	18.9
SOGS 11	56.1	23.0			
SOGS 12	57.6	19.2			
SOGS 13	48.6	14.5			
SOGS 14	68.7	28.3			
SOGS 15	57.8	17.4			
SOGS 16	97.7	54.9			
SOGS 17	100.0	46.2			
SOGS 18	92.3	7.6			
SOGS 19	89.9	54.3			
SOGS 20	88.1	49.1			

<sup>a</sup> The 2nd and 3rd columns are the percentage of SOGS 5+ and 10+ gamblers respectively, who scored positively on *given* SOGS items. The 5th and 6th columns are the percentage of SOGS 5+ and 10+ gamblers respectively, who reported suffering the listed harmful impacts from gambling.

<sup>b</sup> Often or always.

Source: PC National Gambling Survey.

However, the SOGS 10+ measure excludes 81.3 per cent of gambling related depression (ie 100 – 18.7), 49.1 per cent of cases of obtaining money illegally, and 81.1 per cent of gambling related relationship breakdown. In contrast, the SOGS 5+ measure tends to capture most of these adverse outcomes.<sup>21</sup>

Nor is it the case that the SOGS 10+ category neatly equates with the ‘need help’ group identified in section 6.4. Not all people who seek help from specialist

<sup>21</sup> Marshall, Balfour and Kenner (sub. 116) have found similar results for an institutional population. They explored the prevalence of gambling related crime among 101 non-Aboriginal inmates of the Yatala Labour Prison in South Australia in 1997. They found that no cases of such crime were recorded for inmates scoring less than 5 on the SOGS, but that using a threshold of 10+ was overly conservative, and failed to account for a significant amount of gambling related crime amongst inmates.

counselling agencies have SOGS 10+ scores (table 6.7) — with around one quarter to one fifth having SOGS scores between 5 and 9.<sup>22</sup>

**Table 6.7 SOGS scores among gamblers in counselling**

	Scoring below 10	10+
	%	%
Dickerson et al. 1996a <sup>a</sup>	22	78
<i>PC Survey of Clients of Counselling Agencies</i> <sup>b</sup>	23.4	76.6

<sup>a</sup> Based on results from 82 clients attending a specialist clinic (at the Department of Psychiatry, UNSW, directed by Associate Professor Alex Blaszczynski) diagnosed as pathological gamblers according to the DSM-IV.

<sup>b</sup> Based on 402 problem gambling clients of specialist problem gambling counselling services around Australia. 2.5 per cent of clients had a score of 4 or less, and 20.9 per cent between 5 and 9.

Clearly some people needed assistance despite their below 10 score. Others in the general population with scores of less than 10 may not have sought help from specialist gambling counselling agencies, but might have obtained it elsewhere or needed it (we would obviously not get to observe this group as part of a ‘treatment’ group).

The *National Gambling Survey* provided some evidence of this. Though most (63 per cent) people who scored 10 or more on the SOGS wanted help, these represented a modest share (27 per cent) of the overall group of people who wanted help (table 6.8). Similar results were apparent for gamblers who tried to get help for their problems.<sup>23</sup> The results suggest that there is a significant group of people with SOGS scores below 10 (but not below 5) who want and obtain help of some kind.

On the other hand, the *National Gambling Survey* suggested that a third of people with SOGS scores of 10 or more did not want help (and a further 4 per cent did not

<sup>22</sup> A similar exercise was conducted using the DSM-IV criteria on 1102 and 1429 Victorian BreakEven clients respectively in 1995-96 and 1996-97. It was found that 18.6 and 27.4 per cent respectively of these ‘treatment’ groups scored on 4 or less items (Jackson, Thomason, Thomas, Crisp, Smith, Holt, Ho and Borrell 1997, p. 30). This is below the threshold of 5 or more required for a diagnosis of ‘pathological’ gambling (Dickerson, McMillen, Hallebone, Volberg and Woolley 1997, p. 13). In the analysis of SOGS scores of 737 clients who sought help for gambling problems in New Zealand, 1.1 per cent scored below 5, 5.2 per cent scored 5, 27.1 per cent scored 6 to 10 and 66.6% scored 11 plus (Committee on Problem Gambling Management New Zealand 1997, p. 13). Dickerson, Baxter et al. (1995, p. 100) found that 23 per cent of those who sought help from BreakEven services in Queensland fell below the ‘pathological’ gambling threshold of the DSM III-R criteria (the precursor to the DSM-IV).

<sup>23</sup> Noting that many people with problems obtained help from informal sources or from non-specialist agencies, so that these instances would not be captured by statistics collected from specialist gambling counselling agencies.

know). However, while they may not have declared that they wanted help, this does not mean that they are necessarily false positives. All of these gamblers acknowledged that they had a problem (and 99.3 per cent of them rated their problem as more than 5 on a Likert scale of severity from 1 to 10).

Overall, the evidence suggests that the SOGS 10+ threshold will tend to underestimate the prevalence of severe problem gambling (level 3 gambling).

**Table 6.8 Gamblers who wanted and obtained help**

<i>SOGS category</i>	<i>Share which wanted help</i>	<i>Share of people who wanted help accounted for by this category</i>	<i>Share which tried to get help</i>	<i>Share of people who tried to get help accounted for by this category</i>
	(%)	(%)	(%)	(%)
SOGS 0-2	0.1	2.6	0	0
SOGS 3-4	0	0	0	0
SOGS 5-9	32.3	70.9	12.2	66.4
SOGS 10+	62.7 <sup>a</sup>	26.5	32.1	33.6

<sup>a</sup> However, note that a further 4 percentage points of this group did not know if they needed help.

Source: PC National Gambling Survey.

### **Adapting the SOGS to estimate the numbers of severe (level 3) problem gamblers**

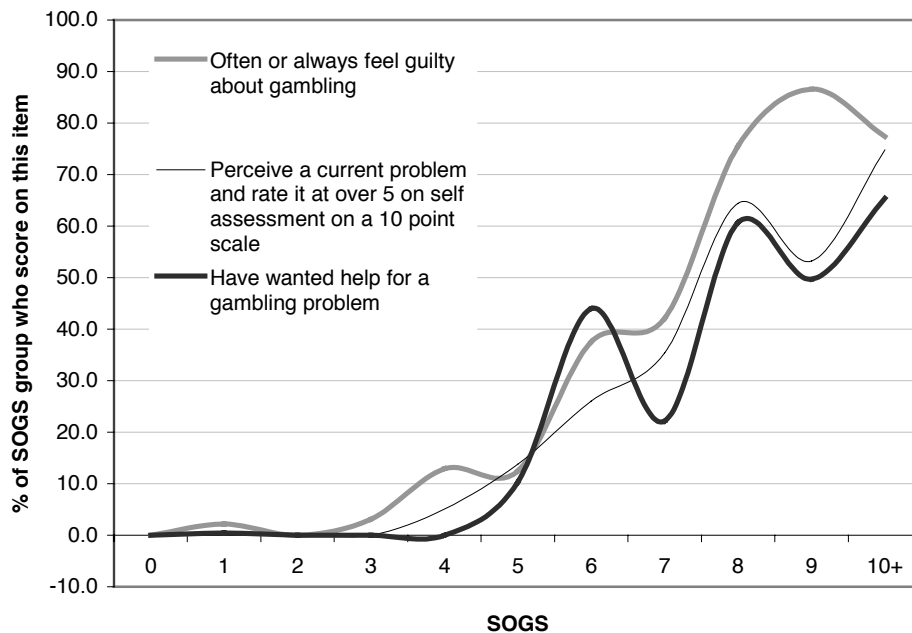
Dickerson et al. (1996a, p. 52) and Dickerson et al. (1997, p. 39) suggested that the prevalence of people with severe gambling problems (the level 3 group) be estimated by giving different weights for people with different SOGS scores:

- 20 per cent of those with scores of 5 to 6 are rated as having severe problems;
- 50 per cent of those with scores of 7 to 9; and
- 100 per cent of those with scores of 10 or more.

The Commission examined how harms vary as the SOGS score rises, and found evidence that the above approach would reasonably ameliorate the high false negative problem associated with the SOGS 10+ cutoff (figure 6.3).

The Commission has, therefore, used Dickerson’s weighting scheme above to produce one estimate of the prevalence of severe (or level 3) gambling problems. However, in doing so, we emphasise that the way in which population surveys are conducted is likely to somewhat underestimate people with severe gambling problems — an issue to which we turn next.

Figure 6.3 How some key problems vary over SOGS scores<sup>a</sup>



<sup>a</sup> Each of the SOGS categories represents those people who scored a particular level of the SOGS. Accordingly, SOGS 3 are those who scored exactly 3 on the SOGS. The data have been smoothed.

Data source: PC National Gambling Survey.

### Do population surveys miss out the most severe cases?

Population surveys of problem gambling will tend to underestimate the number of people with extreme problems requiring counselling help:<sup>24</sup>

- It can be surmised that people who are heavy gamblers — a group which will over-represent problem players — are less likely to be at home to get into the sampled group in the first place.
- Where the survey is telephone-based, as was that used by the Commission (like most other similar surveys), financially affected gamblers may have had the phone cut off, again excluding them from the survey. Telephone-based surveys have other advantages and disadvantages, which are discussed in appendix F.
- Others, such as the homeless or institutionalised (eg jail inmates) may also have a greater likelihood of being problem gamblers, but are outside the sample frame.

<sup>24</sup> Dickerson, Baron, Hong and Cottrell (1996), Volberg (1996a), Lesieur (1994 — cited in Delfabbro 1998, pp. 182–3).

- It also appears likely that someone with a severe gambling problem may be more inclined to refuse to participate in any survey. Around a quarter of problem gamblers receiving help from specialist agencies said that they would not have participated in such a survey prior to seeking help (table 6.9).
- People in certain cultural groups may be more uncomfortable about openly divulging personal issues, like problem gambling;
- Finally, and most particularly, people may provide dishonest or distorted answers to questions, especially if they feel that they are engaging in stigmatised behaviour. The Commission has been told by problem gamblers that, prior to seeking help from a counsellor, they would not have honestly disclosed their problem. Of those problem gamblers who would participate in a survey prior to seeking help, only 38 per cent believed they would answer honestly. Some 45 per cent said that they would hide their problem to some degree, and 17 per cent did not know what they would have done (table 6.9). Only 0.3 per cent said they would have exaggerated their problems. Yet the original validation exercise for the SOGS did not take into account the likely strategic behaviour by problem gamblers when answering questionnaires of this type (because it took a group of self-confessed problem gamblers in a clinical setting, rather than problem gamblers outside this setting).

Given these findings, it is possible that many people who actually experience severe problems with gambling may fail to disclose this in surveys intended to measure prevalence rates. As noted by the Australian Institute for Gambling Research:

... given the inherent limitations of survey design, I agree with the Commission that these results [the prevalence estimates for problem gambling] are likely to be underestimates (AIGR sub. D216, p. 8).

The Commission estimates suggest that if the true prevalence rate of people with severe problems was around 0.7 per cent, it is easily possible that surveys would suggest a prevalence rate of such severe problems at around 0.3 per cent.<sup>25</sup> The

<sup>25</sup> The *measured* prevalence rate (p) from a survey is equal to:

$$p = \frac{(1 - \alpha_1)(1 - \alpha_2)(1 - \alpha_3)\alpha_4\gamma}{(1 - \alpha_1)(1 - \alpha_2)(1 - \alpha_3)\alpha_4\gamma + (1 - \beta_1)(1 - \beta_2)(1 - \beta_3)(1 - \gamma)}$$

where  $\alpha_1$ ,  $\alpha_2$  and  $\alpha_3$  is the survey response rate by severe problem gamblers, the share of problem gamblers with no phone at home and the share of problem gamblers who are not at home when the telephone survey is conducted.  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  are the associated parameters for people who are not severe problem gamblers.  $\alpha_4$  is the share of severe problem gambling survey respondents who honestly reveal their problems.  $\gamma$  is the true population problem gambling rate. For  $\alpha_1=0.25$ ,  $\alpha_2 =0.05$ ,  $\alpha_3=0.15$ ,  $\beta_1=0.25$ ,  $\beta_2 =0.025$ ,  $\beta_3=0.10$ ,  $\gamma=0.007$  and  $\alpha_4=0.46$  (the latter assuming that half the people who don't know what they would have said in table 6.9 actually honestly reveal

implication is that the Commission's *National Gambling Survey* could have seriously understated the prevalence of the most severe (SOGS 10+) cases.

**Table 6.9 Do genuine problem gamblers reveal they have a problem?<sup>a</sup>**

<i>Answer</i>	<i>Share of respondents who said that they would have ...</i>
	(%)
Answered honestly	28.9
Refused to answer the survey	23.7
Somewhat concealed any problems	13.7
Mostly concealed any problems	9.7
Completely concealed any problems	9.2
Exaggerated any problems	0.2
Told them you did not know	1.7
Don't know what they would have said then	12.7
Total	100

<sup>a</sup> Based on responses of 401 clients of counselling agencies. The survey asked problem gamblers seeking help from specialist gambling agencies whether they would have participated in a survey prior to seeking help, and whether they would have revealed the true nature of their problems.

*Source: PC Survey of Clients of Counselling Agencies.*

Some counselling groups suggested that the Commission's prevalence figures could have understated the prevalence of problem gambling by up to a threefold factor (sub. D252, p. 1), although the Commission considers that to be highly unlikely.

Others were more concerned that the Commission had underestimated the level of problems by marginalising the modest problems that recreational gamblers may experience:

[The report] discusses at length the difficulties in determining threshold test scores for identifying problem gamblers, but does not question the idea that there is a threshold below which gambling is not problematic... There is no acknowledgment that many recreational gamblers experience occasional and/or minor problems that are nevertheless substantial in aggregate... For gambling, similarly, the focus of prevention needs to be on the broader population, not just heavy-gambling individuals (Raven, sub. D272, pp. 1-3).

The latter approach, of course, goes beyond the issue of counting 'cases' of problem gambling. This 'sociological' approach attempts to understand more broadly any adverse social effects of gambling and to fashion, where cost effective and appropriate, ways of ameliorating these. The Commission has attempted to look at some of these broader issues in chapters 9, 10 and 16.

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their problem) then  $p=0.003$ . These figures, while conjectural, are consistent with the pattern of telephone survey responses (Steel et al 1996).

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## Summary and policy implications

As we emphasised in section 6.4, the SOGS can be legitimately used to look at the prevalence of people whose problems do not require individual intervention, but which are of concern for public health reasons. Walker (1998b, p. 44), for example, notes:

Gambling causes far more misery in society than is accounted for by the lot of the pathological gambler.

Similarly, Shaffer et al. (1997, p. iii) observe:

... scientists and public policy makers have paid insufficient attention to level 2 gamblers (ie those with sub-clinical levels of gambling disorders). While extremely diverse, level 2 gamblers experience a wide set of problems from their gambling.

In this instance, it is clearly appropriate to use lower SOGS scores to determine the number of Australians whose gambling behaviour entails significant risks (level 2 gambling problems using Shaffer et al.'s terminology), *so long as the purpose of this prevalence rate is made clear*, namely:

- *not* to estimate resources for direct help services;
- *nor* to see this group in a stereotyped way as 'addicts' hooked on gambling. The best analogy may be problem drinking which is a concept which goes far beyond alcoholism.

In this context, it is important to note that different measures of false positives or false negatives will occur depending on what definition of problem gambling is applied and what standard for confirming the diagnosis of the SOGS is used. Thus, if a researcher is using the SOGS to try to identify at-risk gamblers (level 2 gamblers) then someone they accept as a true positive may be rejected as a false positive by someone using the SOGS to identify people needing individual intervention to help them with their gambling problems.

- A SOGS score of 10 or more will significantly underestimate the number of people who are experiencing moderate problems with their gambling (a high false negative rate for level 2 problem gambling) and provide a somewhat conservative estimate of the number of people wanting and needing help services (a medium false negative rate for level 3 problem gambling). On the other hand, it will probably not count anyone who does not have a real problem (a low false positive problem).
- In contrast, a SOGS score of 5 or more will substantially overestimate the prevalence of gamblers needing help services (a very high false positive rate for level 3 gamblers, but a much lower false positive problem for level 2 risks), but



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pick up most people who suffer significant adverse impacts from gambling (a low false negative problem).

- However, both thresholds of the test will inevitably fail to measure the prevalence of those problem gamblers, who, for various reasons, are unavailable to be surveyed or fail to answer questions honestly.

Unless researchers are very clear about how they interpret a positive test score, there is scope for a confused debate about which threshold on the SOGS has the best test properties and the magnitude of prevalence rates of problem gambling — a phenomenon which is not helped by large differences in the terminology to describe the different levels of problems people face (box 6.8). It is tempting for someone who wishes to attract the attention of legislators and obtain resources for helping people with gambling problems to set a low SOGS score for a prevalence measure, without disclosing that this would only be appropriate for measuring an at-risk group, instead of a ‘need treatment’ group, a point noted by TAB Ltd (sub. 161, p. 3) and ACIL:

Though they may be well-intentioned, it is clear that many parties have a strong career interest in exaggerating the problem gambling phenomenon and in seeing that the reported incidence is never below some threshold (sub. 155, p. 71).

But, similarly, industry groups who wish to minimise the perception of apparent harms created by gambling, will tend to set the bar high to achieve this objective. Some of the criticisms by industry of the draft report’s findings in relation to the prevalence of problem gambling (for example, the AHA NSW sub. 208, p. 28) reflect their view that someone must have severe problems to be termed a problem gambler.

There is a clear need for any test of gambling problems to set thresholds which have known risks of harms, and to explain the *purposes* of each of the thresholds that may be selected. The Commission considers it useful to employ a number of different benchmarks for ‘problem’ gambling — which suit the different possible purposes of such a test — in the same way that different benchmarks are now used to assess problematic alcohol use or degrees of weight problems.

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### Box 6.8 Confusions in terminology

Arising out of the different frameworks that are applied to problem gambling are a number of different terms for the problem, which can make international comparison difficult and confusing.

- Gamblers Anonymous tends to use the term '*compulsive*' gamblers, but this term is not generally used by counsellors, psychiatrists or psychologists helping gamblers experiencing problems.
- Outside Australia, people scoring 5 or more on the South Oaks Gambling Screen (SOGS) or the DSM-IV test are rated as '*pathological*' gamblers, a term which is avoided in Australia. People scoring 3 or 4 are described as '*problem*' gamblers. Sometimes people who score 3 or more are collectively called '*problem*' gamblers.<sup>26</sup>
- In Australia, people who are getting help from counselling agencies for their gambling are labelled as '*problem*' gamblers. Those scoring 10 or more on the SOGS (and sometimes those scoring 5 or more) are also labelled as '*problem*' gamblers. Those scoring 5 to 9 on the SOGS are often described as '*at-risk*'.

In the chapters that follow, some results from international studies are presented for problem gamblers, others for problem and pathological gamblers, and others still for pathological gamblers. We emphasise that each of these is different and the results will vary accordingly.

In the remainder of this report we use various thresholds and approaches, depending on the purpose of the analysis:

- In looking at the costs of problem gambling we usually avoid the SOGS altogether, and rather, look at the prevalence of particular harmful impacts on people.
- However, some information on certain problems was only available from the *Survey of Clients of Counselling Agencies*. Given that this help-seeking group appeared to generally match the characteristics of the SOGS 10+ group in the *National Gambling Survey*, the Commission obtained national estimates of the prevalence of such problems by using the SOGS 10+ threshold in the national survey. To use the SOGS 5+ threshold would grossly exaggerate the extent of such problems.
- In adjusting the consumer surplus for problem gambling, the Commission took account of gamblers scoring 5 or more on the SOGS (to capture people with at least level 2 problems), since to do otherwise ignores many people who have

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<sup>26</sup> The term 'disordered' gambling is also now being employed in the US, for example, by the American Gaming Association ([www.americangaming.org](http://www.americangaming.org)).

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significant problems with their gambling (including impaired control). However, the Commission treated severe problem gamblers in this group differently from moderate problem gamblers.

- Similarly, in examining consumer protection, the Commission used the broader definition of problem gambling (SOGS 5+) in keeping with the view that consumer protection and public health policy aims to lower risks of problems for groups other than those who are most seriously afflicted (Shaffer et al. 1997; Ferris, Wynne and Single 1999, pp. 34–35). Indeed, given that risky behaviours and harms extend below the SOGS 5+ level (table 6.4) there is a case for regarding the population of gamblers with potential consumer problems from gambling as far bigger than that encapsulated by the problem gambling prevalence rate.

## 6.7 Criticisms of the Commission's use of the SOGS

ACIL (sub. D233, p. 44ff) and others criticised the Commission's use of the SOGS on a number of grounds.

ACIL re-iterated the point made by Gerstein et al. (1999, p. 17) that the SOGS is based on the 'outdated' DSM-III rather than the DSM-IV. The DSM-III was used as the 'gold standard' for validity checking of the SOGS. However, the SOGS and the DSM-III are different:

- the SOGS has categories that have no obvious parallel in the DSM-III; and
- the SOGS is a *test* and the DSM-III (like the DSM-IV that followed it) is a set of diagnostic *criteria* used by clinicians.

The DSM-IV represents an evolutionary, rather than a revolutionary change in the DSM-III. One way in which the DSM-IV was improved over the DSM-III was to *use* some of the questions from the SOGS. In discussing the draft report with Rachel Volberg (an eminent US researcher), she indicated that the use of the SOGS-R and the Fisher DSM-IV screen in six US jurisdictions and in the Swedish and New Zealand national studies, suggest that these two screens measure similar (though not identical) constructs.

For example, in the Oregon prevalence study (Volberg 1997, p. 37), it was found that the prevalence rate of people scoring on DSM-IV (3+) and SOGS (3+) was identical, with similar prevalence rates for what was termed severe problem gambling. In the recent Swedish study, however, the SOGS suggested a higher prevalence rate than the DSM-IV (Rönnerberg et al. 1999, p. 94), although which measure is best at identifying problems remains unclear.

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ACIL also argued that there was little evidence about the extent to which the SOGS measured problem gambling in a way that matched the broad (harm-based) definition of problem gambling used by the Victorian Department of Human Services (DHS), and increasingly adopted by others in Australia. The Commission made some assessment of the people experiencing harm with the development of a set of questions probing the adverse impacts of gambling (section 6.6) and found that the SOGS and our defined measure of harm were overlapping but not entirely congruent measures. Even so, there was strong evidence that nearly all people scoring 5 or more on the SOGS suffered some harm, even if it was not to the significant degree suggested by the stringent HARM criteria. On the other hand, there were a range of harms that were not examined (for example to partners and children), and future examination of problem gambling should consider the broader harmful impacts and how these may vary in different cultural and social settings. New test instruments currently being developed are trying to better measure the harmful impacts (section 6.8).

ACIL also argue against the SOGS on the grounds that it is a test derived using an inappropriate US ‘mental disease’ framework. While the SOGS was developed using a set of diagnostic criteria which conceptualised problem gambling as a mental disease, the actual test questions posed in the SOGS tend to emphasise behavioural responses by people to gambling (lying, chasing losses, borrowing money) rather than mental states. The more recent DSM-IV criteria and the tests based upon them, such as Fisher’s DSM-IV and Gerstein et al.’s (1999) NODS, which ACIL cite approvingly, provide a greater weight to psychological aspects of gambling (such as preoccupation, escape, and tolerance) than the SOGS.

It was also argued that because the SOGS was not implemented for the full sample of respondents in the Commission’s survey, this amounted to leaving out the control group and constituted ‘a clear violation of the scientific method’ (sub. D233, p. 46). This criticism misunderstands the process by which tests, such as SOGS, are developed and used. A control group is not required every time a test is implemented. Rather, initial research is conducted to determine the properties of a test and then it is subsequently used without controls. In any case, without clinical confirmation that no problem exists, it is not certain that non-regular gamblers would be an adequate control group.

Secondly, it is highly inefficient to implement a test for all people if some of them lack the principal defining characteristics of the target group. The Commission elected only to ask the SOGS of people who gambled on average weekly on a non-lottery gambling form, or who spent more than \$4000 on gambling per year. This left out non-regular gamblers spending less than that amount and non gamblers.

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The Commission omitted the former from the survey because, while some of them may actually be problem gamblers, past survey evidence from Australian studies show that very few exhibit problem gambling behaviours.<sup>27</sup> The Commission was thereby able to boost its sample of regular gamblers and obtain more precise estimates of the prevalence of problem gambling. Additionally, the Commission considered that the false positive rate was likely to be high amongst this group, and wished to avoid upwardly biased estimates of the prevalence of problem gambling. However, their exclusion is likely to mean that some genuine problem gamblers were omitted from the Commission's prevalence estimate.<sup>28</sup>

ACIL and its statistical consultant were also critical of the Commission for not administering the SOGS (which relates only to behaviours associated with gambling undertaken over the last 12 months) to people who were established as non-gamblers. But to do so would be akin to asking unmarried people about their marital problems or introducing breast cancer screening for men.

Notwithstanding that many of these criticisms of the SOGS are misdirected, the Commission does not consider that the SOGS is an ideal instrument, an issue to which we turn next.

## **6.8 Are existing tests of problem gambling adequate?**

Another question relates to whether tests, such as the SOGS or the DSM-IV, are really adequate tools for looking at problem gambling. It has been claimed that the SOGS is problematic because it only looks at some dimensions of problem gambling, is ill-suited to Australia because we have a more tolerant attitude to gambling, and is not geared to certain socio-economic groups (eg adolescents, Aboriginal and Torres Strait Islanders<sup>29</sup> or ethnic communities). As part of its inquiry, the US National Gambling Impact Study Commission developed a new test (Gerstein et al. 1999, p. 14ff). The new test, the NORC DSM-IV Screen or NODS, shares many facets with the SOGS and the DSM-IV, and represents an incremental advance, rather than a genuine methodological shift.

The VCGA is also in the process of developing an alternative screen, to be called the Victorian Authority Gambling Screen (VAGS). This promises to have different conceptual underpinnings to the SOGS, DSM-IV or the new US screen, and will be

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<sup>27</sup> The recent US prevalence study also used a similar method (Gerstein et al. 1999, p. 19).

<sup>28</sup> Jackson et al. (1999a, p. 29) found that 6.9 per cent of gaming machine and TAB problem gamblers in counselling exhibited current binge gambling behaviour, which may not be picked up adequately by the Commission's survey method.

<sup>29</sup> For example, see Foote (1996, p. 7) and appendix E.

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based on ‘a multi-disciplinary reconceptualisation of the impacts of gambling on the individual and family’ (VCGA 1998). The Canadians have also recently developed a new measure of problem gambling (Ferris, Wynne and Single 1999) — the Canadian Problem Gambling Index (CPGI). This places a far greater emphasis than the SOGS, DSM-IV or NODS on the adverse consequences of gambling behaviour (eg health impacts), and environmental features which may contribute to problem behaviours (eg big wins).

The Committee on Problem Gambling Management from New Zealand was critical of the need for a new instrument:

There needs to be an agreement about what the measure is in Australia. We constantly hear criticism of the SOGS instrument. There is no scientific evidence that homo sapiens in Australia are a subspecies from the rest of the world and require a different scientific device, and therefore the one now applied internationally for about 15 years has no relevance here. Frankly we think that’s a lot of bunkum. If the Australians wish to introduce a new measure and want to convince the rest of the world that it’s the best one, so be it. ... I see no scientific information to come from Australia which would compel an alternative scale of measures to be applied (transcript, p. 474).

However, the notion of developing a test which draws from frameworks outside the psychiatric and psychological research domains seems worthwhile, because it may generate a richer understanding of some aspects of problem gambling — and the Canadian approach seems highly promising. However, it is too early to determine whether, in fact, any of the alternatives will represent a useful alternative or adjunct to the SOGS or DSM-IV.

Either way, there is scope for improving the body of evidence about appropriate thresholds for the SOGS and for dealing with the apparent inadequacies of some questions or their weights (section 6.5).

In summary, the SOGS has a number of limitations as a way of understanding the nature of the problems facing gamblers. Nevertheless, if interpreted carefully and augmented by other information on the harmful impacts of gambling, the Commission considers that it can provide a useful guide to the prevalence rates and impacts of problem gambling. It is, in any case, the most popular internationally used test, which allows Australian prevalence estimates to be compared with past Australian estimates and those overseas.

## 6.9 The prevalence of problem gambling

### Prevalence of problems among adult Australians

Having defined the different levels of problem gambling and the various tests (and associated thresholds) that have been used to measure it, it is then possible to estimate the prevalence of problems among Australians:

- Using the approach of Dickerson et al. (1997), around 1 per cent of Australian adults are estimated to have severe gambling problems (level 3 problems) — equivalent to about 130 000 adults (table 6.10).

Table 6.10 **Prevalence of gambling problem by degree of problem<sup>a</sup>**  
Australia 1999

	<i>People affected</i>	<i>Share of adult Australian population</i>	<i>100 x standard error</i>	<i>Marginal number of people affected</i>	<i>Marginal prevalence rate</i>
	Number	%	%	Number	%
SOGS 3+	692 235	4.90	0.28	240 711	1.70
SOGS 4+	451 524	3.20	0.24	158 787	1.12
SOGS 5+	292 737	2.07	0.20	86 249	0.61
SOGS 6+	206 487	1.46	0.17	48 471	0.34
SOGS 7+	158 016	1.12	0.15	34 158	0.24
SOGS 8+	123 858	0.88	0.13	30 325	0.21
SOGS 9+	93 533	0.66	0.11	46 741	0.33
SOGS 10+	46 792	0.33	0.08	46 792	..
Dickerson method	129 348	0.92	0.12	129 348	..
HARM	254 778	1.80	0.19	254 778	..

<sup>a</sup> Column 1 records the number of people in each of the SOGS categories who score at that level. A SOGS n+ means those people who scored from n to 20 on the SOGS. Thus SOGS 3+ are people who scored 3 or more on the SOGS. Column 2 is the share of such people in the Australian adult population. Column 3 is the standard error of the estimate, reflecting the statistical uncertainty associated with survey samples. It can be used to understand the likely range of prevalence rates. The 95 per cent confidence interval for any given prevalence rate is the measured rate plus or minus 2 times the standard error. For example, the 95 per cent confidence range for the SOGS 5+ prevalence rate is 1.67 per cent to 2.47 per cent. The standard errors shown here do not take account of the complex survey design (see appendix P for a description of the bootstrapping method that is used to take account of the complex design). The corrected standard error for the SOGS 5+ prevalence rate is 0.245 (or about 25 per cent wider than the conventionally defined standard error). Column 4 records the marginal number of people affected as higher SOGS thresholds are used. Thus there are about 30 000 people who have a SOGS score of exactly 8. Column 5 records the marginal prevalence rate associated with column 4. The Commission's prevalence rates assume that non-regular (on non-Lotto forms of gambling) lower-spending gamblers do not experience *any* problems. It is likely that even some of these will, so the estimates here probably understate the prevalence rate somewhat.

Source: Estimates from the PC *National Gambling Survey*.

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- Using the adjusted SOGS 5 to 9<sup>30</sup> threshold to look at problems which are of lesser severity, then around 1.15 per cent of Australian adults currently have moderate problems (level 2 problem gambling) — or an additional 163 000 adults.
  - So overall, around 293 000 adults (or 2.1 per cent of the adult Australian population) have significant problems associated with gambling, using the SOGS as the basis for estimation.<sup>31</sup>
  - When looked at in terms of harmful impacts, the Commission finds around 255 000 adult gamblers (or 1.8 per cent of the adult population) experience significant adverse outcomes as a result of their gambling.
  - In the US it is suggested that people scoring 3 to 4 are also at risk of gambling problems — and indeed the usual nomenclature describes such people as ‘problem’ gamblers. They would account for an *additional* 400 000 adults (or a further 2.8 per cent of the adult population). However, the Commission considers that the use of this lower threshold in describing problem gamblers is likely to have too many false positives and prefers estimates based on higher SOGS scores or on other criteria.

State prevalence estimates are less reliable due to smaller sample sizes. With that caveat, the results indicate that NSW has a significantly higher prevalence rate (regardless of the threshold chosen for problems) than other states — which is consistent with the greater accessibility of gambling and the longer period that gaming machines have been available (table 6.11). It is notable that in states where gambling has been less common, such as Tasmania and Western Australia, prevalence rates are also much lower (an issue examined more closely in chapter 8).

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<sup>30</sup> This is calculated by subtracting the Dickerson prevalence rate from the SOGS 5+ prevalence rate in table 6.10. Thus the level 2 risks have had all people scoring 10 or more removed, plus those scoring from 5 to 9 who are deemed to have genuinely severe problems.

<sup>31</sup> The principal test of the reliability of a test is Cronbach’s alpha measure of its internal consistency. The reliability of the SOGS test used by the Commission is very good, with Cronbach’s alpha equal to 0.82 (much higher than the 0.70 that is usually regarded as representing good reliability — Volberg 1997, p. 35).



**Table 6.11 Prevalence of gambling problems and harm incidence by state**

	SOGS 10+	SOGS 5+	Dickerson method	HARM	SOGS 10+	SOGS 5+	Dickerson method	HARM
	<i>no.</i>	<i>no.</i>	<i>no.</i>	<i>no.</i>	%	%	%	%
NSW	15 923	122 300	59 798	93 985	0.33	2.55	1.25	1.96
VIC	12 477	75 925	28 974	72 713	0.35	2.14	0.82	2.05
QLD	9 857	48 609	19 665	46 274	0.38	1.88	0.76	1.79
WA	0	9 548	2 353	20 545	0.00	0.70	0.17	1.50
SA	8 266	27 809	15 627	16 315	a	a	1.38 <sup>a</sup>	1.44
TAS	0	1 526	305	406	0.00	0.44	0.09	0.12
ACT	146	4 588	1 629	2 944	0.07	2.06	0.73	1.32
NT	124	2 431	998	1 597	0.10	1.89	0.77	1.24
Australia	46 793	292 737	129 349	254 778	0.33	2.07	0.92	1.80

<sup>a</sup> The prevalence result for problem gamblers for South Australia, particularly for SOGS 10+ was found to be relatively high compared to other states (0.73 per cent for SOGS 10+ and 2.45 per cent for SOGS 5+). This probably reflects sampling error.

Source: PC National Gambling Survey.

Quite apart from the SOGS or HARM, the Commission also examined the prevalence of gambling problems using some self-assessment questions posed to adult Australians:

- around 6.3 per cent of those surveyed indicated that they had some sort of problem on a scale of 2 (a small problem) to 10 (a severe problem) (table 6.12) — equivalent to an aggregate of around 890 000 adults.<sup>32</sup> However, most of these were people who rated their problems as slight. About 1.5 per cent indicated that they had problems which were rated 5 or more out of 10.
- about 0.8 per cent of adults surveyed (equivalent to 111 000 adults in the whole population) said they wanted help — an indication of genuine problems at least as far as the perceptions of the person are concerned. But less than half of these had tried to get help of any kind, including from informal sources (chapter 17).

<sup>32</sup> In other words 94 per cent said they had no problem at all.

**Table 6.12 Gamblers' self-rating of the degree of problem they face**

Rating of problem	Number of adults	Share of adult population
	Number ('000)	%
1 - Not At All A Problem	13 233	93.68
2	397	2.81
3	176	1.25
4	94	0.67
5	67	0.47
6	48	0.34
7	50	0.36
8	18	0.13
9	5	0.03
10 - A Serious Problem	17	0.12
Can't Say	21	0.15
Total	14 126	100.00

Source: PC National Gambling Survey.

### Other studies of prevalence

Other than the anomalously high result<sup>33</sup> obtained for the first partly national study, previous Australian surveys of problem gambling (table 6.13) suggest that around 0.3 per cent of the adult population have severe problems (using the SOGS 10+ cutoff) and about 1 to 2.9 per cent of the adult population have *at least* moderate levels of problem (using the SOGS 5+ threshold).

Some of the differences between states and points in time apparent in table 6.13 may represent real differences in prevalence rates, but some will reflect the different ways in which the various surveys were implemented (telephone versus doorknock), subtle but important differences in questions, whether regular or all gamblers were asked the SOGS questions, and sampling (and other) errors.<sup>34</sup>

<sup>33</sup> The first 'national' study conducted in four capital cities (Sydney, Brisbane, Melbourne and Adelaide) suggested much higher prevalence rates than have been found since. This should probably not be regarded as a reliable indicator of prevalence rates at that time.

<sup>34</sup> If something is rare among a population then different samples of that population will tend to provide estimates of prevalence which deviate considerably. For example, suppose that the true prevalence rate was 0.5 per cent and a random sample of 1000 adults was taken. The probability of discovering J problem gamblers in this sample is calculated as:

$$\Pr(J)=_{1000}C_J \times p^J(1-p)^{1000-J}$$

where  $_{1000}C_J$  is the number of combinations of 5 among 1000 and  $p$  is 0.005. The likelihood of discovering just 5 problem gamblers (the expected number of problem gamblers) in the sample is only 17.6 per cent. There is a 12.4 per cent chance of finding 2 or less problem gamblers, and a 13.3 per cent chance of finding 8 or more problem gamblers. As Dickerson et al. (1996a) note,

**Table 6.13 Prevalence estimates of problem gambling from past surveys<sup>a</sup>**

	'National' 1991-92	Tas 1994	Tas 1996	WA 1994	NSW 1995	NSW 1997	SA 1996	Victoria 1997	Victoria 1998
Survey method	D	D	T	D	D	D	T	T	T
No. participants	2744	1220	1211	1253	1390	1209	1206	2000	1737
Total no. regular gamblers	376	n.a	n.a	204	~528	457	381	n.a	n.a
Regular gambler participants	290 <sup>b</sup>	295	477	204	299 <sup>c</sup>	288 <sup>d</sup>	381	n.a	n.a
Gamblers offered the SOGS <sup>e</sup>	Regular	Regular	All	Regular	Regular	Regular	Regular	All	All
N SOGS 5+	107	14	35	7	36	38	15	15	26
N SOGS 10+	22	2	3	4	9	6	4	3	n.a.
$\rho$ SOGS 5+ (%) <sup>f</sup>	6.60	1.14	2.89	0.56	2.59	2.89	1.24	0.75	1.5
$\rho$ SOGS 10+ (%)	1.16	0.16	0.25	0.32	0.57	0.41	0.33	0.15	0.3
CI SOGS 5+ (%)	5.67 - 7.52	0.54 - 1.73	1.94 - 3.83	0.14 - 0.97	1.75 - 3.42	1.94 - 3.83	0.61 - 1.86	0.37 - 1.12	0.92- 2.08
CI SOGS 10+ (%)	0.75 - 1.56	0.0 - 0.38	0.0 - 0.53	0.00 - 0.63	0.17 - 0.96	0.04 - 0.77	0.00 - 0.65	0.0 - 0.31	0.04- 0.56
Adult population ('000)	12 909	346	348	1 269	4 638	4 762	1 122	3 469	3 520
NPOP 5+ SOGS	851 994	3 944	10 057	7 106	120 124	137 622	13 913	26 017	52 800
NPOP 10+ SOGS	149 744	554	870	4 061	26 437	19 524	3 703	5 203	10 560

<sup>a</sup> Mnemonics are D is a doorknock survey; T is a telephone survey, N is the number of survey respondents who are problem gamblers,  $\rho$  is the prevalence rate, CI is the confidence interval, and NPOP is the number of problem gamblers in the population. <sup>b</sup> The refusal rate for Part 2 of the survey was 22.9 per cent. <sup>c</sup> In the 1995 NSW study, a quota of 140 was set for Lotto only players, ie. 229 weekly Lotto players out of the 369 eligible for Part 2 were not offered it. <sup>d</sup> In the 1997 NSW study, a quota of 113 was set for Lotto only players, ie. 169 weekly Lotto players out of the 282 eligible for Part 2 were not offered it. <sup>e</sup> Regular gamblers are defined as those gambling at least once per week; the Tasmanian and Victorian surveys asked the SOGS of all gamblers — those who had participated in gambling activities in the last 12 months and 6 months respectively. <sup>f</sup> The standard error of the prevalence estimate is  $\sigma = \text{SQRT}\{\rho(1-\rho)/N\}$ , where  $p$  is the prevalence rate and  $N$  is the sample size. The 95 per cent confidence interval is  $p$  plus or minus  $1.96\sigma$ .

*Source:* Dickerson, Baron, Hong and Cottrell (1996); Dickerson and Baron (1994); and Dickerson and Maddern (1997); Dickerson, Baron and O'Connor (1994); Dickerson et al (1996a, 1998); Delfabbro and Winefield (1996); Market Solutions and Dickerson (1997) and Roy Morgan (1999). Population numbers are from the ABS Cat. no. 3201.0 (various issues).

Taking the differing populations into account, the weighted average prevalence rates of these past Australian studies is 1.8 per cent (excluding the 1991-92 national study) and 3.3 per cent (including the national study). Accordingly, the Commission's prevalence estimates are broadly in line with state studies that have been conducted over the last decade. That said, the overall prevalence estimate derived from the *National Gambling Survey* should be more accurate, reflecting its larger sample size and the use of a consistent set of questions.

small prevalence rates stretch the accuracy of the survey method to its limits. Indeed, apart from the early national study, with sample surveys ranging in size from around 1200 up to 2000 participants, the number of problem gamblers identified across the various state studies ranges from only 2 to 9, a variation which could arise purely from chance. This is evidenced by the fact that the 95 per cent confidence intervals for the SOGS 10+ prevalence rates overlap for all states.

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A range of studies have been conducted around the world to estimate problem gambling prevalence rates:

- A recent large-sample Swedish study (Rönnerberg et al. 1999, p. 55) estimates the prevalence of problem gambling in Sweden at 0.6 per cent (based on SOGS 5+) with 0.2 per cent having a SOGS score of 8 or more.<sup>35</sup>
- A large number of studies have been conducted in the US and Canada, and these suggest that problem gambling (defined by the SOGS 5+ threshold) amongst non-institutionalised adults amounts to around 1.1 per cent of adults (table 6.14) compared to Australia at 2.3 per cent. However, it is also common in the US to refer to people scoring 3 or more on the SOGS as ‘problem’ gamblers. The group scoring 3 or more are estimated to comprise around 4 per cent of US adults. While the Commission questions the usefulness of this low cutoff, the Australian measure of problem gambling using this cutoff is still higher at about 4.9 per cent (table 6.10).
- The most recent US study (National Gambling Impact Study Commission NGISC 1999) suggests that around 1.1 per cent of American adults were current ‘pathological’ gamblers (using a DSM-IV screen). A DSM-IV screen rating of 5 does not have a simple equivalence to the SOGS, but tends to identify the same groups of gamblers.
- A range of studies have been conducted in Spain (Becona 1996). Two studies pointed to a prevalence of problem gambling (on a SOGS 5+ threshold and a DSM-IV rating of 4+ respectively) of 1.7 per cent. A more recent study found 1.4 per cent of adults were problem gamblers (using SOGS 5+).
- A number of studies have been undertaken in New Zealand (Abbott and Volberg 1991, 1992) and they point to a prevalence of problem gambling of around 1.2 per cent (using the SOGS 5+ cutoff).

Once their use of a lower SOGS cutoff in diagnosing problem gambling is taken into account, the picture emerging is that the prevalence of at least level 2 problem gambling is significantly greater in Australia than other countries. This should not be surprising given the much wider availability and acceptability of gambling in Australia.

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<sup>35</sup> This study found that a further 1.4 per cent of people had SOGS scores of 3 to 4, which the authors regarded as also indicative of a problem.

**Table 6.14 Mean prevalence rates (and confidence intervals) of gambling problems, a meta analysis of North American surveys<sup>a</sup>**  
1977–1997

<i>Affected groups</i>	<i>Typically SOGS 5+ (lifetime)</i>	<i>Typically SOGS 3-4 (lifetime)</i>	<i>Typically SOGS 5+ (past year)</i>	<i>Typically SOGS 3-4 (past year)</i>
	%	%	%	%
<b>Adult</b>				
Prevalence	1.6	3.85	1.14	2.8
95% confidence interval	1.35-1.85	2.94-4.76	0.9-1.38	1.95-3.65
<b>Adolescent</b>				
Prevalence	3.88	9.45	5.77	14.82
95% confidence interval	2.33-5.43	7.62-11.27	3.17-8.37	8.99-20.66
<b>College</b>				
Prevalence	4.67	9.28	..	..
95% confidence interval	3.44-5.90	4.43-14.12	..	..
<b>Institutionalised (eg prisons, drug rehab)</b>				
Prevalence	14.23	15.01	..	..
95% confidence interval	10.70-17.75	8.94-21.07	..	..

<sup>a</sup> In undertaking the meta-analysis, Shaffer et al. did not look at actual SOGS or DSM-IV scores, but used authors' ratings about the proportion of gamblers who were at-risk or 'pathological' problem gamblers. In the US, the customary use of the SOGS is that scores of 5+ are used to label people as 'probable pathological' gamblers, while scores of 3 to 4 (and sometimes even 1 to 4) are used to identify gamblers who are apparently at-risk. The total number of people identified as having problems is the sum of these two groups. For example, Shaffer et al's results point to about 5.45 per cent of North Americans as having some problems with their gambling. In comparing the results of the US studies with Australia it should be emphasised that no Australian study has regarded a score of below 5 as relevant to the diagnosis of problems. The lower cutoff used by US studies has also obscured evidence on the number of people with high SOGS scores (of 10+) — these are mostly not reported.

Source: Shaffer et al. (1997, p. 34).

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## Disaggregated prevalence measures for Australia

Prevalence calculations based on the population as a whole can be misleading. First, calculating problem gambling prevalence rates using all adults in the denominator is based on the premise that all adults are equally exposed to gambling, which they are not. To use an analogy, the prevalence of mountaineering-related deaths of Australians is almost infinitesimally small, but the prevalence of mountaineering related deaths among mountaineers is relatively high.

Second, concentrating on the person who directly experiences the problem fails to take account of the likely impacts on those affected by the problem gambler — which includes family members, friends and work colleagues, as well as, in extreme cases, crime victims. Problem gambling has ripple effects on others:

The prevalence rate also does not take into consideration that a person experiencing a gambling problem lives in a community which he/she impacts. So the negative impacts of gambling can manifest themselves in individuals and their families (partners and children), their social network, their productivity at work and sometimes even in illegal acts to finance the gambling in order to try to make up losses (Lifeline Canberra Inc, sub. 103, p. 2).

Third, even if a prevalence figure is low, it does not mean that this provides a basis for sidelining problem gambling. The costs for those affected have to be weighed up against the benefits for those who are not.

Finally, it ignores the prevalence of under-age gambling problems, which lie outside the scope of the definition.

There are a number of alternative methods for calculating or better understanding prevalence rates by examining:

- *The prevalence of problem gambling amongst adults who have gambled in the past 12 months* (eg as advocated by Shaffer et al. 1997, p. 65). Since about 80 per cent of Australian adults gambled in the last 12 months, this makes a modest difference to prevalence rates — with the rate of level 2 (or higher) problem gambling touching on 3 per cent for gamblers as a whole.
- *The prevalence of problem gambling by the type of gambling* (eg wagering on horses compared to lotteries or gaming machines). This allows for the fact that the likelihood of developing problems is higher among some forms of gambling, and that calculating a general prevalence rate masks severe problems in some forms and slight problems among others. The data (table 6.15) however, can provide a misleading indicator of risk for popular forms of gambling, since it combines two distinct groups of gamblers — those who are regular (on average,

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weekly) players and those who are non-regular gamblers.<sup>36</sup> This is why the rate of problem gambling amongst all people who have gambled in a given mode is lower in modes which are popular. It would *not* be appropriate, for example, to declare that gaming machines are low risk on the basis of the estimates for ‘all players’ in table 6.15.

- *The prevalence of problem gambling by the intensity of gambling* (either by frequency or amount). Many people have very low exposure to gambling. It is revealing to calculate prevalence rates in their absence to see to what extent the likelihood of problems rises with intensity of play. These measures also might help to identify problem gamblers from easily monitored behaviour, or to design harm minimisation strategies. For example, if one per cent of people who undertook gambling of a certain form had gambling problems, it is not useful for identification of problem gamblers among that group. However, if 50 per cent of people who gambled weekly on the form had such problems then it is a useful discriminator of problem gambling. Weekly gambling on gaming machines, and casino table games is a highly significant indicator of an increased likelihood of problem gambling.<sup>37</sup> Around one in five regular gaming machine and casino table game players score 5 or more on the SOGS.
- *By ‘favourite’ mode* (the mode where most money is perceived to be spent). People often gamble on many different forms of gambling. If they are a problem gambler in a particular mode of gambling, then they will still be counted as a problem gambler when they play other modes, even if their expenditure is relatively modest. One way of overcoming this is to calculate the share of people with problems by their favourite mode of gambling (figure 6.4). This strongly suggests that lotteries and instant scratch tickets present few direct problems. For example, only 0.28 per cent of those who consider lotteries their most expensive form of gambling have any problems. But gaming machines loom much larger as a source of problems, with one in ten of those for whom this is the favourite form scoring 5 or more on the SOGS.
- *The Continued Adoption Rate* (Focal Market Research 1998, p.1.19) or *Conversion Rate* (Volberg and Stuefen 1991 and Baseline Research 1996) of different forms of gambling. This is the ratio of the percentage of people who

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<sup>36</sup> We also emphasise that the calculations here are based on the share of problem gamblers (whatever the gambling mode or modes that is the source of their problems) who play any given mode. Thus because some problem gamblers will gamble on lotteries, there is a share of problem gamblers among lottery players. This should not be taken to mean that lottery playing caused the problem. The relevant issue is the comparative representation of problem gamblers by mode of gambling. If it is higher, this is suggestive that that mode is more risky.

<sup>37</sup> Results for keno, subsumed in other commercial games, also suggest a relatively high level of risk.

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gamble in a particular gambling form on a *weekly basis* to the percentage of people who gamble on this form *at all* (over the last 12 months) While not prevalence measures themselves, they indicate the extent to which people are potentially exposed to risk when playing a particular form of gambling. The continued adoption rate is very high for lotteries, but since this a low risk form of gambling this does not have significance for problem gambling. However, it is also relatively high for gaming machines and racing, which means that a relatively large group of people are exposed to high risks — which explains why people playing these games account for the bulk of problem gamblers seeking help. In contrast, while regular gambling on casino table games appears to be a strong indicator of an increased likelihood of problem gambling, very few people who play casino tables games do so weekly.

- *Problem gambling among non-adult populations.* All of the major state and national surveys have excluded under-age gamblers from their scope. However, there is abundant overseas, and some Australian evidence, that problem gambling also affects people aged under 18. Prevalence rates of these problems should also be calculated. The Commission did not undertake a survey of adolescent gambling, but other Australian studies and international research, suggests that youth problem gambling is at rates somewhat *higher* than in adult populations.

**In summary, it appears that some forms of gambling, such as lotteries and scratchies, in their current forms, currently present low risks for problem gambling. Other forms, particularly regular playing of gaming machines and casino table games, appear to be associated with a higher likelihood of gambling problems.**



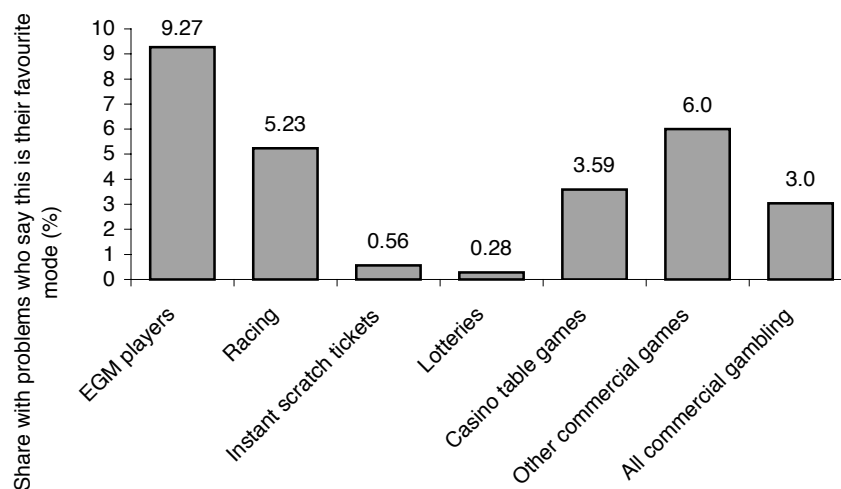
Table 6.15 **Problem gambling prevalence and harm incidence rates by gambling mode and frequency of playing<sup>a</sup>**

	SOGS 5+	SOGS 10+	HARM	Relevant share of adults	Continued adoption rate
	%	%	%	%	%
<b>All players</b>					
EGM players	4.67	0.76	4.09	38.60	..
Racing	4.46	0.74	3.80	24.30	..
Instant scratch tickets	2.83	0.39	2.34	46.20	..
Lotteries	2.75	0.34	2.42	60.00	..
Casino table games	6.12	1.06	4.67	10.31	..
Other commercial games	5.60	0.92	5.02	23.51	..
All commercial gambling	2.55	0.41	2.22	81.30	..
<b>Weekly players</b>					
EGM players	22.59	3.77	14.79	4.27	11.06
Racing	14.72	3.10	11.45	3.45	14.20
Instant scratch tickets	5.49	1.32	5.90	6.70	14.50
Lotteries	2.48	0.35	2.44	29.10	48.50
Casino table games	23.84	8.03	15.63	0.25	2.42
Other commercial games	13.31	2.30	8.05	3.70	15.74
All commercial gambling	4.62	0.88	3.48	37.53	46.16
Regular non-lottery	15.36	2.79	10.70	9.47	..

<sup>a</sup> The relevant share of adults is the percentage of adults who play in the relevant categories. For example, 81.3 per cent of adults have participated in commercial gambling in the last year, but only 9.5 per cent gamble weekly or more on non-lottery gambling modes. Non-lottery excludes both lotto type products and instant scratch tickets.

Source: PC National Gambling Survey.

Figure 6.4 **Share of people with problems by their favourite mode of gambling<sup>a</sup>**



<sup>a</sup> The 'favourite' mode was determined by asking what mode gamblers thought they had spent the most on.

Data source: PC National Gambling Survey.

## 6.10 Who are the problem gamblers?

A relevant issue for possible targeting of any public health campaigns is whether there are any clear socio-demographic pointers to higher incidence of problem gambling. Clearly, as suggested in the previous section, regular play on a continuous form of gambling, such as gaming machines, is a very significant risk factor. Otherwise, only a relatively few relevant factors emerge (tables 6.16, 6.17 and appendix Q). Indeed there are often bigger differences between gamblers and non-gamblers than there are between problem gamblers and gamblers generally.

Problem gamblers in the general population appear to be younger than the average gambler. A gambler aged under 25 years has a likelihood of developing a gambling problem about twice that of gamblers as a whole. Those in counselling are older than those who have not sought help (consistent with people enduring problems for some time before people seeking help). Gamblers over 70 years rarely appear to display gambling problems. They have a likelihood of developing problems about one fifth of that of gamblers as a group.

**Table 6.16 The age of problem gamblers**  
Australia 1999<sup>a</sup>

<i>Age</i>	<i>In counselling</i>	<i>Problem gamblers</i>	<i>All gamblers</i>	<i>Non-gamblers</i>
<i>Years</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
Under 25	6.3	26.4	13.8	11.2
25-29	8.6	15.1	9.4	9.3
30-34	9.6	8.4	11.6	8.2
35-39	14.5	10.6	10.2	10.1
40-44	19.3	6.8	10.2	9.4
45-49	14.0	9.0	9.7	10.6
50-54	14.0	8.3	11.0	10.0
55-59	6.3	8.1	7.7	7.2
60-64	4.1	2.6	4.7	5.5
65-69	2.0	3.3	4.4	5.3
70+	1.3	1.5	7.2	13.4
Total	100.0	100.0	100.0	100.0

<sup>a</sup> The ratios of column 2 to column 4 and the ratio of column 3 to column 4 provide a rough indication of the changed level of risk of being a problem gambler, taking the age distribution of all gamblers as the benchmark.

Source: PC Survey of Clients of Counselling Agencies, PC National Gambling Survey.

There appear to be few differences between problem gamblers and all gamblers on the basis of education (though fewer of those who are in counselling have been to university or CAEs).

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It also does not *seem* to affect the likelihood of problems if a person was born in Australia or not. This is also the finding of Jackson et al. (1999b, p. 12) when examining the ethnicity of Break Even clients in Victoria. However, there does appear to be a higher prevalence of problems among gamblers who do not speak English at home. But little is known overall about the way in which gambling problems are manifested among different cultural groups. It may be that the relative likelihoods of problem gambling are higher (or lower) than suggested by these figures. For example, they may be higher if problem gamblers speaking a foreign language or who are culturally uneasy about survey questionnaires or counselling services are not included in the sampling. As well, problem gambling is a concept rooted in a cultural context, and what may be benign or problematic in one setting may be otherwise in another. The AIGR (1999) has completed a report for the Racing and Gaming Commission of Western Australian on access to services by different cultural groups. A study which reports the results of a major survey of ethnic groups in NSW is due to be released in the year 2000.

People who are separated or divorced, unemployed, living in single-person households are more highly represented amongst problem gamblers. This is also the finding of Jackson et al. (1999b, p. 13). For example, they found that 20.7 per cent of Victorian Break Even clients presenting for a gambling problem are divorced or separated (p. 13) and 12 per cent are unemployed (p. 17). However, the causality is complex. Other results (chapter 7) suggest that work and marital status may be the result of problem gambling, rather than risk factors themselves.

Average personal income appears to be somewhat lower among gamblers in counselling or who were identified by the *National Gambling Survey* as problem gamblers — but the difference is slight. Jackson et al. (1999b, pp. 19-20) also found that problem gamblers have a similar level of income to other adults (figure 6.5). That said, a considerable number of problem gamblers are in lower income brackets (figure 6.5 and appendix Q).

Males and female problem gamblers appear to be equally represented at counselling services. The Commission's *Survey of Clients of Counselling Agencies* suggested that 51.4 per cent of clients were male — close to the 49.8 per cent found for Victorian Break Even clients in 1997-98 by Jackson et al. (1999b, p. 10). However, the Commission's *National Gambling Survey* suggests that males are still somewhat more highly represented among problem gamblers in the general population. This suggests that males may be less willing to seek professional counselling assistance.

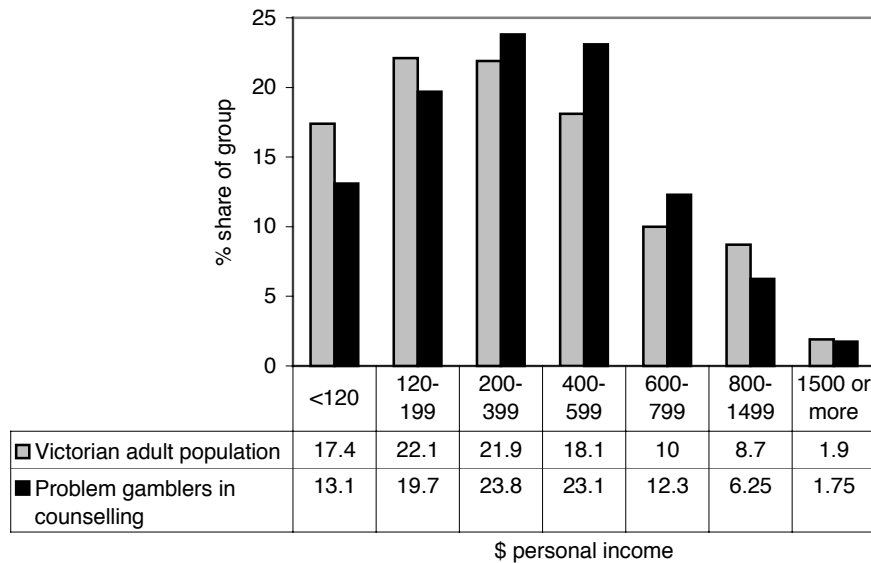
**Table 6.17 Who are the problem gamblers?**

Australia 1999

<i>Characteristic</i>	<i>In counselling</i>	<i>Problem gamblers</i>	<i>All gamblers</i>	<i>Non-gamblers</i>
	%	%	%	%
<i>Education</i>				
Up to 4th year high school	38.4	31.0	29.5	24.6
Finished high school	26.7	28.7	28.6	24.0
TAFE/ technical education	12.7	9.8	11.2	7.8
CAE/University	21.1	30.5	30.8	43.7
<i>Male</i>				
	51.4	60.0	50.0	45.0
<i>Foreign born</i>				
	26.2	19.7	22.3	27.9
<i>Father Australian</i>				
	60.1	56.9	63.2	58.9
<i>Mother Australian</i>				
	61.4	63.3	65.9	60.9
<i>Non-English spoken at home</i>				
	9.7	8.2	4.8	9.2
<i>Aboriginal or Torres Strait Islnd.</i>				
	1.2	2.4	1.6	1.0
<i>Marital status</i>				
Married or living with a partner	47.3	47.3	66.1	66.3
Separated or divorced	25.1	8.1	5.9	4.6
Widowed	3.3	1.4	3.6	6.5
Single	24.3	43.2	24.3	21.9
<i>Household type</i>				
Single person	24.7	8.5	8.1	10.8
One parent family with children	9.4	3.7	5.0	4.0
Couple with children	16.8	34.9	50.3	48.5
Couple with no children	32.4	21.2	22.2	23.7
Group household	8.4	27.0	11.2	9.8
Other	8.2	4.6	3.0	2.9
<i>Major income source</i>				
Wages/salary	55.3	69.7	63.6	52.8
Own business	11.2	7.0	13.8	18.2
Other private income	0.8	1.6	2.9	4.4
Unemployment benefit	8.4	5.2	2.3	2.0
Retirement benefit	2.0	2.0	3.8	5.1
Sickness benefit	2.3	0.1	0.2	0.3
Supporting parent benefit	3.8	2.3	1.5	0.5
Aged/invalid pension	13.5	9.0	8.5	12.5
Other	2.3	3.1	2.6	2.1
<i>Work status</i>				
Working full-time	42.6	53.5	48.4	41.9
Working part-time	15.3	16.4	16.0	15.3
Home duties	8.9	6.4	10.1	9.2
Student	2.8	10.5	5.3	6.6
Retired (self-supporting)	2.0	2.1	8.9	12.8
Pensioner	13.0	7.0	7.1	9.3
Unemployed (or looking for)	12.0	4.1	2.9	2.4
Other	3.3	0.1	1.0	2.0
<i>Average personal income</i>	28 819	30 050	32 120	31 100

Source: PC Survey of Clients of Counselling Agencies, PC National Gambling Survey.

**Figure 6.5 Personal income of problem gamblers in counselling**  
Victoria 1997-98<sup>a</sup>



<sup>a</sup> Based on a sample of over 2 200 problem gamblers in counselling. The data included two categories of income data that recorded income ranges on a different basis to the remaining data. These were distributed evenly among the appropriate income ranges.

*Data source:* Jackson et al. (1999b).

The current roughly balanced gender mix of problem gambling represents a large shift in the composition of problem gamblers over the past decade. In their 1991 national study, Dickerson et al. (1996) found that 86 per cent of problem gamblers were male. The prevalence of problem gambling among females has increased by a factor of three over this time. It appears that this ‘feminisation’ of problem gambling has proceeded with the introduction of gaming machines — an issue examined more closely in chapter 8.

Many socio-demographic factors are correlated. For example, young people tend to have lower incomes than middle aged people. Accordingly, results, such as those in tables 6.16 and 6.17, might conceal significant patterns in the likelihood of problem gambling, once these interdependencies are taken into account. To deal with this problem, the Commission undertook a logistic regression analysis of the likelihood of being a problem gambler for those who answered the SOGS (and therefore mainly regular gamblers).

The most important factors associated with a higher likelihood of problems for regular gamblers appear to be age (a negative impact on the likelihood of problem gambling), the frequency of playing gaming machines (a positive influence), the frequency of betting on racing (positive), the frequency of playing at the casino

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(positive), and residency within a city (positive). Higher household income appeared to be negatively associated with problem gambling, but the effect was weak and not statistically significant at the conventional 5 per cent level. Once confounding variables are taken into account, other demographic variables (such as sex, education, ethnicity or marriage status) had no apparent effect on the likelihood of developing problems amongst regular gamblers. This does not mean that these variables may not have some influence on the likelihood of problem gambling:

- It is possible that the probability of undertaking regular gambling in the first place is correlated with some of these factors, and that then exposes the person to the risks of problem gambling (for example, more highly educated people appear to be less likely to gamble at all).
- The sample size (140) of problem gamblers in the *National Gambling Survey* means that the standard errors associated with the demographic characteristics of problem gamblers will be relatively high.<sup>38</sup>

**But the overall message from the analysis of the characteristics of problem gamblers is that there are few clear individual factors, other than age, that are associated with a higher likelihood of gambling problems. Certain playing modes — particularly regular gambling on continuous forms, such as gaming machines — appear also to be a significant determinant of higher prevalence rates.**

## 6.11 What is the duration of problems?

Information about the duration of problem gambling is interesting in a policy sense for a variety of reasons:

- first, it suggests whether the costs borne by problem gamblers persist year after year, or disappear after a relatively short duration; and
- second, it provides a guide to the incidence of gambling problems amongst an adult population. If each year, 2.1 per cent of the adult population had a gambling problem, and the duration of the problem was just one year, then this would imply that a large share of the adult population would have gambling problems at some point in their lives. Conversely, if the problems are enduring, then the proportion of the adult population who at some time will develop problems is a small factor (around 2) times the annual prevalence rate.

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<sup>38</sup> The standard error is about  $0.085\sqrt{(p(1-p))}$  where  $p$  is the proportion of the group with a given attribute.

The evidence points to problem gambling as an enduring problem for those who are affected. Gamblers from the *National Gambling Survey* who identified themselves as having a current problem had had the problem for an average 9.1 years.<sup>39</sup> Some 28 per cent had experienced problems for 10 years or more.

The *Survey of Clients of Counselling Agencies* suggested similar results, with an average duration of problems of 8.7 years.<sup>40</sup> Again, around 30 per cent of clients experienced problems for 10 years or more (table 6.18).

**Table 6.18 The duration of problems amongst clients of counselling services**

	<i>Share of problem gamblers</i>
	%
Less than one year	3.1
One to two years	16.5
Over 2 years to 5 years	27.9
Over 5 years to 7 years	12.4
Over 7 years to 10 years	9.8
Over 10 years to 15 years	11.6
Over 15 years	18.6

*Source:* PC Survey of Clients of Counselling Agencies.

Dickerson, Baxter et al. (1995, p. 94) found that nearly 40 per cent of help-seeking problem gamblers had experienced problems for more than 10 years (table 6.19).

However, amongst Queensland help-seeking problem gamblers, less than 10 per cent had experienced problems with this duration (figure 6.6). Females tend to have had a far shorter average duration of problems, probably reflecting the relative recency of mass involvement by women in gambling. This suggests that problem gambling prevalence rates will tend to climb in the future as the existing stock of problem gamblers accumulates.

<sup>39</sup> Those who indicated that the problem had been in the past suggested an average duration of 3.2 years.

<sup>40</sup> Some overseas research suggests a longer duration of problems among help seekers. For example, a US study (Lorenz, Politzer and Yaffee 1990) found that the mean age when members of a Gamblers Anonymous group had first lost control of their gambling was 27 years (a mode of 18 years) and the mean age when they had gained control was 40 years (a mode of 37 years) — which points to a typical duration of 17 to 19 years for this group.

**Table 6.19 The duration of problem gambling**

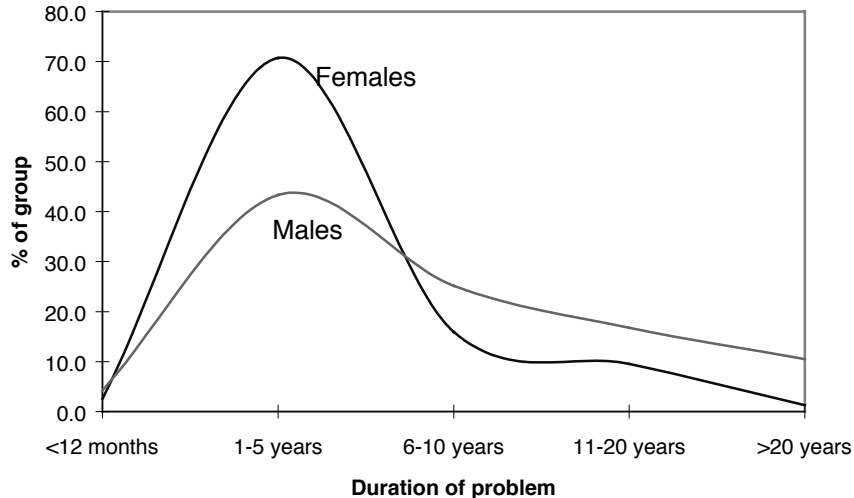
<i>Duration</i>	<i>% of problem gamblers by duration of problem</i>	<i>Duration</i>	<i>% of problem gamblers by duration of problem</i>
	Queensland BreakEven clients <sup>a</sup>		South Australian counselling clients <sup>b</sup>
	%		%
0 to 2 years	28.2	Up to 3 months	3.1
3 to 5 years	16.7	3 to 6 months	5.7
6 to 10 years	16.1	6 to 12 months	14.6
11 to 15 years	9.8	1 to 2 years	29.9
15 to 20 years	5.8	2 to 5 years	29.3
> 20 years	23.0	5 to 10 years	9.1
		10 years or more	8.4

<sup>a</sup> These data are for 1994, and would be expected to be influenced by the relatively recent liberalisation of gaming machines in Queensland at the time. <sup>b</sup> These data are from November 1996 to May 1998 for a sample of South Australian clients of gambling counselling services.

*Source:* Queensland data from Dickerson, Baxter et al. (1995, p. 94) and South Australian data from Elliot Stanford and Associates (1998).

**Figure 6.6 Duration of problem gambling by gender**

Clients of counselling agencies<sup>a</sup>



<sup>a</sup> The data have been smoothed.

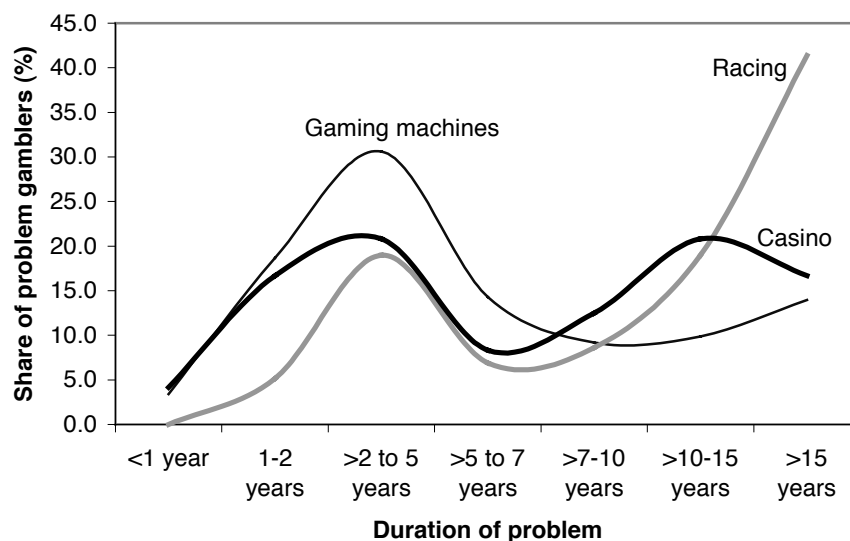
*Data source:* Relationships Australia Queensland (sub. 62).

People with problems relating to racing appear to have had far more enduring problems than those with problems from gaming machines or casino table games (figure 6.7). About 40 per cent of the clients of counselling agencies with a gambling problem relating to racing have had the problem for more than 15 years — about double that of the two other modes. Many more clients with gaming



machine problems have a very short duration of problems. This probably reflects the more recent liberalisation of gaming machines. The data suggest that clients in states other than New South Wales had a significantly lower duration of machine gambling problems. For example, South Australian gaming machine problem gambling clients had an average duration of problems of 4.8 years compared with 10.9 years in New South Wales. By contrast, there were no statistically significant differences between duration for racing-related gambling problems in different states. These duration data suggest that a whole new cohort of problem gamblers have been created with the liberalisation of gaming machines.

**Figure 6.7 Duration of gambling problem by source of problem**  
Counselling clients<sup>a</sup>



<sup>a</sup> Clients were asked to nominate the gambling mode that was the principal source of their gambling problems.

Data source: PC Survey of Clients of Counselling Agencies.

The duration data imply that many problem gamblers must have started gambling at a young age. The Commission was told by counselling agencies that many problem gamblers report that they commenced gambling at a relatively early age, and that they even developed problems when they were young. For example, the Festival of Light pointed to the risks of scratchies for young people:

A youth ... told us that he had begun buying Keno and instant scratchies at the age of 16, but had quickly become addicted ... He started buying them with spare change he happened to have. He had a few small wins, and that kept him going so he started to 'spend up big'. 'There was one time I had a spare dollar so I played it on Keno. I won \$3, but ended up spending that also and losing it. I was hooked — so I spent \$10 I was

planning to save, and ended up with nothing... I always thought I would win in the next game' (sub. 107, pp. 3, 9-10).

The *Survey of Clients of Counselling Agencies* confirms this (table 6.20), with 24 per cent of gamblers in counselling indicating that they commenced gambling regularly below the age of 18 years. Five per cent indicated that they had developed problems when under 18 years. There is also a marked difference between males and females, with many more males regularly gambling earlier than females — and also, accordingly, developing problems earlier.

**Table 6.20 The age at which problem gamblers in counselling reported they first gambled and developed problems, by gender**  
Australia 1999

Age category	Age when started gambling regularly			Age when first developed problems		
	Males	Females	All	Males	Females	All
	%	%	%	%	%	%
<=10	3.1	3.2	1.3	0.0	0.0	0.0
11-17	35.0	10.2	22.5	9.1	1.1	5.0
18-24	33.0	18.3	26.6	33.7	11.9	23.4
25-35	13.2	26.9	19.7	29.7	28.1	29.0
36-49	12.7	29.6	20.8	22.6	39.5	30.7
50+	3.1	11.8	9.1	5.0	19.5	11.8
Total	100.0	100.0	100.0	100.0	100.0	99.9

Source: PC *Survey of Clients of Counselling Agencies*.

## 6.12 Comparison of gambling problems with other public health concerns

As noted by Gerstein et al. (1999, p.50) and Tabcorp (sub. D232, p.9), it is instructive to examine how the prevalence of problem gambling compares with other key public policy health concerns. The evidence suggests that the prevalence of current year problem gambling is considerably less frequent than problems with alcohol and tobacco. On the other hand, it is rather more prevalent than current use of illicit injection drugs. It is also considerably more prevalent than the yearly incidence of some other public health concerns such as transport related injury and scalding in infants (both of which are the subject of awareness campaigns — chapter 16).

It should be emphasised that the relative magnitudes of prevalence rates among different sets of public health problems is only one consideration for prioritising policy action. The major consideration is the marginal net benefit associated with

public intervention, which will depend on the effectiveness and cost of interventions.

**Table 6.21 The prevalence and incidence of public health concerns**

<i>Health concern</i>	<i>Relevant population prevalence rate</i>	<i>Source</i>
	%	
<b>Australia</b>		
Regular smoker <sup>a</sup>	22.4	AIHW 1999 p. 12
Daily consumption of 5 or more standard drinks daily <sup>b</sup>	2.3	AIHW 1999 p. 18
Harmful or hazardous regular consumption of alcohol <sup>c</sup>	7.1	AIHW 1999 pp. 16-18
Use of an injecting drug in the last 12 months <sup>d</sup>	0.7	AIHW p. 26
Severe gambling problems <sup>e</sup>	0.9	<i>PC National Gambling Survey</i>
Moderate gambling problems <sup>f</sup>	1.2	<i>PC National Gambling Survey</i>
Hospitalisation rates for transport-related injury <sup>g</sup>	0.2	AIHW 1998, p.300
Hospitalisation rates for scalds 0-4 year olds	0.1	AIHW 1998, p.300
<b>United States</b>		
Current year alcohol dependence	7.2	National Research Council 1999 p. 81
Current year illicit drug dependence	2.8	National Research Council 1999 p. 81
Current year 'pathological' gambling <sup>h</sup>	0.9	National Research Council 1999 p. 81
Current year 'problem gambling' <sup>i</sup>	2.0	National Research Council 1999 p. 81

<sup>a</sup> Smokes daily/most days. The prevalence is of the population aged 14 or above. <sup>b</sup> This is based on the share of people aged over 14 years who consume more than 4 standard drinks daily. <sup>c</sup> This is based on males who consume more than 4 standard drinks (the recommended maximum) at least 4 days a week, and on females who consume more than 2 standard drinks (the recommended maximum) at least 4 days a week. It is unlikely to measure dependence. It is measured as a share of the population aged 14 years and above. <sup>d</sup> These drugs are mainly opiates, but also include a range of other injectable illicit substances. It only relates to use over the last year, and should not be equated with dependence. The prevalence rate applies to the population aged 14 and above. Tabcorp (sub. D232, p. 10), using the same source, cited a figure of 2.2 per cent for drug dependence, but this appears to be lifetime use of heroin. <sup>e</sup> Based on the Dickerson definition used in this chapter (share of the adult population). <sup>f</sup> Based on the residual of people scoring SOGS 5+ who were not included in Dickerson's definition (share of the adult population). <sup>g</sup> Rate based on the whole population. <sup>h</sup> The standard for measuring 'pathological' gambling is different to Australia — if a comparable standard had been used it is likely that the United States measured prevalence rate of so-called 'pathological' gambling would have been less. <sup>i</sup> This is based on a threshold for identifying problems that is generally not recognised in Australia.

Source: AIHW (1998, 1999); *PC National Gambling Survey*; NIDA (1999).

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# 7 The impacts of problem gambling

## Box 7.1 Key messages

- While problem gambling for some people may be precipitated by prior conditions or problems, the Commission's assessment of the evidence is that many of the harms experienced by problem gamblers can be traced to gambling itself.
- Around 60 per cent of those with at least moderate gambling problems indicate that they have suffered depression as a result of gambling. And about 9 per cent of problem gamblers (and 60 per cent of those in counselling, the most severe category) report that they have seriously thought about suicide because of their gambling. It is estimated that there are between 35 and 60 suicides linked to gambling each year.
- Around one in five severe problem gamblers are reported to be suffering from alcoholism or other dependencies.
- Gamblers and their families say that lack of trust, lying, arguments and financial stresses leads to enormous pressures on families. About one in ten problem gamblers said that their gambling had 'ever' led to a relationship breakdown. It is estimated that there are around 1 600 gambling-related divorces annually. One in ten gamblers in counselling reported domestic or other violent incidents related to their gambling.
- On average, around seven other people were reported to be adversely affected to varying degrees by a severe problem gambler's behaviour.
- Survey results suggest that severe problem gamblers often have someone else in their family with gambling problems. For example, a problem gambler in counselling has a 16 times higher chance of having a father with a problem, than a non-problem gambler.
- The Commission's surveys suggested only moderate effects on work performance by most problem gamblers. About 19 per cent of problem gamblers said they lost time from work or study in the last year due to gambling, but this typically occurred infrequently. In contrast, around 50 per cent of problem gamblers in counselling reported that they had lost time from work or study due to gambling in the last year.
- Problem gamblers in counselling report a decline in work performance averaging about 7 per cent.
- The Commission's national survey data, consistent with other studies, suggests that about one third of aggregate gambling losses are accounted for by problem gamblers — this represents about \$3.6 billion a year.
- Based on national survey data, gambling losses represent an average of 22.1 per cent of household income (before tax) for problem gamblers (with a median of 12.2 per cent).
- The consequence of the high ratio of gambling spending to income is that problem gamblers tend to run down assets or borrow. One in two problem gamblers have borrowed money from some source to finance their gambling, and one in five problem gamblers borrowed money without paying it back.

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## 7.1 The nature of impacts

Gambling is a form of entertainment enjoyed by many people. But for problem gamblers it has many adverse effects (figure 7.1). And, as emphasised in the previous chapter, the harms extend beyond those who might be categorised as problem gamblers. Accordingly this chapter examines the adverse impacts of gambling on both problem gamblers and others.<sup>1</sup> It commences by discussing some methodological problems associated with determining causality, before examining empirical evidence on the magnitude and prevalence of the adverse impacts of gambling.

### Some methodological issues

While the chapter deals with each adverse impact separately, it is important to note that many of the impacts shown in figure 7.1 have linkages between them, so that one impact intensifies or causes another. For example, a problem gambler who loses much of his or her income in a given period will often feel depressed or angry, relationships may suffer and they may be tempted to borrow from a loan shark, with further stresses. They may feel deeply preoccupied with the hope of making good their losses, so that work productivity falls. Similarly, a gambler who commits a crime because of gambling will feel anxiety associated with the fear of being caught or losing face, possibly precipitating more gambling to escape these feelings.

But these interaction effects raise a potential methodological problem, which is examined next.

### Is it ‘people with problems’ or ‘problem gambling’?: the issue of causality

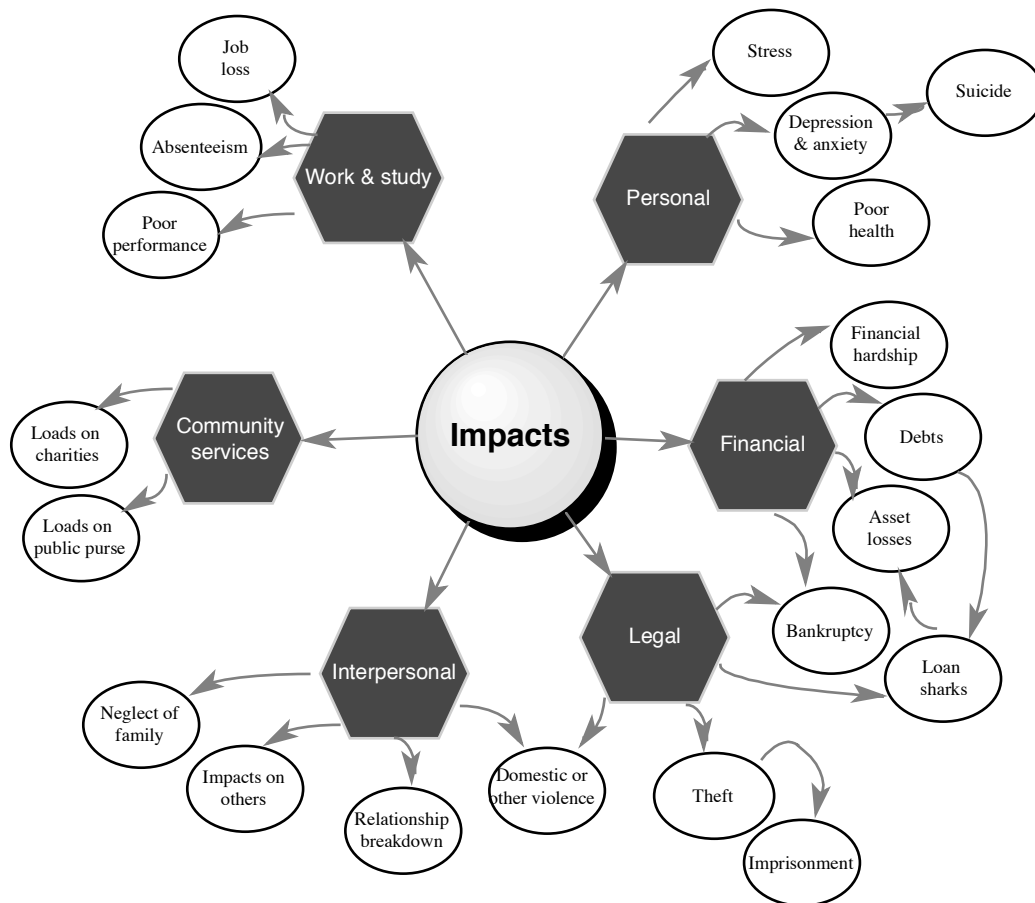
Much of the evidence on impacts of problem gambling establish *associations* between certain adverse outcomes that problem gamblers have experienced. An association is not the same as causality — a point emphasised by a statistician engaged by ACIL (sub. D233, p. 96). To be sure that the increased legal availability

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<sup>1</sup> This chapter presents for public discussion data drawn from a wide range of sources. These include public submissions and case studies given to the Commission in writing and orally; the Commission’s own research and the international social research literature. Since the data from different sources was collected using different methodologies, it is not of equal quality. Where possible the Commission has tried to corroborate findings from one source with those in others, but there would be value in a searching examination of methodological differences between the various strands of the problem gambling literature, an assessment of which sources are most reliable and valid, and an attempt at meta analysis.

of gambling has caused any given outcome, it would need to be shown that this outcome (or similarly bleak alternative) would not have occurred in the absence of gambling. For example, a person may be very depressed, go on a gambling binge, spending all of their income and assets, with devastating financial and personal outcomes. They then kill themselves. Is gambling a *cause* of these outcomes, or a *symptom* of a person with problems?

Figure 7.1 **Impacts of problem gambling**

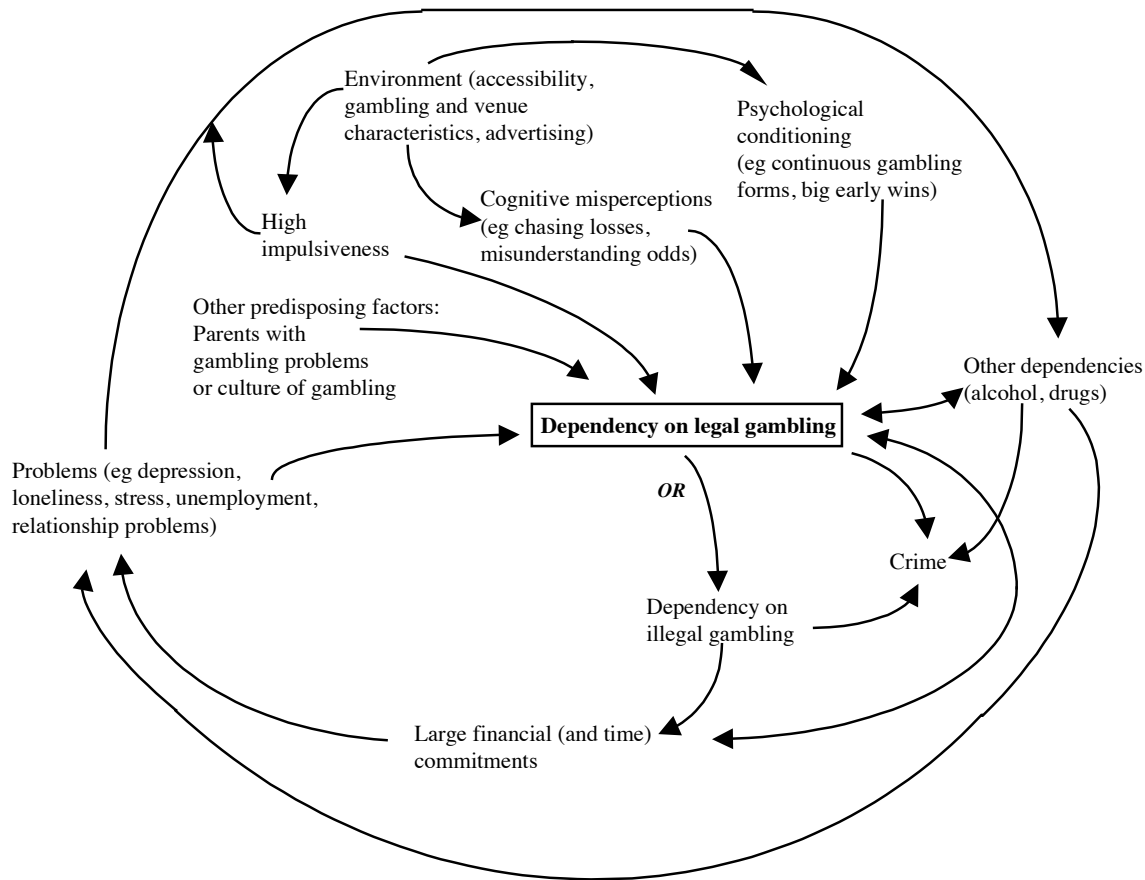


While it is extremely difficult to resolve problems of causality, it is useful to examine some of the key possible causal links between the legal availability of gambling and gambling problems (figure 7.2).

*People with problems?*

A number of submissions from gambling industry representatives argued that problem gambling was the result of people with problems who gambled, rather than something that was caused by gambling.

Figure 7.2 Causal pathways and problem gambling<sup>a</sup>



<sup>a</sup> The figure shows the different pathways of possible causality associated with problem gambling, its outcomes and determinants. Arrows show the causal directions.

The ‘rational’ addiction literature explains the concurrence of unhappy people and addiction in this way. Others put this view too. For example:

Q. Do problem gamblers exist? A. I am yet to be convinced of this, however I fully acknowledge that there are people with problems who gamble (Mr Windross, Managing Director of the TAB, sub. 161, p. 3).

... the claimed complementary indications — severe hardship, other compulsions, suicidal tendencies and low social and self-esteem — suggest that those identified as having gambling problems would have problems whether gambling was available to them or not. Thus while a growth in problem gambling is seen to have coincided with the rapid expansion of the availability of legal gambling products, the alleged causal link may be quite spurious (ACIL, sub. 155, p. 80).<sup>2</sup>

<sup>2</sup> It should be noted, parenthetically, that the first statement in the second quote applies a suspect logic. It appears to argue that, by itself, evidence for big problems relating to problem gambling implies that the problems were caused elsewhere, and thus that problem gambling does not lead to any big problems! A parallel would be: ‘The claimed complementary indications — severe

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This view is represented by pathway 1 in figure 7.2, and some psychologists have agreed that prior problems may be a factor which precipitates problem gambling for some people (Blaszczynski 1998, pp. 36–7; Shaffer, Hall and Vander Bilt 1997, p. 55; Baseline Market Research 1996<sup>3</sup>).

If this pathway were the start *and* end of the explanation of ‘problem’ gambling then it would imply that controlling access to gambling would not affect the actual level of problems experienced. In this case, policy measures to deal with problem gambling (for example, by altering the availability of gambling or using measures, such as self-exclusion) that do not deal with the fundamental problems of the problem gambler would be ineffective.

However, for many gamblers pre-existing problems do not appear to precipitate problem gambling (Shaffer, Hall and Vander Bilt 1997, p. 76 and box 7.2 for a personal anecdote). As well, while some factors may pre-dispose a person to gambling, there is little evidence that problem gamblers share common personality traits.

One question often asked is whether there is a ‘gambling prone personality’. The answer is simple and straightforward: there is no such gambling personality type. Furthermore, there is no individual personality trait that is commonly to be found in gamblers. Gamblers include all types of personality, and all kinds of personality traits are found in gamblers (Blaszczynski 1998, pp. 23–4).

Contrary to popular myth, scientists have so far been unable to identify the “addictive personality”... anyone can develop such a problem. In particular, the combination of a recent tragedy associated with the powerful behavioural learning principles that form the basis for gaming machines and the pervasiveness of such machines constitute a “problematic gambling cocktail” (Relationships Australia, SA, sub. 118).

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abdominal injuries, head injuries, spinal problems, and post-accident traumas — suggest that those suffering from car accidents would have had problems anyway, whether cars were available or not.’

<sup>3</sup> For example, this study found that 14 per cent of not-at-risk gamblers gambled as a distraction from problems, while 53 per cent of probable pathological gamblers did so (and 43 per cent of problem gamblers — defined as people scoring SOGS 3-4).



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### Box 7.2     **The experience of one problem gambler**

... in short I had a wonderful life and was on top of the world [prior to developing gambling problems] ... I don't know what drove me to seek diversion in poker machines. I just can't remember ... So pretty soon I was going to play the pokies quite often and yes I was enjoying myself and sometimes even won a few dollars ... I lost interest in music, in my car ... dining out, friends, my girlfriend; everything, everything, except those reels spinning before my eyes, in my head, in my dreams. I was totally consumed and, in what seemed such a short time. Anyway the whole story is long and covers the last seven years and though I have tried to be unemotional I must say now that I have been through hell. ... I have contemplated suicide many times, and many times, I've actually felt as if I was already dead.

*Source:* Comments from a gambler to the Productivity Commission's inquiry.

This view undermines the perspective that a certain sort of person is bound to acquire a gambling problem (or other dependency) regardless of the gambling environment in which they find themselves.

In any case, for those for whom prior problems or disorders are a precipitating factor, gambling appears to *exacerbate* their prior problems, in what has been termed the 'problem gambling loop' (WACOSS 1997, p. 10; Wesley Gambling Counselling Service, sub.26). After all, there are relatively few 'dependencies' which are as costly as gambling (alcohol and drug abuse being the exceptions). Someone who decided to ease their problems by exercising excessively, working over-long hours or watching too much television might suffer some ill effects, but not on the scale suffered as a result of compulsively gambling. In this case, changes in the regulatory environment for gambling would still confer benefits because either it may directly reduce the harms suffered as a consequence of people's problems or shift escapist behaviour to less harmful outlets.

It is sometimes also claimed that people with gambling problems are people who:

- either have another dependency (such as alcoholism), whose adverse outcomes are confused with those of gambling; or
- *would* have had another equally damaging dependency, such as alcohol or drugs, in the absence of the easy access to legal gambling.

This is represented by pathway 2 in the figure 7.2.

It is certainly true that some problem gamblers have co-dependencies. Ramirez et al. (1984) report that a substantial number of problem gamblers using help services suffer from alcohol and/or drug abuse. In this case, some of the adverse consequences attributed to gambling may really be related to another dependency. As well, problem gambling itself may sometimes also be related to such dependencies — as when a person who has consumed a lot of alcohol loses their

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inhibitions to gamble. If the line of causality were often to run this way, then it might suggest controls on access to alcohol in gambling venues, rather than controls on gambling per se.

Finally, another argument sometimes mounted against a causal connection between the availability of legal gambling and problem gambling is that the problems would still have existed for many, because they would have used illegal gambling services (pathway 3). For example, it has been reported that a significant number of women have been deserted by spouses engaged in illegal gambling *prior* to the introduction of legalised casino and gaming machine gambling in Victoria (Brown et al. 1999, p. 32). And the Adelaide Central Mission (sub. D267, pp. 5–6) cites current problems associated with illegal gambling in South Australia.

However, while there is evidence that illegal gambling was rife prior to liberalisation, there is also strong evidence that problem gambling prevalence rates have increased with legal accessibility to gambling (chapter 8).

### *Gambling as the cause of the problems?*

While there are some causal pathways that run from problems to gambling, there are many which run the other way. These pathways suggest that the gambling environment is likely to play a major role in causing problem gambling. For example:

- As gambling opportunities become more accessible, this allows an impulsive person much greater opportunity to gamble.
- Some gambling forms such as gaming machines involve repetitive, but random, rewards for further play — which conditions behaviour in some people to gamble persistently (Knapp 1976; Anderson and Brown 1984 and the review in Blaszczynski 1999). The machines have been humorously nicknamed by psychologists as ‘one-armed behavioural technicians’ (Creed 1998) to reflect their encouragement of continued play through operant conditioning. The use of ‘variable ratio schedule reinforcement’ (the pattern of payoffs) in gaming machines is similar to that used to condition rats to repetitively push a lever in ‘Skinner boxes’ (National Research Council 1999, pp. 39 and 245). Gambling forms which lack skill or random reinforcement, such as weekly lotteries, tend to be almost completely free of problems compared to ones with these characteristics (chapter 6).
- The gambling environment, including the promotional activity of the industry, may compound (or at least, not negate) certain erroneous beliefs that gamblers have about winning. For example, people may believe that a machine which has not paid out for some time will do so soon, that they will be able to make up past

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losses, and that they have a greater ability to control the likelihood of winning than they do (Blaszczynski, Walker et al. 1997).

Ultimately the notion that the causality behind problem gambling lies on a single one-way road is faulty. There are many simultaneous and interconnecting pathways.

For example, a person may wish to escape a boring and low paid job, and gambles heavily on poker machines. She makes large losses. These losses are devastating, and the person erroneously sees no alternative but to gamble further in order to make up these losses. The losses are now even worse, providing the impetus for a number of vicious cycles. Work performance declines as the person is distracted by her financial crisis and the need for a big win. Her home life is also getting worse, as her partner wants to know where all the money (and time) is going. Gambling provides an escape from these escalating problems — and the cycle is renewed and intensified.

The causal pathways to problem gambling in this illustrative case come from multiple and intertwined sources, but there is little question that problem gambling behaviours (and the gambling environment) play a central and, therefore, policy relevant role.

However, it is also the case that there are risks of either understating or overstating the impacts of problem gambling:

- It is possible to overstate it by seeing every case when a problem gambler loses his or her job, abuses a partner and child(ren), goes bankrupt, embezzles an employer's money, or suicides as causally linked to gambling. In some cases, these devastating outcomes will reflect a hidden common factor which pre-dated the gambling problem.
- It is possible to understate it, because adverse social consequences (of anything) are often shrouded by stigma and, thereby, secrecy. The history of any social problems which are perceived as 'deviance' is that only the 'tip of the iceberg' is first accounted for in the public domain (for example, mental illness, child abuse).

The Commission recognises that assessing the extent to which gambling causes problems is extremely difficult. It is clearly not possible to conduct experiments, as in the physical sciences. Nor is it cost effective to have large matched groups of non-problem and problem gamblers. And even when these methods are applied, they do not always resolve causal issues in an uncontroversial or rapid way. (For example, it took many decades to prove scientifically the link between tobacco use

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and its adverse health effects.) In the absence of experimentation and matching, a number of other methods can be used:<sup>4</sup>

### *Quantitative approaches to assessing causality*

One approach is to use a statistical method, ‘regression’, which attempts to calculate the association between a possible cause and outcome, such as divorce, taking into account the influence of confounding variables.<sup>5</sup> Effectively the question being asked is, taking account of all the other possible contributing factors to divorce, how much additional risk is posed by problem gambling? This is the approach taken by the US NORC study (Gerstein et al. 1999). This method, while indicative, does not actually deal with causality unless it can be certain that the gambling problem preceded the divorce. **The most effective way of identifying causal pathways relating to apparent adverse outcomes for problem gamblers would be a longitudinal study of gamblers.**

Other quantitative approaches look at the overall incidence and prevalence of some social harm (such as bankruptcy, suicide, or crime) either over time or regionally, and see if there appears to be a link to the intensity of gambling (for example, McCleary et al. 1998). The usefulness of these ‘aggregate’ approaches depends on:

- *Dealing with confounding variables.* Simple comparisons, by themselves, provide little evidence and can mislead. For example, Tabcorp (sub. D232, p. 12) argued that: ‘Greater access to gaming machines does not increase the proportion of gamblers who become problem gamblers, nor does gambling lead to greater incidence of divorce, bankruptcies or crime’. They observed that despite there being no equivalent gaming machines in Western Australia, divorce, crime and insolvency rates were much higher than in Victoria. But this sort of comparison is very weak because it is based on just one determinant and fails to control for confounding factors.<sup>6</sup> The relevant issue is not whether some problem is higher or lower in a gaming state than a non-gaming state, but

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<sup>4</sup> O’Neill, a statistical consultant to ACIL (sub. D233, pp. 96–7) provides a useful discussion of these techniques.

<sup>5</sup> The method involves regressing some adverse outcome, such as divorce, against some risk factors which may lower or increase the likelihood of divorce, such as age, education, duration of marriage, income, *and* problem gambling. The interest in such regressions is on the coefficient on problem gambling.

<sup>6</sup> It is easy to manufacture similar examples where the comparison is less flattering to gambling. For example, the suicide rate is higher in Queensland with its far greater per capita gambling expenditure than Tasmania (Victorian Taskforce 1997, p. 12) — but the Commission considers this as equally poor ‘evidence’ of the impact of gambling as the example provided by Tabcorp.

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whether, *holding all other possible influences constant*, these problems would be the same as or less in a gaming state.

- *The relative importance of gambling as a contributor to the social problem.* In some cases, trying to find out whether gambling causes some adverse reaction *using aggregate data* is doomed to failure, because even if there were a link, the number of gambling-related cases may be swamped by other unrelated cases (box 7.3).
- *The burden of proof.* In most statistical analyses of the possible ill-effects of gambling, the cards have been stacked against finding a relationship even where one exists. This is because the studies typically only reject the maintained hypothesis of no link, if the risk of being wrong is 5 per cent or less — a stringent requirement. In a sense these methods assume innocence and require a proof of guilt. This has the implication that even where there is a true effect, it will often not be found. Whether this is appropriate statistical practice depends on the costs of being wrong.

**Box 7.3 Finding causal relationships using aggregate data: Is cyanide safe?**

This is an illustration of some of the pitfalls in trying to use some forms of aggregate data for determining causal relationships. Every second year select a group of 100 people and administer a lethal dose of cyanide. Then test whether the aggregate mortality rate is statistically significantly higher in the years the dose is administered compared to years that it is not. With around 100 000 people dying each year, and this figure varying because of random fluctuations, it would be impossible to find the influence of the cyanide related deaths. But an inference that cyanide is safe would clearly be premature.

This example does not mean that aggregate analysis is never useful. However, an appropriate research strategy may be to see whether the statistical method used could be expected to find a relationship when one exists.

In summary, there are a range of quantitative methods that are routinely and usefully employed in looking at the impacts (and causality) of problem gambling, but they contain some pitfalls that are rarely highlighted.

*A self-assessment approach to assigning causality*

This is based on asking gamblers whether gambling has contributed to an adverse event or not. This is how we deal with descriptions of causality in everyday life ('why were you late?', 'what made the car break down?'; 'why are you sad?'). Thus someone may have got depressed, but not because of their gambling problems — if

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respondents answer honestly, the self-assessment approach can provide a good perspective on causality because it makes use of all of the knowledge of the respondent. Self-assessment is obviously particularly useful if the phenomenon being investigated relates to a person's mental state.

The Commission largely took this approach in its study of problem gamblers, although it buttressed these results using a range of other research sources (for example, on suicide, crime and bankruptcy) based on other methodologies.

It should be emphasised that self-assessment methods have drawbacks. People sometimes forget, exaggerate, dissemble, make errors, and may be poor at determining what might have happened under the counterfactual. Whilst the Commission was unable to verify with third parties whether self-assessments by problem gamblers were accurate, the results obtained from the Commission's self-assessment approach were similar to those obtained by NORC using their quantitative methods.

Nevertheless, it is important to undertake some checks of the plausibility of answers using self-assessment. For example, does it identify an implausibly large number of affected people in the group of people suffering that harm? (see the later discussion on divorce). Is it consistent with what is already known about problem gambling? Is it consistent with the views of clinicians in the field? The Commission has used a number of such checks to assess whether the self-assessment methods are likely to over- or understate the adverse impacts of problem gambling.

In the following sections, the Commission refers to any corroborative or contradictory evidence on the magnitude or causal factors underlying each of the major potential impacts. The Commission also sought comments from an expert group on what their clinical and research experience with problem gamblers suggested about causality. It was their view that, as a rule of thumb, around 15 to 20 per cent of the adverse impacts ascribed to problem gambling would have occurred anyway — and this should be borne in mind when looking at the impacts recorded in this chapter. The costs of the adverse impacts of problem gambling have been adjusted down in chapter 9 to reflect this complex causality.

Ultimately, judgements about causality rest on a mixture of theory and qualitative and quantitative evidence (as in the justice system). There is no single method that resolves what would have happened to a problem gambler in the absence of their problem. There will certainly be people who suffer adverse consequences associated with gambling, who, in the absence of the availability of legal gambling, would have suffered similar adverse consequences from other sources. But overall, the Commission's assessment, based on reviewing different evidence, is that:

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- while problem gambling may sometimes be precipitated by outside events, problem gambling will tend to exacerbate any pre-existing problems; and
  - that many of the harms experienced by problem gamblers can be traced to gambling itself.

### **The effects on different cultural groups**

In this chapter, the Commission examines the impacts on problem gamblers as a group. However, impacts may vary between different types of sub-groups, such as women and people from different cultural backgrounds. Jackson et al. (1999a,b) have provided useful data on the ethnic mix of clients of BreakEven services in Victoria, which helps establish patterns of use of services.

But the study of cultural patterns of gambling in the *general* population is a relatively neglected area. The ways in which cultural factors can influence gambling behaviours, benefits and harms are complex. For example:

- gambling has a central and different role in Aboriginal and Torres Strait Islander (ATSI) communities. The nature and types of problems and benefits experienced diverge from those of non-indigenous Australians (appendix E); and
- gambling has resonated in different ways among the Vietnamese community (box 7.4).

Moreover, these culturally shaped facets of gambling are not well picked up by telephone surveys, especially since these often involve under-enumeration of the vulnerable members of such communities. The Commission has not conducted detailed work on the varying impacts of gambling on different cultural groups, especially since some other studies are soon to be released.

- The AIGR (1999) has conducted some research into the cultural dimensions of problem gambling in Western Australia. In the absence of the widespread availability of gaming machines, the concerns relate to a narrower set of gambling modes).
- The Casino Community Benefit Fund, through its trustees, has funded a major project in New South Wales to examine the ethnic dimensions of problem gambling, including a large scale survey based on interviews with different cultural groups using interviewers from the relevant cultural group. The results are due to be released in early 2000.

**The Commission considers that more research will need to be conducted in this area, especially in determining the appropriate models for provision of assistance and prevention under harm minimisation strategies.**

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**Box 7.4      Gambling-related problems in the Victorian Vietnamese community**

Jesuit Social Services undertook a study of gambling-related problems in the Victorian Vietnamese community. The study found evidence that:

- the expansion of legal gambling, and especially the opening of the casino, had substantially increased demand for help services by the Vietnamese community (p. 34);
- gambling-related issues could account for between 1 and 20 per cent<sup>7</sup> of the caseload of agencies helping Vietnamese Australians (p. 38);
- the impact of gambling on the Vietnamese extended family is far-reaching because of its close knit nature. Relatives feel they must help with gambling debts (p. 49); and
- the issue of 'face' and stigma associated with having a gambling problem made it difficult to attract problem gamblers to counselling services (p. 71).

*Source:* Tran (1999).

## 7.2      Personal effects on gamblers

### Depression, anxiety, suicide and ill-health

Problem gambling — with its potentially devastating impacts on the finances, personal lives and relationships of the affected gamblers — is related to heightened anxiety, depression, and in extreme cases to suicide.

The Adelaide Central Mission noted:

In the extreme case, the depression that arises out of the despair, hopelessness, shame and guilt of the consequences of gambling can be so overpowering for some that the only recourse is suicide. Among the people seen at Adelaide Central Mission, over the last six months we are aware of at least 6 suicides. The number of people who talk about suicide as an option to their circumstance is approaching 1 in 3 ... From our experience we are aware that in some cases that the deaths are not always recorded as suicide. There is often an alternative recording of the cause of death to protect the family or because the death is not readily identified as a suicide by the investigating officer eg car accidents (1998, p. 15).

Many studies find a connection between problem gambling, and mood disorders, such as depression or anxiety — a connection which was emphasised by a number

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<sup>7</sup> Problem gambling counsellors were **not** included.



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of submissions to this inquiry.<sup>8</sup> There is some evidence that the gambling problem often precedes the onset of depression (McCormick et al. 1984), though in some cases depression can act as a trigger.

The Commission's *National Gambling Survey* and *Survey of Clients of Counselling Agencies* results suggested high levels of self-assessed depression, guilt and suicidal thoughts due to gambling:

- around half the people with at least moderate gambling problems say they have suffered depression as a result of gambling at some time, and around 53 per cent say they have been depressed because of gambling in the last year (table 7.1). Rare and short-lived episodes of depression are obviously less costly than frequent or enduring states of despondency. A better measure of significant depressive episodes is whether the feelings are commonly experienced. About 22 per cent of people with SOGS 5 or more report being 'often or always' depressed because of their gambling. Annually around 5.1 per cent of Australian adults report depression lasting 2 weeks or more (ABS 1998d). On this basis, and assuming that the 'often to always' category best captures a genuine episode of depression, gambling accounts for about 8.9 per cent of such cases annually. Clearly, since the methods for establishing the levels and nature of depression among the wider community involve self-assessment, the figure is imprecise, and could be somewhat higher or lower.
- Nearly all problem gamblers seeking help from counselling agencies record some episodes of depression and about 60 per cent report feeling this way often or always;
- the overwhelming majority of gamblers experiencing problems say they feel guilty about their gambling and the bulk report control problems;
- about 9 per cent of problem gamblers report that they have seriously thought about suicide because of their gambling, and about 60 per cent of those who seek help for their gambling problems from counselling agencies; and
- about one in ten problem gamblers who seek counselling assistance report an attempted suicide.

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<sup>8</sup> AIGR (1996b), Blaszczyński and McConaghy (1989), Brown and Coventry (1997); Crockford and Guebalý (1998), Lesieur et al. (1986); Lesieur and Blume (1990) and sub. 40, p. 6ff.

**Table 7.1 Personal impacts of problem gambling**  
Australia 1999<sup>a</sup>

	Yes <sup>b</sup>	Number affected	Never <sup>c</sup>	Rarely	Sometimes	Often	Always	Source
	%	'000	%	%	%	%	%	
<b>Suffered from depression due to gambling</b>								
Problem gamblers (ever)	58.1	170.2	41.9	..	..	..	..	NS
Non-problem regulars (ever)	4.3	52.2	95.7	..	..	..	..	NS
Adults (ever)	2.1	289.9	97.9					NS
Problem gamblers seeking help (ever)	95.6	..	4.3	6.5	29.2	44.8	15.1	CS
Problem gamblers (in last year)	52.7	154.3	47.3	8.6	21.9	16.4	5.8	NS
Non-problem regulars (in last year)	2.6	31.5	97.4	1.5	0.7	0.1	0.3	NS
Adults (in last year)	1.5	205.9	98.5	0.5	0.5	0.4	0.2	NS
<b>Seriously considered suicide due to gambling</b>								
Problem gamblers (ever)	9.2	26.9	90.8	..	..	..	..	NS
Non-problem regulars (ever)	0.0	0.0	100.0	..	..	..	..	NS
Adults (ever)	0.3	35.5	99.7					NS
Problem gamblers seeking help (ever)	57.8	..	42.2	19.1	23.9	12.0	2.8	CS
Problem gamblers (in last year)	4.4	12.9	95.6	..	..	..	..	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	..	..	..	..	NS
Adults (in last year)	0.1	12.9	99.9	..	..	..	..	NS
<b>Attempted suicide</b>								
Problem gamblers seeking help (ever)	13.6	..	86.4	..	..	..	..	CS
<b>Suffered from guilt due to gambling</b>								
Problem gamblers (in last year)	88.9	260.2	11.1	15.3	27.2	21.5	24.8	NS
Non-problem regulars (in last year)	16.2	196.1	83.8	6.7	8.7	0.6	0.2	NS
Adults (in last year)	4.8	681.5	95.2	1.9	1.7	0.5	0.7	NS
Problem gamblers seeking help (in last year)	99.0	..	1.0	2.8	12.8	35.3	48.1	CS
<b>Made life less enjoyable</b>								
Problem gamblers (in last year)	50.1	146.7	49.9	..	..	..	..	NS
Non-problem regulars (in last year)	4.8	57.5	95.3	..	..	..	..	NS
Adults (in last year)	3.6	507.7	96.4	..	..	..	..	NS
<b>Control problems - 'like to stop but can't'</b>								
Problem gamblers (in last year)	69.1	202.1	30.9	17.5	22.7	11.3	17.3	NS
Non-problem regulars (in last year)	6.7	81.6	93.3	2.8	3.0	0.5	0.2	NS
Adults (in last year)	2.3	330.5	97.7	0.8	0.9	0.3	0.4	NS
Problem gamblers seeking help (in last year)	97.0	..	3.0	5.5	20.1	44.4	27.1	CS

<sup>a</sup> NS is the PC *National Gambling Survey*; CS is the PC *Survey of Clients of Counselling Agencies*; PGs are problem gamblers (defined as SOGS 5+ for results from the general population). <sup>b</sup> Includes those who said yes, but did not nominate a frequency. <sup>c</sup> Non-problem regulars include just regulars (and excludes the sample of high spending non-regulars).

Source: PC *National Gambling Survey* and PC *Survey of Clients of Counselling Agencies*.

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Other results corroborate these high personal costs:

- The Mental Health Foundation of Australia (MHFA, sub. 51, p. 9) report that 75 per cent of problem gamblers who seek help have symptoms of depression. They claimed that a majority (61 per cent) think of suicide, while a sizeable minority (22 per cent) have made actual suicide attempts, which seems consistent with international results (table 7.2).
- Relationships Australia (SA) (sub. 118) reported that their Gambling Rehabilitation service clients are reporting higher levels of anxiety and depression than the Relationship Counselling Service clients — and much higher levels of suicide thoughts.
- Among a group of problem gamblers in counselling in South Australia, Elliot Stanford and Associates (1998) found that the *average* suffered from moderate levels of depression and anxiety.

Problem gamblers experience a number of other, potentially distressing mental states, such as guilt, restlessness, preoccupation with gambling and loss of control. For example, in an analysis of Victorian Break Even clients, Jackson et al. (1997, p. 27) found that 58.6 per cent felt irritable or restless because of their gambling, 62.5 per cent felt preoccupied with gambling and 67.7 per cent had made frequent but failed attempts to control their gambling.<sup>9</sup> These patterns have persisted in more recent years according to data gathered from Victorian Break Even clients (Jackson et al. 1999a, b). Overseas evidence suggests that problem gamblers are much more likely to feel angry, anxious or disappointed when playing gaming machines than recreational players (table 7.3).

People who seek help for their gambling problems are not generally representative of those with problems among the general populations. For example, rates of self-assessed lifetime depression related to gambling among problem gamblers in counselling are:

- about equal to those in the general population with a severe problem (SOGS 10+)<sup>10</sup>,
- about twice as high as problem gamblers in general (SOGS 5+ or level 1 and level 2 problem gamblers combined); and
- 22 times higher than non-problem regular gamblers and 47 times greater than the adult population as a whole.

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<sup>9</sup> These are some of the behaviours which make up the DSM-IV criteria for ‘pathological’ gambling.

<sup>10</sup> At 95.6 per cent for the help group compared to 82.3 per cent for people scoring SOGS 10+ in the general population).

**Table 7.2 Suicide thoughts and attempts among problem gamblers**

Evidence from the literature

<i>Study</i>	<i>Finding</i>	<i>Country</i>
Blaszczynski and Maccallum 1999	41% of a sample of 53 diagnosed pathological gamblers receiving treatment reported suicide ideation, and 10% had a level of suicidality within the range of serious to extreme.	Australia
Moran 1969	20% of a sample of 50 pathological gamblers had attempted suicide	UK
Lesieur and Blume 1990	17-24% of a group of GA members and pathological gamblers attending an inpatient treatment program had suicide ideation	US
Schwarz and Lindner 1992	34.7% of a sample of 58 gamblers seeking help had suicide ideation and 31% had attempted suicide	US
McCormick, Russo, Ramirez and Taber 1984	30% of 50 gamblers seeking treatment had severe, extreme or lethal suicide ratings and 12% had made attempts. Three quarters of problem gamblers entering treatment suffer from severe depression	US
Frank, Lester and Wexler 1991	Among a group of 162 GA members, 13% admitted to a suicide attempt and 48% suicide ideation	US
Bland, Newman, Orn and Stebelsky 1993	13.3% of lifetime pathological gamblers had attempted suicide	Canada
Ladouceur, Dube and Bujold 1994	A Quebec study of college students found that 26.8 per cent of pathological gamblers had attempted suicide, compared to 7.2 per cent of college students with no gambling problem	Canada
Horodecki 1992	70% of pathological gamblers seeking treatment had expressed suicide ideation, and 8% an attempted suicide	Austria
Sullivan 1994	80% of respondents to a gambling hotline had suicide ideation, 17% had planned a suicide, 4% had made an attempt.	New Zealand
Lorenz, Politzer and Yaffee 1990	65 per cent of a Gamblers Anonymous group in Maryland, US, had seriously thought of suicide, two thirds of these to the point of considering the method of killing themselves	US
Lesieur (1998, p. 158)	In a review of the suicide literature, suggests that between 12 and 18 per cent of Gamblers Anonymous members have attempted suicide, 45-49 per cent have made plans to kill themselves, 48-70 per cent have contemplated suicide and 80 per cent have said they wanted to die.	US

**Table 7.3 Emotional responses while playing machines**

Nova Scotia, Canada 1998<sup>a</sup>

	<i>Infrequent gaming machine players</i>	<i>Frequent non-problem players</i>	<i>Problem players</i>
Disappointment	10	11	61
Angry/frustrated	4	5	39
Sad/depressed	<1	1	30
Nervous/edgy	1	2	13

<sup>a</sup> Problem players also reported higher levels of excitement than other players (24 per cent of 12% for infrequent players and 13% for frequent players), suggesting that their emotional responses tend to be more extreme than others, regardless of whether the feelings are positive or negative.

Source: Focal Research (1998, p. 3.83).

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The recent US national survey found a similar relative pattern, with 11.6 per cent of pathological gamblers having a depressive episode, compared to 6.7 per cent of at-risk gamblers (Gerstein et al. 1999).

These patterns in the data provide some ability to check their validity. The AHA (sub. 231, p. 28) noted that questions used in the Commission's *National Gambling Survey* such as 'Have you ever suffered from depression because of your gambling?' may have had a leading effect, eliciting positive responses from people who may have suffered depression, but not due to their gambling. As noted above, ABS data suggests a 5.1 per cent annual incidence of an enduring depressive episode among Australian adults (most of which is clearly not related to gambling). Non-problem regular gamblers — who would have the easy excuse of blaming any depressive incident on gambling if they wished to — nevertheless record extremely low levels of enduring depression *related to gambling* (at 0.4 per cent — often to always, which is around 1/60<sup>th</sup> of the comparable incidence level for problem gamblers — table 7.1). It is revealing too that the proportion of problem gamblers in counselling answering the self-assessment question who say they feel depressed often or always, is similar to that determined using clinical evaluation techniques for such groups. Overall, these patterns suggest that the self-assessment question used in the Commission's survey picked up depression related to gambling relatively well.

However, while the rate of problems among those with the severest difficulties with gambling are much higher than other groups, they account for the (albeit still sizeable) minority of total cases of problems. People with severe gambling problems, for example, account for only 37 per cent of people who have often or always felt depressed because of their gambling.<sup>11</sup>

### *Estimating gambling-related suicides*

Information on suicides and gambling mainly come from two sources:

- case studies of individual gamblers who become desperate as a result of the financial and personal consequences of gambling and then kill themselves (such as the cases described by Blaszczynski and Farrell 1998, and Marfels 1999<sup>12</sup>); and

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<sup>11</sup> The bulk of the remainder (55 per cent) are accounted for by problem gamblers scoring 5 to 9 on the SOGS. Around 7 per cent are accounted for by non-problem regular gamblers. These may be false positives, but 70 per cent of these have a SOGS score of 4 and none have a zero SOGS score.

<sup>12</sup> The latter study found that of 189 suicides by adult visitors to Las Vegas from 1990 to 1998, problem gambling could be identified as the primary cause for the suicide in 10 cases (or 5.3 per

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- surveys of people who are problem gamblers (either in-treatment or identified as part of a general population) which asks them about any suicide ideation (people who think about suicide) or attempts (tables 7.1 and 7.2 above).

This evidence provides a good prima facie case that suicide can result from problem gambling, but it makes it hard to estimate the actual numbers of suicides. There are a number of possible ways of approaching this task.

As in the study by Blaszczynski and Farrell (1998), records from coroners' offices may be used to try to estimate the number of suicides related to gambling. They examined the case records of all suicides in Victoria from 1990 to 1997, identifying 44 gambling related cases, with the apparent number increasing over time (figure 7.3), perhaps linked to greater gambling accessibility. Over the full period, these suicides accounted for 1 per cent of Victorian suicides, increasing to 1.7 per cent for the period 1994 to 97. If the Victorian pattern is roughly similar to that of other Australian states, then (using the 1.7 per cent ratio and 2 708 adult suicides in Australia in 1997<sup>13</sup>) around 46 gambling related suicides occur each year in Australia.

Unfortunately, it was not clear how many of the suicides related to legally sanctioned gambling compared to illegal games. Nor, given the presence of significant co-morbidities, is the causality absolutely clearcut. As Blaszczynski and Farrell put it:

Given the limited data, it cannot be conclusively stated with any degree of certitude that gambling was the singular or predominant motivation underlying the suicide ... Nevertheless, there are sufficient indicators to provide strong support for the argument that gambling acted as a catalyst or played a relevant role in the suicide (pp. 7, 15).

It is probable that a proportion of suicides of problem gamblers reflect wider problems, and may have occurred anyway. For example, the MHFA (sub. 51) and the Australian Medical Association (sub. 53, p. 4) note that there is no clear cause-and-effect relationship between mood disorders and problem gambling. Problem gambling can be precipitated by a mood disorder, or it can generate (or exacerbate an existing) a mood disorder.

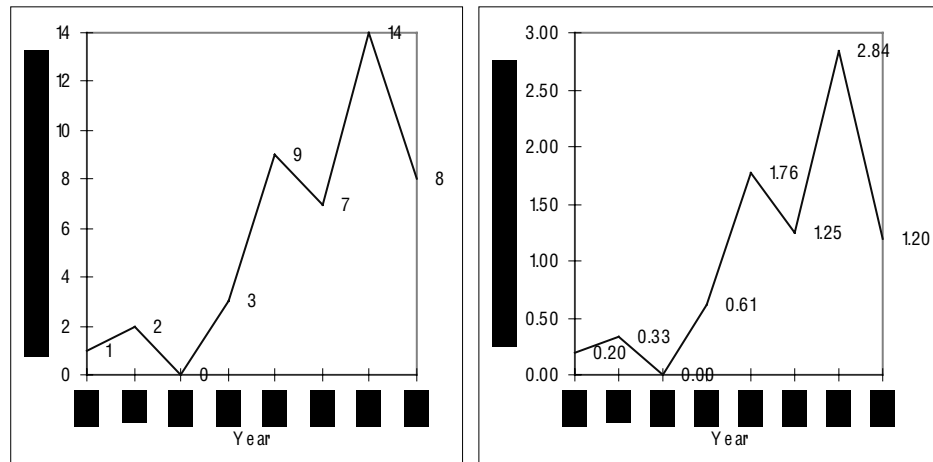
On the other hand, many suicides may be misdiagnosed as car accidents, drowning, or other forms of death, so it is not clear that Blaszczynski and Farrell's results represent an upwardly biased indicator of suicides from gambling.

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cent of the cases). The study related to suicides by visitors that took place in Las Vegas. They overturn any notion that a significant proportion of suicides by visitors to Las Vegas must be related to gambling. However, they cannot be used to infer the proportion of overall suicides of a resident population that are due to gambling.

<sup>13</sup> From the National Injury Surveillance Unit (1999).

**Figure 7.3 Gambling-related suicides in Victoria**  
1990 to 1997



Data source: Blaszczyński and Farrell (1998) and National Injury Surveillance Unit data on Victorian total suicides to calculate the suicide share (of people suiciding in Victoria aged 15 years or over).

Another approach to estimating the suicides attributable to gambling may be to use epidemiological evidence on the general prevalence of suicides and suicide thoughts/attempts to infer the extent to which suicide thoughts or attempts by problem gamblers may be realised as successful suicides (table 7.4). Evidence from the Victorian Task Force Report (1997, p. 21) on suicides suggested that for every successful male suicide there were between 30 and 50 suicide attempts, while for every female suicide there were between 150 and 300 attempts.<sup>14</sup> The *PC Survey of Clients of Counselling Agencies* suggested that about 28 per cent of males with serious suicide ideation attempted suicide, compared with about 19 per cent of females with suicide ideation (probably reflecting the generally lesser duration, on average, of their problems). These data can then be used to estimate gambling-related suicide attempts per year — about 1 500 attempts by males and 1 400 by females. Once the relative rarity of success (in any given year) is taken into account, gambling-related suicides are estimated to amount to between 35 and 60 a year, with a midpoint of 47.5.<sup>15</sup> This is close to the estimate generated using Blaszczyński's data.

<sup>14</sup> In using these ratios it is being assumed that each problem gambler is only making one attempt in the year concerned. Since some may have made more than one attempt, it is possible this may be the source of some underestimation. On the other hand, it is also likely that some problem gamblers would have had problems which would have led to suicide attempts in any case. For example, Blaszczyński and Maccallum (1999) found that around 10 per cent of cases of suicide ideation in a group of severe problem gamblers was unrelated to their gambling.

<sup>15</sup> The draft report estimated a much higher figure using data on the ratio of successful suicides to suicide attempts obtained from the National Injury Surveillance Unit. They reported 14 713 attempted suicides among adult Australians and 2 708 successful suicides (in 1997), giving a

**Table 7.4 Estimating suicides of problem gambling using epidemiological data<sup>a</sup>**

Australia 1997

Suicide indicator		Males	Females	Total
Suicide ideation rate in help seeking problem gamblers	%	59.3%	57.0%	..
Suicide attempt rate among help-seeking problem gamblers	%	16.8%	10.6%	..
Ratio of attempts to ideation in help-seeking problem gamblers	%	28.2%	18.7%	..
Serious suicide ideation related to gambling by problem gamblers in the last year	number	5 408	7 538	12 946
Estimated gambling-related suicide attempts	number	1 528	1 407	2 935
Ratio of suicides to attempts				
High	%	3.33%	0.67%	2.05%
Low	%	2.00%	0.33%	1.20%
Estimated gambling related suicides				
High	number	51	9	60
Low	number	31	5	35

<sup>a</sup> This estimate assumes that the attempt to ideation ratio applying for problem gamblers in counselling also applies to severe problem gamblers in the general population, and that the Australia-wide suicide success rate is a reasonable indicator for this group.

Source: PC Survey of Clients of Counselling Agencies, PC National Gambling Survey and Victorian Task Force (1997).

Finally, another approach is to use the variation in suicide rates over time and between regions to try to explore its underlying causes. If the increasing availability of gambling and the apparently associated increase in problem gamblers has led to increased suicides then this should contribute to higher suicide rates in areas where gambling is more freely available. The problem here is that there are many contributors to suicide and these other factors have to be controlled in order to assess the marginal contribution to suicide by gambling. No study of this kind has been done in Australia.

However, a number of US studies have been conducted with strikingly divergent results. Phillips, Welty and Smith (1997) found that gambling or elements associated with gambling settings led to an increased risk of suicide. This study examined the proportion of deaths attributable to suicide in three casino gambling counties compared to non-gaming areas. In contrast, McCleary et al. (1998), in a study commissioned by the American Gaming Association, found no statistically significant differences in suicide rates between casino and non-casino sites.<sup>16</sup> While

<sup>16</sup> ‘success’ rate of 18.4 per cent. As noted in the draft, notified attempts may seriously understate true suicide attempts, which is why in the final report the Commission has preferred the estimates of the success rates contained in Victorian Task Force (1997, p. 21).

<sup>16</sup> It is notable that this result can still be reconciled with the possibility that problem gamblers have elevated risks of suicide if gambling lowers the risk of suicide for non-problem gamblers (eg by providing a lively and attractive place for people who may not otherwise be able to access a high quality community venue).



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the McCleary et al. study seems superior on methodological grounds, there are a number of flaws in both studies that suggest the issue is far from resolved:

- only casino gambling was examined, rather than gambling per se;
- different counties have different approaches to harm minimisation, which might explain lower suicides in some casino counties;
- the level of per capita spending on gambling was not controlled for, nor differences in accessibility to gambling types — though these are risk factors for problem gambling; and
- the hurdle set for proof was a high one — namely that the probability of incorrectly inferring that there was a problem when there was not one was set at 5 per cent. This means that differences in suicide rates that may well have been due to gambling (say with 75 per cent confidence) would be regarded as not statistically significant.

It may simply be too hard using this statistical approach to detect increased suicide rates due to gambling amid all other suicides, especially if the problem gambling suicides amount to a small proportion of total suicides.

A more recent study by Nichols et al. (1999b) used a more elaborate methodology. They examined the impact of casino gambling by examining suicide (and divorce) rates among eight casino communities compared to five matching control communities. The control communities were selected on the basis that they were similar on 15 demographic, social and economic variables. Suicide rates increased (or decreased less) in six of the eight casino communities compared to the control. A regression analysis suggested that the presence of a casino was associated with a statistically significant increase in per capita suicide. But they warned that the impact of casinos on suicide was a complex matter and that ‘the effect of casinos on these phenomena does not lend itself to sweeping generalisations’.

In order to better understand which problem gamblers might be at risk of suicide, the Commission closely examined the characteristics of those who said they had tried to commit suicide. There were few apparent relationships between suicide attempts and gender, education, ethnicity, income or age. The statistically significant factors correlated with suicide attempts were depression, acts of violence, crime, debt levels, the duration of a gambling problem and the use of gambling as a way of forgetting worries (box 7.5).<sup>17</sup> This pattern reinforces the

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<sup>17</sup> Blaszczyński and Maccallum (1999) also found support for an apparent link between crime and financial problems, and suicide risk. For example, they found suicidal gamblers had a median debt level of \$2 500 compared with \$200 for non-gamblers.

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point that there are strong links between the varying adverse impacts of gambling (and other life events and behaviours).

In summary, there is little doubt that there are suicides linked to gambling — it probably lies somewhere between 35 and 60 a year.

### *Ill health*

There is also some evidence of ill-health due to gambling:

- Relationships Australia Queensland (sub. 62) found that 20.3 per cent of their problem gambling clients reported physical symptoms associated with their problem.
- The recent US national survey found that ‘pathological’ gamblers had an incidence of poor health 2.2 times higher than low risk gamblers (Gerstein et al. 1999, p. 29).
- Ladouceur et al. (1994, p. 407) found that pathological gambling had severe health impacts. Over two thirds of a group of Canadian Gamblers Anonymous members indicated that due to gambling they experienced depressive moods, insomnia, headaches or stomach aches, at least once a week.
- Lesieur (1998, p. 157) cites high level health problems for a group of gamblers admitted to an Ohio inpatient gambling treatment program and a range of problems in a small group of Swedish pathological gamblers.
- A careful and large-scale study of video lottery games (which have some similarities to gaming machines) in Nova Scotia, Canada, found that problem players have far higher probabilities of physiological effects while playing, such as heart pounding, butterflies in the stomach, sweaty hands, headaches, shaking and nausea. For example, 43 per cent of problem players reported nausea and 18 per cent shaking or tremors compared to 6 per cent and 3 per cent respectively for non-problem frequent players. Star City Casino (sub. D217, p. 12) argued that these effects ‘accompany many pleasurable activities’. But that fails to explain the differential impacts on problem versus non-problem gamblers. And some of the more clearly unpleasant symptoms, such as nausea are clearly not typical of pleasurable activities.

Those who have gambling problems also describe health problems:

I knew I was addicted and out of control, but I felt powerless to stop. I had tried many, many times to just stop, but the urges that had a grip on me always won ... I ended up just as bad, and hating myself even ... thinking that I deserved this pain because I was so stupid and knew what the outcome would be, but went anyway ... So of course, my

health suffered, my finances were in ruin, and yet I didn't have the so-called willpower to stop (comments from a gambler to the Productivity Commission's inquiry).

### Box 7.5 Suicide attempts among clients in counselling

The Commission used a logistic model to examine what factors might influence the likelihood of a suicide attempt by a problem gambler in treatment. The Commission estimated a general model with a suite of socio-demographic variables (age, sex, income) and some variables reflecting the dimensions of the gambling problem (such as gambling debts, borrowing from friends and not paying back, violent incidents due to gambling, divorce due to gambling, frequency of depression associated with gambling, the duration of the gambling problem and some of the motivations for gambling, such as to escape worries). This general model was collapsed, after testing, to a more specific model:

$$\begin{aligned} \text{ATTEMPT} = & -4.96 + 0.000011 \text{ DEBT} + 0.041 \text{ DURATION} + 1.09 \text{ WORRIES} + 0.87 \text{ VIOLENCE} \\ & (62.2) \quad (4.0) \quad (4.5) \quad (8.9) \quad (4.3) \\ & + 2.29 \text{ ADEPRESS} + 1.62 \text{ ODEPRESS} + 0.97 \text{ CRIME} \\ & (13.4) \quad (8.0) \quad (6.7) \end{aligned}$$

where DEBT is the gambling debt levels (in \$), DURATION is the number of years since the person had a gambling problem, WORRIES is a dummy variable scored as 1 (else zero) if the gambler indicated that they always gambled to take their mind off their worries, VIOLENCE is 1 (else zero) if the person indicated that gambling had led to incidents of violence involving family, friends or others; ADEPRESS is 1 (else zero) if the gambler was always depressed because of their gambling, ODEPRESS is 1 (else zero) if they are often depressed because of their gambling; and CRIME is 1 (else zero) where a person engages in an illegal act to gamble. Figures in brackets are Wald Chi-squares. The regression is based on 372 observations, of which 50 were suicide attempts. The chi-square test for the joint significance of the explanatory variables is 74.1 with 7 degrees of freedom ( $p=0.0001$ ). The concordant predictions were 83.5 per cent, and discordant were 16.0 per cent.

Amongst other things, the model suggests that someone with an 8 year old problem, no debt and recording a zero for all of the other variables has a very slight risk (about 1 per cent) of attempting suicide because of their gambling. If they indicate that they are always depressed as a result of their gambling the probability climbs to about 9 percent. And it climbs significantly with all the other potential explanators so that someone with all of the problems, a \$50 000 debt and a 15 year duration of problems has a predicted 80 per cent probability of attempting suicide.

*Source:* Based on results from the PC Survey of Clients of Counselling Agencies.

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## Co-morbidities

Many problem gamblers experience other dependencies (table 7.5). Dickerson et al. (1996a) suggest that around 20 per cent of Australian gamblers who sought help for their gambling problems also have alcohol dependency.

A large dataset (4 915 registrations) of problem gamblers in outpatient addiction care and treatment in the Netherlands suggested that 7.7 per cent of problem gamblers seeking help had a secondary alcohol problem and 8.9 per cent a drug problem (LADIS 1998). This database also reveals that 2.4 per cent of those seeking help for an alcohol problem had a secondary gambling problem, while this was true for 1 per cent of people seeking treatment for a drug problem. Given that the populations of alcohol and drug dependents exceeds problem gamblers by factors of 5 and 7 respectively, the overall implications of secondary problems is that gambling problems are likely to loom larger than the primary treatment population might at first indicate.

Interestingly, Lorenz, Politzer and Yaffee (1990) found that past drug use was negatively correlated with the severity of the gambling problem, while alcohol problems had no statistical association with the severity of the problem.

Stinchfield and Winters (1996) in a large scale evaluation of Minnesota treatment services for problem gamblers found that 52 per cent had a co-existing psychiatric disorder (eg depression) and 47 per cent had used mental health services.

The existence of co-morbidities matters because:

- counselling for problem gambling will need to also deal with these co-morbidities, and treatment for other dependencies may need to take account of secondary gambling problems that may not be transparent; and
- it underlines the complex causality of problems experienced by problem gamblers. Problem gambling may exacerbate other dependencies, and they in turn may exacerbate problem gambling.

## 7.3 The impacts of problem gambling on others

Problem gambling affects both the gambler and his or her family, friends and, to a lesser extent, work colleagues and others in the general community:

... there is no doubt that costs imposed on others are a genuine social cost. These costs arise as a result of loss of business productivity, family breakdown, gamblers' antisocial and/or criminal behaviour, and destitution. They take the form of loss of well

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being of the problem gamblers' associates, and costs to welfare agencies and community groups (Tattersall's, sub. 156, p. 9).

The AMA said:

The gambler's preoccupation with gambling, mood swings, potential for substance abuse, potential to commit crimes, and financial difficulties place an enormous burden on their family (sub. 53, p. 8).

The AMA is currently running a national awareness program to try to get people with gambling problems to talk to their general practitioner about their problem.

Money arguments are frequent among problem gamblers<sup>18</sup>, and many report that they are unable to look after the interests of their families sufficiently (table 7.6). Problem gamblers often lie about their gambling to their families, undermining trust. For example, Relationships Australia Queensland (sub. 62) found that 74 per cent of problem gambling clients admitted lying to family partners, therapists or others to conceal the extent of problem gambling. Jackson et al. (1999b) found that 77.3 per cent of Victorian Break Even clients in 1997-98 admitted to such lying. Many gamblers seeking help for their problems indicate that their gambling problems had a devastating impact on their families and friends (table 7.7), with the biggest impacts on their relationships with their partners (box 7.6). Apart from gambling behaviours, such relationship issues were also the prime triggers for problem gamblers seeking help.

Based on South Australian families affected by problem gamblers, Elliot Stanford and Associates (1998) found in a South Australian study that family relation problems for problem gamblers were at levels which indicated a '*clinically significant problem*'. This, with the financial burden, leads to an increased risk of family breakdown and problems. The House of Representatives Standing Committee on Legal and Constitutional Affairs (1998, p. 55) cites gambling as one of the high risk factors that could precipitate divorce.

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<sup>18</sup> Other Australian research (for example, Dickerson, Baron, Hong and Cottrell 1996 cite 77.3 per cent of severe problem gamblers having such arguments) confirm this pattern, as does recent US research (Gerstein et al. 1999, p. 29 — where 53.1 per cent of problem gamblers report such arguments).

**Table 7.5 Presence of gambling problems in treatment groups and substance-abuse in people with gambling problems**

<i>Study</i>	<i>Location</i>	<i>Group</i>	<i>Substance abuse</i>
<b>Presence of gambling problems in treatment groups</b>			
Lesieur and Blume (1987, p. 1186)	South Oaks Hospital, New York 1985	Group of patients receiving help for alcohol and drug rehabilitation	12% of people with current drug or alcohol problems were rated as pathological gamblers
Lesieur (1994)	US studies	Inpatient chemical dependency treatment facilities	9-15% with current drug problems are pathological gamblers
Westphal, Rush, Stevens and Johnson (1998)	US Louisiana	Adolescents in juvenile facilities for treatment of behavioural problems	38 per cent were rated as 'pathological' gamblers
Lesieur and Blume (1990)	US	Psychiatric admissions	6.5% of such admissions were pathological gamblers
<b>Presence of substance abuse among problem gamblers</b>			
Lorenz, Politzer and Yaffee (1990)	Maryland, US 1983-89	Treatment groups	26.7% with lifetime drug & 50.8% with lifetime alcohol problems
Stinchfield and Winters (1996)	Minnesota, US, 1992-96	Treatment groups	33% had received chemical dependency services
Dickerson, Allcock, Blaszczyński, Nicholls, Williams and Maddern (1996a)	NSW 1995	General population	They found a significant positive association between problem gambling and alcohol problems.
Relationships Australia Queensland (sub. 62)	QLD 1993-8	Counselling group	16.5% with a substance dependency
National Council of Welfare	Canada	General population	100% of problem and pathological gamblers were classified as dangerously heavy alcohol drinkers in the Alberta survey; Weaker but still positive effects were found in Saskatchewan and Ontario surveys
Black and Moyer (1998)	US	Small group of problem gamblers 'recruited' by the researchers	64 per cent had a lifetime substance abuse disorder
Wallisch (1996); Feigelman, Wallisch and Lesieur (1998)	Texas US	General population	25% of problem gamblers also had a problem with substance abuse; 16.6% of people with substance abuse problems also had gambling problems. Only about 4% of problem gamblers reported any interest in professional help for their problem gambling, but many more had obtained help for a mental health problem.
Gerstein et al. (1999)	US 1998	General population	5.8% currently drug or alcohol dependent (cf 1.2% for low risk gamblers)

**Table 7.6 Interpersonal problems stemming from gambling<sup>a</sup>**

<i>Interpersonal problem</i>	Yes	Number affected	No	Rarely	Some-times	Often	Always	Source
	%	'000	%	%	%	%	%	
<b>Not enough time for family</b>								
PGs (ever)	19.5	57.1	80.5	..	..	..	..	NS
Non-problem regulars (ever)	0.8	9.8	99.2	..	..	..	..	NS
Adults (ever)	0.5	74.6	99.5	..	..	..	..	NS
PGs (in last year)	13.6	39.8	86.4	2.8	7.1	2.7	1.0	NS
Non-problem regulars (in last year)	0.5	6.3	99.5	0.3	0.0	0.0	0.2	NS
Adults (in last year)	0.3	46.1	99.7	0.1	0.2	0.1	0.0	NS
<b>Gambling led to the breakup of a relationship</b>								
PGs (ever)	11.3	33.1	88.7	..	..	..	..	NS
Non-problem regulars (ever)	0.1	0.9	99.9	..	..	..	..	NS
Adults (ever)	0.4	59.5	99.6	..	..	..	..	NS
PGs (in last year)	4.7	13.8	95.3	..	..	..	..	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	..	..	..	..	NS
Adults (in last year)	0.3	39.2	99.7	..	..	..	..	NS
<b>Breakup led to split up</b>								
PGs (ever)	9.1	26.8	90.9	..	..	..	..	NS
Non-problem regulars (ever)	0.1	0.9	99.9	..	..	..	..	NS
Adults (ever)	0.3	42.6	99.7	..	..	..	..	NS
PGs seeking help (ever)	26.0	..	74.0	..	..	..	..	CS
<b>Losing contact with children</b>								
PGs seeking help (ever)	11.4	..	88.6	..	..	..	..	CS
<b>Prevalence of violence due to gambling</b>								
PGs seeking help (ever)	13.1	..	86.9	..	..	..	..	CS
<b>Gambling money arguments with family</b>								
PGs (in last year)	42.0	122.9	58.0	7.8	18.8	10.8	4.6	NS
Non-problem regulars (in last year)	4.0	48.5	96.0	1.4	2.4	0.1	0.0	NS
Adults (in last year)	1.9	266.9	98.1	0.8	0.7	0.3	0.1	NS
PGs seeking help (in last year)	83.2	..	16.8	12.2	24.9	21.4	24.6	CS

<sup>a</sup> NS is the PC *National Gambling Survey*; CS is the PC *Survey of Clients of Counselling Agencies*, 1999; PGs are problem gamblers (defined as SOGS 5+ for results from the general population). Data on regulars excludes people who play non-lottery games irregularly, but spend over \$4 000.

Source: PC *National Gambling Survey* and PC *Survey of Clients of Counselling Agencies*.

**Table 7.7 Impacts on others by problem gamblers in counselling**

	<i>Partner</i>	<i>Children</i>	<i>Parents</i>	<i>Friends</i>	<i>Colleagues</i>
	%	%	%	%	%
No effect at all	10.8	18.2	24.7	34.3	45.2
Minor adverse effect	8.5	21	20	25.1	13.2
Moderate adverse effect	17.2	14.1	21.3	17.5	8
Major adverse effect	46.6	20.7	21.6	15.4	9.4
Not applicable	14.3	24.9	10.3	6.3	20.9
Do not know	2.6	1.1	2.1	1.3	3.3

Source: PC *Survey of Clients of Counselling Agencies*.

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The Commission's *National Gambling Survey* suggested that just under one in ten problem gamblers report a split-up with partners due to gambling (or 90 times higher than that for non-problem regular gamblers — table 7.6). About one quarter of problem gamblers seeking counselling report that gambling has led to the dissolution of a relationship with a partner.<sup>19</sup> Trying to estimate the extent to which these lifetime rates of gambling-related relationship breakdowns contribute to *annual* divorces and separations in Australia is difficult (appendix T). **But on the basis of a variety of evidence, the Commission concludes that there are conservatively around 1 600 gambling-related divorces per year.<sup>20</sup> And there is also a significant impact on relationships.**

## Partners

Problem gamblers tend to devote large amounts of money and time on gambling, and these commitments have severe consequences for the well being of their family and partners. This, together with deception about their gambling and the anxiety, mood swings and stress accompanying their gambling, not only generate relationship frictions, but health and mental distress for the partners.

Based on a clinical study of problem gamblers, Dickerson et al. (1996a) report that 40 per cent of problem gambler's partners had developed significant stress-related illness. Overseas studies confirm this pattern, with the partners of problem gamblers exhibiting high rates of emotional distress and other symptoms (Lorenz and Yaffee, 1986, 1989; and Lorenz, Politzer and Yaffee 1990), which is why they are also major users of help services. In a US study of members of GamAnon, a self-help group for families and friends of people in Gamblers Anonymous it was found that:

All respondents experienced numerous reactions, both psychological (depression, bad nerves) and physical (headaches, nausea, ulcers) as a result of living with an active compulsive gambler ... 5 [of 18] had severe suicidal thoughts, and one did attempt to

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<sup>19</sup> Other survey results find even more extreme results. Dickerson, Baxter et al (1995, p. 97) found that 44.4 per cent of males and 22 per cent of female clients of a Queensland counselling group experienced relationship breakdown as a result of their gambling problems. Dickerson, Baron, Hong and Cottrell (1996) found that 45.5 per cent of SOGS 10+ Australian problem gamblers experienced relationship breakdown. Relationships Australia Queensland (sub. 62) estimated that around 46 per cent of BreakEven Gold Coast clients (from May 1993 to October 1998) experienced a gambling-related relationship breakdown. Jackson, Thomas, Crisp, Smith, Ho & Borrell (1997, p. 27) found that 54.7 per cent of clients of gambling counselling services in Victoria in 1996-97 had jeopardised or lost significant relationships. Brown and Coventry (1997) and AIGR (1996b) report similarly adverse impacts of gambling problems on relationships.

<sup>20</sup> This is considerably less than the yearly rates used in the cost estimates in the draft report — see appendix T.



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commit suicide. Others resorted to committing illegal acts, such as writing bad checks, to support the family (Lorenz, Politzer and Yaffee 1990).

Many of the problems appearing in such ‘significant others’ — such as in increased visits to general practitioners — may not be ascribed to problem gambling because of the stigma and embarrassment in revealing the problem (Blaszczynski, Walker et al. 1997).

**Box 7.6      Some impacts on relationships**

I have had gambling problems for the last nine years betting on horses. My gambling has caused me to appear before the courts on no less than four occasions. I have been homeless many times and my life has become unmanageable. When I am gambling, I do not think of the consequences, I don't care about anything else. I have readily blown my rent and food money to have one more chance to win. It doesn't worry me. My second wife has left with the two children, both under three years of age. Even so, all I can dream of is the big win which will turn my life around for the better (quoted in Blaszczynski 1998, p. 18).

Joanne is a 54 year old housewife whose thoughts about playing the lottery have taken over her whole life ... She skimped on household spending just to get a few more pence for another ticket ... Her husband is fed up with her constant preoccupation with the lottery, her lack of interest in the marriage and their home, and the couple are now slowly drifting apart (Dickerson, Baxter et al. 1995, p. 22).

From memory there wasn't any specific incident that informed me about [his] gambling. He denied it of course. Just some tight, nauseating knot in the pit of my stomach told me that things were not right ... I started to read signs of distress ... [his] needing to stay at the office late ... his increasing difficulty remembering personal commitments, complaining about never having enough money for himself, increasing moodiness ranging from sullen, sulky and withdrawn to outright rage whenever he felt 'put out' ... and then things started to go missing. ... And so began my terrifying journey of loneliness ... [He] had stolen \$2000 from his work and had lost it all at the casino. He needed to replace the money by next morning or it would be discovered and he'd lose his job. So much was being lost here ... money, job, integrity, security ... The lying was the worst aspect of the whole experience. It meant the goalposts were continuously moving and therefore decisions were made that were constantly ineffective. She [the daughter] still has trouble discerning the difference between borrowing, lending, losing, taking and stealing and I have to vigilantly reinforce their meanings at every opportunity. She is currently having counselling ... I decided to leave with the children ... The air reeked with sadness and relentless weariness ... she [the other daughter] played around the edges of bulimia and suicide. ... He [the son] climbed on to the roof of the unit and yelled to me that he felt like jumping off (confidentialised sub. C35).

When the boys got home from school there was never anything for them to eat ... They had to wear the same clothes as they never had new clothes, I became a liar to my children ... I also became very angry most days ... We all turned into the family from hell. Due to my gambling I also lost a lot of very close friends through all the lies ... The people that have been affected the most with all this are my boys, my family and friends and also my marriage ... [my boys] have lost their father, friends and their home (sub. D209).

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There is some evidence of domestic violence associated with problem gambling, although most of it is anecdotal. One counselling agency indicated that 4 per cent of its clients had admitted to physically abusing their partner to gain financial benefits (sub. D218, p. 2). In some cases, the perpetrator is the problem gambler (Brown, Johnson, Jackson and Wynn 1999, pp. 30–1, 41). In other cases, the domestic violence emerges as a response by the non-problem gambling partner to the sudden revelation of the financial losses incurred by a problem gambling spouse (evidence to the Commission by a migrant social worker in Darwin). In a US study, Lorenz and Shuttleworth (1983) found that 82 per cent of the wives of pathological gamblers (in treatment) were so angry or frustrated with their spouses that they wanted to hurt or even kill them. Over one in ten problem gamblers in counselling reported that gambling led to violent incidents (table 7.6).

## **The children**

The children of problem gamblers are affected in many ways and, lacking the autonomy, maturity, access to help, and power of adult partners, may have less control over the situations in which they find themselves.

A highly visible form of the problem has been the much cited cases of children left in cars outside casinos (sub. 53, p. 9). This problem has apparently largely ceased now that casinos monitor car parks and will exclude a patron who engages in this behaviour. However, this has probably meant that children have been left at home alone or in inappropriate care situations — an invisible problem replacing a visible one.

The most immediate concern for children's welfare in problem gambling households is poverty. Problem gambling eats up resources that otherwise would be spent on all household members — from family entertainment, a serviceable car, a pleasant home, holidays, and even food.

The mood swings, substance abuse and familial discord that may accompany problem gambling, must also have substantial adverse impacts on any involved children, including their social integration and education:

Another one of our female clients from overseas had 4 children and was evicted because of her gambling. She was placed into our agency's emergency accommodation. She was behind with the rent, had no food for the children and kept her youngest son (aged 12) away from school to baby-sit the other three children while she gambled. We attempted to link the boy back into school as his school work had been severely disrupted ... Her son had lost his individuality and motivation ... Protective Services were eventually called in but she left with the children and there has been no follow up

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with the agency (Social worker cited in Brown, Johnson, Jackson and Wynn 1999, p. 34).

‘Josie’, a mother of three young children under seven, from a nearby country town contacted us after she had used the housekeeping money for gambling. She felt particularly guilty because her children were suffering as she was emotionally distant and they were not eating well. This couple is now separate and the father gave up his job to care for his children (Relationships Australia (SA) sub. 118).

Another worker talked about a lady who left her child with friends for ten days and child protection was eventually called in. When they found her, she was at the casino with two packets of nappies in her hand. How hard was it for her to leave the casino you can see (Vietnamese Problem Gambling Community Educator cited in Tran 1999, p. 45).

Children of problem gamblers live in a volatile and confusing environment. The gambling parent is likely to ignore them and dismiss their needs on the one hand and at other times be doting and indulgent. The children respond to this seesawing relationship by feeling angry, hurt, lonely, guilty, abandoned and rejected (Relationships Australia (SA), sub. 118 drawing on Lesieur (1992), p. 46).

Carrig, Darbyshire and Oster from Relationships Australia and the Women’s and Children’s Hospital (sub. D210) undertook qualitative research to examine, from children’s own perspectives, the experiences of living with a parental problem gambler. They found:

- the experience of parental separation was common among study participants;
- that participants described a marked change in the gambling parent as a result of the gambling problem. The parent is often described as having undergone a personality change accompanying the development of the gambling problem and becoming ‘secretive, deceptive, unreliable, irresponsible, irrational, disinterested and selfish’;
- large tangible losses, such as money (their family’s and their own), their homes, their holidays. Some children lost their schooling; and
- a loss of security. The authors noted that the children felt a loss of a secure financial environment, the disintegration of stability, isolation from others and insecurity stemming from a volatile home life.

In summary they noted that:

The researchers believe that the importance of loss in these children’s descriptions of their experiences is undeniable. This sense of pervasive loss in the experiences of these children and young people can be viewed as a significant cost of parental problem gambling (pp. 27–8).

Lorenz et al. (1990) found that in Maryland, 61 per cent of the children of problem gamblers enrolled in Gamblers Anonymous suffer from a variety of behavioural and

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mood problems including withdrawal, depression and anger (though these results are based on a small sample). Absences from school, higher dropout rates and poorer grades were also recorded. Other aspects of physical and emotional deprivation for children were revealed in a study of children of US Gamblers Anonymous members (Lesieur and Rothschild 1989).

Jacobs et al. (1989) found that children from problem gambling households exhibited a greater likelihood of undertaking health threatening behaviours (such as smoking, drinking and drug use) than their peers. They were more likely to attribute these behaviours as escapes from their dire domestic circumstances. Their educational results suffered. And they were more likely to feel profoundly sad and suicidal, with double the risk of making a suicide attempt.

There is some international evidence of increased risk of child abuse (cited in Adelaide Central Mission 1998, p. 16). US studies suggest that child abuse rates are two to three times more likely in the problem gambling family environment (Lorenz 1987 and Lesieur and Rothschild 1989).

### **The numbers of people affected by problem gamblers**

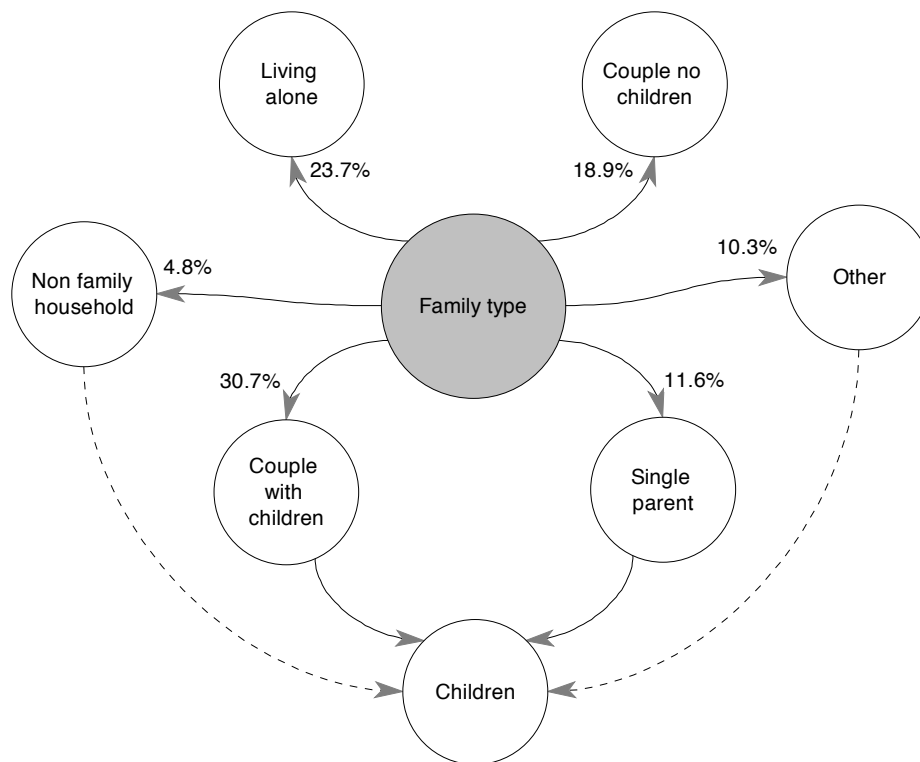
Another relevant issue is the number of ‘significant others’ who are affected by problem gamblers. While about one in five problem gamblers live alone (figure 7.4)<sup>21</sup>, most live with others, who must be affected by the problem gambler on a daily basis. Just under half of problem gamblers (49.4 per cent) live in households with children and on average have 2 children (Elliot Stanford and Associates 1998), so that for every problem gambler there is on average one associated child living in the same household. The Commission’s *National Gambling Survey* found a slightly smaller figure, with around 0.6 children (under the age of 15 years) living with the average problem gambler.<sup>22</sup>

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<sup>21</sup> Many of those who live alone will still have strong connections with others, such as their parents. Moreover, many times the fact that they are alone may reflect the consequences of problem gambling on significant others, who have then left relationships.

<sup>22</sup> The client survey, which covers the most severe category of problem gamblers also suggests around 0.6 children per problem gambler.

**Figure 7.4 The families of problem gamblers<sup>a</sup>**  
South Australia 1996 to 1998



<sup>a</sup> Based on a survey of clients of gambling counselling services in South Australia for the period November 1996 to May 1998.

Data source: Elliot Stanford and Associates (1998).

People are surrounded by networks stronger than the immediate nuclear family, such as siblings, parents and friends. The Public Health Association of Australia notes that a problem gambler affects on average 10 to 15 other people (1997, p. 1). The Break Even-Western Problem Gambling Service (sub. 64 p. 3) cites evidence that problem gamblers affect another 7 to 10 people.<sup>23</sup> Lesieur (1984) says that between 10 and 17 other people are affected by the ‘excessive’ gambler, including spouse, children, extended family, employer, employees, clients, consumers, creditors and insurance agencies. Using data from the *Survey of Clients of Counselling Agencies*, the Commission estimated that the average number of people who are adversely affected by a problem gambler is 7.3.<sup>24</sup> Of course, the magnitude

<sup>23</sup> Some indirect evidence for this sort of magnitude can be obtained from the ratio of the prevalence of people reporting that they personally know someone with a gambling problem in the past year (around 28 per cent) and the prevalence rate of problem gambling (2.1 per cent) — with the ratio being around 13.3.

<sup>24</sup> The survey asked gamblers to nominate people who had been adversely affected by their gambling amongst five categories (partner, children, parents and other relatives and work

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of such effects is likely to be weaker, of lesser duration and more under the control of the affected party, the more distant is their relationship to the problem gambler.

### **Intergenerational effects**

Problem gamblers have an elevated risk of having children or other family members associated with them also developing subsequent problems — so that problem gambling has an inter-generational impact (Lesieur and Klein 1987; Lesieur et al. 1986; Volberg 1994; Volberg and Abbott 1994 and National Research Council 1999, p. 118).

The Commission's survey results suggested that problem gamblers are much more likely to report someone else in their family having problems with gambling. For example, a problem gambler in counselling has a 16 times higher chance of having a father with a problem, than non-problem gamblers in the population (table 7.8). These results are confirmed in other studies.<sup>25</sup>

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colleagues). The count of the number of people affected depended on whether the gambler nominated that there had been an adverse effect. Otherwise, it was assumed there had been a zero effect. It was assumed that if the gambler had children they had an average of 1.5, that if they had a partner they had an average of 6 other relatives (including parents, grandparents, parents-in-law and siblings) that were affected, that if they had no partner they had 3 such relatives. If they adversely affected friends it was assumed that there were 3 such people and similarly that where adverse work impacts were described they related to 3 affected work colleagues. These calculations are below estimates that have been made in other studies. Star City Casino (sub. D217, p. 12), however, considered that they were likely to be an exaggeration.

<sup>25</sup> In a New Zealand study, Abbott and Volberg (1992, p. 5) found that of those whose parents had a problem, 17 per cent exhibited some degree of gambling problem themselves. In the UK, Fisher (1996) found that 33 per cent of severe problem gamblers had a parent who was a problem gambler compared to 4 per cent of social gamblers. In a US study of people receiving help for gambling problems in Maryland, 24 per cent of the group had a father who had experienced gambling problems (Lorenz, Politzer and Yaffee 1990). A Canadian study also found strong links between problem gambling and a family history of problem gambling (Ferris et al. 1996). In a study of a South Australian prison population, Marshall, Balfour and Kenner (sub. 116, pp. 9–10) found that 32.4 per cent of problem gamblers had a father with a gambling problem (compared to 2.9 per cent for non-problem gamblers) and 17.6 per cent had a brother or sister with a gambling problem (also compared to 2.9 per cent for non-problem gamblers).

Table 7.8 **Intergenerational and family-wide problems with gambling<sup>a</sup>**

	<i>Ever</i>	<i>Last year</i>
	%	%
PGs with partner with problem	0.5	0.5
PGs with father with problem	2.3	2.3
PGs with mother with problem	1.1	1.1
PGs with sibling with problem	4.3	4.3
PGs with child with problem	0.9	0.9
PGs with a parent with a problem	3.4	3.4
PGs with any family member problem	16.2	14.8
PGs who knows anyone with problem	62.8	56.8
PGs who know more than 1 other problem gambler	34.2	31.9
PGs in counselling with a partner having problem	5.0	..
PGs in counselling with father having problem	15.6	..
PGs in counselling with mother having problem	9.9	..
PGs in counselling with a sibling having problem	13.9	..
PGs in counselling with a child having problem	2.0	..
PGs in counselling with parent having problem	21.5	..
PGs in counselling with other relative having problem	8.7	..
PGs in counselling with any family member problem	36.6	..
Non-PGs with partner with problem	1.03	0.7
Non-PGs with father with problem	0.99	0.5
Non-PGs with mother with problem	0.39	0.2
Non-PGs with sibling with problem	1.40	1.2
Non-PGs with child with problem	0.58	0.5
Non-PGs with a parent with a problem	1.38	0.7
Non-PGs with any family member problem	11.23	7.0
Non-PGs who knows anyone with problem	39.62	28.0
Non-PGs who know more than 1 other problem gambler	11.36	7.5

<sup>a</sup> PGs are problem gamblers (defined as SOGS 5+ for results from the general population) and Non-PGs are non-problem gamblers.

Source: Data on problem gamblers in counselling is from the PC *Survey of Clients of Counselling Agencies*, while all remaining data are from the PC *National Gambling Survey*.

It seems likely that the children of problem gamblers would be more familiar with how to gamble. They may also learn their parents' cognitive and cultural models of gambling which might pre-dispose them to a higher risk.<sup>26</sup>

**Problem gambling — like a variety of other social ills — has intergenerational consequences. People whose parents have had a problem with gambling are much more likely to develop a problem themselves. This means that the**

<sup>26</sup> However, another possible explanation is that other aspects of cultural disadvantage may also be passed on, and it is this hidden factor which explains the intergenerational effect, rather than something tied specifically to gambling. For example, people who have low work skills and are unemployed are more likely to have children who are unemployed. Both the parents and the children would have a higher risk of problem gambling due to their unemployment status.

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**potential cost of a new ‘case’ of problem gambling is greater than might be expected — because it increases the likelihood of future cases. This strengthens the argument for preventative approaches to problem gambling.**

## **7.4 Impacts on work**

One of the behavioural traits of problem gamblers is pre-occupation with gambling, and that, with periods spent away from the workplace while gambling and the impacts of gambling-related substance abuse, can have adverse impacts on a gambler’s work performance. As noted in section 7.7, in some cases it results in theft from other employees or the employer.

Star City Casino (sub. D217, p. 12), in reviewing the evidence, considered that the ‘effect of gambling on work performance may well be less than the effects of surfing, racing, shopping, movies etc’.

The Commission’s surveys (tables 7.9 and 7.10) suggested moderate effects on work performance by most problem gamblers:

- about 19 per cent of problem gamblers said they lost time from work or study in the last year due to gambling, but this typically occurred infrequently. About one in four reported that gambling had an adverse impact on their work;
- in contrast, around 50 per cent of problem gamblers in counselling reported that they had lost time from work or study due to gambling in the last year. This mirrors the study by Dickerson, Baxter et al. (1995, p. 97) which found that 45 per cent of problem gambling clients of Break Even counselling services in Queensland had lost time from work;<sup>27</sup>
- around 6 per cent of problem gamblers reported that they had ever moved jobs, and about half a per cent said that they had been sacked as a result of their gambling (about 1 500 people);

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<sup>27</sup> Interestingly, they found that fewer women (14 per cent) had experienced this problem, which probably reflected the fact that the women had experienced problems with gambling for a shorter duration than the men (which in turn reflected the recency of gaming machines in Queensland).



**Table 7.9 Work impacts<sup>a</sup>**

<i>Type of work impact</i>	<i>Yes</i>	<i>Number affected</i>	<i>Never</i>	<i>Rarely</i>	<i>Some-times</i>	<i>Often</i>	<i>Always</i>	<i>Source</i>
	%	000	%	%	%	%	%	
<b>Lost time from work or study</b>								
PGs (in last year)	18.8	55.0	81.2	9.1	5.5	1.4	2.2	NS
Non-problem regulars (in last year)	1.7	20.2	98.3	1.0	0.6	0.1	0.0	NS
Adults (in last year)	0.7	98.1	99.3	0.4	0.2	0.0	0.1	NS
PGs seeking help (in last year)	50.3	..	49.7	16.3	15.8	13.0	4.6	CS
<b>Adversely affected job performance</b>								
PGs (ever)	31.3	91.7	68.7	..	..	..	..	NS
Non-problem regulars (ever)	0.2	1.8	99.9	..	..	..	..	NS
Adults (ever)	1.2	165.1	98.8	..	..	..	..	NS
PGs (in last year)	25.4	74.5	74.6	8.7	14.5	2.2	0.1	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	0.0	0.0	0.0	0.0	NS
Adults (in last year)	0.7	94.3	99.3	0.3	0.3	0.1	0.0	NS
<b>Changed jobs due to gambling</b>								
PGs (ever)	5.9	17.3	94.1	..	..	..	..	NS
Non-problem regulars (ever)	0.2	2.0	99.8	..	..	..	..	NS
Adults (ever)	0.2	27.9	99.8	..	..	..	..	NS
PGs seeking help (ever)	18.3	..	81.7	..	..	..	..	CS
PGs (in last year)	1.9	5.6	98.1	..	..	..	..	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	..	..	..	..	NS
Adults (in last year)	0.0	5.6	100.0	..	..	..	..	NS
<b>Lost job due to gambling</b>								
PGs (ever)	0.5	1.6	99.5	..	..	..	..	NS
Non-problem regulars (ever)	0.0	0.0	0.0	..	..	..	..	NS
Adults (ever)	0.1	10.2	99.9	..	..	..	..	NS
PGs seeking help (ever)	18.6	..	81.4	..	..	..	..	CS
PGs (in last year)	0.0	0.0	100.0	..	..	..	..	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	..	..	..	..	NS
Adults (in last year)	0.0	0.0	100.0	..	..	..	..	NS

<sup>a</sup> PGs are problem gamblers (defined as SOGS 5+ for results from the general population).

Source: Data on the problem gamblers in counselling is from the PC Survey of Clients of Counselling Agencies, while all remaining data are from the PC National Gambling Survey.

**Table 7.10 Work impacts for problem gamblers in counselling<sup>a</sup>**

	<i>Time at work</i>	<i>Quality of work</i>	<i>Cooperation</i>	<i>Speed of working</i>	<i>Promotion prospects</i>	<i>Concentration</i>	<i>Confidence or trust</i>
No effect	50.7	44.9	55.7	58.8	59.2	28.7	55.5
Minor adverse effect	24.8	25.7	23.2	19.6	11.1	30.4	14.1
Moderate adverse effect	15.2	14.4	11.8	11	10.1	22.2	8.6
Major adverse effect	7.6	12.7	6.6	5.8	11.8	17.1	17.2
Not applicable	1.7	1	2.1	1.7	4.9	1	2.1
Don't know	0	1.4	0.7	3.1	2.8	0.7	2.4

<sup>a</sup> Applies only to those problem gamblers who were employed at the time they had their problem.

Source: PC Survey of Clients of Counselling Agencies.

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- job change and loss were much greater among problem gamblers in counselling, with about one in five saying that they lost or moved jobs due to gambling;
  - it appears that the biggest source of difficulty reported by employed problem gamblers is a loss of trust by others and lowered concentration on work (table 7.10); and
  - problem gamblers in counselling (the most severe category) reported, on average, a decline in work performance of 7.9 per cent.<sup>28</sup>

Ladouceur, Boisvert, Pepin, Loranger and Sylvain (1994) have conducted one of the more thorough investigations of the impact of gambling on work performance. They found that 66 per cent of a group of Canadian problem gamblers who were members of Gamblers Anonymous had missed work (or left early) to gamble, with half of these doing so more than five times a month (p. 405). 14 per cent said they had missed a whole day of work to gamble. 59 per cent reported being irritable at work because of their preoccupation with gambling, finding it hard to concentrate. 37% had stolen from their employer.<sup>29</sup>

## 7.5 Impacts on spending

### The share of gambling expenditure accounted for by problem gamblers

Almost all estimates of prevalence of problem gambling for Australia suggest that a small share of adults are adversely affected — though significantly more as a proportion of regular gamblers (chapter 6). But prevalence rates are a very poor guide to aggregate social impacts because they fail to take account of the magnitude of the impacts. In particular, it is important to contrast the small prevalence rate of

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<sup>28</sup> This was estimated from the Commission's client survey. The Commission asked gamblers to rate their work performance loss.

<sup>29</sup> Other studies have found similar results. Dickerson, Baron, Hong and Cottrell (1996) found that among people with a SOGS score of 10+, 54.5% had lost time from work/study; 31.8% had moved/changed jobs; 13.6% had had efficiency affected and 22.7% had been sacked. Relationships Australia Queensland (sub. 62) found that among clients of the Break Even Gold Coast (May 1993 to Oct 1998) 61% reported at least a mild adverse impact on their work, while 23.2% had moved jobs or been sacked as a result of their gambling. Gerstein et al 1999 (p. 42) found that 13.8% of problem gamblers in the general population had lost a job or been sacked in past year compared to 4% for low risk gamblers. They then estimated the rate of job loss *due* to gambling as 8 per cent. Lesieur (1998) and Thompson et al. (1996) reported more adverse outcomes for problem gamblers seeking help (in the United States).

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problem gambling with the share of gambling expenditure (losses) accounted for by this group.

A minority of people account for the bulk of gambling spending, a phenomenon which has been noted by other researchers (eg Dickerson, Baxter et al. 1995, p. 79). And not surprisingly, problem gamblers, though a small proportion of total gamblers, are highly represented among heavy spenders and would be expected to account for a significant share of total expenditure. This has the important policy implication that gambling providers face mixed incentives for dealing with problem gamblers. Those venues which most try to limit the problems may lose revenue as well as losing market share relative to those whose efforts are weaker. It raises some additional hurdles to the workability of self-regulation (chapter 16).

### *Estimates for aggregate gambling*

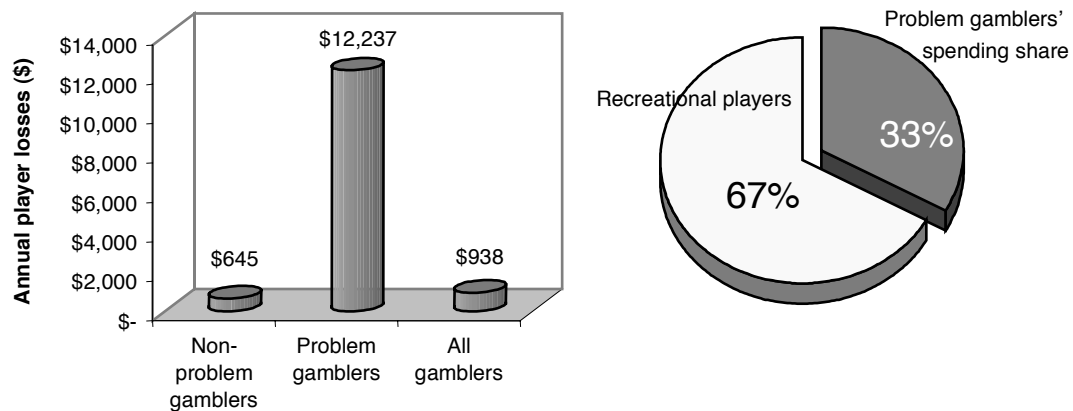
Few past studies of gambling in Australia or elsewhere have sought to examine the share of player losses accounted for by problem gamblers. The Australian study based on 1991 data by Dickerson, Baron, Hong and Cottrell (1995) is a rare exception. They found that problem gamblers accounted for about 26 per cent of total gambling expenditure in Australia, a number that they regard as ‘probably conservative’.

The Commission also undertook analysis of the unit record files of past Australian survey data (the Victorian, NSW, Tasmanian and SA surveys) to try to estimate expenditure shares of problem gamblers. The estimates vary significantly, but given sample variability, a weighted average of the estimates is more likely to give a reliable picture. On this basis, around 30 per cent of expenditure was accounted for by problem gamblers.

However, these surveys were based on different sets of questions, were conducted at different times and provide an incomplete coverage of Australia. The Commission’s *National Gambling Survey* is likely to provide a more reliable estimate. Using the methodology described in appendix P, the Commission estimated that problem gamblers account for about one third of total Australian resident commercial gambling expenditure (figure 7.5).

Behind the aggregate estimate is the fact that average annual expenditure by problem gamblers is very high. The average estimated expenditure of problem gamblers in the last 12 months is about \$12 200 — 19 times greater than the \$645 for non-problem gamblers.

Figure 7.5 **The share of player losses accounted for by problem gamblers<sup>a</sup>**  
Australia 1999



<sup>a</sup> See appendix P for the methods used to calculate these estimates.

Data source: appendix P.

It should not be assumed that all problem gamblers spend a large amount, or that all heavy gamblers are problem gamblers. Indeed, the Commission's survey suggests that 60 per cent of gamblers outlaying more than \$4 500 a year are not problem gamblers. Even so, the data suggests strongly that problem gamblers are much more prevalent amongst big spenders than among light spenders. The average expenditure per gambler tends to climb with higher SOGS scores.

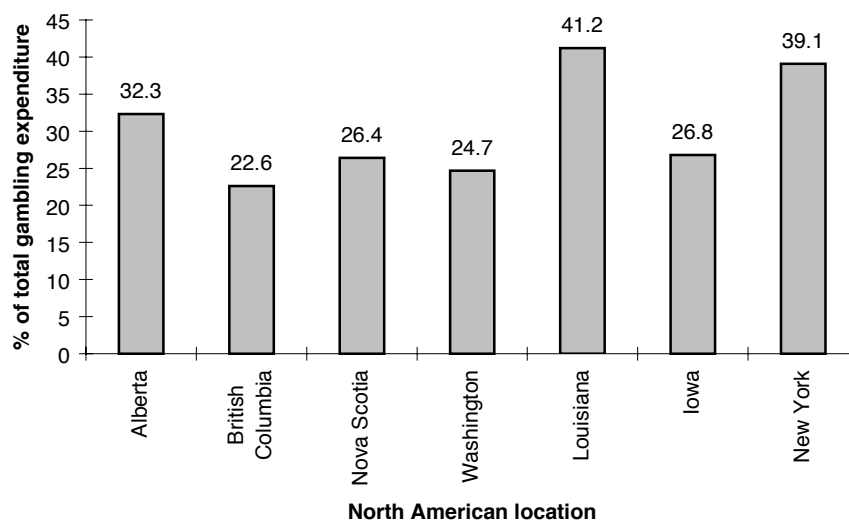
Those with severe problems (as defined using the Dickerson approach described in chapter 6) account for the majority of spending by problem gamblers. For example, it is estimated that this group accounts for about one third of spending on gaming machines and one quarter of spending on racing (appendix P).

Other international studies have also found that problem gamblers account for a significant share of expenditure. In the United States, Grinols and Omorov (1996) estimated that 52 per cent of casino revenue comes from problem and pathological gamblers — but their estimate appears to be inflated and subject to serious qualification (Volberg, Moore, Christiansen, Cummings and Banks 1998, p. 351). Lesieur (1998) examined seven jurisdictions in Canada and the United States and found that problem gamblers accounted for between 23 and 41 per cent of total gambling expenditures (figure 7.6).

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Figure 7.6 Expenditure shares of problem gamblers in North America

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*Data source:* Lesieur (1998, 1996). Lesieur used a score of 3 or more as an indicator of problem gambling — which will tend to inflate the expenditure shares.

Rather lower figures were found by the recent US NORC study. Problem gamblers accounted for 16.6 per cent of past year losses in casinos and 13.5 per cent of past year losses in racing. However, the overall estimates of expenditure were unusual because many people claimed to win overall, so that these loss shares are of questionable value in shedding light on the problem gambling expenditure share. Analysis of the US data by Volberg and Gerstein is continuing and further results are expected in the year 2000.

Data from a 1992 survey in New Brunswick in Canada suggests that ‘pathological’ gamblers accounted for about 1.6 per cent of gamblers and only 4.3 per cent of total gambling spending (National Council of Welfare 1996, p. 8).

A detailed study of Video Lottery Terminals (VLTs) in Nova Scotia, Canada, found that problem players, who comprised 0.92 per cent of Nova Scotian adults, accounted for 53 per cent of VL gaming revenue (Focal Research 1998, p. 3.43).

**Overall, problem gamblers, while small in number, have a cumulatively large impact because they spend around 19 times more than recreational gamblers. The implication is that of the \$10.7 billion of gambling expenditure by Australians in 1997-98<sup>30</sup>, around \$3.6 billion comes from problem gamblers.**

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<sup>30</sup> Based on net gambling expenditure in Australia less \$536 million for casino losses experienced by overseas visitors.

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### *Estimates for different gambling modes*

It is possible to extend the methods used above to estimate gambling expenditure shares by problem gamblers to different types of gambling. No such studies have been attempted for Australia, but Volberg, Moore, Lamar, Christiansen, Cummings and Banks (1998, p. 355) find that problem gamblers in Iowa and Mississippi account for a share of total losses that varies significantly between gambling modes (table 7.11), as does Lesieur (1996, 1998) for seven regions in North America. The data suggest that problem gamblers account for a modest share of expenditure on non-continuous forms of gambling, such as sporadic lotteries (but not scratchies) and raffles — around 10 per cent (or lower). But expenditure shares are much bigger in EGMs (and VLTs), table games and wagering.

The Commission analysed data from a study in Alberta, Canada and found similar patterns, with the interesting twist that there were stark differences in expenditure patterns for males and females. Thus female problem gamblers accounted for about 40 per cent of bingo expenditure by all females, whereas male problem gamblers accounted for about 20 per cent of all bingo expenditure by males. An even clearer pattern emerged for wagering on horses, with female problem gamblers accounting for 2.7 per cent of female racing gambling expenditure and male problem gamblers for 58 per cent of male expenditure on this gambling form.

Analysis by the Productivity Commission of data from Wynne, Smith and Jacobs (1996) for Alberta adolescents aged 12 to 17 years found that gambling expenditures are even more skewed to problem gamblers in this group than adults. Forty-nine per cent of total gambling expenditure by adolescents is accounted for by the 8 per cent who are rated as problem gamblers<sup>31</sup> — rising to 60 per cent for some gambling forms, such as card games, and as little as 24 per cent for raffles (table 7.12). No similar studies of expenditure shares among adolescents have been conducted in Australia.

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<sup>31</sup> Using the SOGS 5+ threshold.

**Table 7.11 Share of gambling expenditure accounted for by problem gamblers**

Iowa 1995, Mississippi 1996 and the United States 1998

<i>Type of gambling</i>	<i>Group size<sup>a</sup></i>	<i>Prevalence of problem gamblers</i>	<i>PLF<sup>b</sup></i>	<i>Proportion of losses</i>	<i>Low<sup>c</sup></i>	<i>High<sup>c</sup></i>
	Number	%	Ratio	%	%	%
<b>Iowa</b>						
Lottery	814	5.53	4.08	19.3	13.4	34.6
Casino tables	219	12.78	3.41	33.3	24.6	51.6
Casino slots	481	6.65	2.54	15.3	9.4	40.8
Bingo	153	10.46	2.17	20.2	10.4	42.0
Parimutuel	82	9.76	7.02	43.1	27.5	99.8
Charitable	407	5.40	1.73	9.0	6.8	13.4
<b>Mississippi</b>						
Lottery	183	9.34	1.78	15.1	8.4	74.6
Casino tables	74	10.81	1.17	13.1	6.4	100.0
Casino slots	255	11.81	1.72	18.5	11.4	48.2
Bingo	39	18.18	15.08	73.8	51.5	100.0
Parimutuel	24	29.17	0.21	8.0	3.3	100.0
Charitable	215	8.37	3.32	23.1	12.3	100.0

<sup>a</sup> The total sample for Iowa was 1 500 and 1 014 for Mississippi. The group size is the number of people in the sample who gambled on any particular form. <sup>b</sup> This is the Proportional Loss Factor, which is the ratio of the losses of problem gamblers to those of non-problem gamblers. Problem gambling is defined as people who score 3 or more on a 12 months SOGS. This embraces a far greater group of people than would be normally accepted as problem gamblers in Australia, and suggests that the measures of expenditure shares would be somewhat inflated. However, it should be noted that while prevalence rates with such a low cutoff may be two to four times the prevalence with a 10 plus threshold, the expenditure shares would not be anywhere near as biased — simply because real problem gamblers spend a lot more than non-problem gamblers. <sup>c</sup> These are the 95 per cent confidence intervals for the spending shares.

Source: Volberg, Moore, Lamar, Christiansen, Cummings and Banks (1998, pp.355–6).

Using survey data from various state surveys and the Commission's *National Gambling Survey* suggests divergent spending shares for different modes (figure 7.7). Problem gamblers have a very significant share of the expenditure (however defined) on both wagering and gaming machines — these are also the gambling forms where problem gamblers tend to have the greatest difficulties. In contrast, problem gamblers account for a much lesser share of expenditure in lotteries, scratch cards and casinos. Indeed, conventional lotteries appear to be like most other consumer goods — and do not appear currently to present any significant hazards for players.

Table 7.12 **Expenditure shares of gambling by gambling mode and gender of gambler<sup>a</sup>**

Alberta 1993

	<i>Current female problem gamblers</i>	<i>Current male problem gamblers</i>	<i>All problem gamblers</i>
	%	%	%
Bingo	41.6	21.6	39.2
Video Lottery Terminals	47.4	45.0	45.9
Pull-tabs	44.7	24.6	37.3
Instant or scratchies	15.3	17.2	16.2
Lotto	8.4	10.6	9.6
Local casinos	21.9	35.8	28.2
Cards/dice at casino	17.4	33.4	29.6
Sports with friends	11.2	13.2	12.5
Card games with friends	20.3	16.0	16.5
Raffles	2.9	9.3	5.8
Coin slot machine	4.1	15.7	10.1
Horse races	2.7	58.1	45.8
Games of skill	14.4	19.0	18.7
<b>Total gambling</b>	<b>22.7</b>	<b>25.8</b>	<b>24.4</b>

<sup>a</sup> Female problem gamblers were 5.5 per cent of total female gamblers and male problem gamblers 6.8 per cent of total male gamblers — a broader definition of problem gambling is being used than would be the case in Australia.

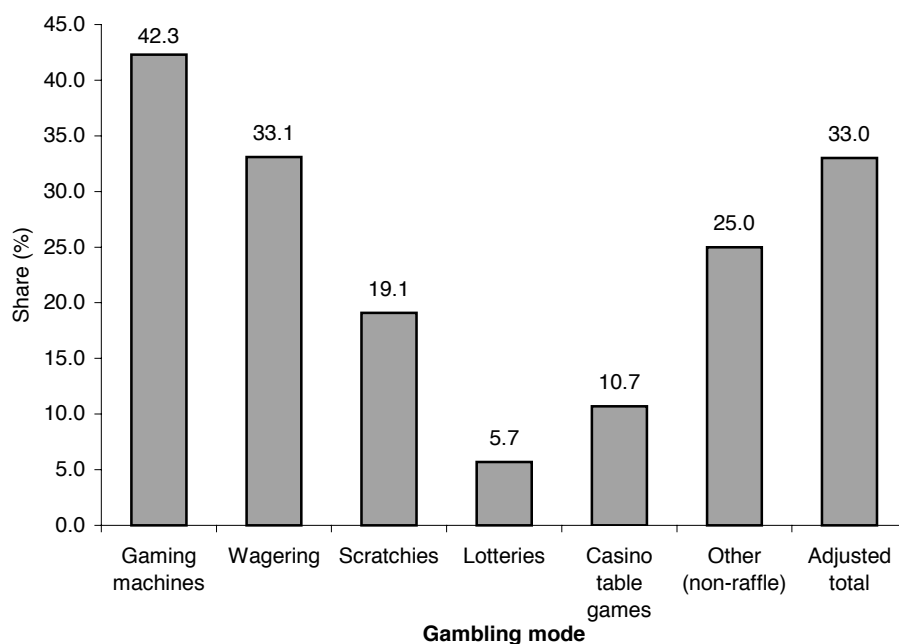
Source: Productivity Commission estimates based on data in National Council of Welfare (1996).

Another revealing feature of the expenditure data found in the Commission's *National Gambling Survey* is that the outlays share of problem gamblers is usually lower than the net spend share. This is consistent with problem gamblers re-'investing' their wins, until they lose (appendix P).

**In summary, problem gamblers may be a small minority of the gambling population, but their high levels of expenditure mean that they account for a substantial share of overall expenditure — a result which is not affected by the methods used to calculate the shares. Problem gamblers account for particularly high shares of total spending on gaming machines and racing. On the other hand, they account for a negligible share of spending on lotteries.**



**Figure 7.7 Expenditure shares of problem gamblers, Australia**  
PC National Gambling Survey 1999



<sup>a</sup> The adjusted total takes account of the fact that the *National Gambling Survey* underestimates total spending in some gambling modes, while overestimating others. Problem gamblers are defined as SOGS 5+. *Data source:* PC National Gambling Survey and appendix P.

### Spending patterns by problem gamblers in counselling

While they may not be representative of problem gamblers in the general population, it is still relevant to examine the levels of expenditure made by people who are seeking help for their problems, as these gamblers are generally the worst affected by problem gambling:

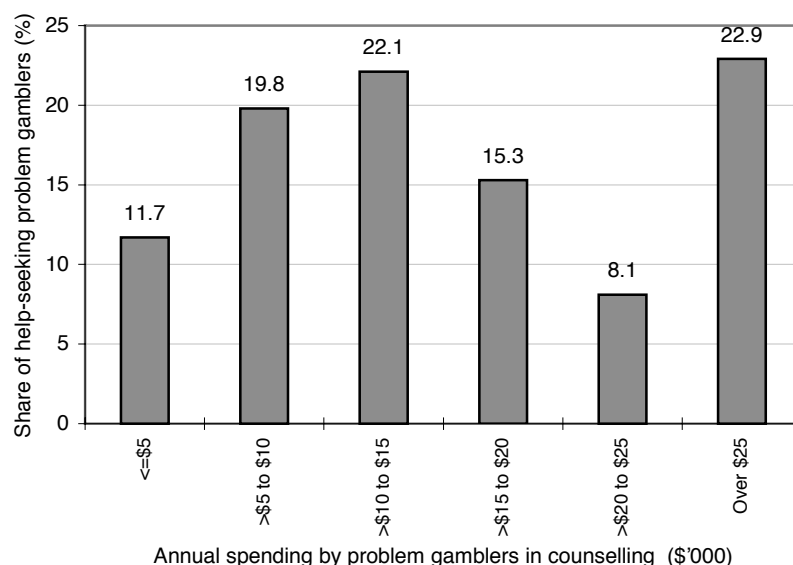
- The Commission's *Survey of Clients of Counselling Agencies* suggested average annual expenditure per problem gambler of just above \$19 000 — 60 per cent more than that of problem gamblers found in the population generally (figure 7.8).
- Evidence from Break Even clients in Victoria suggest very high annual expenditures by problem gamblers seeking help (Jackson, Thomas, Crisp, Smith, Ho & Borrell 1997 p. 25). For example, the median loss on gaming machines on the last day a problem gambler played was \$150 — and one person made a single session loss of \$25 000 after 50 hours of continuous playing. More recent data (for 1997-98) from Jackson et al. (1999b, p. 29) suggested that 45.5 per cent

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of Victorian gambling counselling clients spent more than \$20 000 a year. Males tended to spend more than females.

- Data from South Australian clients of help agencies suggests that a sizeable minority of such gamblers are spending substantial monthly amounts (Elliot Stanford and Associates 1998).

Figure 7.8 **The distribution of annual spending by problem gamblers in counselling, Australia, 1999**



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Data source: PC Survey of Clients of Counselling Agencies.

### The financial effects of problem gambling

A crucial aspect of the impact of problem gambling is the extent to which it represents a large or small share of total income. The Commission found that the ratios of gambling expenditures to income are very high among problem gambling households relative to those of recreational gamblers:

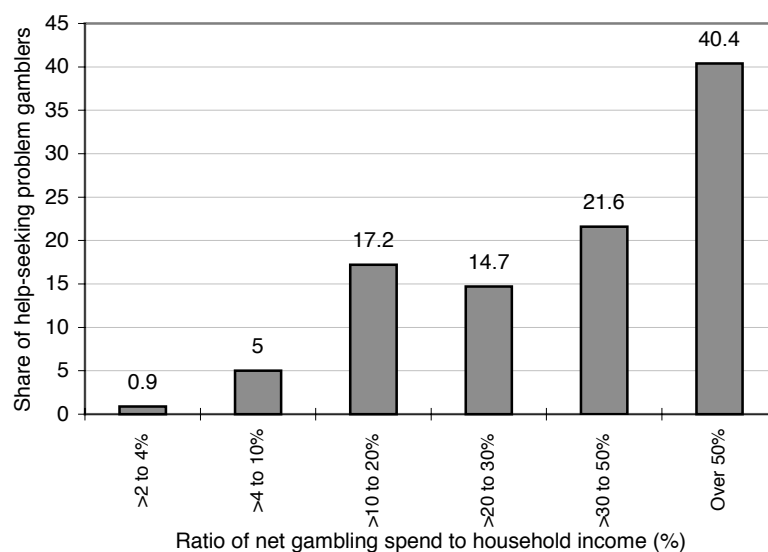
- Amongst non-problem gamblers the mean ratio of net gambling expenditure to household income (affordability) is low at around 1.2 per cent (with the median even lower at 0.5 per cent), while for problem gamblers in the general population the average is 22.1 per cent (with a median of 12.2 per cent)<sup>32</sup>; and

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<sup>32</sup> This will tend to underestimate the spending share because it assumes that any partner spends nothing on gambling, and because the expenditure data being used is not adjusted for survey under-enumeration (appendix P). It should also be noted that average affordability is calculated as the average of the spending to income ratios using the data from the Commission's *National Gambling Survey*. This is not the same as taking the mean problem gambling expenditure for all

- Among problem gamblers in counselling — those with the most severe problems — gambling expenditure exceeds 20 per cent of income in three quarters of cases (figure 7.9).

Figure 7.9 **Affordability of gambling for problem gamblers in counselling<sup>a</sup>**  
Australia 1999



<sup>a</sup> Affordability is the ratio of net spending to household gross income.

Data source: PC Survey of Clients of Counselling Agencies.

The consequence of the high ratio of gambling spending to income is that problem gamblers tend to run down assets or borrow:

- About one in five problem gamblers reported borrowing money without paying it back (table 7.13) and one in two said they borrowed money from some source to finance their gambling (table 7.14). Dickerson, Baxter et al. (1995, p. 98) found that in Queensland 76 per cent of female and 56 per cent of male problem gamblers had gambling related debts at the time they sought counselling help. The average level of debt of problem gambling clients in this survey was \$4 564 for women and \$33 158 for men.<sup>33</sup> The Commission's *Survey of Clients of Counselling Agencies* found an average debt level of \$10 044 for problem

problem gamblers and dividing by their mean household income (that is around 11.6 per cent using unadjusted expenditure and 18.8 per cent using the adjusted expenditure).

<sup>33</sup> Some other studies suggest even bigger levels of debt. For example, a US Maryland study (Lorenz, Politzer and Yaffee 1990) found that average level of debt among a treatment group was just under US \$40 000.

gamblers in counselling (but about 40 per cent had no debt, so that the level of debt for those who did was \$16 925).<sup>34</sup>

**Table 7.13 Adverse financial impacts of problem gamblers<sup>a</sup>**

<i>Financial impact</i>	<i>Yes</i>	<i>Number affected</i>	<i>No</i>	<i>Rarely</i>	<i>Some-times</i>	<i>Often</i>	<i>Always</i>	<i>Source</i>
	%	'000	%	%	%	%	%	
<b>Borrowed money without paying back</b>								
PGs (last year))	18.7	54.8	81.3	14.2	4.0	0.0	0.5	NS
Non-problem regulars (in last year)	0.7	7.9	99.4	0.4	0.2	0.0	0.0	NS
Adults (in last year)	0.7	93.0	99.3	0.5	0.1	0.0	0.0	NS
PGs seeking help (in last year)	53.3	..	46.7	13.9	22.7	10.6	6.1	CS
<b>Borrowed from loan sharks</b>								
PGs (in last year)	5.8	16.9	94.2	2.5	0.8	2.5	0.0	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	0.0	0.0	0.0	0.0	NS
Adults (in last year)	0.1	17.0	99.9	0.1	0.0	0.1	0.0	NS
PGs seeking help (in last year)	8.4	..	91.6	1.3	4.6	2.0	0.5	CS
<b>Bounced cheques deliberately</b>								
PGs (in last year)	4.1	12.0	95.9	3.8	0.3	0.0	0.0	NS
Non-problem regulars (in last year)	0.1	1.6	99.9	0.1	0.0	0.0	0.0	NS
Adults (in last year)	0.1	13.6	99.9	0.1	0.0	0.0	0.0	NS
PGs seeking help (in last year)	21.2	..	78.8	7.7	9.4	3.1	1.0	CS
<b>Sold property to gamble</b>								
PGs (in last year)	10.8	31.6	89.2	6.3	2.0	2.5	0.0	NS
Non-problem regulars (in last year)	0.3	3.5	99.7	0.3	0.0	0.0	0.0	NS
Adults (in last year)	0.3	35.1	99.8	0.2	0.0	0.1	0.0	NS
PGs seeking help (in last year)	36.7	..	63.3	10.4	17.7	7.3	1.3	CS
<b>Spent more than could afford</b>								
PGs (in last year)	70.0	204.8	30.1	25.5	14.5	20.5	9.4	NS
Non-problem regulars (in last year)	8.7	104.8	91.4	5.7	2.3	0.5	0.1	NS
Adults (in last year)	2.9	412.5	97.1	1.7	0.6	0.5	0.2	NS

<sup>a</sup> PG is a problem gambler (defined as SOGS 5+ for results from the general population). CS is the PC Survey of Clients of Counselling Agencies, while NS is the PC National Gambling Survey.

Source: PC National Gambling Survey and PC Survey of Clients of Counselling Agencies.

- Over five per cent (8 per cent of gamblers in counselling) said they had borrowed from loan ‘sharks’ — lenders who charge exorbitant interest rates, and sometimes harass borrowers for payment.
- Around one in ten reported selling property to finance their gambling (and more than one in three of gamblers in counselling). This includes using pawnbrokers (table 7.13). Using pawnbrokers involves penal rates of interest for borrowers and/or apparently relatively low valuations for goods (SAFCA 1996).

<sup>34</sup> Some counselling agencies, which conducted the interviews with problem gambling clients on behalf of the Commission, noted that many problem gamblers would accumulate debt on housing (or not pay off mortgages) in order to finance gambling. Accordingly, what people acknowledge as gambling-related debt probably understates the genuine level of debt.

- The bulk of problem gamblers say they have spent more than they can afford.
- Higher levels of debt present an additional significant risk factor for crime (appendix H).

**Table 7.14 Other adverse financial impacts<sup>a</sup>**

	Yes	Number affected	No	Source
	%	'000	%	
<b>Owed money due to gambling</b>				
Problem gamblers (ever)	51.4	150.4	48.6	NS
Non-problem regulars (ever)	4.6	5.6	95.4	NS
Adults (ever)	2.0	288.5	98.0	NS
Problem gamblers (in last year)	37.1	108.7	62.9	NS
Non-problem regulars (in last year)	1.7	2.0	98.4	NS
Adults (in last year)	1.0	135.4	99.0	NS
<b>Got gambling funds by using a pawnbroker</b>				
Problem gamblers (ever)	13.1	38.4	86.9	NS
Non-problem regulars (ever)	0.5	6.4	99.5	NS
Adults (ever)	0.4	55.4	99.6	NS
Problem gamblers (in last year)	9.5	27.7	90.5	NS
Non-problem regulars (in last year)	0.3	3.5	99.7	NS
Adults (in last year)	0.2	31.2	99.8	NS
<b>Went bankrupt</b>				
Problem gamblers (ever)	1.4	4.1	98.6	NS
Non-problem regulars (ever)	0.0	0.0	100.0	NS
Adults (ever)	0.0	4.1	100.0	NS
Problem gamblers seeking help (ever)	8.4	..	91.6	CS
Problem gamblers (in last year)	1.0	2.9	99.0	NS
Non-problem regulars (in last year)	0.0	0.0	100.0	NS
Adults (in last year)	0.0	2.9	100.0	NS
<b>Lost house</b>				
Problem gamblers seeking help (ever)	7.9	..	92.1	CS
<b>Lost superannuation</b>				
Problem gamblers seeking help (ever)	13.4	..	86.6	CS

<sup>a</sup> CS is the PC *Survey of Clients of Counselling Agencies*, while NS is the PC *National Gambling Survey*. Problem gambling is defined as SOGS 5+ for results from the general population.

Source: PC *National Gambling Survey* and PC *Survey of Clients of Counselling Agencies*.

These financial outcomes can be difficult for problem gamblers and their families (box 7.7).

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### Box 7.7 Financial problems

Our honeymoon was spent doing a tour of race and trotting tracks ... I later learnt that all the money given to us as wedding gifts was gambled away at this time ... Twelve months after our new home was built we were served with a notice to quit as my husband had not paid any instalments on the loan and an enforced sale followed ... He had at times stolen and gambled their [the children's] pocket money (Comments from a gambler to the Productivity Commission's inquiry).

Peter was a 36 year old manager with a serious problem playing Black Jack at the Casino. Married with 2 children and a large mortgage. His house has been sold at a loss and a car on lease also sold. He had six personal loans, credit cards, loan from parents, outstanding school fees, medical bills, telephone account and taxation debt. Total bankruptcy debts \$84 000 (sub. D267, p. 3).

A fifty-one year old widow had been a regular bingo player for several years. The problem she described to Break Even began when she played the poker machines before and after the bingo sessions. She felt it was now an escape from being alone at home and she was embarrassed at her credit card debt of \$850 she could not pay, having lost savings of about \$10 000 (Dickerson, Baxter et al. 1995, p. 96).

In a period of a year and a half she had progressed from an initial dislike of her first go on the machines when she lost \$5 to a daily session of up to 4 hours duration. She has debts of \$21 000 on a variety of credit cards and two bank loans (ibid., p. 96).

I lost \$600 on three occasions (ie \$1 800), each \$600 gone in less than 2 hours; \$1 020 lost in five hours, another \$950 lost in three hours, and \$1 000 lost in 4½ hours (sub. D255, p. 3).

### *Are problem gamblers doomed to be penniless?*

An important question when looking at the impacts of problem gambling is whether a typical person showing problems will, over time, gamble themselves into poverty, or whether this affects only a subset of people experiencing problems.

Compulsive gamblers will bet until nothing is left: savings, family assets, personal belongings — anything of value that may be pawned, sold or borrowed against. They will borrow from co-workers, credit union, family and friends, but will rarely admit it is for gambling. They may take personal loans, write bad cheques and ultimately reach and pass the point of bankruptcy ... In desperation, compulsive gamblers may panic and often will turn to illegal activities to support their addiction (Wexler and Wexler 1992, quoted in Simon 1995).

There is little supportive Australian evidence that this is the case for problem gamblers as a group, though it may be true for a sub-group.<sup>35</sup> Following other triggers — such as relationship breakdown, job loss or financial problems prior to

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<sup>35</sup> Data from a Nova Scotia (Canada) survey of VL players (Focal Research 1998, pp. 3.39–3.40) reveals that most problem players there do not drive themselves into bankruptcy, but remain as long-term problem gamblers.

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complete insolvency — many people will seek to resolve gambling problems prior to the extreme point described in the above quote. As well, problem gambling need not be progressive — it may vanish as a person solves their own problems without professional assistance, or it may persist as a problem without progressing in extremity.

About 1.4 percent of problem gamblers report that they have ever been bankrupt as a consequence of gambling, and even less in the last year. However, the proportion affected are so small that the estimate is very unreliable statistically.

Official data from the Inspector-General in Bankruptcy may provide a better picture of bankruptcies due to gambling. These reveal that there were 223 non-business and 94 business bankruptcies related to gambling or speculation. This is about 1.3 per cent of total bankruptcies, and implies that only 0.1 per cent of problem gamblers are declared bankrupt in any year. Presumably some of these bankruptcies are quite unrelated to gambling, so that even this would appear to be an overestimate of gambling-related bankruptcies. However, it is a criminal offence to go bankrupt as a result of gambling, so there are strong incentives for people to conceal gambling as a cause (appendix R). As noted by the Adelaide Central Mission:

I believe that the bankruptcy statistics are extremely conservative concerning problem gambling and difficult to identify while the present legislation is in place [which provides for prosecution of people who go bankrupt due to gambling].

Problem gambling as a reason for personal bankruptcy is often not indicated and reasons given refer to health issues, loss of jobs, other criminal acts, breakdown in relationship and poor money management (sub. D267, p. 3).

The Adelaide Central Mission also observed that:

During the last 12 months, as one financial counsellor in a smaller State, I have been involved in 20 petitions for personal bankruptcy totalling \$1.25 million, which can be directly attributed to the petitioners problem gambling addiction. The average number of debts per petition was eight and the sale of 6 house properties were involved...The considerable fraudulent behaviour of my clients resulted in three Company liquidations with losses exceeding \$1 million (sub. D267, p. 3).

The Society of St Vincent de Paul GAME counselling agency in New South Wales also pointed to significant numbers of bankruptcies among its clients. The Society also revealed that many had escaped bankruptcy, but only at the cost of the significant loss of assets:

We have had some success in avoiding bankruptcy for clients that come to our agency. To illustrate this point, in the last financial year (1998-99), 42 clients have asked me to help with their bankruptcy. Out of these 42, only 10 needed to be declared bankrupt. Of the other 32, 23 are working at the task of repaying their debts and the other 9 have had

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to sell their assets (and for 6 of the 9, their homes) to satisfy their creditors (sub. D218, p. 2).

The Wesley Community Legal Service (sub. D215, p. 1) noted that in some cases bankruptcy was avoided by effectively insolvent gamblers because relatives paid the debts.

It appears that bankruptcy is a relatively rare event for problem gamblers as a group, but its rarity should not be taken as a barometer of the adverse financial impacts of gambling. Many problem gamblers run down assets or pass their financial obligations to others among their friends and family.

Indeed, the declaration of bankruptcy may in practice provide some significant benefits for problem gamblers (and their families), as pointed out by the Wesley Community Legal Service (sub. D215, p. 2):

- creditors stop demanding payment, reducing family stress;
- legal debt recovery procedures are stayed;
- it provides public recognition of the inability of the problem gambler to pay debts, ending attempts by the gambler to borrow money to bail out from problems;
- bankruptcy is registered on the bankrupt's Credit Reference Limited File for 7 years, which makes it difficult to borrow money to gamble;
- most bankrupts are discharged at the end of 3 years, providing a chance for a new start in life; and
- bankrupts on good incomes are required to make contributions to creditors.

They also noted some disadvantages, most particularly the possible risk of prosecution of a problem gambler — which the Commission addresses in appendix R.

As emphasised in chapter 6, problem gamblers are a heterogenous group. Those with the severest gambling problems (including those in counselling) face devastating financial consequences — with about 8 per cent being declared bankrupt, 8 per cent losing their house due to their gambling, and 14 per cent losing superannuation assets (table 7.14).

### *Some overseas results*

A number of US studies suggest that bankruptcy rates among problem gamblers are even higher there. The recent NORC study (Gerstein et al. 1999, p. 55) found that a



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‘pathological’ gambler had about twice the odds of going bankrupt as a low-risk gambler (controlling for confounding variables). About 19 per cent had ever been declared bankrupt compared to 5.5 per cent for low risk gamblers. On the other hand, their econometric analysis of the spatial variation in bankruptcy rates could find no influence of proximity to casinos.<sup>36</sup>

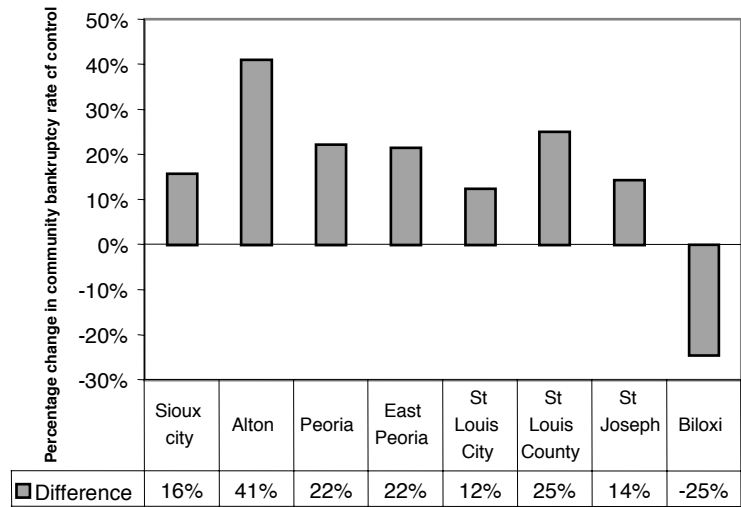
A recent US study by Nichols, Stitt and Giacomassi (1999a) examined personal consumer bankruptcy rates using a less aggregated group of casino communities and a control group of communities, which had similar socio-demographic characteristics, but no casino gambling.<sup>37</sup> They examined whether county-level bankruptcy rates had risen over time after the introduction of the casinos relative to the change over time in the control communities. The results suggested that casino gambling was associated with (a statistically significant) increase of bankruptcy in seven of the eight communities (figure 7.10). It should be noted that the overall personal bankruptcy rate in the United States appears to be several times larger than in Australia, so that it is possible that these quantitative methods might have a greater chance of uncovering gambling effects in the United States than Australia. However, some care should be taken in seeing problem gambling as necessarily the only underlying factor connecting casino gambling and elevated bankruptcies. It may be that the analysis is picking up some other economic impacts of casinos.

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<sup>36</sup> One possible way of reconciling these diverging results is that it is possible that the casinos stimulate the local economy by attracting other states’ visitors. In this case, the increased bankruptcy rates associated with problem gambling would be matched by lowered bankruptcy rates due to local economic stimulation. If this were the case, then it would be predicted that bankruptcies would tend to rise in the states which provided the visitors to states with casinos — but these bankruptcies would not be observed in the model results.

<sup>37</sup> With one exception, the researchers selected casinos that were not destination casinos. This overcomes some of the confounding effects associated with the venues that attract out-of-state visitors, thus stimulating the local economy. The only destination venue was associated with a decrease in bankruptcy rates following the introduction of the casino.

**Figure 7.10 The apparent impact on personal bankruptcy rates of casino communities compared to controls**  
Eight US casino communities



Data source: Nichols, Stitt and Giacomassi (1999a).

### Sources of money for gambling by problem gamblers

As well as accumulating formal or informal debt or running down assets, problem gamblers also give up other forms of consumption. The majority of problem gamblers in counselling (table 7.15) report at least sometimes running out of money to buy essentials or pay urgent bills.

**Table 7.15 Share of problem gamblers who ran out of money to buy household essentials or pay urgent bills**

	Share of gamblers
	%
Always ran of money	6.2
Often ran out of money	34.2
Sometimes ran out of money	27.9
Rarely ran out of money	9.0
Never ran out of money	22.7
Total	100.0

Source: PC Survey of Clients of Counselling Agencies.

But they give up more than essentials — the significant financial burdens of problem gambling must have large displacement effects on a range of other forms of consumption by affected households. Relatively little research has been

conducted into the sources of funding of gambling expenditure — whether it be for recreational or problem gamblers. The Commission’s *Survey of Clients of Counselling Agencies* suggested that they frequently gave up holidays, other entertainment, restaurant meals and savings (table 7.16). Jackson et al. (1999b, p. 30) found that 47 per cent of problem gamblers in counselling ran down their savings, and 9 per cent raised gambling funds through asset sales.

**Table 7.16 What do problem gamblers in counselling give up in order to gamble?**

	<i>Food and grocery items</i>	<i>Savings for things you were hoping to buy</i>	<i>Power, phone, accommodation</i>	<i>Car / durables</i>	<i>Holidays</i>	<i>Entertainment</i>	<i>Restaurant meals</i>
Always went without	4.0	21.2	1.5	16.0	25.7	18.4	24.2
Often went without	11.8	31.1	7.3	15.2	20.4	23.6	22.0
Sometimes went without	27.2	29.9	12.3	28.5	23.0	31.8	22.7
Rarely went without	16.5	6.8	12.3	10.3	9.1	8.2	12.1
Never went without	40.4	11.0	66.7	30.0	21.9	18.0	18.9
Total	100.0	100.0	100.0	100	100	100	100

*Source: PC Survey of Clients of Counselling Agencies.*

The Commission’s *National Gambling Survey* revealed rather different displacement effects among problem gamblers — effects that intensified as the gambling problem increased in severity (table 7.17). Problem gamblers tend to give up spending on personal items (such as clothing) and paying bills, much more than non-problem gamblers. For example, over one-quarter of severe problem gamblers said that if they hadn’t spent the money on gambling they would have spent it to pay bills (compared to just 2.4 per cent of non-regular non-problem gamblers). All gamblers said that they gave up small household items, other entertainment and recreation, and savings.

## **7.6 Impacts on others, the public purse and the non-profit sector**

The financial burdens borne by problem gamblers spill over the boundaries of their households, into wider family and friendship networks, into the non-profit sector and into the public welfare domain. This happens via a number of routes:

- some problem gamblers lose their jobs and then require social security payments. They also tend to seek social security advances (in about 13 per cent of cases);

- their rates of ill-health appear to be higher — with implications for the health budget;
- they require assistance with their gambling problems from counselling agencies, which comes at a cost;
- the shortage of adequate household finance requires sporadic material aid from charities for some problem gamblers. The Commission's *Survey of Clients of Counselling Agencies* found that 22 per cent of problem gamblers in counselling obtained material assistance from a charity when the money ran out. The average annual amount obtained was estimated at (a modest) \$200 per year<sup>38</sup> for those who sought assistance. A sizeable majority of problem gamblers in counselling (64 per cent) said they lied about the reason for needing material assistance, so that the charities themselves are probably not highly aware of the burden placed on them by gambling problems; and
- they borrow from friends (58 per cent of cases) or simply defer or ignore bills (64 per cent of cases).

**Table 7.17 What do other problem gamblers give up in order to gamble?**

	<i>Problem gamblers (SOGS 5+)</i>	<i>Severe (SOGS 10+)</i>	<i>Non-problem non-regulars</i>	<i>Non-problem regulars</i>
	%	%	%	%
Groceries or small household items	17.5	18.3	23.1	17.0
Major household goods (eg TV)	4.7	8.7	3.2	3.2
Personal items (clothing, footwear)	21.9	26.5	11.1	12.3
Restaurant meals	9.7	7.2	7.6	8.6
Wine, beer	11.5	6.5	9.0	13.6
Movies or concert	5.0	0.0	4.3	4.1
Other entertainment & recreation	12.9	21.5	10.5	9.1
Paid off credit card or bills	11.7	28.4	2.4	4.4
Pay rent/mortgage	4.0	14.3	1.5	0.7
Spent on grandchildren	3.1	3.9	2.2	2.8
Petrol	4.7	0.0	1.0	0.5
Cigarettes	4.7	0.0	0.5	0.8
Donation to charity	0.0	0.0	0.6	0.0
Magazines/books	0.0	0.0	1.6	0.2
Other items	8.1	7.8	5.3	5.0
Savings	17.4	19.6	14.4	24.2
Don't know	8.1	6.1	14.6	11.7

Source: PC National Gambling Survey.

<sup>38</sup> It is likely that this is a significant underestimate, because in many cases material aid is obtained by the partner of the problem gambler, rather than by the problem gambler themselves.

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Of course, overall problem gamblers pay huge taxes through their gambling to governments — roughly of the order of \$1 billion — so that there is little question that, as far as state governments are concerned, they are net beneficiaries of any transfers that take place. Their own families, businesses, friends, and charities almost certainly, however, pick up the main tabs.

## 7.7 Crime and problem gambling

The discussion in this section, which examines different aspects of the relationship between crime and problem gambling, draws on material provided in appendix H.

### Why do some problem gamblers turn to crime?

Lesieur (1984, 1996) has outlined the sequence of events that lead some problem gamblers to commit criminal offences. To obtain money for gambling or to pay gambling debts, gamblers initially draw on their savings and then make cash advances on their credit cards, borrow from family and friends, or take out loans with banks or other financial institutions.

As the Wesley Community Legal Service noted:

Typically a gambler will borrow increasing amounts of money to gamble, disguising the purpose for which the money is borrowed by shuffling money from one place to another. For example, a personal loan may be taken out to purchase a car, which is then sold to provide gambling money (sub. 46, p. 7).

A case study (box 7.8) shows the pattern of asset loss, mounting debts and then crime.

#### Box 7.8 A case study of the pathway to crime

Elaine is 48 years old ... and is from a wealthy Asian background. Elaine had never previously set foot in a club before ... Elaine decided to go inside the club ... While there she was fascinated by the flashing lights and sounds emanating from the poker machines. She cashed \$10 and began to play. She recalls she was instantly hooked. Some 3 years later and \$600 000 in liquid assets ... she eventually had to declare bankruptcy and...faced the inevitable marriage breakdown ... she attempted to chase her losses, and embezzled a further \$30 000 from a family member. She was eventually charged and sentenced to 6 months jail.

Source: *BetSafeNews*, April 1999 p. 3.

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Problem gamblers may subsequently borrow from loan sharks, or resort to selling personal or family property to obtain funds for gambling. Faced with mounting financial difficulties and gambling-related debts, when all these legal sources of gambling funds are exhausted, problem gamblers may then resort to illegal activities to obtain money. As the Salvation Army noted:

Once they [problem gamblers] have exhausted their income, whether wages, salaries, pensions or benefits, they then borrow on credit cards, take out loans, steal from family/friends, sell personal and family property, and then move to stealing from others (sub. 35, p. 2).

### **What proportion of problem gamblers commit offences?**

To shed light on what proportion of problem gamblers commit offences to support their gambling, information can be drawn from Australian surveys of:

- people seeking help from problem gambling counselling services;
- problem gamblers seeking treatment from hospital/university psychiatric units and attending Gamblers Anonymous;
- prison inmates; and
- the general population.

The findings from a range of studies are summarised in table 7.18.

#### *Some findings from individual surveys*

A study by Jackson et al. (1997) presents information on criminal activity among 1452 new clients who registered with problem gambling counselling agencies in Victoria in the period 1 July 1996 to 30 June 1997, and who were assessed in terms of the ten DSM-IV criteria for 'pathological' gambling. One of the criteria is whether a subject has committed illegal acts (eg forgery, fraud, theft or embezzlement) in order to finance their gambling. The study found that:

- around 30 per cent of clients admitted to having committed illegal acts to finance their gambling (Jackson et al. 1997, p. 27).

The proportion dropped to 20 per cent in the 1997-98 survey (Jackson et al. 1999b, p. 35). This study found that 33.2 per cent of problem gamblers with a problem related to the TAB had committed illegal acts, compared to 17.2 per cent of those with a problem related to gaming machines.<sup>39</sup>

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<sup>39</sup> This may simply reflect the fact that criminal behaviour tends to take some time to appear and most gaming machine players have a more recent problem. It may also reflect the fact that males

**Table 7.18 Proportion of problem gamblers committing offences**

<i>Region</i>	<i>Period</i>	<i>Type of clients assessed</i>	<i>Number of clients assessed</i>	<i>% admitting to criminal offences</i>
Victoria	1996-97	New clients at all problem gambling counselling agencies	1 452	30
Victoria	1997-98	New clients at all problem gambling counselling agencies	2 209	20
Victoria	Nov 97-Nov 98	New clients at counselling service for Vietnamese gamblers	30	50
Queensland	May 93-Oct 98	New clients at Break Even-Gold Coast	443	53
Queensland	1993-94	New clients at 5 Break Even centres	174	29
Queensland	1994-95	New clients at 5 Break Even centres	357	64
National <sup>a</sup>	1998-99	Clients of problem gambling counselling agencies, Australia-wide	404	44
NSW	n.a.	Hospital treated patients	152	53
NSW	n.a.	Gamblers Anonymous members	154	66
SA	Aug 97–Dec 97	Prison inmates (with SOGS score of 5+)	34	76
National <sup>a</sup>	1999	Problem gamblers (with SOGS score of 5+)	140	11

<sup>a</sup> The data for the PC *National Gambling Survey* and the *Survey of Clients of Counselling Agencies* exclude writing bad cheques deliberately.

Sources: Jackson et al. (1997); Jackson et al. (1999b), sub. 86; Boreham, Dickerson, Harley (1995); sub. 62; PC *Survey of Clients of Counselling Agencies*; Blaszczyński and McConaghy (1994a, 1994b); Marshall, Balfour and Kenner (sub. 116); PC *National Gambling Survey*.

The Australian Vietnamese Women’s Welfare Association Inc. (sub. 86) reported on characteristics of clients who presented at a problem gambling counselling service for Vietnamese gamblers in the western region of Melbourne. In the twelve month period to November 1998, the service provided assistance to 30 people (18 males and 12 females) with gambling related difficulties. Of these clients who sought help:

- 50 per cent were involved with the courts (they had either been ordered by a Magistrate’s Court to undergo counselling or were about to appear in court because of their gambling or gambling-related activities);
- 27 per cent were involved in stealing casino chips, cheating at casino games, stealing or shoplifting; and
- 17 per cent were involved with inappropriate money-lending schemes.

Results of illegal activity among clients of problem gambling agencies are available from the Commission’s *Survey of Clients of Counselling Agencies* (table 7.19).

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are more likely to commit a crime than a female, and are much more concentrated among those with a racing-related gambling problem.

Overall, 44 per cent of clients reported an involvement in some form of gambling related criminal activity at some stage of their gambling career. Around 16 per cent had appeared in court on charges related to their gambling, and around 6 per cent had received a prison sentence because of a gambling related criminal offence.

**Table 7.19 Crime among clients of problem gambling counselling agencies**

<i>Gambling related activity</i>	<i>% of clients<sup>a</sup></i>
Borrowing without permission or obtaining money improperly	42.3
Gambling has led to problems with the police	18.3
An appearance in court on criminal charges	15.8
A prison sentence	6.4
Any gambling related criminal activity	44.1

<sup>a</sup> The percentages refer to 404 clients. Illegal activity in this case *excludes* deliberately writing a cheque knowing that it would bounce.

Source: PC Survey of Clients of Counselling Agencies.

Detailed information on offences committed by problem gamblers was obtained in a survey of 306 New South Wales problem gamblers (Blaszczynski and McConaghy 1994a, 1994b), comprising 152 hospital treated subjects and 154 members of Gamblers Anonymous. The study (1994b) revealed that the majority of offences committed by problem gamblers are gambling related. Of the 306 subjects surveyed:

- 59 per cent admitted to committing at least one *gambling* related offence over their gambling careers (and 48 per cent admitted to committing *only* gambling related offences);
- 18 per cent admitted to committing at least one *non-gambling* related offence (and 6 per cent admitted to committing *only* non-gambling related offences);
- 11 per cent admitted to committing *both* types of offences; and
- 35 per cent reported committing no offence at all over their lifetime.

A study of gambling-related crime in a prison setting has been carried out by Marshall, Balfour and Kenner (sub. 116). Subjects for that study were chosen from Yatala Labour Prison, South Australia's main reception jail for sentenced prisoners. The study collected data during the period August to December 1997 on 103 inmates from the 176 who were new intakes from the courts and sentenced for an immediate period of imprisonment.

To determine the prevalence of problem gamblers, these new intakes were screened on the basis of the SOGS. Of the 103 subjects surveyed, 26 admitted to committing gambling-related offences (they had 'been in trouble with the law due to



gambling’), and 34 obtained a SOGS score of 5 or more. The *joint* characteristics of these groups are of particular interest:

- all 26 subjects who had committed a gambling related offence scored 5 or more on the SOGS; but
- 8 of the 34 subjects (24 per cent) with a SOGS score of 5 or more had *not* committed a gambling related offence.

The latter group who committed crimes that were unrelated to their gambling may well be ‘criminals who also happen to be gamblers’. Marshall, Balfour and Kenner conclude that:

There is a need to differentiate between criminals who gamble excessively and the pathological [problem] gambler who turns to gambling-related crime (sub. 116, p. 15).

### *1999 PC National Gambling Survey*

The Commission’s *National Gambling Survey* sought information on the prevalence of gambling-related illegal activity. Questions posed in the survey in relation to crime were whether a respondent had:

- obtained money illegally because of their gambling;
- experienced problems with the police because of their gambling; or
- appeared in court on charges related to their gambling.

The results classified in terms of two categories of problem gamblers (those with a SOGS score of 5+ and 10+) are presented in table 7.20.

**Table 7.20 Legal system impacts of problem gambling**

	<i>Ever</i> SOGS 5+	<i>Ever</i> SOGS 10+	<i>Last 12 months</i> SOGS 5+	<i>Last 12 months</i> SOGS 10+
	%	%	%	%
Any gambling related illegal activity	10.5	26.5	3.3	11.3
Obtained money illegally	7.0	13.2	1.2	3.7
Been in trouble with the police	4.1	13.8	2.2	7.6
In court on gambling related charges	3.1	13.4	0.2	1.4

*Source: PC National Gambling Survey.*

Around one in four problem gamblers in the ‘severe’ category (SOGS 10+) reported having committed some form of illegal activity at some stage of their gambling career, and around 10 per cent during the past 12 months. Prevalence rates of illegal activity were somewhat less among problem gamblers more generally, with around 10 per cent of those with a SOGS score of 5+ having committed a criminal offence.

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However, it should be noted that of the 23 respondents to the *National Gambling Survey* who admitted to having *ever* committed an illegal activity to finance their gambling, 9 scored less than five on the SOGS. Four of these indicated that they used to have a gambling problem in the past but not now. The other five denied ever having a problem. There is a very high likelihood that the latter respondents are false negatives — because if someone commits a crime to finance their gambling then this is normally symptomatic of a significant gambling problem. On that assumption, the prevalence rate of crime among problem gamblers in the severe category would be rather higher than depicted by the raw data in the Commission's *National Gambling Survey*.

### *Overall summary of findings on extent of crime by problem gamblers*

Marshall, Balfour and Kenner summarised the relationship between problem gambling and criminal behaviour as follows:

Pathological [problem] gambling is a significant risk factor in offending. Depending on the population assessed and the methodology used, the percentage of pathological gamblers that offend to support their gambling ranges from 30 to 50 per cent (sub. 116, p. 2).

The findings on the proportion of problem gamblers committing criminal offences estimated in the various studies summarised above is largely consistent with this conclusion in relation to the lower bound but suggests that for some categories of problem gamblers it can be as high as 60 or 70 per cent.

### **What crimes do problem gamblers commit?**

A wide range of illegal activities are committed by problem gamblers. For example, illegal activity can take place within the family of the gambler. The Wesley Community Legal Service (sub. 46) described cases where a problem gambler had stolen the property of family members which was then sold or pawned to raise money for gambling, or forged the signature of family members to borrow money.

Break Even–Gold Coast commented that:

Group members reported committing crimes as a result of gambling, ... [including] stealing cash from workplaces, fraud and uttering. A common form of fraud was the writing of cheques to secure goods and then returning the goods for cash refund, thus accessing cash for gambling (sub. 73, pp. 3-4).

The Blaszczynski and McConaghy (1994a) survey of problem gamblers reported some of the offences committed as follows:

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At the petty end of the spectrum, gamblers forged their spouses signature on cheques or in opening new joint accounts, stole from petty cash, engaged in shoplifting to subsequently sell the goods ... and stole from fellow employees at work (p. 124).

But the illegal activity can also extend to offences such as larceny, embezzlement and misappropriation, and more violent crimes such as armed robbery and burglary. Blaszczyński and McConaghy (1994a) also reported that:

More serious offences included repeated theft of vehicle spare parts for illicit sale, distribution and sale of marijuana, and the embezzlement of significant amounts on a regular basis from large corporations or banks (p. 124).

But not all of the offences that are committed by problem gamblers lead to arrest or prosecution. For example, much of the crime that is committed by problem gamblers against family members is never reported (box 7.9). Hence, crime report rates understate by a substantial margin the number of offences that are actually committed.

**Box 7.9 Participants' views on under-reporting of crimes**

Family members, friends and employers are the most frequent victims. These people are reluctant to report the criminal activity, and will often 'bail out' the problem gambler by advancing funds to pay creditors where criminal charges are threatened (Wesley Community Legal Service, sub. 46, p. 13).

We believe that the incidence of gambling related crime is under reported: very few families will lay charges against another member of their family and many employers are also reluctant to press charges (Relationships Australia (South Australia), sub. 118, p. 12).

Crimes committed against family and friends included stealing and pawning goods and selling family assets without consent. [But because] ... family members rarely choose to prosecute, many of the crimes and their impact on the family and the economy go unnoticed (Break Even—Gold Coast, sub. 73, pp. 3-4).

In the counselling work we undertake we are seeing clear evidence of white-collar crime, both large and small, being used to finance gambling activities. A large proportion of this theft occurs from family members and significant others. It is not reported, but it is crime nonetheless (Adelaide Central Mission, sub. 108, p. 19).

A large number of computer-initiated crimes are not proceeding to legal action as employees state they either cannot identify or prove losses and/or do not wish to receive the adverse publicity that could be involved if they pursue the matters (Adelaide Central Mission, sub. D267, p. 5).

**What happens to problem gamblers who are convicted?**

The Blaszczyński and McConaghy (1994a) study also sheds light on what proportion of gambling related crimes actually result in charges being laid. Of the 306 NSW problem gamblers surveyed, 24 per cent had been charged with

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committing a gambling related offence. This represents around 40 per cent of subjects who admitted to committing a gambling related offence (almost identical to the result obtained using the Commission's *Survey of Clients of Counselling Agencies*).<sup>40</sup>

Only around one quarter of those committing larceny were charged, and slightly less than half of those committing embezzlement or misappropriation. But typically, the more serious types of offences — such as armed robbery, break and enter, and drug dealing — were associated with a greater likelihood of arrest. For crimes like larceny and embezzlement, the most common sentence imposed was a good behaviour bond. However, all convictions for armed robbery and drug-related offences, and around half the convictions for break and enters, resulted in jail sentences.

### **Problem gambling and loan shark lending**

Problem gamblers may resort to borrowing money from 'loan sharks' when possibilities for borrowing from mainstream avenues such as banks, credit unions, and financial institutions are exhausted. Dealing with loan sharks signals desperation on the part of the borrower because such loans not only entail exorbitant interest rates but also a menacing context in the event of non-repayment.

Loan sharks use gambling venues to find new clients (box 7.10).

The Australian Vietnamese Women's Welfare Association reported on the experience of some of its clients:

They [the loan sharks] move around the casino and when they see that someone has lost ... money, they say, "Come on, I'll give you some money. You'll win everything back". [And] the person is so keen to get back the money that [they] agree to any terms (transcript, p. 564).

Participants at the Commission's round table on crime and gambling gave a variety of views on how commonplace loan sharking had become:

In Victoria it's prolific, people spot in gambling venues and put gamblers in touch with financial institutions.

Loan sharking is a problem in small communities and is becoming more sophisticated. It is difficult to tell when loan sharking begins and a personal loan ends.

Loan sharking evidence is only anecdotal. If it is increasing this may reflect a lack of alternative investment arrangements (Commission's crime roundtable).

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<sup>40</sup> However, Adelaide Central Mission (sub. D267, p. 5) considered that 70 per cent of its problem gambling clients had not been charged as a result of their actions.

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**Box 7.10 Some loan sharking experiences**

Fred is a 26 year old ... club staff member ... [who] only started gambling about two years ago and has developed a very serious problem in the last 12 months. After gambling all of his savings away at the casino, Fred was introduced to some loan sharks who operate there. His financial problem was very severe given his limited income and there is significant pressure building over his failure to make the payments on some personal loans he got at the casino. Fred's debts exceed \$40 000 and he is very depressed. He has attempted suicide recently. The main pressure on Fred is coming from a man who provided money at the casino. ... Another of Fred's personal loans was arranged by a loan shark who charged a fee of \$2 000 in order to arrange a loan of \$10 000 (*BetSafeNews*, April 1999, p. 3).

... some [clients] have been approached by people at the gaming venue to lend them money ... One of them was ... [for] a loan of \$9 000 and she had to pay \$300 interest a month. There's a lot of issues involving that sort of thing because sometimes its a private individual lender and threats of violence may be used ... towards the gambler (Australian Vietnamese Women's Welfare Association, transcript, p. 563).

There's some pretty awful loan sharking going on down on the Gold Coast. The people are too frightened to even tell you about it, who they are or terribly much about it ... because of the types of threats that have been made to people who don't pay up (Relationships Australia Queensland, transcript, p. 129).

Group members as gamblers were not only perpetrators of crime, but also witnesses and victims. One group member reported witnessing theft at a gambling venue. Another had been extended credit by a loan shark and received threats when he was unable to meet repayments (Break Even–Gold Coast, sub. 73, p. 4).

The issue of loan shark lending in South East Queensland has been the subject of a recent Report by the Office of Fair Trading (OFT 1999). The OFT collected information from community groups such as financial counselling organisations and community legal centres, and from consumers via a state-wide Phone-In (conducted between 12 and 16 April 1999).

While the OFT study did not specifically ask borrowers whether the reason for their having to borrow from a loan shark was related to a gambling problem, the information obtained on loan shark lending characteristics in general is of interest. Typically, loan shark credit contracts involved: extremely high interest rates (3 or 4 per cent weekly or 20 per cent monthly); small loan amounts (the majority were for between \$1 000 and \$2 000); weekly repayments; late payment fees (commonly \$5 per day); and loans were described as being for 'business or investment purposes' to circumvent the Consumer Credit Code.

Wesley Community Legal Service noted that loan sharking is illegal in that it is in breach of the consumer protection provisions of the Consumer Credit Code — for example, section 22 of the Code provides a maximum fine of \$11 000 for imposing a monetary liability on a loan that is inconsistent with the Code (sub. D215, p. 2).

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Some of the consequences of loan shark lending for the gambler and the community include:

- intimidation and physical threats to ensure repayment of loans;
- a problem gambler's personal debt problem is likely to be magnified rather than relieved;
- gamblers may resort to crime rather than suffer the consequences of not being able to meet repayment conditions; and
- there can be violence and criminal activity associated with loan sharking.

**The Commission finds that:**

- **around one in ten problem gamblers have committed a crime because of their gambling;**
- **up to two-thirds of problem gamblers in counselling have committed a crime to finance their gambling;**
- **the offences committed are mainly non-violent property crimes (larceny, embezzlement, misappropriation); and**
- **while the majority of offences committed do not result in legal action (and many go unreported), around 40 per cent of offenders are charged and convicted.**

## **7.8 Are there any offsetting benefits for problem gamblers?**

So far this chapter has focused on the ways in which problem gambling can adversely affect gamblers and those connected to them. However, while many aspects of the life of a problem gambler are bleak, gambling can provide some positives, even for problem gamblers. Star City (sub. D217, p. 13) argued that more emphasis should be given to the benefits of gambling for problem gamblers.

The Commission found evidence that many severe problem gamblers often found gambling relaxing, pleasurable, and an interesting hobby (table 7.21). Gambling was also used as a means of crowding out personal difficulties, with many problem gamblers indicating that gambling took their mind off worries (themselves potentially induced by gambling) or made them feel less lonely.

**Table 7.21 What are some of the positives of gambling for problem gamblers?**

	<i>Always</i>	<i>Often</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
	%	%	%	%	%
Relaxation	15.9	30.7	33	9.7	10.7
Pleasure and fun	15.6	26.3	39.1	10	9
Meet new friends	3.4	4.9	19.4	27.7	44.6
Hobby and interest	10.9	23.8	25.3	11.6	28.4
Hope for a change in life	7.5	10.3	17.1	20.2	45
Safe and pleasant place	12.2	20.5	29.3	12.4	25.6
Something to talk about	3.9	4.9	9.8	18.8	62.6
Helped through a boring job	2.9	5.2	17.4	15.8	58.7
Took mind of worries	26.3	34.9	26	3.6	9.2
Made feel less lonely	16.8	23.9	25.7	8.9	24.7

Source: PC Survey of Clients of Counselling Agencies.

Notwithstanding the positive impacts of gambling, 70 per cent of gamblers in counselling wanted to give up gambling altogether, and the remainder wanted to control their gambling (or did not know what they wanted).

The Commission has acknowledged these positive aspects for problem gamblers by including them in its estimate of the benefits of gambling (chapter 5 and appendix C).

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## 8 The link between accessibility and problems

### Box 8.1 Key messages

- Establishing a link between accessibility of gambling and problem gambling is of central concern for policy, because the existence of a link would suggest a need for caution in liberalising access to gambling.
- Accessibility is not just about proximity; it is also about: the mass appeal and ease of use of a gambling form; any conditions on entering gambling venues, and the initial outlay required to gamble.
- Among current major forms of gambling, gaming machines and lotteries are the most accessible, followed by TABs and lastly by casino gambling.
- Of these, greater accessibility to gaming machines has increased the risks of problem gambling the most.
- Problem gambling prevalence rates tend to be highest in areas where accessibility to non-lottery gambling is highest — such as Victoria and New South Wales — and lowest where accessibility is lowest — such as Tasmania and Western Australia.
- Help seeking by problem gamblers is also strongly associated with accessibility, although the direction of causality may vary.
- Changing patterns in problem gambling — particularly the much greater representation by women suffering from problems controlling their use of gaming machines — are particularly strong evidence of a link between accessibility and overall problem gambling rates.
- Using one methodology, the Commission estimates that there would be an *additional* 10 500 problem gamblers in Western Australia (or about 110 per cent more than current levels) were gaming machines to be liberalised to the same extent, and under the same conditions, as eastern states.
- Overseas evidence echoes that of Australia, but is less conclusive.
- While causation is hard to prove beyond all doubt, there is sufficient evidence from many different sources to suggest a significant connection between greater accessibility — particularly to gaming machines — and the greater prevalence of problem gambling.



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## 8.1 Why is the link at issue?

A central question relevant to policy is the existence and strength of any link between the liberalisation of gambling and the creation of either new problem gamblers or more severe problems among people with existing difficulties. Many community groups maintain that such a link exists, and that it provides a basis for restrictions on the availability of gambling. For example, the Queen of Hearts study by Brown and Coventry (1997, p. ii) argues:

Ultimately, reducing access to gaming facilities must be the cornerstone of any strategy to meet the needs of women with gambling problems.

Many experts also accept a link. For example, Wildman (1998) summarising the literature on gambling, argues:

This would appear to be the question to which we can give the clearest answer in this unclear area ... Exposure to gambling leads to increased levels of involvement in this activity ... So the answer is “yes”, increased legalisation of gambling will lead to an increase in the prevalence of pathological gambling, and its attendant effects... (p. 263).

It may seem obvious that greater liberalisation of gambling would have to increase the number of problem gamblers, so that there is little point in examining the question. However, not everyone agrees with the link between accessibility of legalised gambling and problem gambling. The American Gaming Association (1999) argues that there is:

... a small, but relatively constant percentage of the population that exists independently of gaming availability, which demonstrates that areas with gaming do not have higher rates of problem gambling than those without gaming. Some states have even experienced decreases in problem gambling rates after the expansion of gambling: 2.7% in 1991 to 1.2% in Connecticut’s estimated current pathological gambling, in spite of the opening of the largest casino in the US.

A number of possible conjectures are advanced about why the link between gambling accessibility and problems may be weak.

First, it is sometimes argued that problem gamblers can always gamble on illegal forms (back street casinos, card games, mahjong), so that liberalisation deflects them from illicit (and potentially more harmful) gambling to legal forms, without altering the number of actual problem gamblers. People who once hid their problem because of its connection to an illegal activity may also be more willing to seek help, and that, with the greater visibility of help services, might explain why numbers reporting problems had increased.

Second, in the case of Australia, the recent path of liberalisation has not been from gambling prohibition to liberalisation, but from a liberal regime — where legal

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gambling in many forms was widely available (TAB, lotteries, bingo) — to a more liberal regime, with an expanded set of gambling opportunities. It could be that gambling opportunities were already extensive enough that all (or nearly all) people with a potential for problem gambling had developed it, prior to the phase of liberalisation that occurred in the 1990s.

How can this debate about the connection between liberalisation and gambling problems be resolved? There are a number of strategies, including examining:

- the varying levels of problem gambling prevalence by Australian jurisdictions or over time, and correlating these to measures of accessibility;
- the differential use of help services in different Australian jurisdictions;
- micro data on patterns of gambling in Australia to see if they reveal an association between accessibility and problems;
- the epidemiological foundations of risk and the degree to which these vary by states in Australia; and
- overseas data and trends, which may make patterns clearer because variations between jurisdictions (or over time) are greater than in Australia.

This chapter examines evidence about all of these, which help to resolve the nature of the link between gambling problems and accessibility. As a first step, however, it is important to understand what accessibility to gambling means.

## **8.2 What are the dimensions of accessibility?**

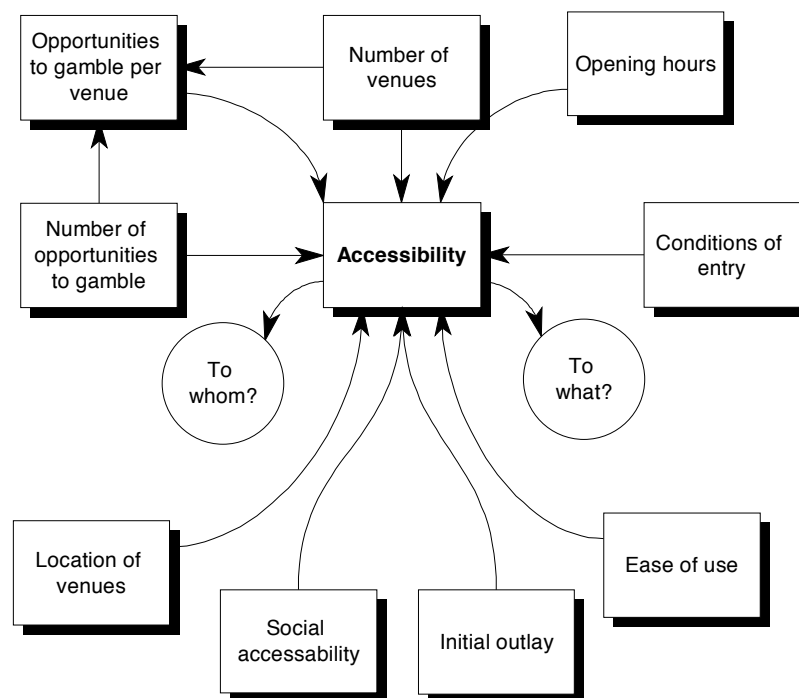
As noted by the Interchurch Gambling Task Force (sub. 165), accessibility has a number of dimensions, which may affect problem gambling in different ways (figure 8.1).

The most obvious form of accessibility is the *total number* of opportunities to gamble in any particular gambling form (such as the number of gaming machines or the number of blackjack tables) — however, a given number of machines may be distributed among venues or ‘spatially’. If opportunities are limited, then there will be congestion and patrons would find it difficult to gamble for long or even moderate periods — affecting their use and expenditure. Caps on machines in Victoria, for instance, are intended to meet community concerns about accessibility in this way.

How gambling opportunities are arranged *spatially* is very important to accessibility because it determines the average proximity to gambling opportunities.<sup>1</sup> Blaszczynski (1998, p. 16) draws this link between proximity of gambling and problem gambling:

A further consideration is ease of access to gambling facilities. People are less likely impulsively to go to an off-course betting office if it is located several miles away. The inconvenience of travel and/or parking vehicles is sufficient to cause them to reconsider the strength of their urge. This is precisely the reason why casinos in some countries require twenty-four hours' notice of intent to gamble or are located in non-metropolitan areas ... Accessibility is important in terms of time as well as location.

Figure 8.1 Multiple dimensions of accessibility



### The number and distribution of gambling opportunities

Phone betting on the TAB makes this form of gambling currently the most spatially accessible. If most Australians eventually have home internet access and could gamble on this medium, then every home (and workplace) would become a gambling outlet.

<sup>1</sup> A counsellor indicated to the Commission that staff members of gambling venues had elevated risks of problem gambling compared to others — and this too may reflect their strong familiarity with and proximity to gambling.

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Most Australians (with the exception of Western Australia for gaming machines) are in close proximity to outlets for gaming machines, TAB and lotteries. As noted by one social worker:

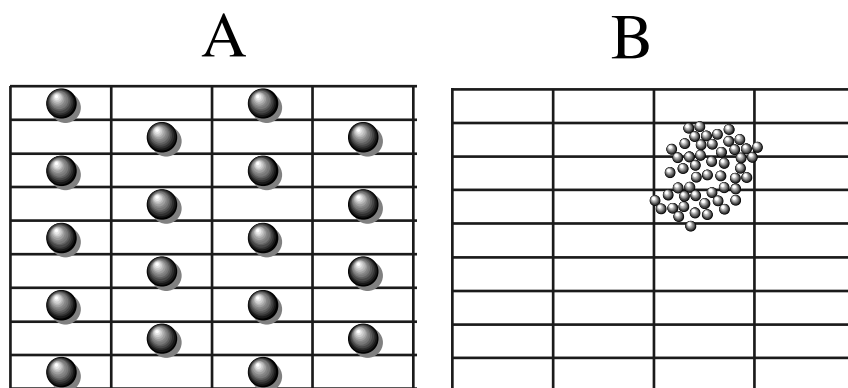
On every corner you've got your Tabarets and the pokies are in every pub. You hear women constantly say 'How do I escape that? How am I supposed to give it up yet it's in my face the whole time?' (cited in Brown, Johnson, Jackson and Wynn 1999, p. 21).

In contrast, casino gambling is spatially the least accessible gambling mode as there is usually only one available in any given metropolitan area (Southern Queensland with two being an exception).

The number of venues offering gambling clearly puts a limit on the spatial distribution of gambling opportunities, but it is largely an independent aspect of accessibility. This is illustrated in figure 8.2, which represents two cities.

Figure 8.2 **Does spatial distribution affect accessibility? Two cases**

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In one (A) there are only a few large venues, but they are dispersed such that every part of the city has ready access to a gambling venue. In the other (B) there are many more venues offering gambling, and in that *local* area, accessibility to gambling is higher. But in general, city B represents a far less accessible gambling regime than A, because most venues are concentrated in one location. If, however, all the venues in B were spatially dispersed as in A then accessibility would be greater in that city. All Australian jurisdictions have restrictions on the types of venues which are licensed to sell gambling products. Nevertheless, most gambling forms are readily available in hundreds, and sometimes thousands, of venues in most jurisdictions.

### Other dimensions of vicinity

*The number of opportunities to gamble in any given venue* (for example, more staff in a TAB agency, more machines in a hotel or club) — which is related to the

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number of venues and the aggregate number of gambling opportunities — may also affect accessibility.

- Limited opportunities to gamble in any given venue can influence gamblers' behaviour. Gambling is less anonymous, and it also signals that gambling is an auxiliary rather than a major feature of the venue concerned. This may in turn convey a sense of social ambivalence or disapproval about gambling which could reduce participation rates.
- On the other hand, harm minimisation strategies, which act to reduce the impact of greater accessibility, may sometimes, paradoxically, be more cost effective in venues where accessibility is greatest — an issue explored in greater depth in chapter 16. This is because some harm minimisation strategies have high fixed costs and could only be implemented by a venue which has many gambling opportunities (for example, a casino).

As examined in chapter 13, different Australian jurisdictions have varying approaches to limits on gambling opportunities in venues. Victoria and South Australia, for example, have ceilings on the number of gaming machines per venue, as does New South Wales for hotels and the casino (but not for clubs).

*Opening hours.* Many gambling venues now operate for 24 hours a day, 7 days a week, so that there is no time at which they cannot be accessed.

*Conditions of entry.* In European casinos entry is more heavily restricted (Thompson 1998). In Australia, clubs typically have higher dress standards and more restrictive entry than hotels.

*Ease of use of the gambling form.* For example, gaming machines do not require skill — or even interpersonal contact — compared with blackjack or betting on the races, and so are more accessible.

*Initial outlay required.* Casino table games, such as blackjack and roulette, often involve relatively high stakes per game (of around \$5), reflecting the costs of providing personalised gambling services. Machine based gambling economise on such costs, as do lotteries. The cost of a single game on a poker machine can be as low as one cent (although effectively this will involve spending a dollar to purchase a credit bank of 100 credits). Low outlay games are obviously more accessible to people on lower incomes than high outlay games.

*Social accessibility.* This is the sense in which a venue provides a non-threatening and attractive environment to groups who might otherwise feel excluded. This is not an undesirable feature of venues, but it does affect the extent to which new groups of people may be recruited into gambling, with adverse consequences for some of

them. For example, casinos are clearly non-threatening and attractive to Australians from an Asian background and, in the Northern Territory, to Aboriginal and Torres Strait Islanders (who are said to be tacitly discouraged from gambling in clubs and pubs). And many clubs or hotels with gaming machines are now seen as safe and socially acceptable places for women, when they were not previously:

If you go back fifty years ago ... you'd be too busy washing your clothes [to gamble]. And I think too ... that years ago it wasn't acceptable for women to go into hotels (Family support worker cited in Brown, Johnson, Jackson and Wynn 1999, p. 21).

## Some implications

The above nine dimensions determine the level of exposure people have to a gambling form. They also imply that a single measure to control accessibility — such as a global cap on machines — is unlikely to have much effect by itself, if other aspects of accessibility are high.

Among current major forms of gambling, gaming machines and lotteries are the most accessible, followed by TABs and lastly by casino gambling (table 8.1).

**Table 8.1 Accessibility varies across major gambling modes**

	<i>Gaming machines<sup>a</sup></i>	<i>TAB</i>	<i>Casino</i>	<i>Lottery</i>
Number of opportunities to gamble	Very high ('0 000s of machines)	High ('000s of outlets and phone betting)	Low	Very high
Spatial distribution	Dispersed widely	Dispersed widely	Single location	Dispersed widely
Number of venues	Large number per capita	Large number per capita	One per city	Large number per capita
Opportunities per venue	High in NSW, restricted in SA and VIC	Determined by staffing <sup>b</sup>	Typically large	Determined by staffing <sup>b</sup>
Opening hours	Often 24 hours	Around 12 hours	Mostly 24 hours	Business hours
Conditions of entry	Very easy in hotels, easy in clubs/casinos	Very easy	Easy	Very easy
Ease of use	Very easy	Moderate	Hard for many	Easy
Initial outlays	Very low	Low	High	Low
Social accessibility	High for women	Low for women	High for women, Asians (and ATSI in NT)	High
Overall accessibility	Very high	Medium	Low	Very high

<sup>a</sup> Excluding WA, which has no gaming machines outside Burwood Casino. <sup>b</sup> If there are few staff in a venue then that constrains the number of bets made or tickets sold.

Whether exposure matters for problem gambling is also going to depend on:

- *who* is exposed. Some groups are more vulnerable than others. Accessibility to people in deprived socioeconomic circumstances is more likely to lead to

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increased problems (because affordability is linked to problems and because poorer people may be more likely to look to gambling as a solution to financial problems); and

- *the gambling mode*. As noted in chapter 6, continuous forms of gambling, such as gaming machines, pose bigger risks than lotteries.

Liberalisation in gambling in Australia has (so far) mainly manifested itself as the legalisation of gaming machines and casinos. However, given the characteristics of casino games, and their location, casino liberalisation has represented a relatively modest increase in accessibility to gambling. By contrast, gaming machine liberalisation has represented a very significant increase.

### **8.3 Australian population surveys: what light do they shed?**

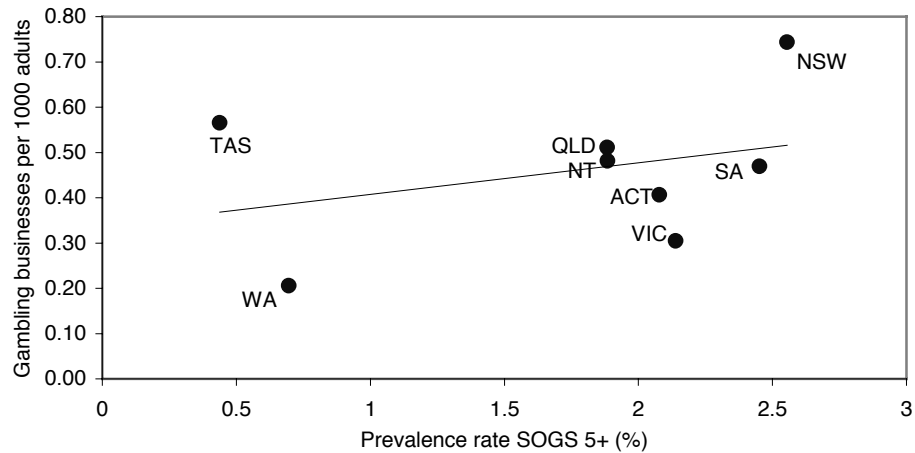
In theory, if greater accessibility (exposure) leads to more gambling problems, then regions (or times) where access is low should have a lower prevalence rate of problem gambling than ones where access is high. However, testing this link is not very easy because accessibility is a multi-dimensional concept.

It is clear, for example, that there is only a slightly positive (and statistically insignificant) link between the number of gambling businesses per 1000 adults and the problem gambling prevalence rate (figure 8.3). For example, Tasmania has far more businesses per person than Western Australia, but a smaller problem gambling prevalence rate.

However, gambling businesses per adult captures only some aspects of accessibility — it does not indicate *what* gambling is accessible (eg TABs, gaming machines etc), how *much* gambling can take place at each venue (eg it ignores venue caps on machines in some venues and jurisdictions), or aspects of the *technology* that may constrain or facilitate gambling (such as phone betting, denomination controls or restrictions on the types of machines that are available).

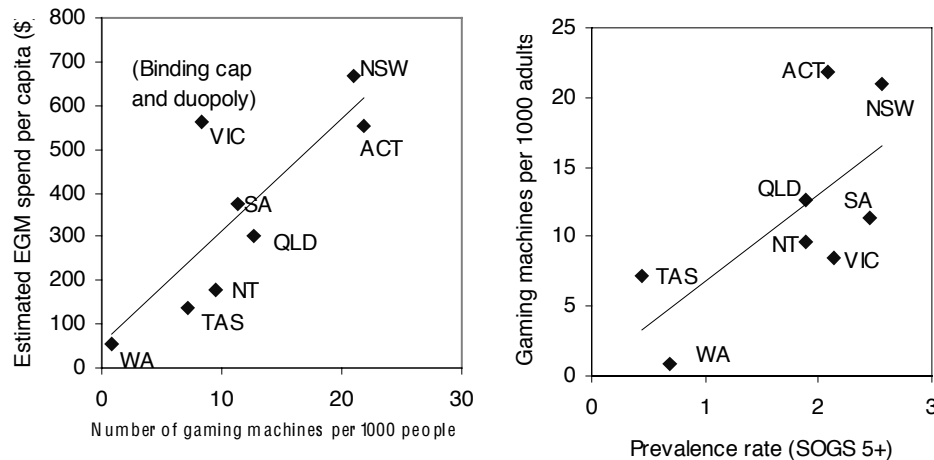
Gaming machines are the prime source of problem gambling (chapters 6 and 17). Here there appears to be a statistically significant positive relationship between the number of machines per adult in a jurisdiction and the overall problem gambling prevalence rate (figure 8.4).

**Figure 8.3 The link between the problem gambling prevalence rate and the number of gambling businesses per 1000 adults**



*Data source:* Based on the number of gambling businesses at the end of June 1998 as reported by the ABS, 1999, *1997-98 Gambling Industries Australia*, Cat. No. 8684.0, adult population data and prevalence rates from the PC *National Gambling Survey*. See note in figure 8.6 regarding South Australia.

**Figure 8.4 The link between gaming machine spending, machine numbers<sup>a</sup> and problem gambling**



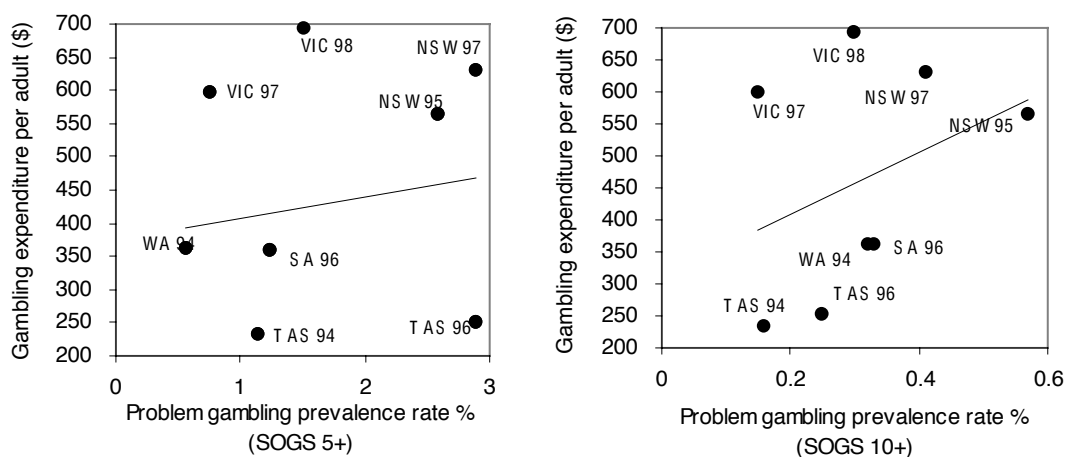
<sup>a</sup> The graph on gaming expenditure and machine numbers is only indicative because of data limitations. The WA gaming machine spending was estimated at 20.3 per cent of 1997-98 casino gaming revenue (based on the share reported in the 1997 Burswood Annual Report). Moreover, the Tasmanian Gaming Commission data subsume gaming machine expenditure in casinos in the total spending of casinos. The ABS, *1997-98 Gambling Industries Australia* (Cat. no. 8684.0) reports that gaming machine revenue accounts for 32.3 per cent of total casino revenue in Australia. As an approximation, this share was applied to each jurisdiction's 1997-98 casino revenue (bar WA and the ACT) to estimate gaming machine revenue due to casinos. A figure of zero was used for the ACT as its casino is not allowed gaming machines. The imputed figure for casino gaming machine revenue was then added to gaming machine revenue from clubs and pubs, and then converted to a per capita basis. The machine numbers were the latest estimates available to the Commission.



Figure 8.4 also reveals a relatively close relationship between gaming machine numbers and gaming machine expenditure — with the notable exception of Victoria where a binding cap and duopoly suppliers are unique in Australia. This suggests that, more generally, per capita gambling expenditure might be a reasonable summary measure for gambling accessibility. This would reflect the plausible assumption that high levels of demand lead to more sources of supply, and that greater avenues for supply (and features that encourage higher intensity gambling) also have a feedback effect on demand and expenditure.

The prevalence rates of problem gambling in Australia appears to be generally higher in states with higher per capita (non-lottery) gambling expenditure (figures 8.5 and 8.6). New South Wales, for example, has consistently higher levels of problem gambling than other states, and Western Australia, where gaming machines are effectively barred, has a much lower level. The non-SOGS measure — HARM, which was developed in chapter 6 — is also higher in states where gambling intensity is higher, so that the results here are not vulnerable to any deficiencies in the SOGS.

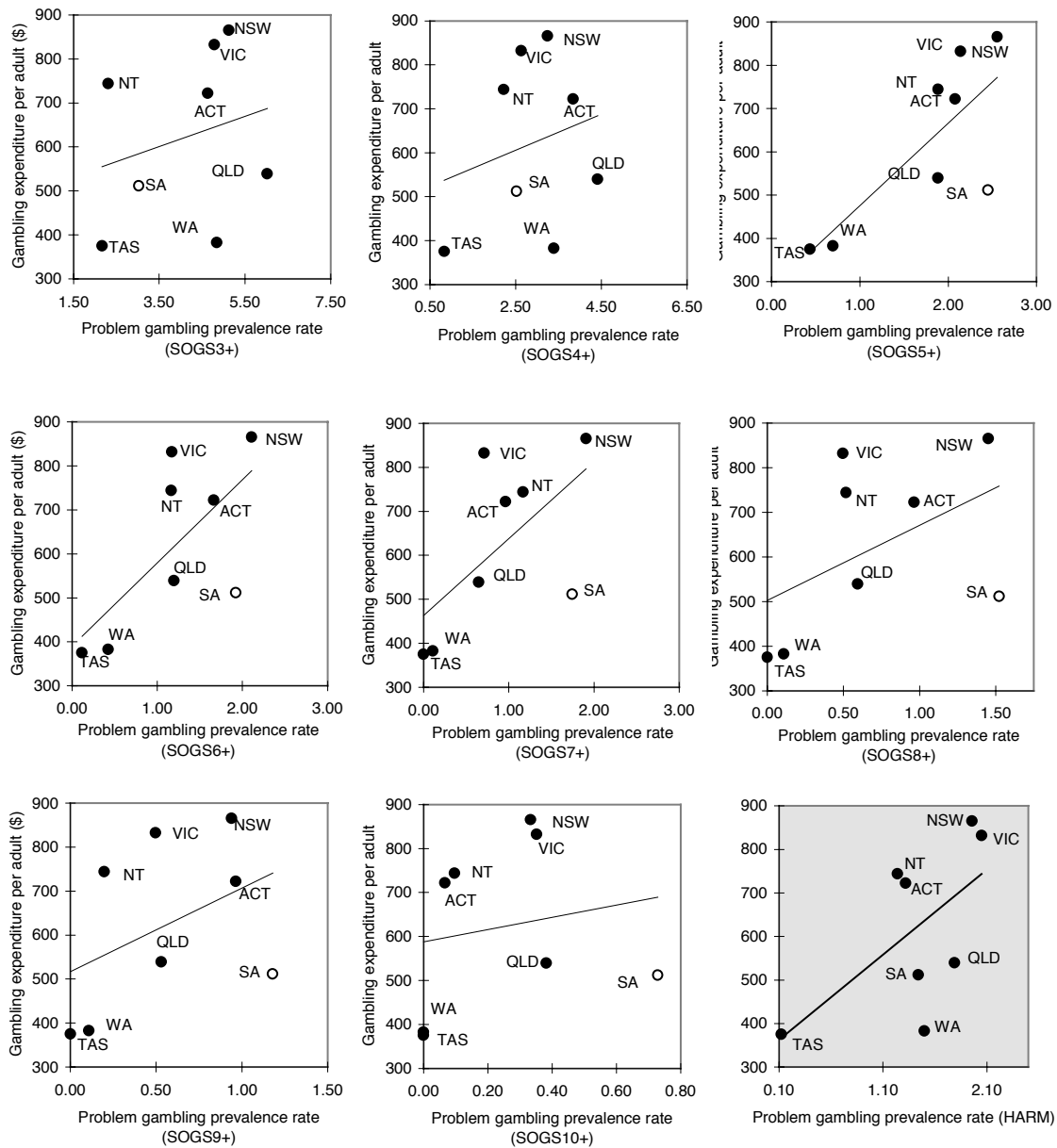
**Figure 8.5 Problem gambling prevalence rates and gambling expenditure<sup>a</sup>**  
Past Australian studies



<sup>a</sup> Based on the VCGA studies for Victoria in 1997 and 1998, two NSW studies for 1995 and 1997, and single studies for Western Australia, Tasmania and South Australia. The spending is real per capita gambling expenditure (1989-90 prices) where gambling includes racing, gaming machines and casino gambling, but not lotteries or other minor forms of gambling.

*Data source:* The spending data is from Tasmanian Gaming Commission (1999) dataset, while the prevalence data are from the major past Australian prevalence studies, reviewed in chapter 6.

**Figure 8.6 Problem gambling prevalence rates and gambling expenditure<sup>a</sup>**  
 Results from the National Gambling Survey 1999



<sup>a</sup> The spending is per capita gambling expenditure for 1997-98 where gambling includes racing, gaming machines and casino gambling, but not lotteries or other minor forms of gambling. The South Australian prevalence rates were typically outside expected bounds, given the results in other states. They are included in the graphs — but are likely to reflect random sampling errors rather than the ‘true’ prevalence rates in South Australia.

*Data source:* The spending data is from Tasmanian Gaming Commission (1999), while the prevalence data are from the PC *National Gambling Survey*.

Dickerson et al. (1996a), noting the higher prevalence rate of problem gambling in New South Wales compared with Western Australia and Tasmania, point out:

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Given the strong association between SOGS scores and a preference for gaming machines and betting, the restriction of the former to casinos in Tasmania (at that time) and Western Australia may be the single most important factor contributing to the lower prevalence figures found in those States.

While graphs, such as those in figure 8.6, show an apparent link between accessibility (as proxied by expenditure) and problem gambling prevalence, they do not provide a numerical indicator of the degree of the association. To obtain such an indicator of the magnitude of the link, the Commission used a number of simple statistical models (box 8.2). The strength of the relationship between gambling intensity and problems depends on the data used.<sup>2</sup>

If the Commission's *National Gambling Survey* data are used then gambling intensity can explain a significant proportion of the variation in the prevalence of problem gambling. About 60 per cent of the variation in the prevalence of problem gambling<sup>3</sup> across Australian jurisdictions is explained by their varying intensity of gambling.

Another way of assessing the possible connection between gambling intensity and problems is to see if average SOGS scores and self-assessment ratings by regular gamblers are higher in states where gambling expenditure per adult is bigger (figure 8.7). The data reveal a similar relationship to that in figure 8.6.

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<sup>2</sup> Ideally, a model of prevalence rates should examine the independent influences of the differing availability of different modes of gambling (such as wagering, casino, gaming machines), the extent to which gambling is dispersed within a state (highly dispersed or not), the time that gambling form have been available (since it takes time for people to develop problems), any rules which restrict access (eg the domination of gaming machines by clubs — which have entry restrictions — in NSW, compared to the domination of gaming machines by hotels — which do not — in Victoria and South Australia) and the degree to which a jurisdiction has implemented harm minimisation strategies. Unfortunately, the few observations available on prevalence rates makes this impossible at present. Following the recommendation by the statistician consulted by ACIL (sub. D233, p. 102), the Commission has concentrated on the prevalence threshold (SOGS 5+) most commonly used in the report.

<sup>3</sup> Using the standard SOGS 5+ definition that has been employed elsewhere in the report. Notably, however, the relationship is much poorer if the SOGS 10+ rating is used. In a linear model, the spending level is positively associated with the SOGS 10+ prevalence rate, but it is not statistically significant at the usual significance levels. However, it should be noted that few people satisfy the demanding criterion for SOGS 10+ in the Commission's survey, and the relative standard errors on regional prevalence rates for this SOGS threshold are therefore very high (a point noted in chapter 6). The SOGS 10+ prevalence rate for South Australia appears to be an outlier. If this observation is stripped from the regression, the association between spending and problem gambling is greater and is statistically significant.

### Box 8.2 Gambling spending and prevalence rates in Australia<sup>a</sup>

The relationship between the prevalence rates of problem gambling (defined as SOGS 5+ as usually used in this report) and per capita non-lottery expenditure was examined using two simple models:

A linear model:

$$\text{SOGS } 5+ = -0.143 + 0.00307 \text{ SPEND}; \quad \bar{R}^2 = 0.52, \text{ Obs}=8$$

(0.2)      (3.9)

A log model:

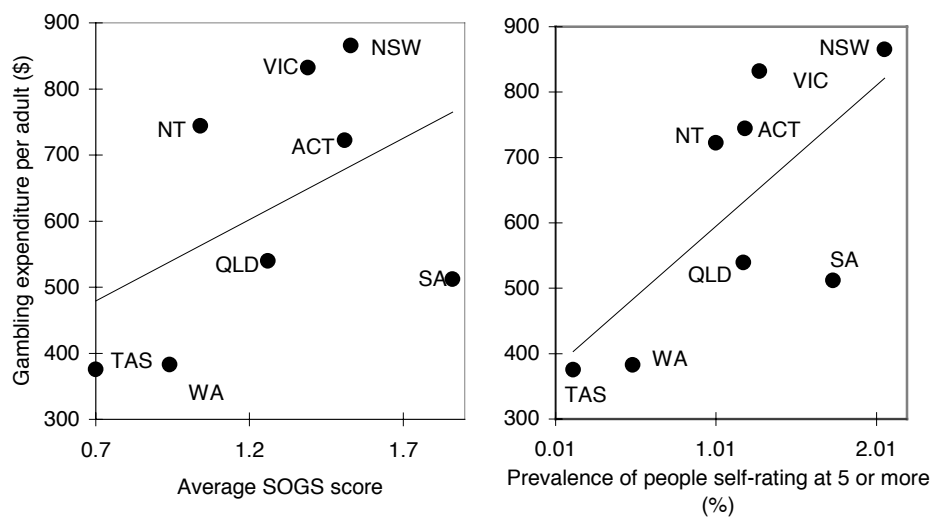
$$\ln(\text{SOGS } 5+) = -9.76 + 1.595 \ln \text{ SPEND}; \quad \bar{R}^2 = 0.61; \text{ Obs}=8$$

(4.1)      (4.5)

where SOGS 5+ is the prevalence rate (in percentage form) for each jurisdiction and SPEND is non-lottery gambling expenditure per capita. t statistics (in parentheses) are based on White's heteroscedasticity correction.

*Source:* Commission calculations based on the PC National Gambling Survey.

Figure 8.7 Relationship between average SOGS scores, self-rating scores and gambling expenditure<sup>a</sup>



<sup>a</sup> South Australia has been removed from the graphs. The self-rating was based on a 10 point scale, from zero for people who said they had no problem, to 10 for a very severe problem. Expenditure data is as defined in figure 8.6.

*Data source:* PC National Gambling Survey.

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### *Limitations in the simple empirical analysis?*

Using expenditure as a proxy for accessibility and then trying to assess how this might affect problem gambling prevalence involves some assumptions. A statistical consultant to the industry questioned the link between accessibility and expenditure:

... gambling expenditure per adult is equated to accessibility. Why should it be considered to be a proxy for accessibility? It is possible to have very high accessibility and if no one uses the gambling medium, very low gambling expenditure, and vice versa. It is wrong to equate the two (sub. D233, p. 102).

There is, however, no jurisdiction where expenditure is very low and access is very high. The two jurisdictions with the lowest expenditure also have far fewer gaming machines than others. For example, Western Australia has no gaming machines outside of its casino. Nor is there any jurisdiction where expenditure is very high and access is very low. New South Wales, Victoria, South Australia and Queensland have thousands of gaming machines located in numerous venues throughout all regions of their states, as well as many TAB outlets. Because the evidence on accessibility matches closely the picture suggested by expenditure, it appears that, in fact, expenditure captures well the qualitatively different levels of access to gambling in each jurisdiction.

A potentially bigger problem in using expenditure data<sup>4</sup> to impute whether greater accessibility leads to higher prevalence rates of problem gambling is one of causality. Problem gamblers have very high levels of gambling expenditure. Regardless of whether increased prevalence rates are *caused* by increased accessibility, this means that overall expenditure per capita will tend to be bigger in jurisdictions with a higher prevalence rate, thus obscuring any true relationship. The Commission undertook some provisional statistical analysis of the likely magnitude of this bias — and found it could be significant (box 8.3). This suggests caution in interpreting the data relating to expenditure and problem gambling prevalence.

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<sup>4</sup> Or even data on measures of accessibility, such as the number and spread of gaming machines.

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### Box 8.3 **Biases in the estimates of the impacts of accessibility on problem gambling**

A high prevalence rate will tend to increase per capita expenditure, leading to an automatically positive relationship between the two. The Commission examined the possible impacts of the biases resulting, by undertaking some computer simulations. We started by *assuming* that there was no connection between accessibility and problem gambling, and then seeing what consequences this assumption had for estimation outcomes. We supposed that the data generating process was one in which:

- problem gambling prevalence rates in each state were determined as a random fluctuation around a constant ( $PREV = 0.0165 e^{\varepsilon}$  where  $\varepsilon$  is distributed as a normal with  $\sigma = 0.42$ ). These regional variations might, for example, reflect different numbers of vulnerable people or higher levels of social stress;
- expenditure by problem gamblers also fluctuated around a (high) constant ( $EPG = 12\,000 e^{\varepsilon}$  where  $\varepsilon$  is distributed as a normal with  $\sigma = 0.166$ ); and
- expenditure by recreational gamblers fluctuated randomly around a (low) constant ( $ENPG = 450 e^{\varepsilon}$  where  $\varepsilon$  is distributed as a normal with  $\sigma = 0.31$ ).

Values for the means and the standard deviations used in the simulation analysis were selected on the basis of patterns visible in the actual data. In each simulation, it was then possible to calculate per adult spending in the eight jurisdictions and to examine the OLS estimates produced by regressing the prevalence rate against the spending estimates. The analysis showed, not surprisingly, that the feedback from high expenditure by problem gamblers onto the ‘independent’ variable, biased the coefficient significantly. Indeed, in the *absence* of any genuine causal relationship, the coefficient on spending in the linear model was about 0.002 (or about two thirds of that found in box 8.2). However, in the bulk of cases (about 90 per cent for the log model and 80 per cent for the linear model) the standard t statistics on the spending variable in 20 000 simulations was below that observed for the models estimated on the actual data. This suggests, that though the coefficients are biased, it is unlikely that the results presented in box 8.2 are simply the product of the automatic link between expenditure data and the problem gambling prevalence rate.

*Source:* Commission calculations.

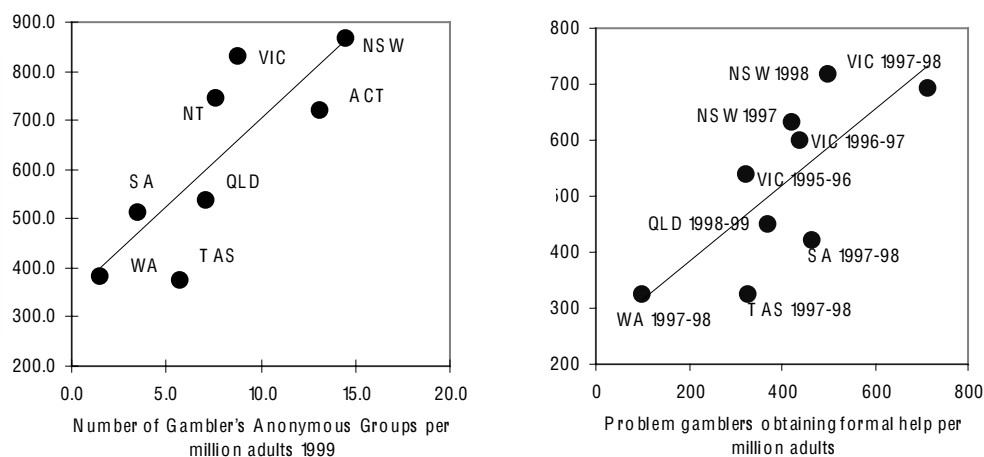
## 8.4 Variations in the use of help services

All jurisdictions have a variety of help services tailored to problem gambling. Data on the use of such services provides another source of evidence about possible linkages between problem gambling prevalence rates and the intensity of gambling in different areas.

The Commission obtained some data on the number of problem gamblers seeking help in different jurisdictions, and also on the relative number of Gamblers Anonymous Groups (figure 8.8). Again these suggested a link between the level of help-seeking problem gamblers and expenditure per adult — with many more clients per million in New South Wales and Victoria (where per capita gambling expenditure is high, as are almost all aspects of access) than in Western Australia (where spending is low and a limited range of gaming machines are restricted to the casino).

The figure also suggests that as gambling opportunities expanded in New South Wales and Victoria, the share of adults seeking formal counselling help for severe gambling problems increased — though in part, this could reflect increased awareness of services.

**Figure 8.8 The link between gambling intensity and clients of counselling agencies**



*Data source:* Expenditure data (excluding lotteries and minor gaming forms) are from the Tasmanian Gaming Commission. The spending data are re-based to 1989-90 constant dollars for the second graph, to take account of the differing dates to which the data relate. The GA data is from [www.gamblersanonymous.org/mtgdirAUShtml](http://www.gamblersanonymous.org/mtgdirAUShtml). The help services data for the second graph is from chapter 17. It is assumed that 70 per cent of the new clients of Tasmanian Break Even services are problem gamblers and that 84 per cent of the Victorian clients in 1995-96 were problem gamblers (as was the case in 1996-97). See chapter 17 for further details.

The Commission also considered evidence on the spatial distribution of help-seekers within jurisdictions. Relationships Australia Queensland (sub. 62) undertook some exploratory analysis of the spatial distribution of their clients and indicated that they tended to be concentrated near to large gaming venues. However, underlying the complexity of inferring connections between accessibility and problem gambling, it may be that the causal connection goes the other way, and that:

- big gambling sites find it economic to locate in communities with a high predisposition to gambling (and not surprisingly these communities would then have a higher number of problem gamblers); or/and
- big gaming venues locate themselves in large population catchments in which case, even for a fixed risk among differing communities, more people would become problem gamblers.

In another study, Jackson et al. (1998) examined data on gaming machine density and help-seeking in nine Victorian regions (figure 8.9).

**Figure 8.9 The link between gaming machine accessibility and new problem gambling clients**  
Victoria, 1996-97



*Data source:* Jackson, Thomas, Crisp, Smith, Ho & Borrell (1998, p. 34).

There appears to be a relationship between the density of gaming machines in an area and the number of new clients of help agencies, suggestive that greater accessibility increases the incidence of problem gambling. The effect explains about 40 per cent of the regional variation in the incidence of problem gambling. However, the results are indicative only — and are strongly influenced by the Western region.

The Commission estimated some simple models based on these data (box 8.4):

- One model (the log model) predicts that for every 10 per cent increase in the number of gaming machines in an area, there would be a 7.4 per cent increase (the log model) in the number of new problem gambling clients.



- The other model (linear model) suggests that this effect varies, depending on the current density of machines — with the effect at around 7.5 per cent (for every 10 per cent increase in machines) when machine densities are low, and around 9.4 per cent when machine densities are high (linear model).

**Box 8.4 The apparent link between accessibility and new problem gamblers**

The table below indicates the apparent relationship between gaming machine density and the demand for new services. The results are indicative only, as there are only a few observations, but it illustrates the methods which could be used to look at how problem gambling and accessibility are associated. The models can be used to estimate the number of expected new clients per 1000 people as accessibility rises. The relationship is, however, not measured with much precision, so that the actual relationship could be quite different.

<i>Linear model</i>			<i>Log Model</i>	
Gaming machines per 1000 people	Elasticity	Expected new clients per 1000 people	Elasticity	Expected new clients per 1000 people
2	0.75	0.16	0.74	0.17
3	0.82	0.21	0.74	0.22
4	0.86	0.27	0.74	0.28
5	0.88	0.33	0.74	0.33
6	0.90	0.39	0.74	0.37
7	0.91	0.45	0.74	0.42
8	0.92	0.51	0.74	0.46
9	0.93	0.57	0.74	0.50
10	0.94	0.62	0.74	0.55

<sup>a</sup> Two models were estimated ( a linear model and a log model). White's robust t statistics are shown in parentheses below parameter estimates:

$$\text{CLIENTS} = 0.039 + 0.059 \text{ EGMs with } R^2 = 0.39$$

(0.3) (2.2)

$$\ln(\text{CLIENTS}) = -2.306 + 0.738 \ln(\text{EGMs}) \text{ with } R^2 = .29$$

(3.5) (2.0)

The elasticity is the proportionate increase in new problem gambling clients brought about by a proportionate increase in gaming machines.

*Source:* The results are based on data from Jackson, Thomas, Crisp, Smith, Ho & Borrell (1998, p. 34) for 9 regions of Victoria for 1996-97.

Clearly, these results are preliminary as they are based on a small number of regions. The direction of causality could also be confounded if counselling services were set up and advertised most strongly in regions where gaming machines were the most dense (box 8.5).

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**There would be benefits in having an Australia-wide database developed as a better way of gauging the magnitude of the connection between accessibility and problem gambling. It should include problem gambling client numbers by region and time, matched by data on variations in the nature of gambling by area (such as gaming machine numbers).**

**Box 8.5      What could confound links between spatial variation in help services and gambling intensity?**

The number of problem gamblers seeking help is a function of the provision, accessibility and effective promotion of help services. In theory, some of the variation in prevalence rates of help-seeking problem gamblers may not reflect underlying numbers of problem gamblers, but rather differential service provision. This complicates interpretation of any relationship between problem gambling and accessibility and intensity of gambling.

In some circumstances, it might lead to incorrect causal inferences. For example, more gambling help services might be set up in areas where there are more gaming machines because service providers expect more demand there. If they were to more actively promote their services in such areas or if demand was partly a function of supply then these services would tend to have a greater number of clientele. In this case, as noted by Jackson, Thomas, Crisp, Smith, Ho & Borrell (1998), the direction of causality runs from service provision to counted cases of problem gamblers, rather than the other way.

## **8.5      Changing patterns of problem gambling**

### *The use of help services*

While the cross-sectional data based on expenditure or accessibility measures are suggestive, the changing patterns of problem gambling provides more robust evidence. This evidence strongly suggests that many of the problem gamblers who have emerged in the last few years are the product of liberalised access to gaming machines.

If a gambling form that was once unavailable (either legally or illegally) is made available, and people start to report cases of problem gambling associated with it, this is *prima facie* evidence of a link between accessibility and problems. For example, on the Gold Coast the demand for help for gambling problems stemming from gaming machines has more than doubled over the four years from 1993-94 to 1997-98. Gaming machines now account for more than half the demand for counselling services (figure 8.10).

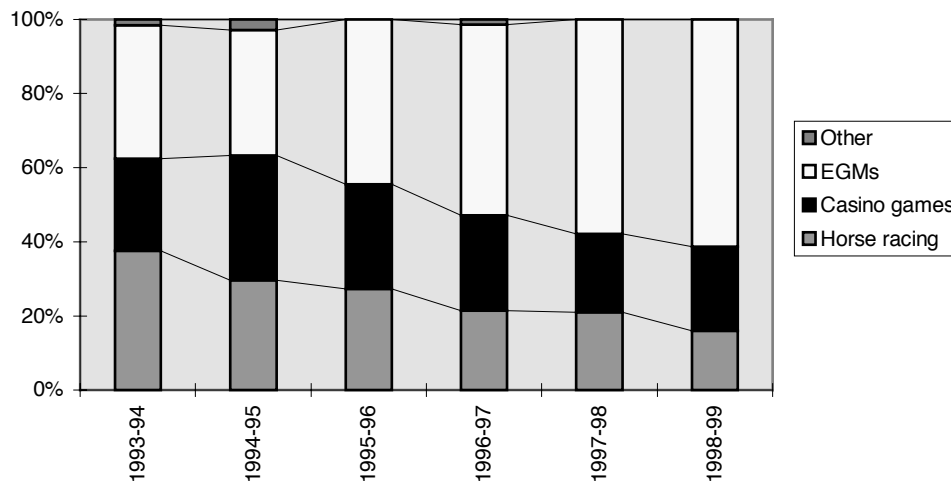
A statistical consultant to the industry, however, considered that these data provided dubious evidence about any link between gaming machine availability and problems:

Gaming machines have been available from February 1992 and the data runs from 1993 to 1999. The introduction took place prior to the beginning of the data. Unless some further mechanism is proposed about the rate of uptake, it means nothing (sub. D233, p. 103).

There are, however, two mechanisms that are highly likely candidates for the increase over time in the incidence of problems associated with gaming machines, even after machines were first introduced:

- First, people do not develop gambling problems immediately and the period taken to develop problems varies between people (as evidenced from the *Survey of Clients of Counselling Agencies*). This would suggest that cases would increase over time after the introduction of the machines;
- Second, accessibility, as measured by the aggregate number of machines and the number of venues offering them, has also increased over the period.

Figure 8.10 **Pattern of demand for counselling services, Gold Coast, Queensland<sup>a</sup>**



<sup>a</sup> Gaming machines have been available in the Northern NSW area of the Gold Coast since 1956, and on the Queensland area of the coast from February 1992.

Source: Relationships Australia Queensland (sub. 62, p. 5).

Another important issue here, however, is that of displacement. Gambling opportunities are always available — even under complete prohibition. It is *theoretically* possible (as some industry advocates argue) that problem gamblers are people who would always have problems with gambling — legal or otherwise —

and that the impact of increased accessibility may be to switch their allegiance from one problematic gambling form to another. However, in the case of the Queensland data, the number of cases of problems associated with racing did not fall as cases associated with gaming machines rose — therefore, it does not seem that the increase in gaming machine problems displaced other gambling modes as sources of problems, suggesting that the displacement argument is of limited relevance.

### *The feminisation of problem gambling*

The socio-demographic nature of problem gamblers has changed. As noted in chapter 6, problem gambling used to be a male dominated phenomenon, but has been feminised with the advent of gaming machines. When Dickerson et al. (1996) conducted a major survey in 4 states in 1991, they found that 14 per cent of problem gamblers were female. Now around forty percent of problem gamblers are female (based on the PC *National Gambling Survey*), and, overwhelmingly, these problems are associated with gaming machines.<sup>5</sup> Data from counselling agencies in jurisdictions where there are gaming machines report that about half their clients are female, and these clients overwhelmingly have problems with gaming machines (table 8.2). Western Australia, where the only gaming machines are video card machines in the casino, reports a much lower prevalence of problems associated with gaming machines and a much lower share of problem gamblers who are female (figure 8.11).

**Table 8.2 The source of problems for gamblers in counselling**  
Data by gender

<i>Game</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>
	Number	Number	Number	%	%	%
Lottery games	49	39	88	3.9	3.4	3.7
Racing	350	25	375	27.8	2.2	15.6
Gaming machines	681	970	1651	54.1	85.2	68.9
Bingo	8	56	64	0.6	4.9	2.7
Casino table games	107	14	121	8.5	1.2	5.0
Other kinds	18	9	27	1.4	0.8	1.1
Not known	46	25	71	3.7	2.2	3.0
Total	1259	1138	2397	100.0	100.0	100.0

Source: Jackson et al. (1999b, p. 27).

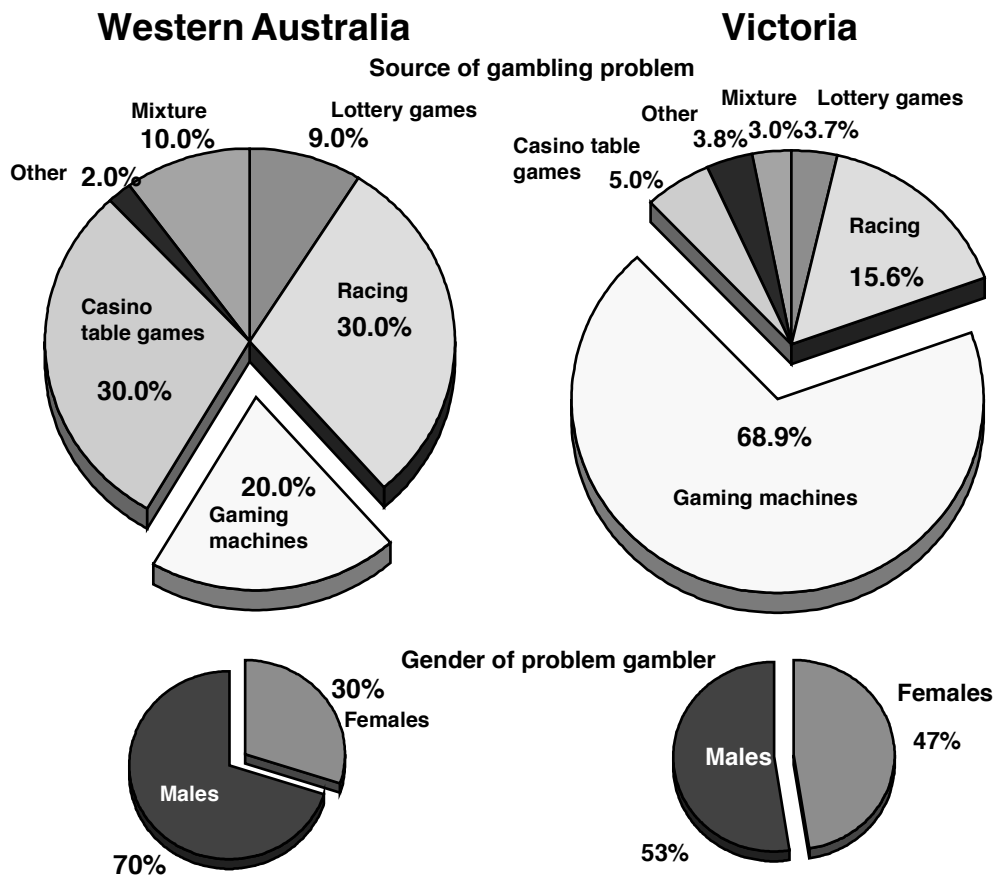
<sup>5</sup> The Sunshine Coast Community Services (sub. D220, p. 1) also cited increasing feminisation associated with gaming machine problems. Over a 4 year period they found that the female share of problem gamblers doubled (to 50 per cent), and problems attributable to gaming machines increased from 31 per cent to 80 per cent.

Any notion that people with problems associated with legal forms of gambling would also have had problems with illegal forms looks suspect in the face of the gender-based data. It is hard to explain how so many of the almost exclusively male population of problem gamblers of a decade ago changed sex!

The duration data discussed in chapter 6 is also consistent with the view that liberalisation of gaming machines led to a whole new group of female problem gamblers. It is hard to think of any other process which could explain the formation of this group, other than the availability of the machines.

The Commission considers this the most powerful evidence in favour of a connection between problem gambling and the availability of gaming machines.

Figure 8.11 Source of problem gambling in Western Australia<sup>a</sup> and Victoria



<sup>a</sup> Data from the Western Australian Government also suggested a similar gender split of 75 per cent males (based on data on clients from July 1997 to June 1998).

Source: PC Survey of Counselling Agencies and table 8.2.

## 8.6 The epidemiological foundations of risk

The epidemiological perspective focuses on risk factors that may vary between environments. People have to be exposed to a risk to develop problems, and this exposure varies by jurisdiction. Regular gamblers appear to be the risk-prone group. Does increased accessibility increase the numbers in this group, especially among higher risk gambling forms, such as gaming machines (chapter 6)? One methodology explores the prevalence of problem gambling (due to gaming machine playing) as the multiple of three factors:

- the ratio of gaming machine players to adults — this would rise were gaming machine availability to be increased;
- the ratio of regular gaming machine players to all gaming machine players; and
- the ratio of problem gamblers to regular players (assuming that these are the high risk group — which from chapter 6 appears borne out by evidence. Australian data suggest that in jurisdictions which have ‘proper’ gaming machines (ie excluding the card machines in Western Australia), problem gamblers account for between 15 and 30 per cent of regular gaming machine gamblers (table 8.3).

**Table 8.3 Gambling problems and regular gaming machine players<sup>a</sup>**

	<i>Share of regular GM players who have problems</i>	<i>Share of GM players who are regular players</i>	<i>Share of adults who are GM players</i>	<i>Share of adults who are regular GM players</i>
	%	%	%	%
NSW	24.9	14.6	38.7	5.6
VIC	27.2	10.2	44.6	4.5
QLD	14.7	9.9	41.5	4.1
SA	14.6	8.8	41.4	3.7
WA	0.0	3.7	16.4	0.6
TAS	15.9	2.0	35.9	0.7
NT	39.5	8.8	33.1	2.9
ACT	18.5	12.4	37.3	4.6
Australia excluding WA	22.9	11.4	41.0	4.7

<sup>a</sup> Problem gambling is here based on a SOGS score of 5+.

Source: PC National Gambling Survey.

This suggests that an increase in the availability of gaming machines would, all other things being equal, increase the proportion of regular gaming machine players in the adult population, and accordingly, increase the number of problem gamblers. Dickerson and Maddern (1997, pp. 14, 66) applied this methodology to predicting the consequence of further liberalisation of gaming machines in Tasmania. Their survey results suggested that a further 6300 adults would play regularly, of which

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around 1250 to 1880 would be new problem gamblers — or an increase in problem gambling of between 13 and 19 per cent.

The major *potential* drawback in this methodology is the assumption that the share of gaming machine players who have problems is fixed, when it might decline as more people become regulars. However, as noted in box 8.6, if anything, the number of problem gamblers among regulars *increases* as the number of regular adult players rises.

**Box 8.6      Is the share of regular gaming machine players who are problem gamblers constant?**

The underlying assumption in the predictive model used by Dickerson and Maddern (1997) is that the share of problem gamblers in regular gaming machine players is a meaningful measure of risk. However, the fact that the share is high is, by itself, no evidence about the riskiness of regular gambling on gaming machines. For example, imagine a counterfactual in which problem gambling numbers were *fixed* in a population. It would not be surprising to still find a high share of problem gamblers among regular players, simply because problem gamblers tend to all be regular gamblers. But, by definition, it would be incorrect in this case to predict more problem gamblers, were there to be an increase in the number of regular adult gaming machine players — rather, the share of problem gamblers among regular gaming machine players would fall.

Considering this counterfactual case suggests a way of examining whether the share of problem gamblers among regular gaming machine players is a meaningful parameter — examine the correlation between the share of problem gamblers among regular gaming machine players and the share of regular gaming machine players in the adult population. If it is sufficiently negative, then it undermines the case for using this parameter for epidemiological prediction. In fact, for the data obtained from the PC *National Gambling Survey* it is significantly *positive* — not negative or zero ( $\rho$ , the correlation coefficient, is 0.47). This suggests that as access to gaming machines is liberalised, there are two effects. First, the share of regular gaming machine players increases as a share of adults; and second the share of problem gamblers among regulars increases — possibly reflecting changes in the nature of the micro gambling environment that occurs for regular players (for example, bigger, more busy venues, greater promotion of gambling as competition intensifies).

Using this methodology suggests roughly the increase in problem gamblers that could be expected in Western Australia, were the Government to liberalise access. Given an adult population of 1.4 million, and assuming that:

- the problem gambling share of regular gaming machine players would rise to the median (for Australia as a whole, excluding Western Australia);

- 
- as would the share of regular gaming machine players among adults<sup>6</sup>, then

there would be an *additional* 10 500 problem gamblers in Western Australia (or about 110 per cent more than current levels).

## 8.7 Some overseas evidence

As in Australia, relatively little research has been conducted in other countries about the connection between accessibility and problem gambling. However, some assessments have been undertaken. Eadington (1989) and Lesieur (1992) have suggested a causal link between US problem gambling rates and increased accessibility, but others have doubted this (for example, Harrah's Entertainment Inc, sub.D243, p. 2). The Committee on Problem Gambling Management in New Zealand note a range of other international studies showing a link between gambling problems and greater accessibility:

The [Capitol Gaming Taskforce] reported a 500% increase in problem gamblers seeking help between 1991 and 1994, the years when riverboat and electronic gaming machine gambling expanded rapidly in the state (Laborde, 15 July 1994). In New Jersey, it was noted that compulsive gambling helpline calls jumped from 1,200 a year to 32,000 after casinos were introduced (McGetigan, 1995). An increase in numbers of problem gamblers receiving treatment has been noticeable in Germany since 1984. Meyer (1992) in reviewing the German literature on gambling, concluded that there had been an increase in the prevalence of problem gamblers as a consequence of increased availability of legalised opportunities for gambling. Remmers (1995) suggests the increase in compulsive gambling in Holland occurred as a result of electronic gaming machines (EHMs) and the introduction of casinos. The Jellinek Addiction Centre reported 400 visitors in 1986 — the year gaming machines were introduced. Six years later this had risen to 6,000 per year (1998, pp. 16–17).

A detailed study of the social impacts of a new casino, the Casino Niagara in Canada, provides some insights into the micro social impacts from increased accessibility to gambling (Room, Turner and Ialomiteanu 1998). In 1996, about one in ten Niagara Falls residents said they gambled in a non-charity casino, jumping to one in two a year after the casino had been in operation. By comparison, roughly one in ten Ontario residents in general had gambled in such casinos, increasing to

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<sup>6</sup> In the case of Western Australia this would reflect a likely increase in the number of adults who played gaming machines (currently, they play card machines, which are not regarded as entertaining as genuine gaming machines), as well as an increase in the number of regular players among gaming machine players. In this context, it is interesting to note that in Queensland a survey by AIGR and LIRU (1995, p. 6) found that 29 per cent of indigenous gamblers had not gambled at all prior to the introduction of gaming machines, which suggests that accessibility to new forms of gambling does create completely new consumers — and new problem gamblers.



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one in five in 1997, suggesting that Niagara Falls gambling participation had increased as a result of the new casino. The proportion of people reporting gambling problems rose from 2.5 per cent to 4.4 per cent. The proportion of respondents reporting family members with gambling problems increased from 5 per cent to 7.5 per cent, and those reporting friends with problems rose from 14 per cent to 20.5 per cent.

However, much of the existing research literature on links between accessibility and gambling problems is based on either studies of a state or country observed over a very few time periods, or comparisons between two jurisdictions with differing gambling intensities. Such studies may be useful in understanding the processes that might generate additional recruitment into gambling and increased problem gambling, but they cannot provide systematic evidence about the link between gambling problems and accessibility. For example, Hill (1997, p. 6) cites the American state of Iowa where problem gambling rates appeared to increase significantly following liberalisation of gambling. Hill also inferred that the introduction of legal gambling in Georgia had led to substantial problems, though the absence of a baseline study makes this conjectural (sub. D243, p. 2). In other states, such as Connecticut, the opposite pattern appears to have held. Whyte (1997, p. 5) from the American Gaming Association notes:

Contrary to the rhetoric of gaming opponents, increased availability of gaming does not lead automatically to an increase in problem gambling... the actual survey evidence is mixed, as some problem gambling rates have slightly increased or stayed the same, and some have actually declined after the expansion of gambling. For example, a recent Connecticut survey showed a decrease in pathological gambling from 2.7% in 1991 to 1.2 per cent in 1996, similar to a South Dakota survey, which found a decrease in prevalence from 1989 to 1991. In both cases there were major expansions in gambling availability between the survey dates.<sup>7</sup>

Two studies of problem gambling in Alberta, Canada, add a further twist (AADAC 1998). The 1994 study found a prevalence rate of 5.4 per cent ‘problem’ gamblers (based on SOGS 3+), which fell to 4.8 per cent in the replication study in 1998. However, the prevalence of what was termed ‘probable pathological gambling’ (based on SOGS 5+) increased from 1.4 per cent to 2 per cent.

Studies of a single jurisdiction based on only a few time points do not provide enough reliable information. More time periods or more jurisdictions are needed to average out confounding factors and statistical noise in the prevalence estimates.

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<sup>7</sup> Rachel Volberg in a communication to the Commission indicated that she urged ‘caution in interpreting the results’ from the South Dakota and Connecticut studies, since the baseline and replication studies applied different methods, the time gaps examined were small, as were the sample sizes.

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Furthermore, in the United States — where the most research into the prevalence of problem gambling has been conducted — much gambling centres on casinos, which tend to be located along state borders to attract interstate visitors. This complicates the task of assessing the connection between regional variation in problem gambling and gambling intensity.

A number of (US) studies have attempted to look more closely at accessibility and prevalence using bigger datasets or more novel methods. Volberg (1994) compared prevalence rates of problem gambling among five US states with differing levels and histories of accessibility, and found that those with a longer history of legally available gambling had higher levels of problem gambling. More recently, the National Research Council (1999) examined replications studies in the United States as has AADAC (1998, p. II-4ff) in North America as a whole. The National Research Council (1999, p. 82) noted that:

There are very few studies that permit an assessment of whether the prevalence of problem and pathological gambling is associated with changes in the availability of legal gambling. The nature of the changes observed in those studies, however, was consistent with the view that increased opportunity to gamble results in more pathological and problem gambling.

However, it is apparent from these studies (table 8.4) that measured prevalence rates do not always increase with greater exposure to gambling, or stay constant in the absence of significant changes to accessibility. However, with the relatively small sample sizes used, the differing nature of gambling in each jurisdiction, the possibility of gamblers hopping state boundaries, plus other confounding variables, the studies, by themselves, are inconclusive about the links between access and problems.

Meta-analysis of 34 studies of gambling problems among adults in North America from 1977 to 1997 (Shaffer, Hall and Vander Bilt 1997) suggested that problem gambling has increased over time as gambling opportunities have multiplied in the US. This is suggestive of a link between accessibility and problems (figure 8.12), but other factors may also played a part.

On the other hand, there was no evidence that problem gambling among adolescents, college students or people in prisons (and other institutionalised settings) had increased. The discrepancy between these groups is not altogether surprising. Adults in the general population are more sensitive to social sanctions against behaviours, such as gambling, which the community sees in an ambivalent way. As gambling became more acceptable and accessible, adults gambled more, and further numbers of them developed gambling problems.

In contrast, adolescents, college students and institutionalised people are relatively less concerned about such social sanctions, and so the trend to greater acceptability did not really have a marked impact on their already high participation in (often illegal) gambling (Shaffer, Hall and Vander Bilt 1997, p. 57). Furthermore, many young people would not have been able to readily play some of the newly liberalised forms of gambling (such as gaming machines or casino table games) because of age limits and so their exposure over time to liberalised forms of gambling has been less than adults. In this sense the contrary results for adults compared with others increases the credibility of a link between gambling problems and accessibility, rather than undermining it.

**Table 8.4 Replication studies of problem gambling in North America<sup>a</sup>**

<i>Jurisdiction</i>	<i>Study dates</i>	<i>Magnitude</i>	<i>Change</i>
	Years	%	%
<b>Those jurisdictions where gambling access is increased substantially</b>			
Iowa	1988-1995	0.1 to 1.9	+1.8
Minnesota	1990-1994	0.9 to 1.2	+0.3
Connecticut	1991-1996	2.7 to 1.2	- 1.5
Manitoba	1993-1995	..	+ 0.6
Alberta	1994-1998	1.4 to 2.0 <sup>b</sup>	+0.6
<b>Those jurisdictions in which gambling access did not increase substantially</b>			
Nova Scotia	1993-1996	4.8 to 5.5 <sup>c</sup>	+0.7
Texas <sup>d</sup>	1992-1995	1.3 to 1.8 <sup>e</sup>	+0.5
South Dakota	1991-1993	1.0 to 0.9 <sup>f</sup>	-0.1
New York	1986-1996	1.4 to 2.6	+1.2
New Brunswick	1992-1996	..	+0.8

<sup>a</sup> The Commission's preferred measure of problem gambling for comparisons between jurisdictions is the current level of what US researchers refer to as 'probable pathological gambling' (ie matches the Commission's concept of SOGS 5+). Our concern is that definitions of problem gambling based on lower test thresholds tend to have too high a level of false positives. Also lifetime measures are probably less suited than current measures for trying to measure the impact of current accessibility arrangements. Unfortunately, the most consistent data set is on a lifetime basis, and so the Commission has cited these numbers where possible, or indicated the nature of the data where it is otherwise derived. <sup>b</sup> This is the *current* 'probable pathological gambling' prevalence rate. <sup>c</sup> This is the lifetime gambling prevalence rate based on the lower threshold test (and therefore not ideal). No other estimate was available (AADAC 1998, p. II-5). <sup>d</sup> Some consider the introduction of a state lottery to have been a major change in the gambling environment. <sup>e</sup> The current 'probable pathological' gambling prevalence rate stayed constant at 0.8 per cent. <sup>f</sup> The current 'probable pathological' gambling prevalence rate also fell by 0.1 percentage points from 0.6 per cent to 0.5 per cent.

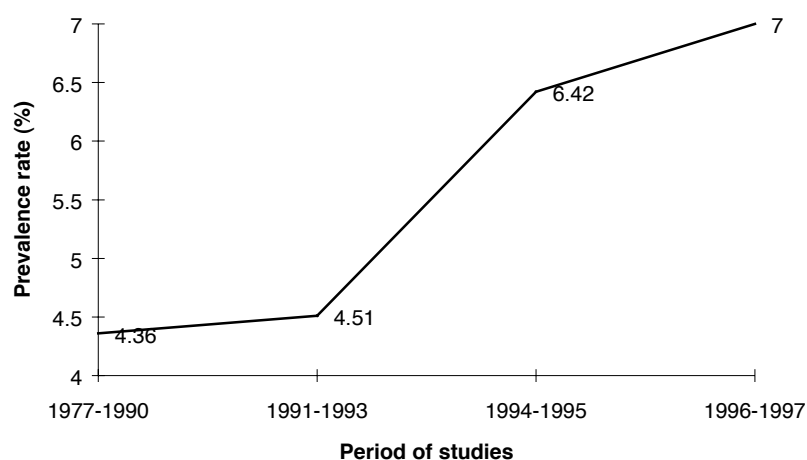
Source: National Research Council (1999, pp. 82-4); AADAC (1998, pp. 4-5).

The final report of the US National Gambling Impact Study Commission (Gerstein et al. 1999) used a large micro dataset to examine the link between location and the

prevalence of problem gambling (table 8.5).<sup>8</sup> They found that the availability of a casino within 50 miles (versus 50 to 250 miles) is associated with about double the prevalence rate of problem and ‘pathological’ gambling. But while this pattern was apparent for the combined dataset, quite the contrary pattern was obtained for the telephone survey for the key ‘pathological’ gambling measure. Overall then, these data provide rather tentative evidence about the link between proximity to casinos and gambling problems.

Campbell and Lester (1999) found a positive and significant link between a measure of the prevalence of problem gambling in parishes in Louisiana and the density of video poker machines.<sup>9</sup> At best, however, their simple models explained only about 17 per cent of the variation in problem gambling.

Figure 8.12 **Prevalence of gambling problems for adults over time<sup>a</sup>**  
North America 1977–1997



<sup>a</sup> The prevalence rate is the sum of what Shaffer et al. refer to as level 2 and level 3 gambling (which will extend to people with SOGS scores as low as 3). This explains why the prevalence rates are so high.

*Data source:* Shaffer, Hall and Vander Bilt (1997, p. 44).

<sup>8</sup> Senator Paul Simon (1995, p. 8) also suggested a more extreme association between proximity and gambling problems in the US. He claimed that while less than 1 per cent (0.77 per cent) of the population are compulsive gamblers, that number increases two to seven times when enterprises are located near a population.

<sup>9</sup> Unfortunately, the measure of problem gambling used was the number of Gambling Anonymous Groups in each parish, which is only a proxy for the number of problem gamblers in an area.

**Table 8.5 Prevalence rates of problems by proximity to casinos<sup>a</sup>**  
United States 1998

	<i>Telephone survey</i>			<i>Telephone &amp; patron survey</i>		
	<i>At risk (n=183)</i>	<i>Problem (n=30)</i>	<i>Pathological (n=21)</i>	<i>At risk (n=267)</i>	<i>Problem (n=56)</i>	<i>Pathological (n=67)</i>
	%	%	%	%	%	%
0 to 50 miles	6.7	1.6	0.5	7.4	2.3	2.1
51 to 250 miles	8.7	1.3	0.7	8.5	1.2	0.9
250+ miles	6	1	1.2	5.5	1.2	1.3

<sup>a</sup> This has a number of limitations as a test of the link between accessibility and problem gambling, because it ignores proximity to gambling venues other than casinos.

Source: Gerstein et al. (1999).

Finally, a unique natural experiment into the effect of gaming machines on gambling problems was provided by the experience of South Dakota. The South Dakota Supreme Court ordered that all of the state's video gambling machines be shut down in August 1994 (as they were technically illegal). Other gambling forms, which were widely available, were not affected. This led to a 3 month lull in playing video games before a referendum legalised the games in November 1994. Inquiries to four problem gambling treatment centres in South Dakota fell dramatically from 68.1 per month (in the eleven months prior to the temporary ban), to 9.7 per month during the ban, before rising to 24 per month in the three months after the lifting of the ban (Carr et al. 1996). This is highly suggestive of a link between availability of certain gambling forms and the incidence of gambling problems.

## 8.8 Summing up

The potential link between accessibility and problem gambling is a key policy issue, since it determines whether constraints on access are likely to have any impact on problem gambling. The Commission examined evidence on the possible link from a variety of sources — including variations in problem gambling prevalence rates, the use of help services, the changing pattern of counselling demand and overseas evidence.

It is hard to capture all of the multi-dimensional aspects of accessibility in single measures, complicating assessments of its association with problem gambling. There are also sometimes problems associated with establishing the direction of causality. The cross-sectional information in particular, has limitations that makes it, in isolation, inconclusive as evidence for a link.

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However, as a whole, the evidence is highly suggestive of a positive link between availability of legalised gambling — especially gaming machines — and the incidence of gambling problems. In particular, the feminisation of problem gambling appears strongly associated with the spread of gaming machines.

**Overall, the Commission considers that there is sufficient evidence from many different sources to suggest a significant connection between greater accessibility — particularly to gaming machines — and the greater prevalence of problem gambling.**

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# 9 Quantifying the costs of problem gambling

## Box 9.1 Key messages

- Quantifying the costs of the gambling industries is a difficult task, especially for the intangible impacts on the wellbeing of individuals. The Commission has nevertheless provided indicative estimates for as many of the impacts as possible.
- The costs associated with problem gambling are conservatively estimated to be equivalent to at least \$1.8 billion (with a higher estimate of \$5.6 billion) each year.
- The costs amount to an average of at least \$6000 per problem gambler per year, with the higher estimate averaging \$19 000 per problem gambler.
- The bulk of these estimated costs comes from the emotional distress and tension that problem gambling imposes on gamblers and their families, rather than direct financial costs.

## 9.1 Introduction

Earlier chapters have identified and discussed a range of benefits and costs generated by gambling in Australia. The principal costs for society (costs that are not offset by benefits elsewhere) result from problem gambling. Some of these are financial costs, whereas others are less tangible. The psychic or emotional impacts on problem gamblers and their families are costs for which a value should be assigned, in the same way that the pleasure or entertainment from gambling has a value. The difference is that only the latter value is expressed through actual market prices — proxy values have to be found for the former.

In estimating the costs, the Commission has grouped them into five broad categories:

- financial costs (family debts and bankruptcy);
- effects on productivity and employment;
- crime (theft, court cases and imprisonment);

- 
- personal and family impacts (divorce and separation, depression and suicide); and
  - treatment costs.

Chapter 7 provides a more detailed presentation of the impacts of problem gambling, including the results from the Commission's surveys and from other available sources. In this chapter the Commission seeks to put values on as many of these costs as possible. Some, particularly the more intangible costs for problem gamblers and their families, are potentially very significant as well as being difficult to measure. Given these difficulties and uncertainties, the Commission has, where possible, provided a range of values for the cost estimates. In doing so, the Commission has tended to be conservative (erring on the low side), even when including a number for the higher estimate of any particular aspect of the costs quantified. A more detailed treatment of the methodology and numbers used is provided in appendix J.

## 9.2 Previous estimates of costs by other researchers

Researchers overseas (box 9.2) and in Australia (box 9.3), have attempted to estimate the costs that problem gambling imposes on society.

The most remarkable aspect of the estimates reported is their range — from US\$560 to US\$52 000 per problem gambler per year. This demonstrates both the conceptual difficulties involved, and the practical information problems in assigning reliable numbers to some of the costs. Similar difficulties can arise in estimating consumer benefits (chapter 5).

### Box 9.2 Estimates from North America of the social cost of gambling

Estimates of the annual cost per problem gambler undertaken in the United States vary widely. For example, in reviewing US studies, Goodman (1995) reported:

By examining the combined costs which are produced by the behaviour of problem gamblers, including bankruptcies, fraud, embezzlement, unpaid debts, and increased criminal justice expenses, researchers have arrived at yearly estimates of how much these people cost the rest of society. Estimates of the yearly average combined private and public costs of each problems gambler have ranged between US\$20,000 and US\$30,000 in 1993 dollars, with some reports as high as US\$52,000. The United States Gambling Study, which I directed, arrived at a much more conservative estimate of US\$13,000 per problem gambler per year in 1993 dollars.

(continued)



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**Box 9.2 continued**

Goodman (1997) pp. 61–2 reported:

Some of the most useful recent research on the costs of problem gambling was done by Rachel Volberg ... Her estimated cost to the public of the average pathological gambler in 1981 was approximately US\$13,600 — a figure she describes as a “much more conservative approach to costs” than she found in previous studies... Volberg’s analysis covers three basic categories: 1) the income which would have been earned by pathological gamblers who lost their jobs; 2) the costs of prosecuting and incarcerating them for crimes caused by their gambling problems, such as embezzlement, fraud, and theft; and 3) “bailout costs” — money given to them by family and others to cover their gambling expenses and living needs. Goodman (1997, p. 63) questioned the last category, which made up US\$6000 of the US\$13 600 estimate, as representing a transfer between groups within society rather than representing an economic loss.

The National Council of Welfare (1996, p. 33) reported a University of Manitoba estimate of the cost of compulsive gambling to society as Can\$56 000 for each problem gambler each year.

The most recent study in the United States has been undertaken as part of the work of the National Gambling Impact Study Commission. The study estimated that each problem gambler generates an annual cost (excluding transfers) of US\$560, and an additional lifetime cost of US\$3580. For pathological gamblers, the study estimated that each generated an annual cost (excluding transfers) of US\$1050, and additional lifetime costs of US\$7250. Details of results of the study are presented in appendix K.

Estimates at the high end of the scale tend to include *all* of the money spent by problem gamblers as a social cost — implying that problem gamblers receive no benefit at all from any of their consumption. Similarly, they include as a net cost to society payments that are essentially transfers within society (such as unemployment benefits, or bad debts).

For those estimates at the lower end of the scale, costs borne by problem gamblers themselves (internal costs) are usually not included, nor is there an attempt to measure most of the intangible costs. Such studies focus on direct financial costs imposed on others and on society as a whole. Transfers are often correctly identified and excluded. The exclusion of intangible costs is the most important factor leading to apparently low costs of problem gambling. But such costs can be as great as, or much greater than, the direct financial costs imposed on society.

*An earlier estimate of costs in New South Wales*

In 1995 and 1997, Dickerson et al. (1996a and 1998) undertook surveys of consumers in New South Wales and, together with the clinical experience of a

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number of researchers in the field of problem gambling, made an estimate of the cost of problem gambling.

Dickerson et al. quantified a range of costs associated with problem gambling in New South Wales, arriving at an aggregate value of \$50 million per annum for that State — a cost per problem gambler of some \$1300 a year (box 9.3). This estimate is low, primarily because it focused on direct financial costs, with no estimate attempted for the intangible costs associated with problem gambling, though it did include the financial costs borne by problem gamblers (other than expenditure on gambling itself).

**Box 9.3 Estimates of the cost of gambling in New South Wales**

In 1998, Dickerson et al. updated an earlier set of estimates of the cost of problem gambling in New South Wales. They combined their 1997 survey of 1390 people with information drawn from the 1995 survey of 1209 people to form the basis of a revised estimate.

Their estimates of the annual costs of problem gambling are:

	\$ 000
<b>Employment impacts</b>	<b>28 474</b>
– productivity loss	20 796
– job change	5 258
– unemployment	2 420
<b>Legal costs</b>	<b>17 846</b>
– court costs	5 376
– prison costs	9 978
– police costs	2 492
<b>Financial costs</b>	<b>66</b>
– bankruptcy costs	66
<b>Personal costs</b>	<b>732</b>
– divorce	391
– acute treatment	441
<b>Existing services</b>	<b>3 191</b>
<b>Total</b>	<b>50 309</b>

The estimates assume that 0.85 per cent of the adult population of NSW are problem gamblers — all of those with a SOGS score of 10+ and half of those scoring 7 to 9. This equates to a problem gambler population of some 39 117 in NSW, with a cost per problem gambler of \$1300 per annum.

*Source:* Dickerson et al. (1998).

Lesieur (the originator of the SOGS measure of problem gambling) said about the Dickerson et al. study:

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They have conducted the most thorough and potentially the best study done anywhere. However, it seriously underestimates the cost of problem gambling in several ways. (1996, p. 17)

Lesieur identified the following factors as contributing to an underestimate:

- the inclusion of only weekly gamblers excludes less frequent ‘binge’ gamblers;
- a six month period for the SOGS can lead to understatement even when ‘annualised’;
- excluding institutionalised populations, who typically contain a high level of probable pathological gamblers, leads to lower than actual levels of problem gambling; and
- a threshold of 10 on the SOGS was seen as too high — US studies typically use 3 or 5 as the cut off point.

The last of these points appears the most significant. Lesieur goes on to present a range of information comparing the costs faced by the ‘5 to 9’ group with the ‘10+’ group to indicate that adverse consequences can be as large for members of the former group as they are for the latter.

Despite these comments — criticisms can be made about any set of estimates — the methodology employed by Dickerson et al. is very useful, and has formed the basis of the Commission’s estimates contained in this report. In so doing, the Commission has sought to extend the work:

- from NSW to the national level;
- by including estimates for some of the more intangible costs associated with problem gambling; and, importantly
- by avoiding problems of identifying the most appropriate SOGS-based ‘cutoff point’ for problem gamblers *by looking at the prevalence of gambling-related adverse consequences in the whole population of regular gamblers.*

The methodology and data used by the Commission to estimate the benefits and costs of gambling in Australia are presented in detail in appendices C and J respectively. What follows is an outline of the approach taken to estimate the costs and a summary of the results.

### **9.3 The Commission’s estimates of social costs**

In assessing the costs to society of problem gambling, (as opposed to the costs to individual gamblers) costs need to be viewed in a particular way. They do not

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include costs which private individuals and businesses adequately take into account in deciding whether to produce and consume particular gambling products. Rather, the focus needs to be on those costs that are inadequately priced or accounted for in market transactions. The existence of such social costs would mean that, for society as a whole, an excessive level of production and consumption of the product in question may be occurring. In turn, this can provide a possible rationale for corrective government action or policy attention, depending on the costs associated with any such intervention.

Many activities generate social costs but typically, they are small in total and specific government actions are unlikely to be cost-effective. If the problem is large (with high social costs that are clearly associated with the particular industry or activity), more targeted policy actions may be warranted.

### **Which costs should be included in the estimates?**

Expenditures or payments which many people would clearly refer to as ‘costs’ can be categorised into three types — internal costs, external costs, and transfers (these are explained in chapter 4, box 4.1).

It is the *external* costs — those imposed on others by a decision maker without them having a say — that would normally provide the only justification for government intervention on efficiency grounds.

However, in this chapter the Commission has included a significant element of problem gamblers’ *internal* costs (other than the money spent directly on gambling) in its estimates of the policy-relevant costs that gambling imposes on the Australian community.

This is because of serious reservations about the extent to which problem gamblers are aware of the true costs and benefits of gambling — misperceptions about how the games operate and the true likelihood of winning are widespread and persistent. More importantly, for many problem gamblers, it is questionable whether they are spending money on gambling in a ‘voluntary’ way, exercising the ‘consumer sovereignty’ that would normally be assumed to apply. Chapter 6 provides a detailed discussion of consumer sovereignty and problem gambling.

While *transfers* do not represent a net cost to society, they are nonetheless important for those who pay for them. If the transfers are large, it may be worthwhile investigating cost-effective ways to minimise them or, if they are part of the welfare system, ways to make them more effective. Estimating the size of the transfers and identifying the direction of flows can be a worthwhile exercise.

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In addition, the process of undertaking transfer payments is not costless. For example, raising and distributing taxes to fund welfare transfers involves a cost. Similarly, in the case of bad debts, action taken to protect against such debts represents a cost, and to the extent that lenders cannot distinguish adequately between borrowers on the basis of risk (including gambling), these costs will be paid for by others.

ACIL (sub. D233), in addition to expressing the view that internal costs should be excluded, also questioned the inclusion of costs borne by other members of the family. The Commission does not agree with this view, for the reasons discussed in chapter 4.

Star City (sub. D217, p. 8) referred to similar spillover *benefits* from the wellbeing of the majority of recreational gamblers, and ACIL (sub. D233, pp. 28–29) said that such benefits of gambling to family members should be included in estimates of costs and benefits.

Advisedly, in our view, the happiness gained by the family members of the great number of satisfied, relaxed and fulfilled gambling customers is not counted in the Draft Report as an extra benefit of gambling. This is sensible, but quite different to the way the Draft Report handles spillover costs. Its handling of spillover benefits view households as a group of people who *are* covered by implicit contracts whereas its view of spillover costs presumes that *no* contracts exist.

Certainly there are benefits for a family stemming from the happiness of individual members. But the Commission does not consider that the additional contribution of gambling to this level of happiness to be significant. Most alternative forms of entertainment (while perhaps not valued as highly as gambling by the gambler) are likely to deliver a similar level of happiness and fulfilment which will equally ‘spill over’ to the family. The *additional* level of happiness from gambling is likely to be small, but the *additional* level of unhappiness from problem gambling is large. In its estimates of costs and benefits, the Commission has not attempted to measure each and every benefit and cost, but concentrated on those which appear to be the most significant.

### *Taxes on gambling*

Some might consider that these are not *net* costs for society, because they are offset by high taxes on gambling consumption. The gambling industries are subject to a range of taxes, some significantly higher than those levied on other forms of consumption. In part, these taxes are levied, at least nominally, to pay for some of the social costs of problem gambling. In this analysis, the Commission has included the taxes levied on the gambling industries as a *benefit* in the estimates presented in

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chapter 5. Consequently, such taxes are not offset against the cost estimates in this chapter as this would involve double counting.

### **How reliably can social costs be attributed to gambling?**

Many of the adverse consequences experienced by problem gamblers are not unique to gambling. Depression, divorce or job loss occur for a variety of reasons, and to many people in society. In the Commission's *National Gambling Survey*, respondents were typically asked to report adverse consequences 'as a result of your gambling'. Thus, we are relying on participants willingness or ability to attribute the range of adverse consequences that they have suffered to their gambling activities.

An alternative approach was taken in the recent study in the United States (Gerstein et al. 1999). This study collected information on the prevalence of adverse events irrespective of cause in the population generally, and then compared the prevalence in the population without gambling problems with the prevalence in the population with gambling problems. When account was taken of a range of other likely influences on differences in prevalence rates, the observed difference was ascribed to the respondents gambling activities. A brief summary of the results of this study is presented in appendix K.

Overall, for questions that were equivalent in the Commission's *National Gambling Survey* and the US study, the results of the two approaches are broadly comparable in terms of the estimated prevalence of adverse consequences from gambling problems (appendix J).

In addition to the potential to mistakenly attribute adverse consequences to gambling activities, a number of participants in this inquiry questioned whether problem gambling itself was a symptom rather than a cause of the problems that some people face (see chapter 7 for a more detailed discussion of causality). In some situations, it may be inappropriate to say that gambling is the *cause* of the problems observed, though it may contribute to their severity.

Following the draft report, the Commission held a meeting with a number of prominent academics and researchers in the field of problem gambling in Australia. The participants were specifically asked their views on the extent to which problem gamblers would continue to have problems in the absence of gambling.

- The consensus was that for a number of adverse consequences — particularly depression, and divorce and separation — as a rule of thumb, some 15 to 20 per cent would have problems even if their gambling could be successfully managed.

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- Where the adverse consequence was more directly financial — such as embezzlement, or bankruptcy — the view was that gambling was invariably the principal cause.

The Commission concedes that, while this is not a precise means of assessing causality, it provides a useful guide. Consequently, in revising the draft report, the Commission has made an adjustment for ‘causality’ in its estimates of the personal and family impacts of problem gambling, by applying a 20 per cent discount to the costs relating to adverse consequences in this broad category.

### **What are the costs of gambling problems?**

A wide range of costs have been identified as flowing from problem gambling, but they can usefully be grouped into the following areas:

- financial costs (debts and bankruptcy);
- effects on productivity and employment;
- crime (theft, court cases and imprisonment);
- personal and family impacts (divorce and separation, depression and suicide); and
- treatment costs.

#### *The Commission’s approach*

Where practical, a range of values has been estimated for each adverse consequence because of uncertainties about its magnitude or the value attributed to it. In some cases this was based on a range of the dollar values ascribed to the consequence, and in others a range in the number of people affected. Importantly, the higher level of the range chosen need not represent the maximum possible value.

Most of the estimates are based on the prevalence of adverse consequences derived from the Commission’s *National Gambling Survey* in relation to a 12 month period. Where information was only available on the basis of an impact ‘ever’ occurring, the Commission has estimated the annual level based on the average duration of gambling problems reported by problem gamblers in counselling (8.9 years).

Where information on prevalence was only available from the Commission’s *Survey of Clients of Counselling Agencies*, this prevalence was only ascribed to the estimated number of problem gamblers based on a score of 10 or more on the SOGS (47 000 people) rather than the estimated total number of problem gamblers in Australia (293 000 people).

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Valuing the intangible costs relating to such things as depression, suicide, or the emotional costs imposed on family members has been a particularly difficult component of the estimates presented. Consequently, and in order to be conservative, the Commission has chosen ranges of values based on compensation payment schedules in New South Wales and Queensland used for emotional harm. Typically for less severe cases, this is a range of \$5000 to \$15 000, and for more severe cases \$30 000 to \$50 000 per person. While even the high end of these ranges may be low compared to the extent of suffering that can occur, the Commission's estimates represent an average for a wider group of people.

Where one group of adverse consequences can be seen as an extreme example in a broader category, to avoid double counting, the numbers in the broader group exclude the more extreme group. For example, the number of people included in the estimate of the cost of depression exclude the number estimated to have thoughts of suicide. Similarly, the number used for breakup of a relationship exclude the number estimated for divorce and separation.

The Commission has not attempted to measure all the costs that arise from problem gambling. Apart from those which may not be substantial, or which have been discounted to err on the conservative side, for some the Commission had no adequate basis for attributing dollar figures, even as a range. For example, costs have not been measured for:

- non-regular gamblers. The prevalence of adverse consequences derived from the *National Gambling Survey* relates only to regular gamblers. To the extent that some non-regular gamblers experience problems, the estimates are understated;
- any future reduced earning capacity for problem gamblers that may result from being declared bankrupt or the costs associated with bad debts in bankruptcy;
- the impact on physical health, nor the medical costs associated with conditions such as depression;
- costs that may carry over into later years from 'one off' events;
- the emotional distress for families and parents of *moderate* problem gamblers;
- indirect costs such as sale of property etc, and long term effects on children resulting from divorce and separation;
- those who are only rarely or sometimes depressed; and
- actual suicides caused by gambling.

Appendix J outlines the methodology in detail. The results are summarised below.



*The Commission's estimates*

In total, the Commission estimates that problem gambling imposes an annual cost (excluding the unmeasurable costs) of some \$1.8 billion to \$5.6 billion (table 9.1).

**Table 9.1 Costs of problem gambling**  
(\$ million, 1997-98)

	low	high
<i>Financial</i>		
Bankruptcy	1.3	1.3
<i>Productivity and employment</i>		
Productivity loss at work	21	150
Productivity loss outside work	7.2	50
<i>Job change</i>		
earnings loss	24	24
employee job search	13	13
employer staff replacement cost	22	22
<i>Crime and legal</i>		
Cost of police incidents	3.2	3.2
Court cases	5.6	5.6
Jail costs	5.1	5.1
<i>Personal and family</i>		
Emotional distress of immediate family		
Moderate problem gamblers	ne	ne
Severe problem gamblers	756	2 267
Emotional distress of parents		
Moderate problem gamblers	ne	ne
Severe problem gamblers	0	666
Breakup of a relationship <sup>a</sup>	288	864
Financial cost of divorce	2.8	2.8
Emotional cost of divorce	126	253
Cost of violence	2.8	8.3
Depression <sup>b</sup>	231	692
Thought of suicide <sup>c</sup>	120	239
Attempted suicide	70	117
Impact on immediate family	81	161
Impact on parents	0	21
<i>Treatment costs</i>		
Gambling counselling services	20	20
<b>TOTAL</b>	<b>1 800</b>	<b>5 586</b>

*ne.* Not estimated <sup>a</sup> Excluding those that lead to divorce or separation. <sup>b</sup> Excluding those reporting thoughts of suicide. <sup>c</sup> Excluding estimated attempted suicides.

Source: appendix J

Transfers within society as a result of problem gambling are much smaller, at an estimated \$35 to \$62 million annually, principally being the debts carried by other members of the family (table 9.2).

**Table 9.2 Value of annual transfers as a result of problem gambling**  
(\$ million, 1997-98)

	low	high
	\$m	\$m
Debts	26	26
Unemployment payments	4.1	4.1
Value of money obtained illegally	4.9	31
<b>TOTAL</b>	<b>35</b>	<b>62</b>

Source: appendix J.

The most striking feature of these estimates is that the more easily measured direct financial or money costs of problem gambling, which amount to \$127 million to \$309 million, are a small share of the total. The most significant categories of costs are those covering adverse emotional impacts on immediate family members and parents, followed by the estimate for depression for those with gambling problems.

These costs loom large because of the numbers of people involved. For example, the *National Gambling Survey* indicates that some 48 500 people suffer ‘often to always’ from depression as a result of their gambling (after a range of adjustments for causality and to avoid double counting). Table 9.3 presents the estimated number of people associated with each of the adverse consequences included in the Commission’s estimates.

The intangible costs associated with problem gambling have not been estimated before. Their intangibility precludes precision or a point estimate, but the Commission considers that the range of values provided here are a useful guide to their minimum magnitude. If anything, the estimates are more likely to understate than overstate the true costs. That said, they nonetheless amount to a major component of the total cost estimates — underlining the importance of taking them into account.

As already noted, the intangible costs are just as real as the consumer benefits, but because there is no market mechanism to signal the values that people would place on these costs, they are harder to measure. Therefore, some have argued that it cannot be done in a way that is reliable enough, and should not be attempted. However, this poses the greater risk that zero values will be imputed for these costs — which would be less meaningful than the conservative estimates presented here.

Given the policy relevance of the intangible costs associated with gambling, and the difficulty the Commission experienced in trying to find information on dollar values that could be placed on these costs, this is an area where additional research would be desirable.

**Table 9.3 Estimated number of people experiencing adverse impacts nationally used in the costing estimates**

	People affected annually
Bankruptcy	317
Gambling debts	5 258 (46 792)
Productivity loss at work	7 000 +
Productivity loss outside work	2 358 +
Job change	5 600
Crime	9 700
Police incidents	6 300
Court cases	700
Jail	336 (2 995)
Family member emotional distress	151 129+
Breakup of a relationship	28 800
Financial cost of divorce or separation	2 560
Emotional cost of divorce or separation	8 422 <sup>a</sup>
Violence	551 (4 904)
Depression	46 160+
Thought of suicide	7 972+
Attempted suicide	2 348+
Family of attempted suicide	5 377

Numbers in brackets represent 'lifetime' numbers from which annual numbers have been estimated. + indicates that this number is the lower number in a range. <sup>a</sup> includes family members as well as problem gamblers (an average of 3.2 people per household)

Source: PC National Gambling Survey.

### **Social costs vary by mode of gambling**

There is considerable potential variation in the contribution to social costs from the different modes of gambling. As outlined in chapter 5, the share of expenditure accounted for by problem gamblers varies markedly by gambling mode. To get some understanding of how the social costs are distributed, the share of problem gambling expenditure was used to allocate the social costs by mode (see table 9.4). As noted in chapter 5, the estimated expenditure shares for problem gamblers are likely to be more reliable for gaming machines and lotteries than for some of the modes with fewer numbers of problem gamblers identified in the survey. Because gaming machines account for some 76 per cent of the total amount of money spent by problem gamblers in 1997-98, 76 per cent of the social costs have been allocated to that mode (table 9.4).

**Table 9.4 Social costs of gambling by mode of gambling, 1997-98**

	<i>Share of expenditure in that mode accounted for by problem gamblers</i>	<i>Expenditure by problem gamblers</i>	<i>Social costs of gambling</i>
	<i>%</i>	<i>\$ million</i>	<i>\$ million</i>
Wagering	33.1	529	267 – 830
Lotteries	5.7	68	34 – 106
Scratchies	19.1	47	24 – 74
Gaming machines	42.3	2 710	1 369 – 4 250
Casino gaming	10.7	96	48 – 150
Other	25.0	112	57 – 176
<b>All gambling</b>	<b>33.0</b>	<b>3 562</b>	<b>1 800 – 5 586</b>

Source: PC estimates.

### Some distributional issues

In comparing costs and benefits, it is typically assumed that a dollar of benefit for one person is equivalent to a dollar of benefit for another, and that a dollar of cost for one is the same as a dollar of cost to another. Where costs and benefits are spread evenly in society, this is a reasonable presumption. But when the costs and benefits occur in a quite uneven fashion, this assumption should be reviewed.

Most gamblers receive a consumer benefit equivalent to some \$250 to \$400 each year (chapter 5), while problem gamblers and their families are spending, on average \$12 200 each per year on gambling products and are generating a range of social costs estimated to be equivalent to some \$6100 to \$19 100 per problem gambler per year. While not all of this cost is borne directly by the problem gambler (much is borne by their family, and some by the wider community) the concentration of costs on a minority of people in society is an area of legitimate social concern.

### Comparisons with other costs

The question of the costs of problem gambling in comparison with the costs of a range of other activities in society — tobacco, alcohol and illicit drugs — was raised by participants in the inquiry. For example, Tabcorp (sub. D232, p. 2) said:

Compared to the enormous benefits generated, the costs of problem gambling to society is negligible. US studies indicate that in the US the combined cost of smoking is 14 times that of gambling, motor vehicle accidents - 14 times greater, alcohol abuse - 33 times greater and drug abuse - 22 times greater.

Estimates of the cost of other social problems have been undertaken in Australia, most comprehensively by Collins and Lapsley (1996). These estimates, together with the Commission's estimate from this report are presented in table 9.5 below.

**Table 9.5 Estimates of the cost of other social problems, Australia**

<i>Problem</i>	<i>Annual costs \$ billion</i>
Gambling <sup>a</sup>	1.8 - 5.6
Illicit drugs <sup>b</sup>	1.7
Alcohol <sup>b</sup>	4.5
Tobacco <sup>b</sup>	12.7

*Source:* <sup>a</sup> PC estimates for 1997-98. <sup>b</sup> Collins and Lapsley (1996) estimates for 1992.

Some caution should be exercised in comparing estimates done at different times by different researchers using differing methodologies (see Gabbitas and Eldridge 1998, for a critique of these estimates). Nonetheless, whether the costs of the gambling industries are greater or less than the costs to society of other industries is not particularly relevant. Social costs of \$1.8 billion to \$5.6 billion per year are clearly high enough in an Australian context to warrant policy attention.

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# 10 Broader community impacts

## Box 10.1 Key messages

- Gaming machines have provided new recreational and social opportunities, attracted more people out of the home, and some gambling revenue has been used to provide better community and club facilities.
- Gaming machines have also altered the nature and feel of clubs and hotels, and can ‘crowd out’ other forms of entertainment, such as live music and alternative leisure and community activities.
- While growth in gambling limits growth in the retail sector, the effects are small.
- In some states, gaming machines are concentrated in lower income areas. This can compound social problems and cause funds to leak out of the area.
- The impact of gambling in country areas appears to differ little from the impact in city areas.
- Leaving aside crime associated with problem gambling, there is no evidence of significant criminal activity associated with the (legalised) gambling industry. Strong probity rules have contributed to this.
- Gambling may undermine certain community norms and some people may feel aggrieved simply by living in a gambling culture, just as others may feel better, but assessing these effects is difficult.
- Around 70 per cent of Australians (including a substantial majority of regular gamblers) consider that gambling does more harm than good to the community. Only 15 per cent feel it does more good than harm.

## 10.1 Introduction

Beyond the effects on gamblers and the gambling industry itself discussed in earlier chapters, gambling may also create broader community impacts. Questions which arise at this level include:

- apart from the crimes that problem gamblers commit, does gambling bring about greater criminal activity generally, or has the legalisation of gambling actually ‘crowded out’ organised crime syndicates?

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- how does the ‘gambling culture’ affect the feel, nature and cohesion of society? Is it neutral or even beneficial? Or does it, as some people assert, promote greed and idleness, undermine family values, and act to unravel the social fabric?
  - given that the gambling industry wins from liberalisation, do any industries lose and, if so, what should government do about this?
  - does gambling affect privileged and disadvantaged areas equally, or is the gambling industry, as some people suggest, ‘preying on the poor’? and
  - do communities in country Australia fare any differently to those in the cities?

In this chapter, the Commission explores each of these questions in turn.

## 10.2 Aspects of crime and gambling

Observers often warn that the gambling industry, and particularly casinos, attracts significant criminal activity. In its submission, an interdenominational Christian group called Salt Shakers noted:

Gambling is often associated with organised crime. Stories have already surfaced about the Melbourne Crown Casino being used to launder money. FBI Director William H. Webster said he “knew of no situation in which legalised gambling was in place where we did not eventually have organised crime.” Austin Guigan, chief states’ attorney of Connecticut, has said that in the USA “there is no major bookmaking operation ... which operates without organised crime” (sub. 170, p. 14).

While accepting that certain types of low level crime may occur in and around gambling establishments, several gambling businesses and industry groups argued in submissions that, these days, there is limited criminal involvement in gambling. Indeed, Star City said:

The infiltration of the casino industry by organised crime is now largely a thing of the past overseas and has never been a feature of the Australian industry. Even in Las Vegas which, in its early days was infiltrated by organised crime, [it] is now free of such influences. The myths persist, propagated by cinema and television, like the myths of the Wild West and [the] Australian bush, but the reality has been different for several decades (sub. 33, p. 24).

So, real world crime cauldron or Hollywood hoax — what does the evidence show? In this section, the Commission explores the issues at four levels:

- petty crime in gambling venues themselves;
- ‘street crime’ in the vicinity of those venues;
- money laundering through casinos and other venues; and
- control of gambling venues by organised crime syndicates.

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## Offences committed in gambling venues

People have been caught committing a range of petty offences inside casinos and gambling venues.

Some patrons seek to cheat at table games. For example, they lay bets at roulette tables after the ball has stopped spinning, or move their wagers from one position to another after the game has finished. Some patrons attempt to claim false jackpots. And in more sophisticated (and rarer) cases, groups have been caught filming cards being played by a croupier and, using remote radio communications, telling a player at the table what bet to make!

According to Victoria's State Coordinating Magistrate, Jelena Popovic:

Persons who have been charged with cheating offences at Crown Casino probably make up the bulk of gambling related offenders at Melbourne Magistrate's Court (1998, p.7).

As well, various forms of petty theft may be committed against patrons in gambling establishments, such as:

- stealing chips;
- thieving from unattended bags;
- pickpocketing; and
- stealing items such as handbags and wallets.

There are some obvious reasons why patrons in casinos — and other gaming establishments — might be targets for these types of petty theft. First, gambling venues often draw large crowds of people, most of whom can be expected to have a reasonable amount of cash or chips among their possessions. Second, many patrons consume alcohol whilst gambling, and/or may be mentally 'absorbed' by the game they are playing. They may thus appear to be easier prey for a petty thief. Finally, the focus of activity in a gaming establishment is on obtaining money. People who could be tempted to steal may be more likely to do so in such an atmosphere.

On the other hand, potential thieves also face clear disincentives to commit crime inside casinos, either against other patrons or against the house itself. Casinos have strong security and player monitoring systems, and a police unit is located inside some Australian casinos, which may act as an additional deterrent against petty crime. As Star City Casino pointed out:

There is no evidence to suggest that the crime rate is higher [inside casinos] than comparable gaming and non-gaming facilities. Nor is there any reason why crime rates should be higher in this industry. Certainly, a casino is the worst place from the viewpoint of the perpetrator to do such things given the presence of 1000 surveillance



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cameras and 133 security officers. For this reason the detection rate and thus the apparent crime rate may be higher than for less well supervised locations (sub. 33, p. 23).

Further, in a study of crimes related to the Treasury Casino following its opening in Brisbane in 1994, McMillen and Rolfe (1997) noted that ‘the security system inside the casino is such that the Casino Crime Squad enjoys a higher than average clear-up rate against reported offences’.

Some participants at a Roundtable on Gambling and Crime — hosted for the Commission by the Australian Institute of Criminology (‘the Roundtable’) — said that ‘spotting’ for ‘loan sharking’ often occurs within casinos. Loan sharking refers to the practice of luring or pressuring people with high debts to take out high interest loans. While loans are not (normally<sup>1</sup>) arranged inside casinos, people potentially in need of loans are ‘spotted’ on the premises and put in touch with lenders. One participant suggested that such behaviour is ‘prolific’, at least in Victoria, and another confirmed that patrons at Crown Casino had been approached to take out a loan, although the loan was represented as a house or car loan rather than a loan to finance gambling.

Overall, while some petty crime (and spotting for loan sharking) certainly does occur inside gambling venues, the Commission can not identify any evidence or clear-cut reason to conclude that the crime rate inside them is any higher than that for other venues that draw similar numbers of people. Nor does the Commission have reason to believe that what petty crime there is represents a cost to society that is not already adequately dealt with through existing deterrents and sanctions.

### **‘Street crime’ in the vicinity of gambling venues**

A more common concern expressed about casinos is that they bring about an increase in crime *beyond* the walls of the establishments themselves. This concern relates not just to petty theft. It is also about other forms of ‘street crime’, such as break and enter, burglary offences, (illegal) prostitution and assault.

Several early studies of the effects of introducing casinos in the United States appeared to give credence to this concern. These studies commonly found that, after one or more casinos started in a particular area, the level of street crime in that area

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<sup>1</sup> At the Commission’s public hearings in Melbourne, the Australian Vietnamese Women’s Welfare Association said that it was aware of incidents at Crown Casino in which patrons had been approached and given loans within the casino itself, often after the patron had just suffered significant losses (trans., p. 563).

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went up. Some also found that crime increased in neighbouring areas, although the further the distance from the casino(s), the smaller was the increase in crime. Several case-studies have been made of the effects of large-scale casino development in Atlantic City, following the legalisation of gambling there in 1976. A number have reported that the city's per capita crime rate increased by more than the state average (Miller and Schwartz 1998). Indeed, one study noted that, in the twenty years after 1976, the city had to triple its police budget, while the local population actually decreased by 20 per cent!

However, Miller and Schwartz (1998, p. 134) have pointed out that many studies conducted on gambling and crime fail to consider the effect that casinos have on drawing people into an area:

Studies have found a relationship between casino gambling and street crime, but then again, most of these studies do not take into account that large numbers of tourists and gamblers are temporality in town, presumably increasing both the opportunities to commit crime and to be victimised by it.

In the case of Atlantic City, for example, there are apparently around 30 million tourist visits each year. When the level of crime is judged against the number of people actually in the area, rather than against the number of permanent residents living in the area, the crime rate has not increased.

Similarly, Margolis and Gray (1997) — in a paper commissioned by the American Gaming Association — argued that a number of key empirical studies had failed to document any causal link between gaming and crime. They also pointed out that crime rates had actually fallen in many areas where casinos had been established.

In concluding their review of the literature, Miller and Schwartz (1998, p. 135) stated:

We have not found here any compelling evidence to suggest that there is something unique about casinos that causes an increase in crime in the surrounding area. Of course, with increased people traffic, it is entirely likely that the raw number of crimes will go up. With tourists walking around with large amounts of money and expensive equipment, often vulnerable because of alcohol and their behaviour, it should not be surprising that more crimes will be committed. Most important of all, if large numbers of new hotel and motel rooms are built, particularly if little security is provided and it becomes known that people are leaving valuables (jewellery, cameras, winnings) in these rooms, then an increase in burglary should not be unexpected. None of these arguments, however, is different from those for resort areas and tourist attractions.

Indeed, Stitt, Giacopassi and Nichols (1999) — in a recent paper supported by the US Department of Justice — failed to find evidence that casinos increase crime rates when tourist numbers are taken into account. These authors looked at 'before and after' crime rates for seven US jurisdictions in which casinos have been

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established. While crime rates increased in some of these, they fell in others, with no clear pattern overall. The authors speculated that local factors may be important determinants of whether crime rates increase or fall in an area following the establishment of a casino.

Overall, it is difficult to conclude from the US experience that casinos necessarily lift per capita crime rates, even if crime in the area surrounding a casino does increase.

In the Australian context, as noted earlier, McMillen and Rolfe (1997) have undertaken a study of casino-related crimes in respect of Brisbane's Treasury Casino. The study sought to:

- identify crime incidents within the vicinity of the casino;
- look at regional incidents which could be linked to the casino; and
- compare crime incidents before and after the opening of the casino.

McMillen and Rolfe found that crime in the immediate vicinity of the casino had varied little following the casino's launch in April 1995. The casino works closely with police, and a police precinct has been established within the casino (paid for partly by the casino). Overall, however, crime has not necessarily diminished — just shifted. There was less of a physical police presence in other city areas, and assaults around nightclubs increased over the study period. As well, a development associated with the Brisbane casino has been the growth in pawnbrokers and second-hand dealers in the immediate vicinity of the casino. The authors point out that this, of itself, does not necessarily mean that crime associated with casino patrons has increased. However, it does facilitate more of certain types of crimes, such as shoplifting, by providing more outlets through which petty thieves can dispose of stolen property.

Participants at the Roundtable noted similar trends in some other Australian cities. Policing in and near Sydney's casino has caused crime to shift to other parts of the city. It was observed that, in Sydney, statistically you are least safe if you are a young male, within 500 metres of a hotel, between 1am and 3am — the casino and its precincts are relatively safe. Likewise, a Melbourne Safe City Survey had found that the casino precinct was the second safest area of the city — safer than trams and cinemas, for example.

In summary, the Commission has found no evidence that casinos in Australia bring about more per capita street crime, nor even that crime rates increase in the immediate vicinity of casinos. Indeed, the opposite appears possible.

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This is not to imply that crime does not happen as a result of people gambling. Clearly, where people incur debts they otherwise wouldn't, there is an increased risk that those people will be lured into committing criminal acts. This matter arises most obviously in the case of problem gamblers, and is addressed in chapter 7.

But the absence of substantive evidence does imply that there are unlikely to be major social costs, and may well be no social costs, associated with street crime *attributable specifically to (legal) gambling venues*.

## Money laundering

Graycar and Grabosky (1996, p. viii) define 'money laundering' as:

... the process by which the proceeds of crime ('dirty money') are put through a series of transactions which disguise their illicit origins, and make them appear to have come from a legitimate source ('clean money').

Participants at the Roundtable mentioned that it is more difficult to launder money in Australia than in many other countries because there is a more tightly controlled regulatory framework.

A key element of that framework is the Australian Transaction Reports and Analysis Centre (AUSTRAC). It was established under section 35 of the *Financial Transaction Reports Act 1988* (FTR Act), as part of the Commonwealth Government's response to money laundering, organised crime and serious tax evasion. As AUSTRAC noted (sub. 43), part of its role is to:

- collect financial transaction reports information from the financial sector and some sections of the gambling industry (casinos, totalisator agency boards and bookmakers); and
- disseminate this information to law enforcement and revenue agencies — such information provides a money trail, crucial for identifying the financial dealings of money launderers and tax evaders.

In its view, the FTR Act and other regulatory mechanisms serve to minimise the opportunities for Australia's gambling industries to be used to facilitate money laundering and serious tax evasion.

Under the FTR Act, casinos, totalisator agency boards and bookmakers are classed as cash dealers, and are thereby required to (sub. 43, p. 2):

- report significant cash transactions (of \$10 000 or more), 'suspicious' transactions, and international funds transfer instructions;

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- verify the identity of signatories to any accounts which may be opened and operated with them; and
  - provide a suspect transaction report to AUSTRAC if the dealer suspects it is being used to facilitate money laundering or tax evasion.

The decision to include casinos as cash dealers under the FTR Act in 1988 arose from concerns over the threat posed by organised crime. A report by the Senate Standing Committee on Legal and Constitutional Affairs (1993) recorded that:

Casinos pose a particular risk in this area [of organised crime] because of the international nature of their operations and of the banking system through which they function.

But the same report concluded that obvious ways of laundering money through casinos had been eliminated, largely due to the FTR Act.

Indeed, whether the spending of ‘ill-gotten’ money by criminals at casinos or other venues is strictly ‘laundering’ is debatable. As one participant at the Roundtable explained:

Laundering is the conversion of money from crime, not the spending of money from crime. What about people that are spending money from crime because they like gambling? — this isn’t laundering.

On the same point, AUSTRAC commented that:

There is ... evidence to indicate that criminals sometimes use their illicit funds in a ‘recreational’ sense during the course of gambling sprees at casinos. This would not generally be seen as a vulnerability of casinos in terms of the potential for money laundering. However, it may constitute a money laundering offence in terms of the Proceeds of Crime Act or corresponding State or Territory legislation (sub. 43, p. 5).

And Star City Casino pointed out that:

Successive studies, including one by AUSTRAC, have demonstrated that money laundering and tax evasion through a casino is ineffective and therefore very limited. The casino accounting and payment systems are transparent and do not allow for the translation of large sums of money into a different, unrecognisable form (sub. 33, p. 24).

Nevertheless, participants at the Roundtable offered a range of opinions on the importance of money laundering in the gambling industry:

I’m convinced that cash in hand businesses launder money through clubs and casinos to avoid taxation.

I believe there is a substantial amount of money laundering but it’s from overseas. There are problems with people ... [from] South East Asia, Russia. There is also anecdotal evidence of drug dealers laundering money.

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Betting turnover for greyhounds and trotting races doesn't indicate money laundering. Gallops still have a large turnover but there is no evidence that money laundering is prevalent.

People laundering money through the casino could be of some concern. Casinos don't want to shut off clients that are good for business... It is difficult to tell the level of laundering and how they are doing it. The concern is that they can avoid AUSTRAC by playing at different tables. We are concerned about junkets and money laundering. Junket operators deposit money in casino safety boxes, but there is no record of where the money withdrawn is going — on gambling or into other areas.

Our position is different... Chips outstanding are at low levels. The casino gives you a cheque for winning, the capacity to launder at a casino is impossible. Money is recorded overseas and it's difficult to see how junkets are laundering money.

The Commission is unable to reach any definitive conclusion on the extent of money laundering in the gambling industry. Different parts of the gambling industry appear to proffer different scope for laundering, and hard evidence of the extent of actual laundering activities is thin.

Nevertheless, from the evidence before it, the Commission is of the view that money laundering in the gambling industry in Australia is unlikely to be a major cost to society.

## **Control by organised crime**

As noted earlier, there are long held concerns that organised crime syndicates exert significant influence or control over segments of the gambling industry.

### *Horse racing and casinos*

ACIL, in its submission for major gambling providers (sub. 155), pointed out that, traditionally, concerns about organised crime involvement in gambling in Australia have focussed on race-betting and illegal gaming. It also noted that substantial government controls had been introduced to counter these problems:

There appears to be a widespread view amongst Australians that in the US gambling has long been associated with crime. Often these impressions are underscored by some awareness of the pre-1950s escapades of Melbourne off-course tote operator Mr John Wren (popularised in Frank Hardy's famous novel *Power Without Glory*, the subsequent defamation trial and the recent ABC TV series) and intense media interest in the findings of various committees of inquiry into corruption over the last few decades. In any case, there seems to be an enduring image of corruption associated with the history [of] betting and racing, and this is one of the reasons for the controls in place today ... (sub. 155, p. 108).

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The clamp-down on off-course SP bookmakers and the emergence of state-run single totalisator businesses are two of the most obvious control actions governments have taken. Less well appreciated but equally potent have been the longer standing laws granting the Principal Race Clubs (and their trotting and greyhound equivalents) the sole rights to run race meetings where gambling is allowed. The limitations on poker machine numbers and the types of venues that may have them has been another key control (sub. 155, p. 112).

ACIL continued by pointing out that, ironically:

The worst crime in recent years has been associated with the unlawful administration and policing of gambling restrictions (sub. 155, p. 112).

Participants at the Roundtable observed that illegal gambling had declined recently:

In NSW, there are no longer any illegal casinos. It is believed that there are some SP bookmakers operating but they cannot be specifically named.

In South Australia, the TAB cut out a lot of SP bookmakers but it is naïve to say that they no longer exist. We are aware of a couple ... They exist because of better odds, no tax records, and there's money in it. Now it is more organised. The TAB has taken away the bottom end of the market.

In relation to the casino segment of the gambling industry, Star City Casino argued:

The infiltration of the casino industry by organised crime is now largely a thing of the past overseas and has never been a feature of the Australian industry...

The reasons for this are:

- Most casinos are now public companies and subject to all the checks and balances of the securities agencies, shareholders and the media.
- The regulatory controls on operations and on the probity of directors, managers, employees, associates and suppliers and the existence of a very large body of regulators makes this one of the most heavily supervised businesses in the private sector (sub. 33, p. 24).

In fact, to the extent that the operation of legal gambling helps to drive out illegal operations, it is plausible that legalisation has reduced the influence of organised crime.

The Commission has examined evidence of the extent of illegal gambling in Australia prior to, and since, the imposition of stricter controls and the liberalisation of legal gambling, in appendix O. Not surprisingly, hard data on illegal gambling is sparse, and any estimates must be treated with caution.

Based on available estimates, the Commission calculates that, at its peak in 1982-83, spending on SP bookmaking in New South Wales was around \$350 million, and around \$800 million Australia-wide (in 1997-98 prices). This compares to around

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\$100 million in New South Wales by 1994-95. For illegal casinos in New South Wales, the Commission calculates that annual expenditure was around \$125 million in the mid 1970s (in 1997-98 prices), and would be much less, and possibly approaching zero, today. These declines in turn imply less scope for control by organised crime.

Based on available evidence, the Commission believes that the introduction of TAB and legal casino gaming would have displaced some level of illegal activity, but other factors were also at work and the evidence is ambiguous.

And at the same time, an apparent response to the liberalisation of legal gambling, and the police crackdowns on the illegal sector associated with it, has been greater penetration by organised crime in the remaining level of illegal gambling activity (appendix O).

### *Other gambling modes*

Roundtable participants expressed more concern about the potential for organised crime penetration in clubs and pubs with gaming facilities than in casinos:

Those that control the cash flow should go through some sort of clearance, as they do in Victoria. In NSW, regulation is fragmented and needs reform. There is no auditing, and there are possibilities for skimming ... Earnings should be properly reported.

It was also noted that, as more venues with liquor licenses also establish gaming facilities, the opportunities for money laundering and criminal activities increase. The Commission is aware of concerns about the ownership of some venues; for example, hotels. One participant said that there needs to be ‘firewalls’ to stop people with criminal backgrounds gaining gaming licenses.

There was little concern in relation to lotteries, and a number of submissions from lottery organisations, normally government bodies, pointed to their strict controls and vetting procedures.

The Commission received very little information about the informal gambling sector — such as that which takes place in some ethnic communities around games such as mah-jongg, or informal betting in pubs and clubs — and so has no appreciation of any criminal activity that may or may not surround this sector.

### *Conclusion*

From the evidence before it, the Commission is again unable to reach a definitive conclusion on the extent of organised crime in the gambling industry. The



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unlicensed part of the industry would appear to proffer most scope for organised crime involvement. However, this is the case for the unlicensed segments of any industry. In this case, it appears that the extent of illegal gambling operations has declined over recent years, at least partly because of the growth in legal gambling opportunities. Other parts of the gambling industry may also proffer some scope for organised crime involvement, although the scope appears to vary from segment to segment, and hard evidence of illicit activities is again thin.

In terms of the legalised section of the industry itself, however, in the absence of substantive evidence to the contrary, the Commission's assessment is that liberalisation at the very least has not added markedly to problems of control and influence by organised crime.

Australia's strict probity rules are a key reason for this and, as discussed in chapter 16, the Commission considers that these rules need to be maintained and possibly widened in application.

### **10.3 Impacts on the 'nature' and 'feel' of community life**

A further issue is the extent to which gambling changes the 'nature' or 'feel' of life in the community and, to the extent that it does, whether these changes generate social costs or benefits.

Several submissions argued that gambling does have such effects, primarily of the negative type. Gambling was said to have changed the nature of entertainment and recreation for the worse, and to have undermined norms of ethical behaviour that are vital for the functioning and wellbeing of our society — in effect, gambling was seen as unravelling the social fabric. Salt Shakers went as far as to assert:

Gambling offers nothing constructive in our society. It is psychologically addictive, socially corrupting, economically fruitless, politically irresponsible, intellectually irrational and morally bankrupt (sub. 170, p. 4).

However, other participants presented gambling as being essentially just another product, and that its expansion has been driven by the demands of the people themselves, through their role as consumers. For example, in a submission for Tattersall's, Access Economics said:

There is a general acceptance of gambling in Australia, and strong consumer demand. By meeting that demand, Tattersall's and other gambling providers are contributing to the consumer wellbeing of Australians (sub. 156, p. i).

Some of these participants suggested that many of the 'moral criticisms' of gambling simply reflect paternalism or social engineering on the part of the critic,

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and have no relevance for the economic analysis of gambling (and should have no relevance for government policy). Indeed, according to ACIL:

Many organisations, and not just the churches, include a kind of ‘evangelical’ purpose amongst their objectives, and with regard to gambling as with other things, advice is always being offered by well-meaning people about how others should behave ... There are some who feel their own powers of persuasion should be backed by the coercive powers of the state. This is where zealots and ordinary Australians are likely to part company (sub. 155, pp. 83-4).

On the other hand, the Interchurch Gambling Task Force argued that it is the gambling industry itself, through its expansion, promotion and relationships with government, that is guilty of social engineering:

There’s a very strong argument that the industry itself is trying to socially engineer the culture of our community to divert and attract young people and others to gambling ... The churches have said quite clearly that, in terms of gambling, gambling is part of Australian life. But what we need to do in a sophisticated, mature society is to ensure that addiction — to alcohol, gambling, all these sorts of things — doesn’t become a destructive element so much that the very nature of our community fabric disintegrates (transcript, p. 383).

In this section, the Commission explores these issues under the following headings:

- services provided by community clubs;
- changes in the nature and provision of entertainment;
- changes in behavioural norms and social ethics; and
- psychological costs of living in a society that ‘condones’ gambling.

### **Services provided by community clubs**

The gambling industries, particularly the community club sector, point to a wide range of benefits that they provide to local communities — benefits that are heavily dependant on the level of gaming revenues they derive from their patrons.

Participants from community clubs argued that they contribute significantly to the local region. As well as those in country towns, clubs are typically located in the outer suburbs of the major cities, and provide a range of services that are often poorly provided outside the city centre. In its submission, the Council of Community Clubs of Australia and New Zealand said:

More than nine million people from all walks of life are estimated to belong to the 5,600 plus Australian registered and licensed clubs.

To the individual patron, who may or may not participate in gaming activities, clubs offer a low cost, safe, controlled environment, providing facilities and support in

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keeping with the club's objectives. To the larger community, the existence and continued good fortune of clubs means that provision of financial and in kind support often not readily available from alternative sources within the community, or at a regional or state level. Not only do clubs recycle their gaming surpluses into the community, but also they do so with a clear non-profit focus, responding to specific needs at a local level in a highly efficient and cost effective manner (sub. 63, p. 3).

In a submission to the Commission's draft report hearings, the Penrith City Council highlighted the role of clubs within its community:

There are approximately 30 registered clubs in Penrith. These clubs offer a diverse range of facilities and services from sporting and recreational pursuits such as golf and bowling clubs to clubs that have an entertainment/leisure focus. Registered clubs are an important part of the history and culture of Penrith as they fulfil many of the community service obligations that Council or other service providers are unable to deliver (sub. D244, pp. 1-2).

Clubs receive concessional tax treatment in almost all jurisdictions in recognition of the services provided, and their locally-owned non-profit status.

Clubs Victoria, formerly the Licensed Clubs Association of Victoria, commented on the importance of gambling in the provision of these services and facilities by local clubs:

Gaming revenue returns are essential to create, promote and subsidise the necessary facilities, services and welfare activities (sub. 90, p.6).

Similarly, Clubs Queensland indicated that more than 650 out of the 1100 clubs in Queensland have gaming machines, and that:

These Clubs now rely, to some extent, on the revenue from gaming machines to fund other operations and community service activities. Accordingly, licensed Clubs represent a component of the wider gambling industry, although they should not be considered in the same context as other sectors of the gambling industry, due to the community ownership of Clubs (sub. D273, p. 2).

The Commission accepts that the growth of gambling has enabled community clubs, at least in some jurisdictions, to increase significantly the quality and range of the facilities and services they provide. Indeed, the extra funds diverted to community service projects can be considered a social benefit of gambling, and the Commission has included it in its estimates of the benefits of gambling (chapter 5).

Further, it is interesting to note some differences in the focus of concerns about gambling in states like Victoria, where local (gaming machine) gambling is provided by a private duopoly (Tabcorp and Tattersall's), and New South Wales where local gambling is dominated by the community clubs. In Victoria, concern is

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## Box 10.2 The role of community clubs

The Club Managers' Association Australia and the Leagues Club Association of New South Wales (sub. 41, p. 4) said:

Clubs provide social, cultural and recreational facilities to millions of Australians, as well as extensive support to community and welfare groups.

Over 65,000 people are employed in clubs in New South Wales alone. Club employment is not confined to metropolitan areas. Clubs provide employment in regional centres and small country towns.

While banks and government agencies have withdrawn services from rural communities, clubs have continued to expand and refurbish facilities and provide services that are being lost to the local community.

Gaming is a vital component of the operations of most licensed and registered clubs in New South Wales, Victoria, Queensland, South Australia and the ACT.

It is estimated that in 1997 registered clubs in New South Wales provided \$155.1 million in community support. Clubs also invested \$280 million in non-gaming related buildings, facilities and equipment (sub. 41, p. 4).

The concessional taxation treatment and gaming privileges conferred on clubs in some states recognises the important contribution clubs make to members, local communities and regional development (sub. 41, p. 14).

The Associations (p. 14) also said:

In many municipalities clubs relieve the financial pressures on councils to provide social, sporting and cultural infrastructure. This contribution is particularly valuable in provincial towns, regional centres and the rapidly growing urban fringes of sprawling Australian cities.

Of the 1,500 registered clubs in New South Wales, 860 or 57% are located in rural areas. Registered clubs often play a very significant role in rural communities because there are fewer recreational services available.

The Associations also see clubs as providing a broader range of benefits to the local community (p. 14):

In every State Emergency Services Evacuation Plan in NSW registered clubs play a prominent role. In the recent Wollongong flood crisis, clubs in the Illawarra and southern Sydney provided shelter to thousands of evacuated residents and stranded commuters.

regularly expressed about the extent to which gambling expenditure results in money going out of the local community in the form of private profits and high State taxes. For example, Clubs Victoria (sub. 90) criticised arrangements for providing gaming machines in Victoria that 'directed wealth away from the community clubs.' In New South Wales, where the clubs retain most of the gaming revenue, and where they receive concessional tax treatment, concerns about money going out of the region are less prominent. Certainly, in New South Wales, local expenditure of gambling revenues is quite visible in the form of the growing size and improved facilities of the local clubs.

However, from a public policy perspective, the key question that arises is whether it is efficient for governments to ensure provision of these services by encouraging gambling (or providing clubs with a tax concession), rather than by directly funding them. In theory, governments should have a more comprehensive view of the needs of the wider community, and are subject to public scrutiny and review through the democratic process. Against that, some participants expressed scepticism about the reliability of government as an alternative provider of community facilities. These matters are taken up further in chapter 20.

Community attitudes to clubs are typically positive. For example, in a 1998 survey in Queensland of attitudes to the club industry, most respondents responded favourably to a range of questions on the role of clubs (table 10.1).

On *gambling* in clubs, however, the attitude was more ambivalent. While a majority considered that clubs were responsible in their provision of gaming facilities, a majority also considered that the clubs rely too heavily on gambling. This view was stronger among respondents who were members of clubs than among those who were not (CMP Marketing Services 1998, p. 52).

**Table 10.1 Community attitude to clubs: Queensland, 1998**  
per cent

(n=1713)	<i>Strongly agree</i>	<i>Partly agree</i>	<i>Neither</i>	<i>Partly disagree</i>	<i>Strongly disagree</i>	<i>Unsure</i>
The Club Industry is vital for funding and provision of local sport	51	31	1	5	3	8
The growth in the number of Clubs since 1993 in Queensland has been bad for local communities	8	14	3	23	33	18
Generally Clubs care about their local communities	45	31	2	6	7	9
The Club Industry is responsible in their provision of gaming facilities to the community	29	28	2	11	17	14
Clubs have a tax advantage over other hospitality providers such as hotels and restaurants	19	12	1	4	5	59
Clubs provide vital employment and tourism opportunities in local communities	54	33	1	4	3	5
Clubs provide a safe environment for socialising and entertainment	60	26	2	4	4	5
Clubs rely too heavily on gambling	42	25	3	11	11	9
The Club Industry is vital for funding of community bodies such as hospitals, aged care, schools and welfare organisations	20	24	2	11	14	28

Source: CMP Marketing Services (1998) p. 73.

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## Changes in the nature, provision and utilisation of entertainment facilities and leisure activities

Some participants expressed concern about the changing nature of entertainment venues, such as hotels and clubs, or of the difficulties of providing 'healthier' community leisure activities in competition with gaming venues.

The large scale placement of gaming machines in venues can change the 'feel' or 'atmosphere' of a venue itself, by:

- visually crowding or, to some eyes, 'polluting' the venue;
- reducing space for other forms of entertainment in the venue, such as pool tables, dance floors or stages for bands;
- providing a different background noise or hum; and
- reducing the amount of chatter and interaction between patrons, as people will often be playing gaming machines solo rather than 'leaning against the bar'.

Greater expenditure within venues of gaming machines can also 'crowd out' other forms of entertainment that might be provided. For example, the Jazz Co-ordination Association (JCA) of NSW reported on how the spread of gambling opportunities had adversely impacted on the live music scene. The JCA recently instigated an industry wide survey through the NSW Musicians' Union, to assess trends in live music employment opportunities. It found that:

... the biggest single factor nominated in loss of employment was the installation of gambling facilities [in Sydney's pubs] ... The question which asked if the musician was aware of bands replaced by poker machines brought an affirmative answer from around 33 respondents [31 per cent]. Is it part of the image Sydney wishes to project that its only pub recreation is gambling? Local music is a vibrant presence in the world's great cities. On present trends, Sydney will soon have none (sub. 159, pp. 7-9).

Further, by soaking up patrons' leisure time and discretionary cash, gambling can lessen the demand for other community activities, with possible implications for the nature and feel of community life. As Moreland City Council stated:

We would have a very vibrant lively community and we [in the Council] feel thwarted by the fact that we go to enormous efforts to provide all sorts of other things for people to do and value social capital, community participation, to address social isolation, and we have these [gaming] venues that seem to bring in the opposite result from the sort of values that we're trying to create in building social capital.

I think on a number of levels, [gambling] is misleading in terms of what gain you would get from it in terms of social connectiveness, that while there are other people around you, it's actually a very solitary kind of activity and there are other beneficial ways of connecting into our community other than going to one of those venues.

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We do the best that we can to promote our services, to identify the services and create them and so forth, but when you look at the concentration [of gaming venues in the area]... there's a heck of a competition there for people's attention and I think it takes more to get people involved in some kinds of other leisure activities than to simply walk into a hotel that's down the street. So there is a sort of mismatch between what you can get people involved in (transcript, 1293).

Clearly, to the extent that the nature of entertainment venues change, those who preferred the venues in previous form, including the type of entertainment they provided, will be worse off. This is no doubt the reason that some venues have decided not to introduce gaming machines, as certain clubs in Port Augusta have done (box 10.9 in section 10.5).

Likewise, people who would otherwise be able to enjoy the services provided by alternative leisure or entertainment facilities, and enjoy the camaraderie involved, will be disadvantaged to the extent that the growth of gambling diverts potential patrons away from other facilities and activities, and thus renders them less viable or attractive.

On the other hand, many of those who prefer the new facilities or the new activity of gaming will be better off.

Further, it should be recognised that many people may decidedly appreciate the ease of accessing gaming machines — which require 'simply [a] walk into a hotel that's down the street', as Mooreland Council put it — and some may simply not want to participate in 'community' activities. Indeed, Clubs Victoria indicated that one of the attractions of gaming for some people is that it actually is 'simple, unstimulating and non-interactive' (transcript, p. 1309).

In any case, there is evidence that the placement of gaming machines in certain venues has enticed a wider range of people, including otherwise housebound people, to travel to, utilise and enjoy the facilities and the particular type of social interaction they allow. In the various surveys of both metropolitan and regional consumers in Victoria conducted for the VCGA, people were asked what they saw as the benefits provided by local gambling facilities. According to the study on the *Impact of Gaming Venues on Inner City Municipalities*:

... EGM venues have almost achieved the status of community centres - pleasant places to go to meet and socialise with friends for reasons that have little or nothing to do with EGM usage or where EGM usage is a minor feature of the range of reasons the venue is used. It is also apparent that the comfort and ambience of such venues is very attractive and that good food, in particular, is an incentive.

The *impression* is that it [EGM usage] is largely a new audience, that it is a previous 'stay at home' audience is now a 'going out' group. This appears to be especially so in the case of the unemployed, women, the newly retired and elderly, NESB migrants and

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the disabled for whom there are very few non gambling based community social and cultural alternatives and for whom community centre services have been reduced in recent years (MIAESR, DHSA and NIEIR 1997, p. 168).

And in a study of women with gambling problems, Brown and Coventry (1997, p. 70) reported the attractiveness of the venues as:

... an escape from reality to a place where they could feel safe and ‘belong’. Attention given by friendly staff and gaming venue managers can alleviate feelings of loneliness and isolation; staff smile and appear to go out of their way to pay attention to patrons. ... it is significant that the venues were perceived as pleasant environments in which women could, in turn, be supported or served by gaming venue staff.

How should the benefits for those who prefer the new, post-liberalisation style of venues and range of activities be weighed against the costs for those who preferred the style and range that previously existed?

Normally, shifts in the nature of products and activities available to the community, in response to changing consumer demand, relaxed government regulation or new innovations, are not seen as detrimental. Rather, they reflect a re-organisation of market activities to best meet the overall pattern or range of consumers’ preferences. This does not imply that everyone’s preferences will be perfectly catered for. What it does point to, however, is that such changes are likely to increase the fulfilment of people’s preferences *in aggregate*. As Access Economics, in a submission for Tattersall’s, said:

The vast majority of Australians have enjoyed gambling in moderation for decades. To the extent that they have increased their participation in some forms of gambling in recent years, this mainly represents the free exercise of consumer choice in response to changing product availability and innovation in the gambling market (sub. 156, p. i).

And the Australian Hotels and Hospitality Association added:

... this new product [gaming] represents a new and popular form of entertainment. Just as television did before it, and electronic games, and credit cards, and the internet, they all effected cultural change (sub. 154, attachment 3, p. 8).

So, while recognising that some people will lose out from the process of ‘structural adjustment’ within the entertainment and recreation sphere, the Commission does not see this in itself as embodying a net social cost.

### **Changes in behavioural norms, social ethics and personal preferences**

Another concern is that the expansion of gambling has changed, and is continuing to change, the behavioural norms and social ethics of society that influence and underpin people’s broader behaviour.



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Several submissions suggested that gambling can, among other things, undermine the work ethic, family values, healthy lifestyles, altruism, volunteerism and trust. For example, the Lutheran Church of Australia said:

Gambling encourages greed in people which results in a hard-hearted spirit and lack of concern for other people. Gambling connects greed, self-focus and lack of concerns for others — that is its nature (sub. 85, p. 1).

Salt Shakers added:

The promotion of gambling as a way of increasing one's wealth without effort is detrimental to the value system of our nation because it is based on greed at other people's expense (sub. 170, p. 2).

The Festival of Light (SA) referred to a concern that gambling “corrodes the initiative, inventiveness, diligence and thrift that are requisite for economic success in a free society” (sub D213, p. 4):

Likewise, the Interchurch Gambling Task Force stated:

... gambling corrodes social capital. It actually runs down civil society. It actually spends a lot of the trust, the values that say hard work and saving is preferable to a quick return on the pokies or on the roulette wheel or at the lottery. Whilst those pleasures are entirely acceptable and we're not trying to prohibit them, they also have cultural effects. They actually have an impact on society (transcript, p. 1645).

And according to the National Council of Women of Victoria:

Adolescents and their younger siblings are receiving sad messages from the modeling of many parents — that chasing that win is more important than the school or birthday outing; that time sitting in front of a machine and feeding it coins and notes by the hour is more important than spending time as a family at home or going out for a walk or to kick a ball; and that its OK to lie about where you have been and where you got the money from (sub. 140, pp. 6-7).

From an economic viewpoint, behavioural norms and social ethics are of interest as they feed into people's preferences and, ultimately, have an impact on their actual behaviour. For example, societies in which people have a strong work ethic are likely to produce more than societies that do not. And there is likely to be more violence in societies in which violence is an accepted way of settling disputes and grievances than in those in which it is not ethically condoned. Obviously, a strong work ethic might be seen a leading to a 'good' outcome, at least up to some point, whereas a norm of violence might be seen as leading to a 'bad' outcome.

To what extent should the way that activities, such as gambling, affect people's norms and ethics be the subject of policy action by governments?

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If governments could put appropriate controls in place to deal with any and all socially deleterious behaviour, such as violence, there would be no need for them to interfere with people's norms and ethics.<sup>2</sup>

In practice though, it is not possible to perfectly regulate people's activities and actions. For example, it is costly to detect and penalise all perpetrators of violence, and current sanctions do not deter all violence, so much violence continues.

This implies that there may be a case from the viewpoint of economics (broadly understood) for governments to influence people's norms and ethics, or at least to remove or curtail influences that distort them, to avoid bad social outcomes. For example, it is likely to be more efficient to inculcate non-violent attitudes in children, than to incarcerate them for crimes of violence when they are older.

This in turn implies that such matters potentially should be incorporated into policy advice provided to governments.

However, there is little agreement as to which norms or ethics are beneficial and which are not, and how beneficial or deleterious they might be. Most people would probably agree that a norm of violence was unlikely to be constructive for a society. But not everyone would agree that either 'family values' or 'the work ethic' — however they might be defined — are meaningful or appropriate norms or ethics for life in the next century. Likewise, some people might see trust in government and social institutions as a good thing *per se*; others might suggest that it is better that people form *accurate* perceptions about the level of trust those institutions warrant, rather than placing unwarranted (high) trust in them.

Further, it is difficult to determine the extent to which gambling may lead to an erosion in particular (good) norms or ethics and, in turn, the impact that erosion would have on community wellbeing.

There has been some research overseas on the effects of changes in norms, ethics and preferences on social outcomes. For example, Titmus (1971) analysed the effect of crowding out altruism with self-interest in the case of blood donations in the United States compared with Britain, and Putnam (1993) has examined the effects of different civic-traditions on various social and economic outcomes in Italy. Both these studies suggest that changes in people's norms, ethics and preferences can have substantive effects. Further, a survey of 100 charities in Ireland found that, after the introduction of the Irish Lottery: '... in many instances, the public were

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<sup>2</sup> This is akin to the argument, in relation to environmental protection, that if perfect 'end-of-pipe' regulation and controls could be put in place to ensure that no undue pollution occurs, there would be no need for 'upstream' regulation of businesses inputs or processes, such as mandating 'clean' production technologies

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more reluctant to donate, and desired some form of return for their donation such as a novelty trinket or item such as a pen.’ (Kiernan and Harvey 1993, cited in DFSAIA 1995, pp. 63-4).

What about gambling in Australia? At its initial public hearings in Melbourne, the Commission heard that the growth in gambling is undermining traditional arrangements for pooling funds within some ethnic communities, which is creating tensions and potentially leading to a breakdown in trust and community relations (Broadmeadows Care, transcript, p. 559). At the public hearings on the draft report, Moreland City Council (transcript, p. 1293) stated that gambling had displaced other community activities which could enhance what it termed ‘social connectedness’ (see above).

But while several participants asserted that gambling is having deleterious effects on norms, ethics and preferences, the Commission received little specific evidence on, for example, whether gambling had reduced the level of volunteerism in Australia, or how it has affected community norms. Further, the Commission is unaware of any comprehensive or robust study that looks broadly at the effects of gambling on norms, ethics or social cohesion.

This is not entirely surprising, as such concepts are quite nebulous and intangible, and attributing changes in them to one factor among many possible causes would be hazardous. This is not to say that these impacts are not real or do not matter, just that they are difficult to delineate and measure.

In the past, governments have restricted gambling largely because of community concerns about these types of effects. More recently, governments have faced competing incentives to restrict gambling, and these issues appear to have been given (relatively) less weight than they previously were. However, the pervasive community concerns about gambling do not appear to have diminished as liberalisation has progressed.

Overall, while the Commission recognises that gambling may indeed generate (potentially substantial) social costs through its effects on people’s norms, ethics and preferences, it is unable to determine just how significant or pervasive these impacts may be.

### **Psychological costs of living in a society that ‘condones’ gambling**

Related to the foregoing is that some people may feel bad just from living in a society that ‘condones’ gambling or, at least, from living in a society in which gambling is seen to be encouraged and expanding, even though they need not and do not engage in gambling themselves. For them, a gambling venue may be a sign

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of a degenerating society and may cause them feelings of regret, frustration or ‘disutility’. Glitzy gambling advertisements, and negative reporting of gambling and gambling-related problems in the media, may add to these feelings. Such feelings would not be unlike those feeling some people experience in relation to the existence of prostitution or, in a different way, poverty in our society. They are the converse of the pleasure or satisfaction some people gain just from knowing that a place like Kakadu exists and is protected, even though they may never visit it.

On the other hand, some people may gain psychological benefits from the presence of gambling. They may feel that it adds to their entertainment choices, even though they may not take up those choices. People with libertarian ideals may also feel better just knowing that gambling is not prohibited. And some participants suggested that, as a result of the promotion of gambling by governments in some states recently, people could gain an almost patriotic feeling by gambling (or the absence of one by not doing so).

To the extent that people feel good or bad about gambling’s presence and/or prevalence in society, the existence of gambling can be said to result in ‘external psychological benefits or costs’ on them. Because these impacts are ‘externalities’<sup>3</sup>, they are *potentially* relevant matters for government policy.

It is difficult to quantify the extent to which individuals incur these types of impacts from the existence of gambling, and how broadly they occur within the community. Surveys on public perceptions to gambling may provide an indication. however.

### *Public perceptions of gambling*

As part of the Commission’s *National Gambling Survey*, participants were asked whether they agreed or disagreed with the statement “gambling does more good than harm for the community”. The results are set out in tables 10.2 and 10.3.

Most people thought gambling harmful overall. Around 70 per cent disagreed (most disagreed ‘strongly’) with the statement, compared with only 15 per cent who the agreed (most only ‘slightly’). Not surprisingly, regular gamblers were less critical of the effects of gambling than non-regulars, who in turn were less critical than non-

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<sup>3</sup> These impacts are said to be ‘external’ because they are external to the parties that generates them — the gambling industry and its patrons. As discussed in chapter 4, external benefits and costs are relevant for the analysis of government policy as they cannot be adequately captured and dealt with through normal transactions among people and businesses in the market place. Psychological costs incurred by gamblers from their own gambling are not external costs.

**Table 10.2 Perceptions of the net benefits of gambling, by type of gambler<sup>a</sup>**  
per cent

	<i>Strongly agree</i>	<i>Slightly agree</i>	<i>Neither agree nor disagree</i>	<i>Slightly disagree</i>	<i>Strongly disagree</i>	<i>Don't Know/ Can't say</i>	<i>Total</i>
Regular	6.1	17.3	14.6	27.8	33.2	1.1	100.0
Non-regular	3.1	11.8	13.4	25.9	43.9	1.8	100.0
Non-gambler	5.1	5.6	4.4	14.0	68.7	2.3	100.0
Australians	3.8	11.2	11.9	23.9	47.4	1.8	100.0

<sup>a</sup> Based on the question: What do you think of the statement that overall, gambling does more good than harm for the community?

Source: PC National Gambling Survey.

gamblers. Nevertheless, even among regular gamblers, a significant majority disagreed that gambling does more good than harm for the community.

The responses across states were moderately consistent (refer to table 10.3). South Australia (85 per cent) recorded the highest proportion of respondents that disagreed with the statement, with 64 per cent of South Australians strongly disagreeing. More than 70 per cent of respondents in New South Wales, Victoria, Tasmania, the Australian Capital Territory and the Northern Territory also disagreed with the statement. People in Queensland and Western Australia disagreed to a slightly lesser extent, the lowest score being 64 per cent in Queensland. This represents a 20 per cent spread in the number of respondents that disagreed with the statement in different states, although this figure drops to around 12 per cent when the highest and lowest scores are excluded.

**Table 10.3 Perceptions of the net benefits of gambling, by state<sup>a</sup>**  
per cent

	<i>Strongly agree</i>	<i>Slightly agree</i>	<i>Neither agree nor disagree</i>	<i>Slightly disagree</i>	<i>Strongly disagree</i>	<i>Don't Know/ Can't say</i>	<i>Total</i>
NSW	3.4	10.5	12.5	21.6	50.8	1.2	100.0
VIC	3.0	12.5	10.3	27.5	44.4	2.2	100.0
QLD	6.2	13.2	14.8	24.4	39.4	2.0	100.0
SA	3.0	6.9	4.0	20.6	64.0	1.6	100.0
WA	4.0	11.3	14.9	22.6	44.8	2.5	100.0
TAS	2.8	8.3	8.9	28.3	49.6	2.2	100.0
NT	2.4	8.1	17.2	23.0	47.9	1.5	100.0
ACT	2.2	12.6	11.2	28.9	41.5	3.6	100.0
Australia	3.8	11.2	11.9	23.9	47.4	1.8	100.0

<sup>a</sup> Based on the question: What do you think of the statement that overall, gambling does more good than harm for the community?

Source: PC National Gambling Survey.

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New South Wales was in the middle of the group. This is surprising given that poker machines were introduced there in 1956, long before the other states. This tends to suggest that people have not become more accepting of gambling with lengthened exposure to it. On the other hand, gaming machines are also far more pervasive in New South Wales than in other states, potentially confounding this conclusion.

The results of the Commission's survey are largely in line with the results of some other domestic surveys on people's perceptions (box 10.3). Three of the four Australian studies reported in the box found clear majority agreement with the view that gambling has adverse impacts on society (or words to that effect), the other study being inconclusive.

The results of a New Zealand survey also suggest broad concerns towards gambling (box 10.4), whereas Americans appear much less concerned about the community impacts of gambling and, in a number of cases, are reported to generally approve of gambling in their communities (box 10.5). That said, the Commission has not closely vetted these foreign studies.

**Box 10.3 Perceptions of gambling by Australians in other surveys**

- A study on *The Impact of Gaming Venues on Inner City Municipalities* in Melbourne found that individuals reacted more negatively than positively to the impact of gaming machines (MIAESR *et al* 1997). There was little support for claims that gaming machines achieve good rather than bad impacts, except from the hotels and clubs directly benefiting from them. The number of individuals who claimed their lives had been improved by 'wins' was relatively small and it appeared that many of them lost this money through renewed 'investment' in gaming machines.
- A survey of 58 South Australian local councils found that 82 per cent thought that the impact of gaming machines on their community was negative (sub. 171). About 30 per cent thought there was a 'severe negative impact' on their community and 50 per cent said that there was a 'moderately negative impact'. About 20 per cent of councils had received reports from members of their community on the negative impact of gaming machines. About 80 per cent of councils thought that the impact of gaming machines on the community requires greater analysis.
- A VCGA commissioned *Second Positive and Negative Perceptions of Gambling Survey* (Dickerson and Market Solutions 1997, p. 71) found *strong* agreement amongst survey respondents that "gambling is a serious social problem" and that "gambling related problems have got worse over the last four years". However, there was moderate agreement amongst them that "on the whole, gambling is an acceptable activity in our community".

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### Box 10.3 continued

- The Boroondara Gambling Impact Study found that community attitudes to gambling are ambivalent (sub. D207). Many interviewees were not against gambling on moral grounds and considered gambling a matter of free choice. However, some interviewees suggested that gambling activity had adverse effects on Victoria and the local community. The facilitator of a migrant womens' support group reported that group members considered gambling to be 'bad for society'. Casinos were seen as anti-social and unsavoury: 'Interaction is with money and not people'.

### Box 10.4 Views across the Tasman

- A New Zealand survey of *People's Participation In and Attitudes Towards Gambling* found some forms of gambling to be 'socially undesirable' (Department of Internal Affairs NZ 1996). Two thirds of respondents considered telephone games to be socially undesirable and about half considered betting with bookmakers to be socially undesirable. Slightly over one third thought casinos, gaming machines, sports betting, and overseas lotteries were socially undesirable. In addition, almost two thirds of respondents wanted gambling specially regulated. That is, gambling should be regulated differently to other businesses and forms of recreation. The main reasons were to prevent criminal activity, to make profits fund worthy causes, to protect people who could be harmed and to make sure gaming is run fairly.

### Box 10.5 Perceptions in the USA

- The *Gambling in America* survey found that 63 per cent of adults surveyed approved of legalised gambling but have reservations about the impact of legal betting on sports events and the effect of casinos on local communities and youth (Gallup Organization 1999). There was *moderate* agreement amongst them that "on the whole, gambling is an acceptable activity in our community".
- A US survey on *What Iowans Say About Gambling* found that opposition to gambling depended on certain demographics (The Iowa Stater 1997). Women surveyed were more likely to oppose gambling (37 per cent) than men surveyed (25 per cent). About 40 per cent of those over 30 years of age and 11 per cent of those 18 to 29 years of age opposed gambling.
- A US survey of *Casino Entertainment* found a high level of acceptance of gambling by the American public (Harrah Entertainment 1997). Ninety two per cent of survey respondents indicated that casino entertainment is acceptable for themselves and others. Seventy per cent of Americans said that casino gambling can be an important part of a community's entertainment and tourism offering. Eighty-one per cent of Americans said that casino gaming can be a 'fun night out'.

continued

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Box 10.5 continued

- A questionnaire on *Attitudes of Community Leaders in New Casino Jurisdictions Regarding Casino Gambling Effects on Crime and Quality of Life* in the United States found that:
  - 65 per cent believed that casinos had a positive effect on the quality of life in their community;
  - 77 per cent believed that casinos benefited their community; and
  - 59 per cent were in favour of a casino being in their community.

The survey interviewed community leaders (majors, members of the city council, leading members of the business community) or people who work in areas (banking, law enforcement, social services) which provide an insight into the positive and negative effects that casinos have on communities. The study noted that the attitudes of community leaders may be swayed by them playing a prominent role in permitting casino gambling in their community (Giacopassi et al 1999).

### *Are there psychological costs?*

The results from the Commission's survey provide a possible indicator of the psychological effects of gambling. The results would directly convert into psychological costs to the extent that people's perceptions about gambling affect the way they feel.

However, negative perceptions elicited from surveys do not automatically translate in psychological costs from the existence and prevalence of gambling. This is because people on a day-to-day basis may not give any particular attention to gambling and its effects.

Further, while Australians generally hold negative perceptions about the impacts of gambling, survey evidence also suggests that people may also incur adverse psychological costs were it to be curtailed. Among respondents to the *Second Positive and Negative Perceptions of Gambling Survey* (Dickerson and Market Solutions 1997, p. 71), for example, there was moderate agreement amongst them that 'on the whole, gambling is an acceptable activity in our community'. Respondents to several of the US surveys also agreed with this or similar notions (probably reflecting, at least in part, a greater prevalence of libertarian views in the United States than in Australia).

Overall, the Commission recognises that some people probably do experience some psychological costs from the existence of gambling, and that these constitute a form of social cost. However, although it is unable to determine how extensive they are,



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it does not believe that they would be significant compared to the other costs and benefits that flow from gambling.

## **10.4 Sectoral impacts of the growth in gambling**

The dramatic increase in expenditure on gambling over the last five or so years in Australia represents a significant shift in resources within the economy, and inevitably involves benefits for some industries and costs for others.

The benefits to the gambling industries, their suppliers and governments are clear enough. Chapter 2 has documented at length the growth of gambling in Australia — the industry now employs over 36 000 people and has an annual revenue of over \$11 billion. State and local government now receive almost \$4 billion per annum in gambling taxes.

As discussed later, industries that provide complimentary consumer products and services to gambling, such as clubs, dining and accommodation venues, have also benefited.

On the other hand, industries that compete with gambling for the consumers dollar will have experienced contractionary effects, although this loss has been spread across a wide range of consumption items, and the impact has been softened by the long-term decline in savings in Australia.

In submissions to this inquiry, participants raised concerns about the effects of the rapid expansion in expenditure on gaming machines and casinos on two specific areas:

- the retail sector; and
- traditional forms of gambling, such as racing and lotteries.

Some participants also advocated government action to halt or reverse these effects.

In this section, the Commission examines the impact of new gambling on these other areas and looks at the implications for government policy.

### **Impact on the retail sector**

A number of studies have been conducted into the impact of gambling liberalisation on the retail sector. Many of these rely on anecdotal assessments by retailers themselves. Others involve broader economic assessments and modelling.

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### *Survey and anecdotal evidence*

Over the period 1995 to 1997, the Small Retailers Association of South Australia conducted several surveys which, among other things, asked retailers for their perceptions of the impact that gaming machines were having on their businesses. Box 10.6 contains the results of the relevant survey questions.

These surveys consistently indicated that around 2 in 3 small businesses considered that they had been adversely affected by the introduction of gaming machines. The latest survey indicated that almost 40 per cent reported a major negative impact, with a similar number reporting a minor negative impact.

In 1999, the Local Government Association of South Australia surveyed local governments about their views on the impact of the expansion of gambling. The survey found that:

A significant majority (82%) believe that the impact of gaming machines on their community has been negative or severely negative. Significant [adverse] impacts have been observed by Councils on community/sporting clubs (unable to compete against clubs with pokies - 68% indicating medium or higher impact), local businesses (65% indicating medium or higher impact) and decline in local sponsorship (60% indicating medium or higher impact) (sub. 171).

In its submission to this inquiry, the Logan City Council in Queensland, where gaming machines have increased from 74 in 1992 to 881 by 1997, said:

... in the Council's ongoing liaison with gaming venues, small business owners and community welfare organisations, we have become aware that concerns about both the social and economic impact have been growing. ... Council suspects that there has been an impact resulting from changes in the way the community is directing its

#### **Box 10.6 The impacts of gaming machines on small retailers in South Australia**

January 1995: When asked the question "Has the introduction of the 'pokies' affected your turnover?", 67.4 per cent reported a decline, this decline averaging 7.8 per cent.

October 1995: When asked "What impact has the Pokies had on your turnover?", 90 per cent of food retailers, and 81 per cent of non-food retailers, reported a decline.

May 1996 When asked the impact of gambling in their business, 67 per cent reported a considerable impact, and 17 per cent reported some impact.

September 1997: When asked whether gambling had a positive or negative impact on their business, 38 per cent reported a major negative impact and 39 per cent reported a minor negative impact.

*Source:* Small Retailers Association of South Australia 1995a, 1995b, 1996, 1997

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discretionary income. However, these links are hard to substantiate because of the complex mix of factors involved (sub. 66).

Several Victorian participants, notably the City of Greater Dandenong (sub. 82), the Darebin City Council (sub. 150) and the Maribyrnong City Council (sub 39), expressed similar views. The latter said:

Local traders have also increasingly provided anecdotal reports of decreasing demand attributed to the impact of EGM gambling (sub. 39, p. 1).

...Council is particularly concerned at the impact that high levels of gambling expenditure may have on local economic activity and is seeking to develop an understanding of that impact (sub. 39, p. 12).

The Boroondara Gambling Impact Study (sub. D207, p.4) also identified perceptions that businesses were suffering due to a redirection of funds to gambling, although it noted that this was by no means unequivocal or evident across the whole of the municipality.

These results need to be treated cautiously. As most of the participants acknowledge, much of this evidence of adverse effects of gambling liberalisation on other retailing activity is anecdotal. Given the recent visibility and profile of gambling in the community, it would not be surprising if some retailers were to attribute difficulties they are facing to the introduction of gambling, even if other factors were responsible.

Indeed, as argued in a recent South Australian study (which concluded that the introduction of poker machines had not had significant impacts on the retail sector):

It is clear that large numbers of [retail] operators believe their business has been hurt significantly, and this shows up through surveys conducted by the Small Retail Association. For some individual operators faced with direct competition from poker machines, this is undoubtedly true. For some individual households there are undoubtedly problems in dealing with excessive expenditure on poker machines, which limit their spending power in other areas. But in general, the introduction of poker machines cannot be seen as having a pervasive effect (sub. D231, att. 2, pp. 14-15).

There has been a much longer trend in the decline in expenditure on retailing. As the Australian Retailers Association said:

The trend over the past two decades at least, is that retailing has lost its 'market share'. In 1973-74 retailing attracted 43% of total consumption expenditure. This had declined to 36% by 1993-94 (sub. 93, p. 4).

While many areas increased their share of the consumer's budget, notably housing followed by income tax and entertainment/recreation, the Association commented:

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Putting aside major items such as savings and income tax, which are largely influenced by government policy, and other items over which retailing cannot easily influence by competition, (housing rent, education and health) the key sources of expenditure which are impacting on the retail industry are entertainment including the increasing presence of gaming (sub. 93, p. 7).

While this is undoubtedly true, as the Association's submission indicates, retailing has lost 7 percentage points of 'market share' while entertainment/recreation (of which gambling is a part) increased its market share by only 1.6 percentage points. Hence, retail decline is mainly due to factors other than the growth in gambling.

Nevertheless, the Association concluded:

Spending on gambling continues to impact negatively on traditional areas of retailing expenditure and continues to place great strain on the viability of many once profitable businesses (sub. 93, p. 7).

#### *The 1997 Victorian study*

In Victoria, the VCGA commissioned a study into the impact of the expansion of gaming from 1990 to 1996 on the Victorian retail sector (NIEIR and Spiller Gibbins Swan 1997). The key findings of that study are presented in box 10.7.

The central finding was that the expansion of expenditure on gambling in Victoria had occurred at a time of a large fall in the level of savings in the State, and that expenditure on other retail activity had continued to rise over the same period. The study concluded that the expansion of gambling had been funded by the decline in the level of savings rather than a switch in expenditure from the retail sector.

While gambling may<sup>4</sup> not have caused a reduction in actual retail expenditure in Victoria during or immediately after its introduction, the Commission does not believe that this result can be generalised to suggest that an expansion in gambling comes at no cost to other retail activity. All products and services compete for a share of the consumer's budget. Unless there is a permanent shift in the savings rate, the growth in expenditure on one product or service generally must be at the expense of expenditures on others, whether it be in the form of an actual decline in retail spending or a slower growth in retail spending than would otherwise have happened. And even if there is a permanent shift in the savings rate, this can be

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<sup>4</sup> The Australian Retailers Association has raised questions about aspects of the Victorian study. The Association noted (sub. 93, pp. 10-11) that the data used for retail turnover actually contains some expenditure on gambling, in businesses such as clubs, hotels, taverns and newsagents, and thereby inflates the actual (non-gambling) level of retail expenditure.

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expected to have adverse effects on other economic variables, such as interest rates, which will ultimately find their way back to the economy in the form of reduced demand for other goods and services. Only if the increase in gambling caused a significant and sustained increase in economic growth, sufficient to offset the switch in market share away from other retail spending, would other retail sectors be better off. The Commission sees no reason to believe that this would be the case.

**Box 10.7    The Impact of the Expansion of Gambling  
on the Victorian Retail Sector**

The study examined trends over the period 1990 to 1996. The key findings were:

- Whilst the growth in gambling expenditure in Victoria between 1990 and 1996 was stronger than the growth in expenditure on retail goods and services, at the state level, this appears to have been funded through a reduction in savings.
- Victorian gambling expenditures rose from 1.4 per cent of household income in 1990 to 3.3 per cent by 1996. Measured on the same basis, Victorian retail expenditure rose from 35.9 per cent in 1990 to 38.2 per cent in 1996. Services excluding gambling rose from 52.2 per cent in 1990 to 55.0 per cent in 1996.
- The experience in Victoria is mirrored across other states where gambling expenditure rose strongly. Household savings declined and retail and services increased their share of household income concurrently with the gambling industry.
- In Victoria, during the period (from 1992-93 to 1995-96) when gambling expenditure gained its largest increase in household income (1.6 per cent to 3.3 per cent), the share of household income allocated to expenditure on retail goods grew more strongly rising by 2.4 per cent.
- It appears that services were hardest hit by the expansion of gambling expenditure, with that category's share of total household sector outlays declining by almost 3 per cent from 1992-93 to 1995-96. Expenditure on motor vehicle purchases and dwelling rent collectively lost 1.9 per cent of total expenditure share.
- The retail sector is currently experiencing particularly dynamic and volatile trading conditions. In this turbulent environment it is difficult to ascribe particular negative retail trends to the recent and on-going increase in gambling opportunities.
- While at the state level there is little evidence to suggest that increased gambling expenditure adversely affected the retail industry generally, on a geographical basis some areas and industries in Melbourne and Victoria have probably been affected.
- The long run impacts of increased gambling on retailing may be much more severe. In previous recessions in Australia, lower savings have supported household expenditure and retail sales than what would otherwise have been the case. To the extent that lower savings have financed increased gambling expenditure, part of the cushion to consumption expenditure in the next recession has been removed.

*Source:* NIEIR and Spiller Gibbins Swan 1997

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Indeed, the Victorian study recognised that:

The long run impacts of increased gambling on retailing may be much more severe. In previous recessions in Australia, lower savings have supported household expenditure and retail sales than what would otherwise have been the case. To the extent that lower savings have financed increased gambling expenditure, part of the cushion to consumption expenditure in the next recession has been removed (NIEIR and Spiller Gibbins Swan 1997, p. iii).

### *Economy-wide modelling results*

General equilibrium modelling (discussed in chapter 5) is a more sophisticated tool for gauging the impact of increases in gambling activity on different sections of the economy. This method is able to account for economic linkages between different industries.

Table 10.4 contains the results of modelling simulations presented by ACIL and CIE in submissions to the inquiry, and those prepared by Econtech. The Commission has reconfigured the CIE and Econtech results so that all three show the effects on other industries of an *increase* in the extent of gambling.

As would be expected, the gambling industries and those industries with a significant component of gambling included in them expand the most, while recreation and a range of retail activities which compete with gambling for the consumers' dollar are the principal areas of contraction.

That said, the decline in these sectors is relatively small compared with the increase in gambling. The CIE model simulation, for example, suggests that for every 10 per cent of growth in gambling, retail trade will contract by about only 0.2 per cent, in the short run. And the Econtech simulation suggests that a 26 per cent expansion in gambling would result in a contraction in the retail sector of only a 0.5 per cent, in the long run.

While the impact of increases in gambling expenditure on other retail business cannot be determined precisely, the Commission considers that it will generally be negative, although limited.

Nevertheless, some contraction or restriction in growth will occur, and some participants expressed concern about this switch in economic activity. What implications should this have for government policy?

Such 'structural' changes *of themselves* are a normal part of the business environment. Consumer demands are always changing. New products and technologies displace old ones in the consumption basket, and more efficient and/or

better focused suppliers displace those that are not. In most cases, consumers presumably make these changes in their consumption patterns because they value the new product or service more highly than the old. In a market-based economy, business is generally expected to adjust to these changes in consumers purchasing patterns. Except in exceptional circumstances (chapter 4), there is no economic rationale for governments to intervene to override changes in the pattern of goods and services that producers provide and consumers seek.

**Table 10.4 Industries most affected by an increase in the size of the gambling industries**  
percentage change

<i>Industry</i>	<i>CIE</i>	<i>ACIL</i>		<i>ECONTECH</i>
	<i>1% increase in gambling<sup>a</sup></i>	<i>50% reduction in gambling taxes</i>		<i>abolition of gambling taxes<sup>a</sup></i>
	short run	short run	long run	long run
<i>Industries that gain the most</i>				
Gambling and recreational services	1.000	2.09	2.66	26.3
Sports clubs		0.53	0.63	
Accommodation, cafes and restaurants	0.318	0.38	0.44	4.5
Other cultural and recreational services	.046			
<i>Industries that lose the most</i>				
Sport and recreation	-.0208			
Wine and spirits	-.0191			
Beer and malt	-.0175			
Retail trade	-.0162			-0.5
Active recreation		-0.25	-0.15	
Organised sport		-0.20	-0.15	
Furniture		-0.15	-0.13	
Household appliances		-0.10	-0.10	
Ownership of dwellings				-0.7
Cultural and recreational services				-0.4
Finance and insurance				-0.4

<sup>a</sup> The results from the CIE and Econtech have been reversed to represent the impact of an increase in gambling activity

Source: CIE, sub. 111; ACIL, sub. 155; ECONTECH (1999)

### *Policy implications*

That said, there would be a case for examining government policies if such changes are the result partly or wholly of discriminatory policies that favour the expanding industry at the expense of others. The Australian Retailers Association raised the question of different operating rules (such as different opening hours) for businesses

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competing against gaming venues, which typically operate under a more liberal regime. The Association said:

Competition with the gaming industry has been introduced and fostered by state governments. Ironically, however, as evidence of the lack of forethought that has gone into the planning process, state governments' policies also retard the retail industry's capacity to compete. This is particularly the case when such policies place arbitrary restrictions on when shops may open and close (eg Sundays) and what producers may sell (eg liquor) (sub. 93, p. 7).

Further, there may be a case for governments to intervene to deal with the pace of change. In some jurisdictions, gambling has expanded rapidly, giving existing businesses less time to adjust to competition and changing consumer buying patterns. This problem may have implications for government policy, particularly when the speed of change results not from shifts in consumer demand but from liberalisation policies implemented by governments. Liberalising too rapidly may disrupt existing businesses, whereas a slower pace would allow those businesses and industries that are losing sales to adjust more smoothly by, for example, not replacing some capital when it depreciates and reaches its 'use-by' date.

### **The impact of gaming expansion on racing and lotteries**

As well as structural changes between gambling and other sectors of the economy, the recent liberalisation initiatives, particularly the increase in access to (and thus expenditure on) gaming machines, have affected the amount of spending on traditional forms of gambling — racing and lotteries.

In a study for the VCGA, NIEIR (1997a) examined trends in Victorian racing gambling expenditure and racing employment since the introduction of gaming machines and the opening of the casino in Victoria. NIEIR looked at data from the Tasmanian Gaming Commission and conducted interviews with major participants in the Victorian industry. NIEIR concluded that the expansion of gaming had reduced gambling expenditure on racing, with between 4 and 5 per cent of annual new gaming expenditure in Victoria being displaced from the annual gambling expenditure of the racing industry.

To further test whether the expansion of gaming machines has affected traditional gambling, the Commission examined changes in per capita spending on the various forms of gambling in each state and territory. The data are charted in figure 10.1.

The figure shows that:

- expenditure on gaming machines and, to a lesser extent casinos, has increased both significantly and rapidly since their introduction;



- in most jurisdictions, per capita expenditure on racing has been in decline, but this decline has been over the longer term, well *before* the expansion of spending on gaming machines became significant;
- for lotteries per capita spending has continued to increase in several jurisdictions, such as Queensland, Western Australia and the Northern Territory; and
- in the others, lottery expenditure has declined but, in Victoria and South Australia, this decline began before the increase in expenditure on gaming machines.

Hence, it appears that the increases in expenditure on gaming machines and casinos have left expenditure on the traditional forms of gambling largely untouched.

This in turn implies that the new forms of gambling have largely opened up new markets with new groups of consumers, rather than simply shifted the gambling dollar between forms.

This view was largely supported by the results of the general equilibrium modelling work that Econtech undertook for the Commission. Econtech ran one simulation to look at the impact of re-regulating gambling — reducing gambling activity to its

**Figure 10.1 Real gambling expenditure per adult in each state and territory by major type of gambling, 1972-73 to 1997-98**  
(1997-98 dollars)

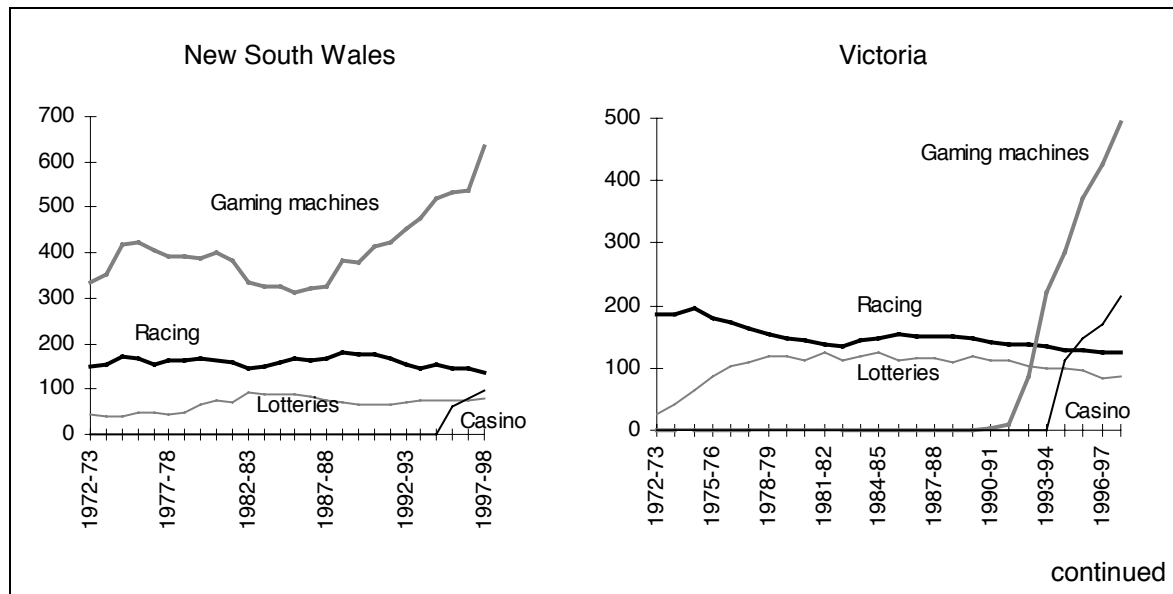
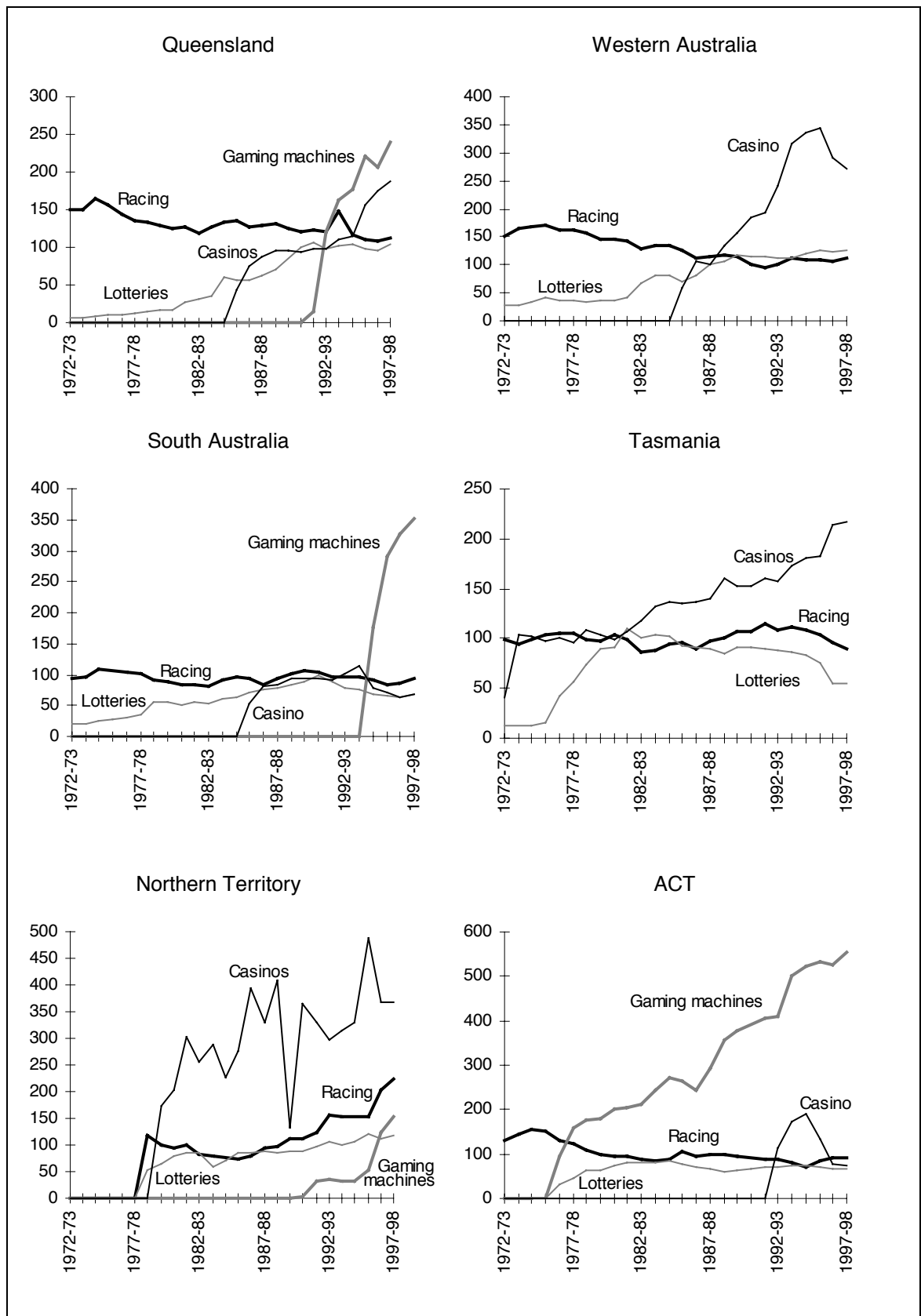


Figure 10.1 continued



Source: Tasmanian Gaming Commission 1999

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1993-94 level. This simulation involved reducing gaming machines by 18 per cent and casino gaming by 55 per cent. As a consequence, expenditure on lotteries was estimated to increase by 10 per cent and on racing by 11 per cent. Of the almost \$2 billion reduction in expenditure on casinos and gaming machines, only \$333 million (17 per cent) was estimated to switch to other forms of gambling. Looked at the other way, the \$2 billion growth in casino and gaming expenditure has come at a cost of only \$333 million for other forms of gambling (Econtech 1999).

As with structural change amongst different sectors of the economy, the Commission sees structural change within the gambling sector as a normal part of the business environment. Of itself, it does not warrant government policy action.

## **10.5 Local and regional impacts of the growth in gambling**

The Commission's analysis so far has identified several general impacts from the liberalisation of gambling in Australia, namely:

- significant increases in gambling expenditure;
- a rapid growth of the gambling industries themselves;
- benefits of this growth for most consumers of gambling services;
- limited effects on other industry sectors;
- the limited extent but significant impact of problem gambling;
- little evidence of other gambling-related crime;
- an increase in the patronage, and a change in the feel, of hotels, clubs and other venues with gaming machines; and
- possible changes in the nature and feel of society more broadly.

To the extent that the benefits and costs of gambling are spread evenly across the country, the impact of gambling in each region and each local community in Australia would simply be a microcosm of the national impact. Differences in state regulatory regimes aside, this means that the national trends identified in this report would also be evident in each region and each community.

From this starting model, the Commission has looked for evidence of variations in the local or regional impacts of gambling. Submissions have guided it to examine whether socially and economically disadvantaged communities are affected in different ways to other communities. It has also looked to see whether regions in country Australia are affected differently from those in metropolitan Australia.

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## Preying on the poor? – gaming machines in disadvantaged regions

Several submissions, particularly from Victorian local governments and community bodies, expressed concern about the apparent targeting of low-income and socially disadvantaged people and communities by gambling businesses, reflected in particular by the high proportion of gaming machines in such areas.

### *What evidence is there?*

The City of Maribyrnong noted that it has the highest proportion of low-income earners (55 per cent) and highest unemployment rate (16 per cent) in metropolitan Melbourne, yet it also has the highest density of gaming machines. Referring to broader data on the placement on gaming machines (table 10.5), it stated:

There appears to be a relationship between the proportion of low income earners and the EGM density (whether calculated for either total or adult population) in local government areas (LGAs) in metropolitan Melbourne, particularly if the City of Melbourne [which incorporates the CBD] is excluded... There appears also to be an even stronger relationship between unemployment rate and a particular LGA (sub. 39, p. 8).

The Victorian Local Governance Association said (sub. 91, p. 4):

Early analysis of this spread of gambling showed alarming growth patterns. The heavy take-up of gaming machines was occurring in almost direct [inverse] proportion to the wealth of a community. The in-depth work of the Maribyrnong City Council shows that this connection is unfortunately most accurate.

[Maribyrnong, Greater Dandenong and Moreland are] municipalities with excessively high levels of gaming machines and venues per head of population. [They] are among Victoria's most disadvantaged in terms of income and all three have very high levels of recent settlers, many arriving from traumatic events in their home countries.

**Table 10.5 Gaming machine density, low income earners and unemployment in selected cities of metropolitan Melbourne**  
number and per cent

<i>City</i>	<i>Gaming machines per 1000 adults (29/9/98) (number)</i>	<i>Low income earners (per cent)</i>	<i>Unemployment rate (per cent)</i>
Maribyrnong	17.3	55.7	15.9
Greater Dandenong	12.3	52.1	12.7
Darebin	10.7	53.0	12.2
Stonnington	5.7	36.2	4.5
Nilumbik	4.0	38.7	3.3
Boroondara	2.3	39.3	5.8

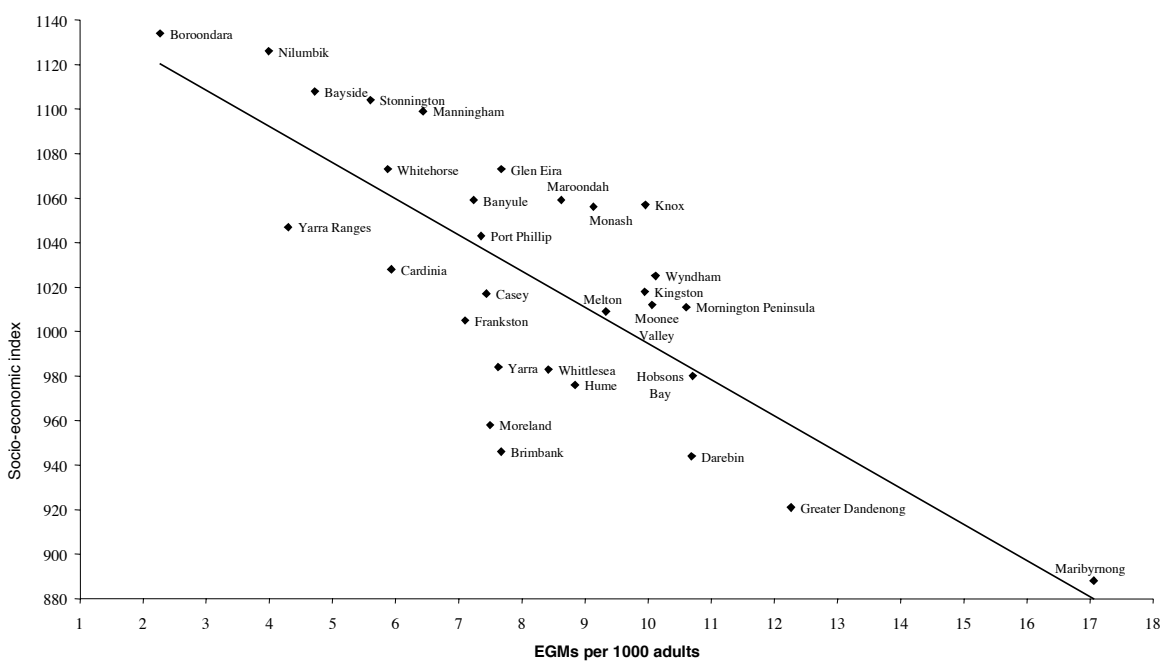
Source: Maribyrnong City Council (sub. 39, table 1).

The Yarra City Council stated that there is a close proximity between gaming machine venues and large public density housing estates:

[there is] a clustering of existing machines around the largest density public housing estates in the city, the Richmond, Elizabeth Street high rise, walkups and low-rise areas. Five of Yarra’s venues are within easy walking distance of this predominantly low income district, generating a total of 53 per cent of the city’s machines... Three other venues, the Tankerville Arms Hotel in Fitzroy (40 machines), the Albion Inn (20 machines) and the Collingwood Football Club (54 machines) are also in close walking distance to large public housing estates (sub. D238, p. 2).

Further, in its submission on the draft report, the City of Maribyrnong presented an analysis of the relationship between socio-economic factors and the number of electronic gaming machines for areas in suburban Melbourne. Figure 10.2 indicates a very strong negative relationship between the socio-economic index for areas and the number of electronic gaming machines. That is, the lower an area’s socio-economic standing, the more electronic gaming machines in the area.

**Figure 10.2 Socio-economic index for areas and the number of gaming machines for areas in suburban Melbourne<sup>ab</sup>**



<sup>a</sup> The Australian Bureau of Statistics Socio-economic Index for Areas is used as a measure of socio-economic factors. The measure is a composite index that considers a range of characteristics from Census data including the incidence of unemployment, income, characteristics of dwellings and proficiency in the English language. <sup>b</sup> The correlation coefficient is 0.77 at the 1 per cent level (transcript, p. 1267).

Source: Maribyrnong City Council (sub. D202, p. 5).

The Commission conducted a basic analysis of data for Victoria, Queensland, New South Wales and South Australia to assess the relationship in different areas between:

- income levels;
- total gaming machine spending; and
- the number of gaming machines.

The Commission did not undertake analyses of the other jurisdictions due to data limitations and, in the case of Western Australia, its prohibition on gaming machines outside the casino.

The Commission’s analysis used econometric techniques to assess the relationship on an ‘unweighted’ and ‘weighted’ basis. Unlike in the draft report, only the weighted results are discussed here, as they more accurately take into account the population size of regions (table 10.6). Appendix I provides more detail on the data sources, methodology and results.

**Table 10.6 Relationships between income, gaming spending and the number of gaming machines for regions in various states<sup>a</sup>**

	<i>NSW</i>	<i>Vic<sup>bc</sup></i>	<i>Qld</i>	<i>SA<sup>d</sup></i>
Income and the number of gaming machines	Negative and significant	Negative and significant	No significant relationship	Negative and significant
Gaming spending and the number of gaming machines	Positive and significant	na	Positive and significant	Positive and significant
Income and gaming machine spending	No significant relationship	na	No significant relationship	Negative and significant

**na** not available **a** Appendix I provides more detail on the results and data sources. **b** Data has only been made available to the Commission on income and the number of gaming machines for Victoria. **c** Data for the City of Melbourne is an outlier and has been removed. The large number of machines in this area unreasonably affects the results. **d** Data for the City of Adelaide is an outlier and has been removed. The large number of machines in this area unreasonably affects the results.

The Commission’s analysis yields mixed findings on the relationship between the placement of gaming machines and the incomes of people in an area.

- The data supplied by Victorian participants has been confirmed by the Commission’s analyses — there is an inverse relationship between income levels and the density of gaming machines in Victoria. This also applies in New South Wales and South Australia, but not in Queensland.
- Analysis of Queensland, New South Wales and South Australian data also indicates that there is a positive relationship between the number of gaming machines in a location and the amount spent on them, so the greater density of

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gaming machines in low-income areas is not necessarily being compensated for by a lower spend per machine.

- On the other hand, there is no significant relationship between income levels and the total amount spent on gaming machines in all states examined, except in South Australia where there is an inverse relationship between income and gaming machine spending.

Of course, gaming machines are only one aspect of gambling. Others include table games, race betting, lotteries and so on. It is not clear that a higher density of gaming machines in lower socio-economic areas would mean that people in those areas are supplied with more gambling services. For example, unlike residents in Brisbane to the north and the Gold Coast to the South, residents of Logan City — which has a large proportion of residents who are socio-economically disadvantaged — do not have access to a casino in their area.

Nevertheless, it remains the case that, in two of the four States studied, gaming machine densities are higher in economically disadvantaged areas and that, in turn, is likely to mean that people in those areas spend more on gaming machines than people in other areas.

### *Why might it happen?*

One often heard explanation for this is that the gaming industry is ‘preying on the poor’ — targetting socially and/or economically vulnerable people. Logan City Council stated that:

A general view expressed by some [counselling and welfare] service providers is that people from a low socio-economic background are more vulnerable because gambling may be perceived as their only chance to improve their situation. The hope is nurtured by advertising that portrays normal people having the “big win”, whether it be scratchies, Keno, Gold Lotto or gaming machines (sub. 66, p. 4).

But there are other possible explanations.

### *Consumer demand*

Consumer preferences are likely over time to influence the usage and location of gaming machines in the same way as for any other goods or service in any other market. Demand for gaming machines from consumers will be met by the supply of gaming machines from gaming operators. According to Tabcorp:

The allocation of gaming machines is determined by: the identification of unmet consumer demand within a particular geographic area; the number, proximity and

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quality of competing entertainment businesses; and the availability of existing licensed premises to convert to gaming venues (sub. D232, p 13).

If so, it implies that consumers in low-income areas have stronger preferences for gaming machine gambling than those in high income areas. Why might this be?

A study conducted by the Good Shepherd Youth and Family Service (sub. 178, p. 12) nominated several factors that may make gaming machines attractive to low income people, including:

- proximity to home (meaning limited transport costs and easy access);
- welcoming, friendly and non-discriminatory atmosphere;
- small amounts of money can be used to play;
- venues commonly provide a range of incentives, such as free food and drinks, specials, and a warm environment with no restrictions on length of stay; and
- a limited range of alternative entertainment options (such as watching TV).

Clubs Victoria also suggested that the nature of gaming may make it more appealing as a form of entertainment to lower income earners. It stated:

This is a poor man's sport, playing gaming machines. It is simple, unstimulating and non-interactive but more poor, lesser educated like it more than do rich, educated people (transcript, p. 1309).

The Yarra City Council (sub. D238) argued that the concentration of migrants in low income areas may also further add to the demand for electronic gaming machines in these areas. Migrants may be attracted to gambling because it is an easy entertainment for people who are yet to assimilate into society. This type of demand may be reflected in Yarra City which has a high density of gaming machines. In Yarra City, about 35 per cent of residents are low income earners (a weekly gross income of less than \$500) and 32 per cent are from a non-english speaking background. The combination of low incomes and a high proportion of migrants may lead to higher demand for gaming machines in Yarra City.

### *Caps on gaming machines and the structure of the market*

While consumer demand is likely to be a major determinant of the location and type of gaming machines, supply-side factors will also affect the way that gaming operators meet this demand. In particular, the location of gaming machines is also likely to be influenced by:

- limits or 'global caps' applying on the number of gaming machines; and/or
- the number of gaming machine operators providing gaming machines.



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Victoria could be an example of the effect of these factors. The Victorian Government has placed global caps on the number of gaming machines. The number of gaming machines in hotels and clubs is limited to 27 500 (refer to chapter 13). There are also only two suppliers of gaming machines — Tattersall’s and Tabcorp — who between them have access to all the market information on gaming machines, including in which areas the demand for machines is the greatest (or most profitable per machine). The two operators will be able to quickly assess which machines are yielding the greatest profit and will place their machines in these areas. In a market with a large number of operators, there will also be incentives for machines to be located in those areas with the greatest demand, but it may take longer for gaming operators to determine these areas through the process of buying and selling machines.

The Australian Hotels Association (AHA) submitted that these factors were responsible for the Victorian situation. It stated:

The AHA submits that the increased prevalence of gaming machines in lower income areas is a phenomenon derived from global statewide caps and pressures for gaming operators to place machines where there is highest demand. States such as Queensland and South Australia, both relatively new entrants to the gaming market, have not experienced any bias towards lower income areas (sub. D231, p. 6).

### *Wet versus dry areas?*

In the draft report, the Commission said that:

... gaming machines are commonly located in hotels and clubs, but a number of middle class areas of Melbourne, including Box Hill and Camberwell, have no hotels and clubs. This may skew the distribution of gaming machines away from better-off areas.

In its response to the draft report, the City of Maribyrnong (sub. D202) presented evidence to refute this proposition. It found that there are sufficient venues in high socio-economic areas for gambling, but that the number of venues providing gambling services is lower.

The six Local Government Areas in suburban Melbourne with the lowest socio-economic index have:

- some of the highest gaming machine densities; and
- a total of 219 potential gambling venues; with
- 95 (or 43 per cent) of these venues providing gambling services.

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At the other end of the spectrum, the six areas with the highest socio-economic index have:

- lower gaming machine densities; and
- a total of 166 potential gambling venues; with
- 42 (or 25 per cent) of venues providing gambling services.

This suggests that the higher density of gaming machines in socio-economically disadvantaged areas is not attributable to a lack of potential gaming venues in better-off areas.

*What does it mean for disadvantaged communities (and governments)?*

Whatever the reasons, where socially and economically disadvantaged areas do have a high density of gaming machines, there will be implications for the local community.

On the positive side, ACIL drew attention to the benefits that gambling venues bring to lower socio-economic areas.

An acknowledged benefit of growth in gambling outlets has been the availability of legal and safe gambling venues for women and ethnic groups in lower socio-economic areas. Some commentators, while critical that only gambling venues were available, see this as a great improvement in areas with otherwise poor social infrastructure, by providing people to develop alternative social networks (sub. 155, p. 79).

From this perspective, disadvantaged communities have benefited significantly from the growth in gambling and, indeed, possibly more so than otherwise better-off communities whose residents do not have access to the same number of gaming venues.

However, a number of submissions expressed concern about the adverse effects of gambling on economically disadvantaged areas of the community. In particular, residents who are already encountering personal or financial difficulties will have them compounded by additional difficulties that derive from problem gambling. The City of Maribyrnong stated:

Many of the welfare agencies operating in the municipality have reported that they have experienced or are experiencing the impact of increased gambling expenditures in the form of:

- problem gambling behaviour;
- increased levels of poverty and bankruptcy;
- family break-ups;

- 
- domestic violence; and
  - stress and anxiety (sub. 39, p. 4).

Many of these problems are experienced at the individual or family level — by the problem gamblers themselves and those whose lives are entwined with them — although they also put some demands on community resources, such as welfare and counselling services. These matters have been discussed in detail in chapters 6 and 7, and the Commission has sought to quantify the costs of these problems in chapter 9, and to devise policy responses to them in part D of the report.

In one sense, the fact that these problems may arise in some places more than others is not relevant — so long as governments have appropriate policies in place to address these problems *wherever they arise*, and to the extent that they arise, the specific locations where they arise should not matter.

At the community level though, several submissions, mainly from councils, expressed concerns about the effects of gambling (box 10.8). These concerns covered:

- the size of EGM losses as compared to the amount of money that is returned to communities — submissions reported losses of up to around \$50 million per local government area with substantially smaller amounts being returned to local communities; and
- the effect of EGM losses on the local community, such as reduced employment and declining ‘social conditions’.

A study commissioned by a number of Victorian city councils — Brimbank, Greater Dandenong, Maribyrnong, and Moreland — assessed the local area impact of local gambling for Maribyrnong (box 10.9). While the study acknowledged the difficulties in estimating the effect of gambling on only the local community, it found that:

- gambling is a substitute for alternative consumption — consumption is diverted to gambling and away from (other) local consumption spending; and
- the net effect on low income communities diminishes the level of overall economic activity — production was estimated to reduce by up to \$21.3m and local income reduced by up to \$4.8m.

Similar results were generated by Pinge (sub. D279) using an input-output model of the regional economy of Greater Bendigo. Pinge found that the local gaming industry had weak linkages with the regional economy, with large leakages out of the region and that:

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... if money spent on EGM's were spent in any other sector of the region, then output, income and employment would be better off. Gaming as an industry is in effect having a negative regional economic impact by redirecting economic activity out of the region (p. 2).

### **Box 10.8 Concerns about the effect of gambling on local communities**

A number of submissions, mainly from councils, expressed concern about the economic and social effects of gambling on local communities. These submissions were concerned about spending being diverted away from other forms of consumption and the size of EGM losses as compared to the amount of money that is returned to the community from gambling.

The City of Maribyrnong points to broader community-level implications of concentrating gaming machines in areas of socio-economic disadvantage:

Council is particularly concerned about the impact that high levels of gambling expenditure may have on local economic activity... In a municipality such as Maribyrnong, it is difficult to accept that annual EGM losses of around \$45 million do not have an adverse impact on local consumption expenditure, with corresponding impacts on local employment and social conditions (sub. 39, p. 12).

Similarly, reflecting the results of a study it had done, the City of Greater Dandenong said:

Council is concerned that more than \$60 million is taken from players of local gaming machines, and less than \$17 million of this is identifiable as likely to be returned to local clubs and hotels as profit, or for the development of local facilities and services (sub. 82, p. 7).

The Victorian Local Governance Association added:

The inequitable location of gaming machines is most disturbing to those municipalities which lose enormous sums of money to commercial operators and the State Government. The three local governments involved in this submission — the Cities of Maribyrnong, Greater Dandenong and Moreland — between them watch helplessly as \$150 million annually leaves their communities through gaming machines.

... The study into the money trail by the City of Greater Dandenong shows that very little of this money finds its way back into the communities that make the greatest contribution (sub. 91, p. 4).

Logan City Council expressed major concern about:

... the amount of money that is going out of the community through: taxes on gambling profits; the profits themselves where the product is commercially owned; and through people going outside the local community to spend their gambling dollars (sub. 66, p. 10).

And Brighton Council in Tasmania drew attention to the reduction in local amenities resulting from the outflow of money from the disadvantaged communities of Gagebrook and Bridgewater. Among other things, this has seen the virtual closing of one of these communities' shopping centres (transcript, pp. 929-45).

*Source:* submissions.

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**Box 10.9 The impact of expenditure on gaming machines on Maribyrnong's economic activity**

Doughney and Kelleher (1999) used a local area economic impact model to estimate the effect of the diversion of potential consumption away from non-gambling firms and the subsequent effect on the income of Maribyrnong residents. They used data from the Tasmanian Gaming Commission, the Australian Bureau of Statistics and the VCGA. The data on gaming expenditure was adjusted upwards to remove the under-reporting of gaming expenditure data collected from surveys. The authors recognise the difficulties in conducting purely local impact as opposed to broader country level economic modelling.

Doughney and Kelleher found that economic production and income in the Maribyrnong local area would have been higher had the expenditures on gaming machines not been diverted from other consumption spending — an increase in people's expenditure on gaming machines reduces demand for goods and services in the local area. Total local value added or production is estimated to reduce because of increased gambling expenditure by up to \$21.3m. Maribyrnong residents share of total local value added or income is estimated to have been reduced by up to \$4.8m.

*Source:* Doughney and Kelleher (1999).

Again, such effects could be expected to occur in any area in which expenditure by members of the community seeps outside the boundaries of that community, whether the expenditure be on travel, education, motor vehicles, opera, gambling, or anything else.

That said, because higher taxes are levied on gambling than on most other goods and services, the gross leakage of funds resulting from expenditure on gambling will be commensurately greater.

Further, it is possible that in communities that already suffer from significant socio-economic disadvantage, overlaying an additional source of socio-economic stress may have more significant community-wide impacts. That is, social and economic stresses may have compounding impacts. For example, where the unemployment rate in a particular area is already high, a further increase may push it to a level at which people in the area become too discouraged to look for work, and anti-social behaviour may ensue. The same effects might not be experienced in areas that start with a lower unemployment rate.

In the Commission's view, the potential for disadvantaged communities to suffer more adverse social problems from expansions in gambling has important implications for government policy.

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In particular, it raises the issue of the appropriate type and degree of local government involvement in gambling issues. Several local councils, particularly in areas with a high proportion of low income earners, expressed concern at having no or limited control over the number of gaming machines in their local area. These councils argue that they are in the best position to analyse the social and economic effects of gambling on their local community, but are unable to directly control the number of gaming machines. That said, a survey by the Local Government Association of South Australia found that 56 per cent of councils want the State Government to remain responsible for licensing gaming machines (sub. 171), but that 70 per cent of councils wanted to gain greater input into the gambling and liquor licensing. The issues of appropriate local government involvement is discussed further in chapter 22.

Another issue is the ‘earmarking’ of gambling taxes, to repatriate them to the local communities from where they came or to reserve them for certain uses, such as addressing problems arising from gambling. This is discussed in chapter 20.

### **Special impacts on country communities?**

As part of this inquiry, the Commission held Roundtable discussions with local people in Port Augusta and Goulburn to obtain information on the effects of gambling on country communities. Participants included hoteliers and club officials, government and private welfare workers and gambling counsellors, police, Councillors, community group representatives and retail sector employees (box 10.10).

The Commission has augmented this information by drawing on other material, including the results of two studies conducted for the VCGA: one into the effects of gambling on a selection of non-metropolitan communities in Victoria (DHSA and MIAESR 1997), and one into its effects on small Victorian rural communities (HSV 1997) (boxes 10.11 and 10.12).

These discussions and studies together reveal that the impact of gambling on country communities has been similar in many ways to the impact in metropolitan areas. For example:

- expenditure on legal gambling has increased in the towns over recent years, with anecdotal evidence suggesting that illegal gambling has declined;
- the recent introduction of gaming machines had increased the patronage and profitability of clubs and hotels, provided new opportunities for social interaction and led to improved community and sporting facilities provided by clubs;

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## Box 10.10 Country impacts: views from around the table

Below is a selection of comments made at the Commission's Regional Roundtables.

### Individual and community benefits

People want quality of life — an ability to choose entertainment and relaxation in small amounts. Gambling is an alternative to more expensive pursuits which lead to quality of life. People are shifting their money away from other recreational/entertainment activities. Gambling is seen as community building. Community activities (eg radio station) are broadcast through venues with gambling. Gambling revenue does not really go out of the community. The club gives out 3.5 per cent of poker machine revenue, and has done so for years. *[Club official]*

Poker machines have increased hotel turnover, which has resulted in more jobs. We sponsor a few clubs and support health and youth causes in Port Augusta. We paid \$60 000 for an orthopaedic pool for kids with arthritis. *[Hotelier]*

Community groups get funding from clubs and hotels, so gambling is not inimical to the community. *[Councillor]*

### Pubs and clubs: impacts and responses

Gaming in Port Augusta commenced in July 1994. There were 600 hotels on the market in South Australia. About 250 were for sale in the country. Gaming made hotels more marketable and profitable. Pokies were introduced to complement hotels. The state allows a maximum of 40 machines in each hotel.... The pokies have brought women back into hotels. They have brought in couples. There are nine hotels in Port Augusta — only two don't have gaming. The average number of machines is between 20 and 30. There are TAB facilities in six venues and one free standing TAB. *[Hotelier]*

Little pubs in rural areas are very important. *[Councillor]*. But smaller hotels are closing with licenses transferring to big urban areas. *[Police officer]*

Some clubs are now just into gambling to get bigger — without community objectives. *[Hotelier]*

I can speak for two clubs. One is heavily in debt and decided not to go further into debt by purchasing pokies. The other has no debt problem but also decided no to pokies because it felt that pokies would ruin the atmosphere of the club. *[Club official]*

### Impact on other spending

Gambling is affecting other businesses, but I don't know by how much. *[Hotelier]* Cheap pokies lunches have affected our meat sales. *[Supermarket employee]*

Decline in bingo ticket spending has meant that community groups in Whyalla have lost \$250 000 a year. *[Counsellor/welfare worker]*

Initially, the introduction of poker machines brought a down turn in TAB turnover. Last year, TAB turnover came back to its normal level and I expect it to stay that way. *[Club official]*

### Problem gambling/counselling

I'm not known in Port Augusta and many people approach me because I don't live in their community. In Roxby Downs there is a huge problem with problem gambling — both illegal and pokies. Very few people seek help when they are starting to go down. 70 per cent of problem gamblers seek help only when they have reached rock bottom. *[welfare worker]*

continued

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## Box 10.10 continued

### **Problem gambling/counselling continued**

There is only one recognised gambling counsellor between Campbelltown and Canberra so I would agree with that problem gambling service availability in country regions is poorer than city areas. Funding is enough for some face-to-face counselling — I did 70 hours counselling over 3 months. Most of the problem gamblers have contemplated suicide. *[Counsellor]*

My main concern is what's going to happen to family life. The main effect is on the unemployed and pensioners. We mainly see people on Newstart. Gambling has a great effect on families and children. Social issues are a real problem. *[Charity welfare worker]*

### **Crime and illegal gambling**

There is not much illegal gambling in Port Augusta. Illegal betting changed when the TAB came in. The TAB has meant that you haven't been able to put a bet with a SP bookmaker for the last five to ten years. *[Club official]*

There have been three unsubstantiated cases of illegal SP bookies operating in pubs in the last 5 years. Otherwise, there has been no evidence of crime, either organised crime or break-ins, associated with gambling. But I do not know what lies behind other crimes, such as domestic violence *[Police officer]*

There is a huge gambling culture in jails. They gamble with items like cigarettes, and it leads to a lot of violence. *[Correctional officer]*

### **Role of government**

Government ought to control gambling. If you do not have government controlling it, the underworld does. Gambling is here to stay, but it should be channelled in a way that does not injure families. Governments should exercise responsibility — increase their awareness about the effects of gambling and their responsibilities. *[Councillor]*

I wouldn't like to see the council rule on gambling issues. The council stopped a major development store in Port Augusta and didn't have the foresight to see that people would travel elsewhere — to Whyalla *[Community group representative]*

On pension days, pokies should be closed until after a certain hour. *[Counsellor]*

Years ago, only hotels had a license to sell alcohol. Now, coffee shops in Adelaide can. Business has been chipped off. I am against more businesses having gambling. *[Hotelier]*

### **Other matters**

Some people are concerned about Sunday gambling, but I think those days are gone. Gaming machines are seven days a week. *[Community group member]*. Saturday and Sunday is defunct. Lifestyles have changed over the last decade, you have leisure time through the week. People have a right to entertainment anytime. People can go into a club in Sydney at 4am and there will be 30 or 40 machines in play and people on shift. *[Club official]*

The Internet is very accessible in Port Augusta and Whyalla. I'm not sure it will impact on total expenditure. But if people are staying at home to play for entertainment, the community becomes more alienated. It also impacts upon venues and jobs. *[Charity welfare worker]*

I have grave concerns about Aboriginal gambling. Gambling is part of Aboriginal culture. But through card games it stayed in the community. Now with the pokies, the money doesn't go back to the community. *[Counsellor/welfare worker]*



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- there are concerns that gambling is taking money away from local shops and other organisations, including charities; and
  - a small number of people had experienced severe problem gambling, and in some instances this had led to financial crises, family breakdowns and crime.

However, some slight differences also emerge.

First, at its Roundtable discussions, the Commission was struck by the importance that many locals appeared to attach to hotels and clubs as a focal point for social interaction and community life in country Australia. This may reflect a lack of alternative entertainment and recreation venues in country Australia relative to those available in city areas. Clubs were seen as having a particularly important role to play in supporting local community groups and charities. The increase in patronage following the introduction or increased availability of gaming machines and other gambling services in clubs and pubs may thus be of more benefit to country dwellers than city residents. The VCGA's reports also pointed to improved entertainment and sporting club facilities as major community benefits associated with gambling.

Second, the introduction or increased availability of gaming machines and related gambling services may be contributing to changes in the pattern of settlement in country Australia. In its recent report on *The impact of Competition Policy reforms on rural and regional Australia*, the Commission (PC 1999) identified a 'sponge city' phenomenon, in which larger regional centres are growing in size, in part by soaking up population from their hinterlands. Participants at the Commission's Regional Roundtables said that gaming machines in venues in the towns added to their attractiveness, and were helping to pull in custom from surrounding districts. In turn, less money is spent in smaller localities, thereby reducing their viability, and smaller hotels are apparently closing with licenses being transferred to bigger urban areas.

These trends no doubt derive mainly from the broader changes that are transforming country Australia, such as improved transport, lower commodity prices, larger farm size and changes in government policies relating to rural and regional Australia.

However, the recent introduction or increased availability of gaming machines and related gambling services may be adding to them.

Further, Roundtable participants and respondents to the VCGA studies also expressed concern about potential leakages of economic activity from the region if State gambling tax revenue, hotel gaming profits and (non-club) gaming operator income is repatriated to metropolitan areas or elsewhere without corresponding

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injections of funds. As in the case of metropolitan municipalities that see a leakage of funds, this then raises the issue of whether funds should be ‘earmarked’ for these communities to counter these losses — a matter discussed in chapter 20.

Third, there is some limited evidence that the availability of problem gambling services in country regions is poorer than in city areas. For example, there is only one recognised problem gambling counsellor between Campbelltown, on Sydney’s outskirts, and Canberra.

Overall, however, the Commission was unable to identify any substantial differences in the impacts of liberalised gambling in country areas relative to those in metropolitan areas.

In its submission on the draft report, the Queensland Government stated:

The Draft Report’s claims do not give adequate consideration to impacts at a state, regional and community level, or to the differing nature and characteristics (such as levels of infrastructure) of individual state economies and their respective abilities to attract industries and jobs.

For example, the resurgence of the club and hotel industries in Queensland has been a direct result of the expansion of gaming since the introduction of gaming machines in 1992. This expansion has been associated with:

- significant growth in employment in Queensland clubs and hotels;
- increased Queensland clubs and hotels revenue (and associated decline in revenues for clubs in Northern NSW which previously relied heavily on the patronage of Queenslanders);
- the generation of revenue for direct funding of Queensland community projects and capital works and for the provision of essential government services including health, education, and law and order; and
- enjoyment of recreational and other facilities by Queensland patrons.

The Queensland Government considers that it is unlikely such benefits would have accrued in regional Queensland, or elsewhere in Queensland, if gaming machines had not been introduced (sub. D275).

It further commented that:

The availability of gaming creates economic activity, employment, recreational and entertainment opportunities in regional communities. Such investment can alternatively lead to improvement in the overall investment in smaller towns (sub. D275).

The Commission of course accepts that the introduction of gaming machines in Queensland may well have attracted some expenditure away from New South Wales clubs and hotels, just as the introduction of pokies in Victoria has seen an end of ‘day trips’ to towns on New South Wales border for the purposes of gambling.

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### Box 10.11 Effects of EGMs on non-metropolitan communities

A VCGA study covered five regional areas: the cities of Greater Ballarat, Bendigo and Geelong, and the Shires of La Trobe and of Baw Baw. The report commented:

...EGMs in clubs and hotels are currently providing 760 jobs to residents in the five study regions representing 0.40 per cent of regional employment. Households in the five regions are likely to spend \$150 million on EGM gambling.

Offsetting any short term gains, there may be leakages of economic activity from each region if State gambling tax revenue, hotel gaming profits and gaming operator income is repatriated to Melbourne and elsewhere and if like transfers into the areas from Melbourne and elsewhere do not take place.

There is evidence of important distributional effects among, between and within business and households in regional communities, in that moneys spent on EGMs would otherwise have been spent in other areas.

On the differences between the regions, the study commented (p3):

The dissimilarity of socioeconomic – demographic profiles of the regions (with the exception of Ballarat and Bendigo) restricted comparative possibilities *between regions*. However, when comparing the randomly selected *individuals* surveyed across the five regions in terms of their stated behaviour and attitudes to EGMs, the individuals showed far more similarities than differences. The reaction to EGMs in each region across a range of interest groups showed in all cases (except the gaming industry) more negative than positive reactions to EGMs. In short it was the marked *similarities* between the regions surveyed in data generated by this study as to the use of and reaction to EGMs which is notable. ... Thus, despite the differences in the economies of the regions, there are not marked differences of scope and scale in EGM activity, usage and response.

On the overall level of community attitudes, the study found:

However, when asked whether gambling does more bad than good about 80 per cent of all respondents said “yes”. While this response was more prevalent among non-gamblers, about 77 per cent of gamblers and EGM gamblers also gave this answer. In the public sphere, State agencies report social and economic impacts in the form of marginally higher workloads (Department of Human Services, Police, Magistrates Courts). Officials in private community service agencies (emergency relief, financial counselling, family counselling) reported major increases in workloads, not necessarily in a large volume of cases but in the severity and complexity of cases related to actual or suspected problem gambling. There appeared to be an increased workload for the Commonwealth Department of Social Security (DSS) which related to client gambling behaviour.

In conclusion:

From the data collected during this study, it would appear that the social consequences for most EGM users are benign, and are perceived by them most often in terms of improved social and entertainment facilities provided by EGM venues. These non-gambling social benefits were reported as more important to individuals than actual EGM gambling. The major neighbourhood benefits cited were improved facilities to sporting clubs and regional returns from the Community Support Fund. In all regions, the major discourse about the impact of EGMs concerned the perception of the severity of problem gambling. The perception of the severity of the consequences of problem gambling was influential in shaping the strong opinion that the bad achieved by EGM gaming outweighed the good.

*Source:* Deakin Human Services & Melbourne Institute of Applied Economic and Social Research (1997)

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### Box 10.12 Impact of EGMs on small rural communities

The VCGA commissioned a study of the effect of gaming machines on three small rural communities in Victoria. The communities chosen were:

- the Statistical Local Area of Wannon, including the townships of Balmoral (population 220) and Coleraine (population 1105);
- the Statistical Local Area of Camperdown, based around the township of Camperdown (population 3153); and
- the township of Sale and the area within 40 kilometres (population 31,574).

The study was based on discussions and interviews with a range of people in each of the regions. The report commented (p.xv):

In overall dollar terms, the role of EGMs was found to be minimal when compared with the overall level of economic activity (as approximated by aggregate private income) and employment structure in each of the regions. As a result, quantifiable evidence of the impact of EGMs was not detected in the analysis of the changing social and economic characteristics of any of the regions.

The study reported the results of community workshops as (p. xvi):

In general there was agreement that EGMs had changed the lifestyles of a significant section of the community and that there had been changes to entertainment patterns which are attributable to the introduction of EGMs. There was a clear response to the issue of changed shopping patterns with participants indicating that discretionary expenditure is being directed away from retail towards EGMs. ... Gaming venues were perceived as providing safe and comfortable entertainment environments for females. However there were perceived to be negative impacts on alternative forms of entertainment.

*Source:* Hames Sharley Victoria (1997)

Nor does it deny the potential for many of the broader benefits identified by the Queensland Government, including those accruing in regional centres. Indeed, the Commission did examine the benefits for the club industry and its patrons (section 10.2) and it has included the tax revenue from gambling as benefits (chapter 5). And nor does it deny the potential for regional variations in the distribution of benefits from gambling liberalisation.

However, these points do not alter the conclusion about the national benefits and costs resulting from liberalisation; nor do they negate the conclusion that *substantial* differences in the impacts of liberalised gambling in country areas relative to those in metropolitan areas are difficult to identify.

In this context, it should be noted that, just as there will be country communities that do benefit significantly from the liberalisation of gambling, so there will be

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those that do not. Indeed, as a study that analysed the impact of the introduction of gaming machines in a country town in South Australia argued:

In summary, it can be claimed that the costs and benefits of poker machines in Peterborough have not been metered out in a balanced fashion. There is little in the way of employment and multiplier effects, entertainment values and cheap meals are not valued enormously by the town's people, and no-one was aware of any major jackpot wins. In contrast, most people knew of someone with a gambling problem, small businesses have experienced declines in turnover, clubs and charities are in difficulty due to fundraising declines and the demand for welfare services has increased. It would appear that given the socioeconomic circumstances of the town, the arrival of the poker machines has brought with it new problems and exacerbated old ones, but has brought little in the way of benefits. Poker machines are now contributing to the declining socioeconomic fortunes of the town (Marshall 1999).

This helps to highlight the fact that, just as some metropolitan areas will benefit (or fail to benefit) from gambling to a different extent than others, so some regional areas will benefit (or fail to benefit) from gambling to a different extent to others.

Overall then, the Commission remains of the view that the broad pattern of impacts of gambling in country areas does not differ significantly from the pattern in metropolitan areas.

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# 11 Gauging the net impacts

## Box 11.1 Key messages

- Estimates of the net impact of the gambling industries are extremely difficult to make and need to be interpreted with care.
- The Commission's estimates for the gambling industries *as a whole* show a range from a net community cost of \$1.2 billion to a net community benefit of \$4.3 billion.
- This aggregate estimate *by itself* is of limited use for policy analysis because:
  - the estimate covers a wide range from positive to negative;
  - it omits several of the impacts of gambling, principally on the cost side;
  - it hides differences in the distribution of benefits and costs between different gambling modes (as well as between different regions); and
  - in any case, a net impact estimate (whether positive or negative) cannot of itself guide policy decisions about incremental change or the most appropriate regulatory environment.
- Assessments of net impacts for the different *gambling modes* can provide more guidance for policy, particularly when accompanied with other quantitative and qualitative assessments of impacts and social costs:
- The Commission's quantitative estimates for lotteries suggest that they provide a clear benefit and, in the process, generate few social costs.
- While the estimates for gaming machines include the possibility of net benefits, they also encompass the possibility of a net social loss, due to the high degree of problem gambling related to this mode.
- There is a similar pattern for wagering, although the potential costs are estimated to be much lower.
- These quantitative assessments largely concur with more qualitative information on the impacts of the different gambling modes.
- The magnitude of social costs, particularly for gaming machines and wagering, suggests that governments should explore measures that can reduce the costs while as far as possible maintaining the benefits.

## 11.1 Introduction

So far in part C, the Commission has separately examined the benefits and costs of gambling, focussing on those of most relevance for government policy. It looked at

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the benefits in chapter 5 and parts of chapter 10. Chapters 6–9 discussed the extent and nature of problem gambling and the various financial, social, emotional, criminal and community costs it entails. And chapter 10 also discussed the broader community impacts of gambling.

In doing this, the Commission has sought to quantify as many of the impacts as possible. Although this has not been a simple task, the Commission has been able to provide a range of quantitative estimates for what it sees as the many of the most substantive benefits and costs. It has buttressed these quantitative estimates with a qualitative discussion of the other benefits and costs that flow from gambling.

In this chapter, the Commission brings together its estimates of the measured benefits and costs of gambling to assist in gaining a sense of the overall impact of gambling liberalisation in Australia. The focus is on determining the measured net impact of the gambling industries, either as a whole or individually. It is equivalent to seeking to answer the question: what have been the benefits of making gambling legally available?

The meaning of ‘net impact’ estimates can easily be misunderstood, and there has been some misuse in public debate of the estimates published in the draft report (box 11.2). To reduce the scope for further misuse, in this chapter the Commission discusses what estimates of this nature *do* and *do not* mean, both in their own right and in terms of their relevance for government policy.

## **11.2 The Commission’s assessments**

To derive quantitative estimates of the net impact of gambling, the estimated social costs of problem gambling can be subtracted from the net consumer benefit estimates. As discussed in chapter 9, the Commission has erred on the side of understating the social costs. The resultant net impact figures will be similarly conservative. As discussed in chapter 5, the estimated benefits include only those benefits resulting from the consumption of gambling. The estimates do not include any ‘production-side’ benefits from the liberalisation of gambling, or benefits resulting from the displacement of illegal gambling, which the Commission considers are minor and/or unmeasurable at the national level.

Reflecting the fact that the estimates from which the net impact figure is derived are presented as a range, rather than as point estimates, the net impact estimates also take the form of a range. Further, by using the top of the benefit range with the bottom of the cost range for the higher estimate of the net impact range, and vice versa for the lower estimate of the net impact range, the net impact range is wider than either the benefit range on its own or the cost range on its own.

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### Box 11.2 ‘Lies, damned lies and statistics’

The reliability of statistics used in public debate depends on both the rigour with which they are calculated and the veracity with which they are communicated.

The Commission qualified the estimates of benefits, costs and the net impact of the gambling industries that it published in the draft report, noting among other things that the estimates were inevitably ‘ballpark’ figures and that, in practice, the true net impact could be positive or negative. In other words, there was insufficient certainty to say whether the net impacts were positive or negative.

In the debate that followed the release of the draft report, the estimates were misused in several ways:

- in a publication purporting to present “the whole story” about gaming machines, one industry group reported only the Commission’s estimates of the net consumer benefits of gambling, omitting the social cost estimates;
- an inquiry participant, in seeking to convince the Commission that it should now conclude that the gambling industries impose a net cost on society, indicated that this would be a useful device with which to argue publicly for the curtailment of the industry; and
- a public figure commented that the Commission’s quantitative estimates of a positive net impact from the gambling industry proved that concerns about the recent growth of the industry were misplaced.

In its submission on the draft report, the Australian Hotels Association (NSW) stated (sub. D208, pp. 7-8):

The range is so broad that the Commission’s conclusion should have been (had it been asked to reach a conclusion) that it didn’t know from the data available what the net position was. In its Annual Budget, the Government would be ridiculed if it postulated a surplus of somewhere between effectively nothing and five billion dollars.

However, the Commission considers that its use of a (wide) range for its net industry impact estimates properly reflects the uncertainties the estimates entail.

It should also be noted that there are important differences between government budgets and net industry impact measures. The budget relates purely to monetary flows for which significant historical information exists to allow reasonably accurate estimates and forecasts of future spending to be prepared. The gambling estimates, on the other hand, deal with quite different subject matter, including many intangibles such as people’s emotions and mental states. They also have a different purpose for which the precision necessary for budget estimates is simply not a requirement.



The Commission does caution, however, against crude interpretations of the ranges it has provided. In particular, it is not necessarily the case that the mid-point of the range is the figure most likely to represent the true figure. For example, if the range is from negative \$3 billion to positive \$1 billion, it cannot automatically be concluded that negative \$1 billion represents the ‘best estimate’ of the real net impact, nor even that a negative net impact outcome is more likely than a positive net impact outcome. This is because the distribution of probabilities is not spread evenly throughout the range. Without information on the spread of probabilities, all that such a range can reveal is that the true value probably lies somewhere within it.

Overall, while the Commission recognises the estimates’ limitations, particularly the aggregate estimates of the net impact of the gambling industries, it considers that they can make a useful contribution. Among other things, given that other estimates of the net impact of gambling have entered public debate, the Commission considers it helpful to present its own estimates as a benchmark against which others may be compared. Further, if used with appropriate care, the quantitative estimates, and particularly the social cost and the net estimates for the different gambling modes, can help to shed a clearer light on the impacts of gambling and their significance for policy.

### Aggregate estimates

The Commission estimates that the availability of gambling services provided benefits to consumers (after adjustment for the excessive spending by problem gamblers) of between \$4.4 billion and \$6.1 billion in 1997-98, while the measured social costs of problem gambling are estimated to range between \$1.8 billion and \$5.6 billion annually.

These figures in turn yield net impact estimates for the gambling industries ranging from a net cost of \$1.2 billion to a net benefit of \$4.3 billion (table 11.1).

**Table 11.1 Measured net impact of the gambling industries**  
(\$ million, 1997-98)

	<i>Low consumer surplus</i>	<i>High consumer surplus</i>
Low social cost	2 565	4 277
High social cost	-1 221	490

Source: Commission estimates.

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In interpreting these figures, it should be noted that:

- the estimates cover a wide range, from positive to negative;
- they omit several of the impacts of gambling, principally on the cost side;
- net impact figures hide differences in the distribution of benefits and costs between different gambling modes;
- they also hide differences between different states and regions; and
- in any case, a net impact estimate (whether positive or negative) cannot of itself guide policies relating to incremental changes or the appropriate regulatory environment (boxes 11.3 and 11.4).

For these collective reasons, the Commission considers that the aggregate figures are of limited use for policy. Assessments of net impacts for the different gambling modes can provide more guidance, particularly when considered in conjunction with other quantitative and qualitative assessments of impacts and social costs.

#### **Box 11.3 Some limitations of net impact estimates**

By themselves, net impact estimates for an industry are generally of limited use for devising public policy.

Normally what matters for policy is not the net benefits or costs of the *current* level of activity in a particular industry, but rather how *marginal* increases, decreases or changes in the nature of the industry will affect the net benefits or costs, *irrespective of what they are to start with*. This is because most policy decisions are concerned with incremental changes to an industry – not its wholesale liberalisation or abolition.

However, a net industry impact figure does not necessarily indicate whether the industry in question should be expanded or curtailed. For example, it is possible for an industry to generate a net benefit figure provided the industry is within a reasonable range of its optimal size, irrespective of whether it is above or below its optimal size. Further, it is plausible that, for industries that generate net community costs *in their current form*, policy changes such as harm minimisation, could result in them becoming sources of net community benefits. In this *different form*, the community might benefit from their expansion.

Another limitation is that a single net impact estimate for a group of industries will obscure any differences in the distribution of benefits and costs within the group. If the group recorded a net cost figure overall, for example, it is possible that some parts of the group might generate higher than average net costs, while other parts of the group might generate net benefits. This is the case in the gambling industries at present.

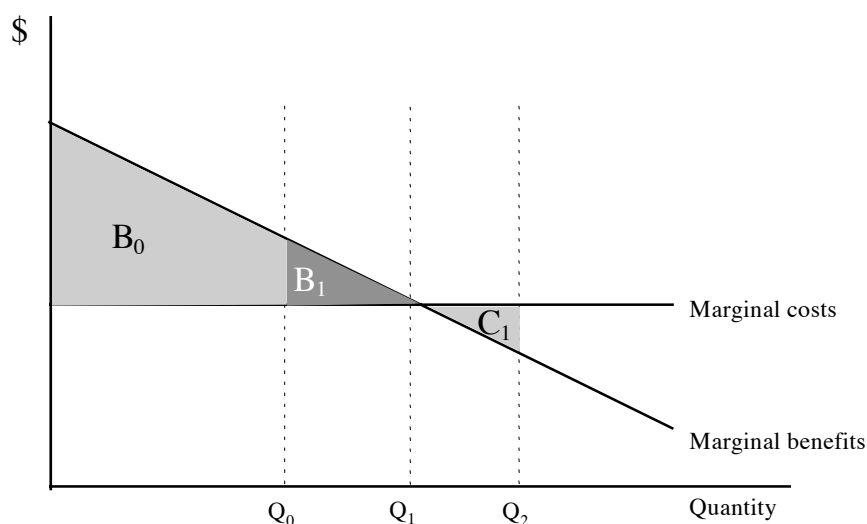
### Box 11.4 Net impacts and optimal industry size

The figure below is a conceptual tool which can be used to demonstrate the relationships between benefits, costs, net impacts and optimal industry size.

As the quantity of gambling increases, the benefits flowing from each additional unit of gambling tend to decline (simply because the first units of consumption are valued by consumers more than the last — think of eating ice creams or spending time at the beach). Hence, the marginal benefit curve slopes downwards to the right.

To simplify the exposition, every additional unit of gambling is shown as bringing the same costs as the unit before it. Hence, the marginal cost curve is flat.

The net benefits of an industry are equal to the area under the marginal benefits curve *less* the area under the marginal cost curve. This means that the net benefits of having the industry are  $B_0$  when gambling is at  $Q_0$ , whereas they are  $(B_0+B_1)$  when gambling is at  $Q_1$  and  $(B_0+B_1-C_1)$  when gambling is at  $Q_2$ . The optimal industry size — that is, the size at which net benefits are maximised — is thus  $Q_1$ .



If the current regulatory regime had set the quantity of gambling at  $Q_0$ , then further expansion of the industry would be warranted (until point  $Q_1$  is reached). If, however, the current regulations had set the quantity of gambling at point  $Q_2$ , then there would be gains from winding back the industry. Notably though, the net benefit is still positive at point  $Q_2$ . The industry would only start showing total net costs at a point well to the right of  $Q_2$ , where the net costs of each unit of consumption beyond point  $Q_1$  started to exceed the net benefits gained from each unit of consumption up to  $Q_1$ .

This has important implications. Finding that gambling in *total* contributes greater benefits than costs does not show whether the industry should be further expanded or wound back. Equally, a finding of net costs, while possibly suggesting some changes are necessary, would not indicate that the industry should be abolished.

## Estimates for different gambling modes

The Commission's estimates of net consumer benefits and of social costs for the different gambling modes are set out in table 11.2, as are the resultant ranges of net impact estimates.

In deriving these estimates, the Commission has had to allocate the proportion of the total social costs of problem gambling among the modes. It has done this according to the proportion of expenditure by problem gamblers in each mode (section 9.3 in chapter 9).<sup>1</sup>

One difficulty in allocating costs in this way is the lack of statistical precision in the estimates of the share of expenditure accounted for by problem gamblers for *some* modes. This problem arises because of the small number of problem gamblers, for some modes, in the Commission's *National Gambling Survey*. The estimates are most precise for lotteries, gaming machines and wagering. However, they are less so for scratchies, casino gambling and the 'other' mode — mainly keno.

Table 11.2 **Measured consumer benefits, social costs and net impacts of gambling, by mode of gambling**  
\$ million (1997-98)

	<i>Net consumer benefit</i>	<i>Social costs of gambling</i>	<i>Net benefit<sup>a</sup></i>
Wagering	629 — 885	267 — 830	(201) — 617
Lotteries	1 232 — 1 498	34 — 106	1 126 — 1 464
Scratchies	219 — 266	24 — 74	145 — 243
Gaming machines	1 617 — 2 491	1 369 — 4 250	(2 634) — 1 122
Casino gaming	581 — 771	48 — 150	431 — 723
Other	103 — 184	57 — 176	(73) — 127
<b>All gambling</b>	<b>4 365 — 6 076</b>	<b>1 800 — 5 586</b>	<b>(1 221) — 4 277</b>

a: figures in brackets represent a loss.

Source: Commission estimates.

The Commission's estimates indicate that *lotteries* generate relatively low social costs and provide a clear (measured) net community benefit of between \$1.1 billion and \$1.5 billion. Spending by problem gamblers accounts for only 6 per cent of the

<sup>1</sup> There are some limitations in this rule-of-thumb approach. Modes which do not involve continuous play, such as lotteries, might in reality be the source of a lower proportion of the social costs of problem gambling than their expenditure share suggests. It is also possible that different modes will occasion different social costs per dollar spent by problem gamblers for other reasons, such as differences in the age or gender profile of gamblers that play the different modes. While these considerations mean that the approach for apportioning social costs will not be precise, in the absence of more specific information the Commission judges that it represents a reasonable approach.

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total spent on lotteries — the vast majority is recreational gambling (table 9.4 in chapter 9). This small proportion of problem gambling expenditure means that, even if the estimate of social costs from problem gambling were to be increased to compensate for the conservatism and omissions in the Commission’s estimates, lotteries would continue to show a significant net community benefit. This aligns with the Commission’s assessment of other evidence to this inquiry.

For gaming machines, the estimates indicate that, while this mode could provide net community benefits, it could also provide net community costs, and it certainly generates significant social costs. Problem gamblers account for a significant share of the total spending on gaming machines. Hence, (upward) adjustments to the estimates to take into account the unmeasured or understated social costs of problem gambling would push the net impact estimate range further into the negative. Again, these findings are consistent with the other quantitative and qualitative evidence presented to the Commission.

The *wagering* estimates are similar in pattern to those for gaming machines, although wagering generates proportionately lower social costs and thus the net impact range is more to the positive. Further, there is a question about the degree to which the growth in legal wagering has displaced illegal wagering. To the extent that it has, the social costs associated with the existence of legal wagering would be lessened (appendix O).

## **State and regional impacts?**

As noted in section 10.5, the Commission found evidence of a concentration of gaming machines in areas of low socio-economic status in Victoria, New South Wales and South Australia (although not in Queensland). This in turn suggests that a greater proportion of residents in these areas are likely to be problem gamblers, and thus that the social costs in these areas will be higher.

Beyond these points, there is little evidence to suggest that the extent of problem gambling as a proportion of the population is significantly different in different regions within particular states or territories; nor that consumers derive different levels of benefits per dollar spent gambling depending on the region in which they reside.

At the state level, there are some differences in the prevalence of problem gambling between the states, notably a lower rate in Western Australia where gaming machines are different in nature and much more restricted in accessibility than elsewhere in Australia. This in turn implies that there will be differences in the net

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impacts experienced in different states, although these differences are hidden by the national estimates.

The Commission had signalled an intention to make state-by-state estimates for its final report, but this was precluded by imprecision in the data for some states. However, the fact that the distribution of benefits and costs will vary between regions and states does not of itself indicate a need for adjustments to assessments of the net national impacts, just a need for them to be interpreted carefully.

### **11.3 Implications**

What can be concluded from this quantification exercise, with all its limitations, is that the social costs as well as the benefits from the gambling industries are likely to be substantial. These estimates provide a policy challenge for governments:

- the magnitude of the social costs associated with gambling are sufficiently large, particularly for gaming machines and wagering, that governments should explore measures to reduce them; while
- the benefits are big enough that governments will not wish to lose them through overly harsh regulatory arrangements.

These policy issues are addressed in part D of the report.