



The South Australian
Centre for Economic Studies

Adelaide & Flinders Universities



The Impact of Gaming Machines on Small Regional Economies

Final Report

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The Provincial Cities Association of SA

Prepared by:

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Note: This study, while embodying the best efforts of the investigators is but an expression of the issues considered most relevant, and neither the Centre, the investigators, nor the Universities can be held responsible for any consequences that ensue from the use of the information in this report.

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Individuals from the Productivity Commission reviewed several aspects of the methodology and provided helpful comments. Independent readers were asked to review successive drafts and while these individuals are not identified by name here, the Centre records its appreciation of the many helpful comments and suggestions during the course of the study.

Glossary of Terms

Consumer surplus	An economic measure of the benefit that a consumer derives from the consumption of a good/service. More explicitly, it is the difference between what a consumer is willing to pay for a good/service and what they actually pay for that good/service.
Gambling	Placement of a bet on the outcome of a future uncertain event (VCGA, 2000). Refers to all forms of betting including wagering and gambling.
Gaming	Legal gambling on electronic gaming machines (i.e., poker machines). Sometimes used to describe all other forms of gambling other than wagering.
Gambling turnover	The total amount of money wagered by gamblers (i.e., how much gamblers outlay/bet on gambling activities). The Gaming Machines Act 1992 defines gross gaming turnover as the total amount of all bets made on gaming machines.
Net gaming revenue or expenditure	Total amount of money lost by gamblers. The Gaming Machines Act defines net gambling revenue (in relation to a financial year) as the total amount of all bets made on gaming machines on licensed premises during that year less the total amount of all prizes won on the machines during that year. Sometimes referred to in text as NGR.
Wagering	Legal gambling on racing and sporting events. Racing includes all variations of horse and greyhound racing.
Gambling Taxation (Clubs)	It is important to note that clubs receive more favourable treatment than hotels in terms of the taxation of gaming machine revenues. For example, with respect to the 1999/2000 financial year, non-profit businesses (e.g., clubs) with an annual net gaming revenue of \$399,000 or less incurred a tax rate of 30 per cent of net gaming revenue. In contrast, in all other cases (e.g., hotels), the tax rate for this threshold was 35 per cent of net gaming revenue. Tax rates for the 1998-99 and 1999-00 financial years are presented in Appendix A.
The Act	The Gaming Machines Act 1992.

Executive Summary

The primary objective of this study has been to estimate quantitatively the overall net impact of gaming machines on regional economies (i.e., economic and social impact). The study takes up from where the Productivity Commission's *Australia's Gambling Industries* study stopped — specifically, that the national estimate of the overall impact of gambling activities was of 'limited usefulness for policy' because, *inter alia*, "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".¹ There are also significant differences between States and Territories in the ownership and the structure of the industry and the mobility pattern of electronic gaming machines. The Centre employed a variety of methodological approaches in the study to ensure that policy issues were highlighted and that economic and social impacts were thoroughly assessed. Some components of our methodology were forwarded to the Productivity Commission for overview and comment.

National Productivity Commission Study

The national context (before looking in more detail at the Provincial Cities) can be summarised using the Productivity Commission estimates of benefits and costs:

- for all gambling, the range of net costs/benefits was -\$1.2 billion to +\$4.3 billion; and
- for gaming machines only, the range was -\$2.6 billion to +\$1.1 billion.

The Commission found that gaming machines potentially involve significant social costs and that public policy should therefore balance two realities:

- that community wide benefits are significant and government should not overly regulate the industry, but
- that the scale of social costs (for gaming machines and wagering) are such that government should explore measures to reduce them.

It is the Centre's view that it is not simply the 'scale of social costs' but the possibility of the concentration of social costs, by region or socio-economic factors which also requires examination.

Further, there are significant benefits for 5.2 million non-problem gamblers estimated to range from \$2.8 billion to \$3.7 billion. However, the effect on problem gamblers was from -\$2.2 billion to -\$5.2 billion, or between \$8,000-\$20,000 per problem gambler and the Commission noted the "numbers for gaming machines and wagering includes the possibility of a net loss".

¹ Productivity Commission, Vol. 1, p. 33.

A reasoned response would be that the benefits are supportive of the industry's continued operation, but that measures be implemented to guard against problem gambling, to maintain oversight on the product itself, and to assist those who become "problem gamblers".

Government Reviews, Local Government and Recent Initiatives

It is important to stress that the EGM industry has expanded very quickly and that industry representatives acknowledge the 'spotlight is on the industry'. Responses by government and industry to the issue of problem gambling have tended to lag behind the explosive growth of the industry. The industry accepts that the far greater usage of EGMs and their relative accessibility has magnified the issue of problem gambling. The levels of resources devoted to research, prevention and treatment (e.g., counselling) has also tended to lag the rapid growth of the industry. There is a danger that quick fix solutions (e.g., technology, solutions, smart cards) may have unintended consequences. Certainly, there are many in the industry, for example, who are sceptical about the role of smart cards in curbing problem gambling, while at the same time, new machines are proposed that will display gaming information on the chances of winning, probabilities, record players time on machines, etc.. It is uncertain what the impact of these improvements in the "user interface" will have on problem gambling.

The South Australian Government, through the Gaming Machine Review Committee has sought to address measures for reducing problem gambling and industry regulation. Broadly, it has proposed:

- to establish an Independent Gambling Authority with a Minister for Gambling;
- to establish research priorities and coordinate a research program;
- specific measures intended to reduce problem gambling; and
- an extension of the general cap on the number of poker machines until May 31, 2003 at which time this will be reviewed.

A ban on autoplay facilities, on note acceptors, a daily limit on cash withdrawals at ATMs and EFTPOS facilities located at gaming machine venues have been proposed, as well as an increase in the minimum rate of return for new gaming machines from 85 per cent to 87.5 per cent. Again, it is uncertain whether these reforms will have the intended effect on curbing problem gambling — they will need to be monitored and reviewed — and are therefore areas for further research.

Issues raised in the Social Development Committee report (1998) such as a freeze on the number of machines and an actual progressive reduction in the number of machines have only partially been taken up with the extension of the general cap to May 31, 2003. The "cap" has not in effect been a cap on the actual number of EGMs as there is no shared view about this, but rather the cap has effectively been a timing delay to the approval (not the receipt) of applications. It might more appropriately be called a "breathing space".

The impact on sporting and community clubs and councils is considered in this report, and by research commissioned by Clubs SA (see Section 2.3), and the negative impact on community organisations is acknowledged in the establishment of the Community Benefit (SA) Fund and other funding programs (see Section 2.4). The impact on council budgets (through additional support to community and sporting clubs) warrant further consideration in a statewide context.

Councils in a survey conducted by the LGA, expressed the view that they do not support a prohibition on gaming machines, that they recognise social costs and benefits, coupled with improvement in private and community hotels and clubs, that it is the role of State Government to regulate the industry and to address the impact of gaming machines.

State Overview

Before turning specifically to the Provincial Cities we summarise observations at the State level relative to national gambling trends:

- South Australia's share of gaming machine expenditure is consistent with its share of all gambling expenditure;
- South Australia's adult population gambles less intensively than in other States;
- there are implications for clubs, charities and community facilities in the dramatic decline in 'other gaming' expenditure which has occurred since the introduction of gaming machines and the manner in which they were introduced;
- expenditure per adult on all forms of gambling was \$650 in 1999 while the Australian average was \$874 per adult;
- gaming expenditure as a proportion of household final consumption expenditure was 2.9 per cent in 1999 (Australia, 3.5 per cent);
- total gambling taxation revenue represented 8.0 per cent of total State taxation revenue in 1999 or \$280 per adult, (the third highest revenue per adult in 1999);
- taxation revenue from gaming machines in South Australia in 1998-99 represented 60.2 per cent of government revenue from all forms of gambling which is the highest proportion of all States and Territories;
- there are 11 machines per 1,000 adult persons in South Australia, compared to 8 machines per 1,000 persons in Victoria;
- there are 50 venues per 100,000 persons compared to 15 in Victoria; and
- expenditure per machine averaged \$37,045 in South Australia in 1999 compared to \$71,611 in Victoria, a comparison which is influenced by the cap on the number of machines in Victoria since December 1997, the actual general number of venues and machines and the mobility of machines within the Victorian gaming industry.

Table E1 (the complete table for Australia and South Australia is shown as Table 3.1) illustrates the change in gambling expenditure by type of gambling. It is noticeable here that expenditure switching has taken place across all forms of gambling in favour of gaming machines. From a State Government perspective, there has been a decline in revenue sources such as for racing, the casino, the Lotteries Commission (Instant Money) and minor gaming (including licences and permits) that has been more than compensated by the gain in taxation revenue from gaming machines.

Table E.1
Gambling Expenditure By Type
South Australia - 1993-94 to 1998-99

	Racing	Gaming Machine	Other Gaming					Total* Gambling
			Casino	Lotto	Instant Money	Minor Gaming	Sub Total	
1993-94	108.0	0.0	128.2	67.8	15.6	55.7	283.9	391.9
1994-95	102.6	198.3	89.4	65.1	11.7	25.2	206.0	506.9
1995-96	92.3	327.6	78.5	64.6	8.5	22.5	188.3	608.2
1996-97	95.7	368.8	71.6	63.2	8.3	26.0	183.2	647.6
1997-98	104.8	399.5	77.0	68.4	8.4	29.3	197.4	701.8
1998-99	106.7	442.5	76.6	70.6	9.3	19.3	189.4	738.6

Notes: * Total Gambling is sum of racing, gaming machines and 'other gaming' sub-total.

Source: Tasmanian Gaming Commission, Australian Gambling Statistics, 1998-99.

From the perspective of community organisations (the very large to the smaller organisation, unlicensed clubs, charitable groups) the decline in minor gambling from \$55.7m in 1993-94 to \$19.3m in 1998-99 signals a most serious situation. In real terms over this period, the Centre estimates the total loss to be in the order of \$174m. from minor gambling sources, a large proportion of which traditionally flowed to the groups referred to above.

Regional Overview

Regional trends for the combined Provincial Cities show:

- there is a higher ratio of gaming machines in non-metropolitan Adelaide per adult population than for the Adelaide metropolitan area;
- there is a higher number of venues per adult population in the Provincial Cities than for the Adelaide metropolitan area;
- incomes per adult are lower in the total non-metropolitan area relative to Adelaide metropolitan area;
- gaming machine expenditure (losses) in the Provincial Cities represented 13.3 per cent of all losses in the State in 1995-96 declining to 11.6 per cent in 1999-00, above the combined population share of 9.1 per cent;
- average expenditure per adult in the Provincial Cities on EGMs was \$539 which was 27 per cent higher than the State average of \$425 (1990-00);

-
- the Cities possess a disproportionate share of all gaming machines at 14.9 per cent with a population share of 9.1 per cent;
 - the Cities possess a higher number of machines per 1,000 adult persons at 18 machines, compared to a State average of 11;
 - all but Murray Bridge have a lesser number of adults per gaming venue than the State average, reflecting the intensity of gaming venues in the Provincial Cities; and
 - in 1999-00 the Provincial Cities averaged \$217 in gaming taxation revenue per adult compared to \$185 per adult for South Australia.

Taken together these 'dot point summary items' indicate there are a range of significant policy issues which need to be addressed in regard to gaming and the Provincial Cities. This view is reinforced by the discussion which follows below.

Factors Which Influence Net Gaming Revenue

The econometric analysis conducted by the Productivity Commission for the nation as a whole found evidence of:

- a concentration of gaming machines in lower socio-economic areas;
- an inverse relationship between a region's income and the total amount spent on gaming machines; and
- a negative and significant relationship between regional median weekly income and annual average expenditure on electronic gaming machines.

We discuss in Section 4.1.1 that this could be seen to suggest that persons in lower income groups:

- are more likely to gamble using electronic gaming machines; and/or
- are likely to lose (spend) more when they do so.

Accordingly, the Centre sought to determine the factors which influence the differences in net gaming revenue between different areas. The results are shown in Table E.2 and in Table E.3 where the influences on net gaming revenue are related to each of the member towns and cities of the Association of Provincial Cities. It was found that once the demographic characteristics of a region were taken into account, expenditure increased with median regional income (an opposite effect from the PC's finding).

The results indicate that the three significant demographic factors which produce the apparent link between lower incomes and higher electronic gaming machine expenditure in South Australia are:

- higher unemployment as a proportion of adults;
- higher proportions of persons identifying as Aboriginal or Torres Strait Islanders; and

- high proportions of private dwellings rented from the Housing Trust.

Table E.2
Influences on Net Gaming Revenue per Adult in Council Areas.

	Coefficients	Standard Error	t Stat	P-value
Intercept*	-222.838	106.68	-2.09	0.0410
No. of Venues/km ² *	273.261	58.53	4.67	0.0000
No. of machines/1000 adults*	11.731	2.19	5.36	0.0000
Ave disposable income *	0.015	0.01	2.86	0.0059
UE as a % of Adults*	27.559	11.42	2.41	0.0190
ATSI % of population**	9.596	5.23	1.84	0.0713
Proportion housing trust***	4.402	2.81	1.57	0.1227

* Significant at the 5 per cent level

** Significant at the 10 per cent level

*** Significant at the 15 per cent level

Adjusted R²: 0.8431

F-statistic: 59.2307

Prob. F: 3.8 E⁻²³

Table E.3
Profile of the Provincial Cities: Influences on Net Gaming Revenue

	NGR per Adult (\$)	Ave Income per Adult (\$)	Venues/Sq km (No.)	EGMs/1000 Adults (No.)	Adult Unemp. Per cent	ATSI Per cent	Houses rented, Housing Trust Per cent
Berri Barmera	686.30	13,720.27	0.0135	19.7	6.7	2.25	11.42
Loxton Waikerie	372.52	13,566.50	0.0009	15.4	3.6	0.78	7.17
Renmark Paringa	525.53	13,526.58	0.0076	17.3	5.8	1.30	9.68
Mount Gambier & Grant	530.37	15,284.25	0.0073	18.3	5.2	0.94	12.26
Murray Bridge	493.85	11,692.44	0.0033	12.8	7.7	3.69	14.91
Port Augusta	560.24	12,833.11	0.0095	26.5	7.8	13.84	26.10
Port Lincoln	600.25	14,399.07	0.2635	23.3	6.5	4.50	18.35
Port Pirie	429.61	12,129.28	0.0024	18.1	8.5	1.56	14.91
Whyalla	474.73	13,195.45	0.0068	12.6	8.8	2.19	36.33
Provincial Cities Total	512.47	13,493.16	0.0040	17.8	6.8	3.13	18.07
Other Non-Metro	311.01	12,140.33	0.0002	15.5	4.6	2.76	3.51
Total Non-Metro	394.18	12,698.81	0.0003	16.4	5.5	2.92	9.84
Adelaide Metro	438.10	14,780.62	0.0999	9.7	5.2	0.84	9.67
Total SA	427.80	14,292.20	0.0007	11.3	5.2	1.35	9.71

Source: Liquor and Gaming Commission, ABS, ATO., calculations SACES.

The two spatial geographic factors accounting for differences in average net gaming revenue are related to accessibility and concentration — the number of EGMs relative to the adult population and the actual concentration in a defined geographical area. Those council areas with higher net gaming revenue per adult — compare for example Berri-Barmera and Port Augusta with Loxton-Waikerie — confirm that higher expenditure is related to the risk factors identified in this report.

Estimating the Number of Problem Gamblers

The Centre has first calculated a base case (Section 4.2.4) to estimate that number of gaming machine problem gamblers — in the Provincial Cities² — on the assumption that there are no differences between regions, regional profiles, States and the national average.

In fact, as this report indicates, we believe that this is not the case and that there are regional risk profiles. A more accurate picture is required because the national prevalence data does not reflect the diversity of regional experience and, most importantly, expenditure data. The methodology is discussed in Section 4.2.5 and the results are summarised in Tables E.4 and E.5 showing that:

- the number of problem gamblers in each region and for the Provincial Cities is 3,097 problem gamblers (shown in Table E.4); and
- the benefits and costs of electronic gaming machines for each region shown in Table E.5, in the last two columns, are more strongly inclined towards the negative.

Table E.4
Prevalence of Electronic Gaming Machine Related Problem Gambling
South Australian Provincial Cities: 1998/99

	Adult Pop.	After tax income Per Adult	Gamers	Non-Problem Gamers	Problem Gamers		Ave. loss per NPG ³	Ave. loss per PG ³
	(No.)	(\$)	(No.)	(No.)	(No.)	(% of Adults)	(\$)	(\$)
Berri Barmera	8,422	13,720.27	3,453	3,059	394	4.68	685.19	9,343.23
Loxton Waikerie	9,200	13,566.50	3,450	3,323	127	1.38	677.51	9,238.51
Renmark Paringa	7,174	13,526.58	2,941	2,732	209	2.91	675.52	9,211.33
Mount Gambier & Grant ¹	22,858	15,284.25	9,372	8,856	515	2.25	763.29	10,408.27
Murray Bridge	12,477	11,692.44	5,115	4,685	430	3.45	583.92	7,962.31
Port Augusta	9,936	12,833.11	4,074	3,709	365	3.67	640.89	8,739.09
Port Lincoln	9,474	14,399.07	3,884	3,566	318	3.36	719.09	9,805.48
Port Pirie	13,365	12,129.28	5,480	5,163	317	2.37	605.74	8,259.80
Whyalla (C)	17,120	13,195.45	7,019	6,599	421	2.46	658.98	8,985.84
Adelaide Metro	869,498	14,780.62	326,062	308,286	17,858	2.06	652.35	10,065.30
Prov City Total	110,025	13,493.16	44,788	41,692	3,097	2.81	673.85	9,188.57
Other Non Metro SA²	154,496	12,140.33	51,957	49,715	2,241	1.43	606.29	8,267.32
Total SA²	1,136,019	14,292.20	422,807	399,693	23,196	2.04	648.87	9,732.70

- Notes:
- ¹ For the purposes of these calculations Mount Gambier and Grant are treated as one region, as Mount Gambier is a significant service point for residents of Grant and much of Grant DC's electronic gaming machine expenditure is likely to occur in Mouth Gambier.
 - ² Other Non-Metro SA and SA Total does not include the unincorporated sections of Flinders Ranges, Lincoln, Murray Mallee, Pirie, Riverland, Whyalla, Yorke and Western.
 - ³ NPG = Non-Problem Gambler, PG = Problem Gambler.
- Source: Productivity Commission, Liquor and Gaming Commission, ATO, and ABS calculations SACES.

² In the base case scenario, assuming no differences between the Provincial Cities and the national average we estimate there were 1,900 problem gamblers in the Provincial Cities. However, based on actual expenditure data and 'regions at risk' the actual number is estimated to exceed 3,000 adult persons.

Based on the distribution of problem gamblers, all of the Provincial Cities except Loxton-Waikerie had substantial costs from problem gambling. If all the tax revenue were spent in the council from which they were collected, the benefits of this revenue would still be outweighed by just the excess expenditure by problem gamblers (the Excess loss in Table 4.16).

Given the severity of problem gambling, for the Provincial Cities as a group, the range of net benefits from electronic gaming machines extends from -\$43.6 million to -\$0.6 million. While non-problem gamblers enjoy substantial benefits from being able to gamble, these benefits are more than outweighed in five of the nine Provincial Cities by the scale of the costs of problem gambling. In Port Pirie and Whyalla the total net social benefit is almost entirely in the negative, while Mount Gambier and Grant (DC) trend more strongly to the negative. Only Loxton-Waikerie Council area seems as likely to benefit as to lose from gaming machines given the lower and upper estimates shown in Table E.5.

Table E.5
Benefits and Costs of Electronic Gaming Machines
South Australian Provincial Cities: 1998/99

	Social Cost		Social Benefit		Total Net Social Benefit	
	Lower bound (\$'000)	Upper bound (\$'000)	High elasticity (\$'000)	Low elasticity (\$'000)	Lower bound (\$'000)	Upper bound (\$'000)
Berri Barmera	-5,539.2	-10,011.8	3,078.2	3,736.2	-6,933.6	-1,803.0
Loxton Waikerie	-1,775.9	-3,219.8	2,079.0	2,669.4	-1,140.8	893.5
Renmark Paringa	-2,909.2	-5,278.7	2150.4	2,674.7	-3,128.3	-234.5
Mount Gambier + Grant	-7,747.0	-13,591.4	7,762.9	9,612.4	-5,828.6	1,865.5
Murray Bridge (RC)	-5,493.6	-10,373.8	3,859.9	4,661.0	-6,513.8	-832.6
Port Augusta (C)	-4,923.1	-9,063.2	3,235.2	3,940.1	-5,828.0	-983.0
Port Lincoln (C)	-4,610.1	-8,222.2	3,465.4	4,212.6	-4,756.8	-397.5
Port Pirie (C)	-4,128.4	-7,718.4	3,592.5	4,453.8	-4,125.9	325.3
Whyalla (C)	-5,768.4	-10,538.4	5,313.2	6,516.7	-5,225.2	748.3
Adelaide Metro	-264,547.0	-467,255.1	253,969.6	308,955.5	-213,285.5	44,408.5
Prov City Total	-43,056.0	-78,178.7	34,538.7	42,483.4	-43,640.0	-572.6
Other Non Metro SA	-29,251.8	-54,674.7	30,546.9	38,568.4	-24,127.8	9,316.7
Total SA	-335,924.4	-599,212.3	319,033.0	389,959.9	-280,179.3	54,035.5

Source: Productivity Commission, Liquor and Gaming Commission and ATO, calculations SACES.

For other non-metropolitan areas the range of net benefits is more inclined towards costs than benefits but less strongly than in the case of the Provincial Cities, which reflects the more limited accessibility and reduced concentration of EGMs. For the State as a whole, while a net negative result is more likely, a net positive or neutral result is possible.

The pattern of negative impacts being regionally concentrated reinforces the idea that some form of regional restrictions may be necessary.

Employment Impacts

The Centre analysed the employment impacts arising from the introduction of gaming machines in the Provincial Cities using data supplied to us by hotels and licenced clubs in the Riverland region, average weekly payroll expenditure and publicly available data (i.e., Census, award wages, etc.). See discussion in Section 4.1.2. The estimated increase in employment in gaming machine venues in the Riverland region is 95 FTE; this figure would increase by 30 (to 125 FTE) if 50 per cent of government tax revenue is spent in the region in which it was collected or increase by 60 (to 155 FTE) if 100 per cent of tax revenue is spent in the region.

Offsetting these gains in employment in hotels and licenced clubs and from possible government expenditure of tax revenue is the decline in employment associated with the diversion of expenditure from other sectors of the economy which the Centre estimates resulted in the loss of 128 FTE employees. These two estimates indicate that, providing the government has increased their regional expenditure by an amount equal to at least half of the regional increase in taxation revenues, then the net effect of the switch in spending towards electronic gaming machines is either zero or slightly positive. This result is very dependent on what happened to government expenditure in the regions.

Recommendation 1

Geographical Concentration

The number of electronic gaming machines relative to the adult population and the geographic concentration of machines are influential factors in explaining differences in average net gaming revenue.

One important policy implications arising from these results is that regional restrictions could be investigated in an effort to reduce problem gambling. The scale of costs at a regional level and regions identified as being 'at risk' because of the demographic profile, suggests that regional caps or even reductions in machine numbers may be a necessary component of any harm minimisation strategy.

An alternative approach would be to rate regions/areas on a "susceptibility or at risk profile" index based on the demographic profile of the region and ensure that an appropriate level of resources (for employment, education, training and not only for treatment and counselling of problem gamblers) are provided to higher risk communities. An important point here is that many problem gamblers either do not seek help, or only do so when substantial damage has been done. This suggests that a harm minimisation strategy cannot rely solely on counselling/support services.

Recommendation 2

Geographical Distribution and Tax Burden

There are important geographical distributional implications arising from the location of gaming machines and the regressive nature of gaming taxes. The Productivity Commission have found that taxes on gaming machines and lotteries are the most regressive forms of gambling taxation. The Provincial Cities have a lower average net income relative to the 'all South Australian average net income'. The average gaming

tax paid per adult in the Provincial Cities (\$217: 1999-00) is greater than the State average (\$185: 1999-00). While the scope for reducing the burden on lower income groups is restricted, the State Government should either:

- investigate ways to increase expenditure from gaming taxes in the regions from which the revenue is sourced; and/or
- reduce the amount of tax collected through imposing regional caps on the number of poker machines.

There are strong equity grounds to act, especially given the reluctance to introduce more progressive taxes.

Recommendation 3

Employment Impacts and Government Expenditure

The input-output analysis of the employment effects of electronic gaming machines indicated that the regional distribution of government expenditure of the proceeds of gaming taxation was crucial in determining whether the net employment impact of electronic gaming machines was positive or negative. The government would have needed to increase regional funding by an amount equal to at least 50 per cent of gaming tax revenue for the net employment impact to be neutral or positive. Unfortunately it is difficult to determine if this is the case as regional breakdowns of government spending are not available. Further analysis would be required to determine the appropriate level of transfer, and the most efficient mechanism for achieving that transfer.

Because the local distribution of revenue is so crucial we recommend that consideration be given to formal mechanisms to direct some of the taxation revenue into the regions in which it was collected. One possible method for this distribution could be returning to councils a set proportion of the gaming taxation revenue collected in their area.

Recommendation 4

Increasing the Level of Community Benefit Funding

The decline in minor gambling expenditure (from \$55.7m in 1993-94 to \$19.3m in 1998-99) since the introduction of electronic gaming machines, through increased competition for small lotteries and bingo, represents a cumulative loss in real terms of \$174 million over the period 1993-94 to 1998-99 from minor gambling.

A significant component of expenditure from minor gambling went to community organisations, recreation bodies and local charities (including both large and small charities).

Accordingly, we consider that the Government should review the annual amount allocated to the Community Benefit Fund (SA) and seek to increase the level of funding to this program. The magnitude of any increase should reflect the level of unmet demand and could reasonably be in the order of \$6-7m per annum. It is clear that community organisations have reduced fundraising options and capacity, principally because of transfers of gambling expenditure following the introduction of state

sponsored gaming activities in the form of the casino and gaming machines. There has been a transfer of revenue from community organisations (whether from some licensed clubs, unlicensed clubs or not-for-profit community agencies) to private hotels (profits) and government (taxation revenue).

Recommendation 5

Break Even Services

Based on the Centre's estimates of problem and frequent gamblers there is a need to provide additional services within the Riverland and agencies servicing the Eyre Peninsula. Several locations currently serviced such as Ceduna, Coober Pedy and Roxby Downs require additional hours of service.

The options for increasing the availability of services include:

- additional staff;
- dedicated centralised telephone counselling to provide anonymous service; and
- trials of increased visitations to gaming rooms on a more frequent basis.

Putting the current level of service in perspective, the situation for gambling counselling services is that there are 31.4 funded counsellor positions for potentially upwards of 23,000 clients which equates to 2.4 hours available per year per problem gambler. We acknowledge that problem gamblers are often reluctant to seek assistance, so the potential number of clients is unknown. Even if we considered that less than half of the State's problem gamblers (10,000) might benefit from assistance (including increased visitation to gaming rooms or formal counselling), then this would still require 66 counsellor positions (assuming one hour of counselling per month). Notwithstanding, the need for an increase in the number of specialist counsellors should be investigated, including for indigenous communities.³

It is also likely that additional resources need to be devoted to upgrade the quality of counselling services and to improve training for counsellors. More specific recommendations on this matter are outside our terms of reference. However, we acknowledge that no formal standards for treating problem gamblers have been agreed, yet the repercussions of problem gambling extend into the welfare and health systems, with direct impacts on the individual, family and local community.

Recommendation 6

Clubs, Recreation and Community facilities:

That the South Australian Government with the involvement of local councils investigate options for funding for community based alternative recreation, piloted through Clubs SA, based on:

³ Because the Department of Human Services was not able to supply data requested by the Centre due to a lack of protocols with agencies, we feel somewhat restricted in commenting further on this issue.

- capital grants to upgrade community sport and recreational facilities;
- providing incentives for co-location, mergers and amalgamation to enhance resource efficiency; and
- training and management support to improve the administration of clubs.

Recommendation 7

Indigenous Communities

There is evidence presented in this report (and other statistical data available for analysis) which suggests a high rate of gaming expenditure by some indigenous groups. Too little is known about the incidence of problem gambling and the impact on indigenous communities.

Advice is needed from Aboriginal communities about the extent of the problem and strategies to address gaming issues (e.g., education, diversion programs, support for employment, recreation).

Recommendation 8

Information to Communities

That much greater information be provided to the South Australian community, and in particular, local councils on the gaming industry. One potential model that could form the basis of reporting is that prepared by the Greater Dandenong Council (Victoria) which provides the following information by Local Government area, by total and ranking measure:

- number of venues;
- EGMs for that year;
- EGMs per 1,000 adults;
- losses per adult that year;
- total losses since commencement date;
- calculations of percentage changes; and
- ranking of council area by socio-economic index.

Recommendation 9

Barring Problem Gamblers

Currently photos of problem gamblers who voluntarily elect to bar themselves from gaming venues are poor quality, taken either from a photocopy of a drivers licence or some other means of identification. Funding to Break Even services for a digital camera and printer to obtain high quality photographs for circulation to hotels and licenced clubs has been suggested and seems worthy of further investigation.

Recommendation 10

No Trading of Licences

Under current licence arrangements the concentration of gaming machine ownership can only occur through the purchase and ownership of hotels as gaming machines cannot be reallocated across hotels and clubs. A maximum limit of 40 machines is set by the Liquor Licensing Commission. There is no reason, it seems to us, for this limit to be increased or that licences at this time, be allowed to be traded.

Suggestions for Further Research

Monitoring Impact of Proposed Reforms

Measures proposed by the Gaming Machine Review Committee to reduce problem gambling (e.g., ban on autoplay facilities, ban on note acceptors, limits on cash withdrawals) will need to be monitored to assess their impact on alleviating problem gambling.

Impact of Community, Charitable Organisations and Sporting Organisations

The full impact of people transferring gambling expenditure from charity or community lotteries and from activities such as bingo on charitable, community and sporting organisations has in our view, been significantly understated. Not all sporting clubs are properly compensated as most are not 'direct beneficiaries of gaming machines'. Unlicensed clubs have suffered a loss of revenue. The larger charities have access to 'super grants', yet it is not clear how community based organisations have been affected overall. Certainly, it is the case that local councils have been requested to financially assist many organisations but the extent of requests and the reasons why assistance was sought are not well documented.

An assessment of the financial impact on community organisations of the decline in expenditure on minor gambling should be undertaken as the original estimates appear to be understated and it is uncertain whether current programs offer sufficient compensation.

Regional Gambling Patterns and Prevalence

Research conducted by the Centre for Population Studies in Epidemiology (CPSE) concluded that the participation rate for gaming machine gambling and the prevalence of problem gamblers were both lower in the South Australian country area relative to the metropolitan area. The former finding is surprising given that the Provincial Cities have a disproportionately large share of gaming machines and gaming machine expenditure, and that it would also be expected that with more limited entertainment options and a stronger hotel/club culture, there would naturally be greater participation in playing gaming machines in the Provincial Cities.

The lower problem gambling prevalence rate is also intriguing since the Centre has estimated a higher problem gambling prevalence rate for the Provincial Cities in comparison with South Australia as a whole.

While these discrepancies may be explained by the inclusion of remote areas in CPSE's rural estimates of participation and prevalence rates (and as well there are very significant problems with phone poll sampling and phone surveys), they do suggest that further research may need to be carried out to better understand regional differences in gambling patterns, and especially any regional differences in problem gambling. Understanding such differences in gambling patterns will enable government to better target assistance to problem gamblers.

The Sustainability of the Industry

The current dependence of electronic gaming revenue on problem gamblers, where 2 per cent of the adult population are estimated to account for over 40 per cent of losses raises questions as to the sustainability of the industry, given these problem gamblers lose an average of \$10,000 per annum. Useful research could be conducted on both how sustainable this level of expenditure is for the individual problem gambler, and how sustainable current expenditure patterns are for the industry as a whole, e.g. is overall state-wide expenditure likely to fall significantly as the existing problem gamblers exhaust their assets or seek treatment.

Technology

It was put to us in the course of this study that a "smart card" to limit the amount gambled, offered a technological solution to limit gambling losses. This is outside our terms of reference, particularly the technological feasibility of such a system, but further research in this area is possibly warranted. Similarly, research into the impact of slowing machines down to reduce the amounts people lose was considered by many respondents as a priority research agenda.

Finally, it was put to us that the design of gaming machines, including sound and lighting effects, have a potentially hypnotic impact and are similar to the actual techniques used for hypnosis by psychologists and others. Again, this is outside our field of expertise, but this may warrant further discussion and research.

National, Regional ... Now Family

Too little is known about the impact on families of problem gambling, although considerable anecdotal evidence confirms spillovers into the health system, education, medical practitioners and legal services. The impact on families and children has received insufficient attention in all the analysis on problem and frequent gamblers. In our view this is a priority area for research as the potential costs are very significant, both in the short term (for families, children, government and the services of helping agencies) and in the longer term. Understanding the appropriate or 'best point of intervention' may contribute to a significant reduction in the incidence of problem gambling.

One possible approach would be to develop a micro-analysis using selected representative case studies with the co-operation of families and the Break Even Network.

Background to this Study

The Provincial Cities Association⁴ commissioned this study into the economic and social impact of gaming machines arising from their concerns about the impact of gaming on the economies and social conditions in the respective cities. The Provincial Cities also indicated to the Centre, that in the absence of research and monitoring of the extent of gaming activities, that debate had sometimes tended to polarise into “us and them”, or the beneficiaries of gaming machines and those harmed by the easy accessibility of gaming machines (i.e., the community and welfare sector against the licensed premise). It was also a concern that very little information was available on the question of taxation revenue outflows from a region relative to inward expenditure to support government services, in particular, counselling services in respect of gaming.

However, the concerns about the regional impact of gaming issues are not confined to members of the Association.

Witness the following:

“Pokies rip \$90m from rural towns — a pokies frenzy is ripping \$90 million a year from South Australian country towns. The gambling splurge has skyrocketed by nearly \$20m over three years, ... the number of machines has smashed the 3,000 barrier”. *The Sunday Mail*, 29th April, 2001.

“Mount Gambier ... has been crowned SA’s regional pokie capital ... where punters spent more than \$12m or \$1m a month in the 12 month period to June 2000”. *The Sunday Mail*, 29th April, 2001.

“Pokies strip us of \$7.9m — poker machines have stripped more than \$7.9 million from the South Coast in a one year period”. *The Time*, Victor Harbor, 17th May 2000.

“Pokies ‘beneficial’ - publicans — South Coast publicans have labelled poker machines as vital to the regional economy, creating employment and sponsorship dollars”. *The Times*, Victor Harbor, 17th May, 2000.

“Jobs lost as oldest rural club closes — 109 year old club crippled by \$1.6m debt blamed on the pokies boom”. *The Advertiser*, 26th May, 2001.

“Pokies evil, says Casino’s ex-boss ... the spread of gaming machines was a tragedy that had damaged the fabric of society”, Lloyd Williams, *The Advertiser*, 2nd June, 2001.

“Pokies are the most addictive and problem causing form of gambling”, Professor D Mizerski, University of Western Australia, *The Australian*, 2nd May, 2001.

“Gamblers rack-up \$13.3b in losses — the losses amount to \$931 per person ... gamblers threw away 3.5 per cent of household disposable income”. *The Australian*, 28-29th April, 2001.

⁴ Port Lincoln, Whyalla, Port Augusta, Port Pirie, Murray Bridge, Mount Gambier, Renmark-Paringa, Berri-Barmera, Loxton-Waikerie.

There is clearly widespread concern about the social and economic impacts of gaming, although sometimes the impact of more fundamental social and economic changes are inappropriately attributed to the greater access to gaming machines. Notwithstanding, the lack of analysis at a state or regional level and the dearth of research has meant that these concerns have not been seriously acknowledged and therefore, have been allowed to grow relatively unchecked and with little serious debate. Administrative data on this issue is difficult to access while research funds are limited and also difficult to access. Thus, “while the Australian Productivity Commission (1999) has completed an investigation into gambling in Australia, nowhere is there a comprehensive economic and social analysis of the long-term costs and benefits of gambling to the community and this State”.⁵

However, what is known and is part of the background of concern for the Provincial Cities is that there is:

- a higher ratio of gaming machines in non-metropolitan Adelaide per adult population;
- a higher net gaming revenue (losses) per adult in the Provincial Cities relative to the Adelaide metropolitan area; and
- a higher number of venues per adult population in the Provincial Cities and non-metropolitan Adelaide than for the Adelaide metropolitan area.

Given that incomes per adult are lower in the total non-metropolitan area relative to the Adelaide metropolitan area (and for the Provincial Cities), and there is a higher ratio of gaming machines per adult population in non-metropolitan areas, it is possible that the incidence of gambling related problems could be more severe in regional centres. If this were found to be the case then public policy is informed and able to respond.

These and other concerns formed the background and the context to this study.

Over the course of this study, there have been new developments ‘across the gambling debate’. A recent and noteworthy development is that the South Australian Government has moved to establish an Independent Gambling Authority with responsibility for research into the economic and social impacts of gambling on communities (one of four key research areas). This and other reforms clearly signal that the South Australian Government is concerned with the level and quality of existing research in a South Australian context. An additional \$0.8 million has been allocated to counselling services in 2001-2002 in an effort to reduce lengthy delays for counselling.

The Australian Casino Association has also acknowledged that “problem gambling is a great weight that threatened the future of the industry” and has stressed the need for prevention on-going research and treatment of problem gambling.⁶

⁵ Weetman, N., (2001), “Gambling to Harm or Not to Harm”, unpublished, available from SA Centre for Economic Studies, March.

⁶ Conversations with Mr R. Ferrar, AGMMC, September 2001.

1. Introduction

1.1 Terms of Reference

The Provincial Cities Association invited the South Australian Centre for Economic Studies to prepare a submission on the impact of electronic gaming machines⁷ for consideration by the Association in May 2000. The issue was deferred at that time while the Association completed its involvement with the South Australian Regional Development Task Force and engaged in implementation actions arising from the Task Force. As well, the issue of electronic gaming machines and their impact on regional communities was “discussed and canvassed with the State Government. The calls for an independent investigation (similar to those undertaken in specific communities in Victoria) were unsuccessful.”⁸

In this intervening period the City of Port Augusta continued the task of economic and community development by specifically commissioning⁹ a “Social Vision and Action Plan for Port Augusta”. Other cities pursued their own individual initiatives. The Action Plan for Port Augusta identified community aspirations, infrastructure requirements and steps to address the economic and social development of the City. “The issue of poker machines and their impact on the community was canvassed in the Report (i.e., Social Vision Report) as a major problem, particularly by some members of the Aboriginal community. However, no specific details of the extent of the problem were provided, and therefore are not known. Anecdotal evidence, however, does indicate that a problem exists”.¹⁰

The experience of other cities was similar to that of Port Augusta — general concern about the economic and social impact of gaming machines, community concern about the rise in the number of problem gamblers, possible impacts on the retail sector, and an acknowledgement of greater investment by hotels and licensed clubs. Many regional communities felt gaming machines had impacted on local business, in particular the retail sector and sport and recreational clubs, in ways they were not able to specifically identify, although several examples indicated some loss of revenue or patronage. In several instances, Councils had been requested to provide financial assistance to community and sporting organisations that were able to demonstrate hardship, which was attributed to the loss of patronage after the introduction of gaming machines.

With this background, and more general concerns about the impact of electronic gaming machines on the Provincial Cities and regional centres, the Centre for Economic Studies was invited to update and resubmit our earlier submission.

On March 16, 2001, the Provincial Cities Association resolved to engage the South Australian Centre for Economic Studies to undertake a detailed analysis of the impact of the operation of poker machines (both positive and negative) on the economies of the Cities and Regions covered by the Association.

⁷ Electronic gaming machines are often referred to as “pokies or poker machines”.

⁸ Agenda item 8.2.3, Meeting of Provincial Cities Association, 16 March 2001.

⁹ *op. cit.*, p. 1.

¹⁰ *ibid.*, p. 1

The submission which was finally approved set out the following objectives:

- to provide information to regional communities and their leaders on the economic and social impacts of electronic gaming machines;
- to provide a balanced view of the overall impact, by giving equal weight to the potentially positive and negative impacts; and
- to employ a variety of methodological approaches in the study to ensure that economic and social impacts were thoroughly assessed.

The first term of reference highlighted the need to 'inform community leaders' and thereby facilitate informed community debate about gaming issues. Members of the Provincial Cities Association specifically sought greater access to information in order to ensure a balanced approach and discussion regarding gambling issues within their communities. This is one reason why the Centre's methodology and approach to the task has involved (and or invited) the cooperation of the South Australian Government, State agencies, the Australian Hotels Association (AHA: SA), comments from staff to the national Productivity Commission, local hotels and licensed clubs, welfare organisations and counselling agencies.

1.2 Methodology

The South Australian Centre for Economic Studies (SACES) primary objective has been to estimate quantitatively the overall net impact of gaming machines on regional economies. This approach has involved estimating quantitatively both the economic and social impacts of gaming machines on the respective economies.

Relatively few previous studies have attempted to thoroughly quantify the overall net economic and social impact of gaming machines. This arises due to the inherent difficulty of estimating the negative social impacts which occur predominantly at an individual and family level, and are often of an intangible or emotional nature, such as the disguised impact on the family. Consequently there exists a deficiency of comprehensive information with regard to the incidence and hence cost of the negative social impacts of gaming machines. Attempts to estimate the social impacts of gaming machines therefore necessarily involve a degree of approximation of the individual social costs, and costs to families, and potentially, the exclusion of other costs/benefits due to insufficient data.

The most comprehensive effort to quantify the net impact of gaming machines in Australia was performed by the Productivity Commission (the Commission) through its report entitled *Australia's Gambling Industries* (1999). The Commission expended considerable effort in quantifying the negative social impacts of gambling activities, which relate predominantly to the negative externalities associated with problem gambling. As such, given the comprehensive nature of the Commission's study and its timeliness, the Centre has sought to adopt the Commission's methodology where appropriate.

However, for our purposes the Commission's study does involve several limitations. Firstly, its usefulness is compromised by the fact that the Commission estimated social

and economic impacts for the gambling industry as a whole rather than for the gambling activities associated solely with gaming machines. Despite this, limited estimates of the social impacts were presented for gaming machines. We note that gaming machines comprised 62 per cent of total South Australian gambling turnover in 1999-2000,¹¹ which indicates that this sector of gaming is the most significant component of all gambling activities. Where possible, the Centre has attempted to apply the same methodologies for estimation of the social impacts of gaming machines to the regional areas.

A further point of difference between our study and the Commission inquiry is that the latter focused on impacts at the national level, and did not present estimates for either the state or regional level. This is important because the regional impact of gaming machines will likely involve several other potential impacts which are not applicable for a national evaluation of the overall impact of gaming machines. Indeed, the Commission noted that its national estimate of the overall impact of gambling activities was of "limited usefulness for policy" because, *inter alia*, "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".¹² The Commission noted that different forms of gaming may give rise to very different impacts, when it stated that "using estimates of the incidence of problem gambling to 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".¹³ The type of gambling activity and the potential for considerable differences in net outcomes at the regional level are specific reasons why regional impact studies should be undertaken.

To facilitate estimation of the regional impacts of gaming machines, the Centre has followed the broad methodology employed by the Productivity Commission, but has conducted four separate activities specifically to lay out the policy issues and framework for understanding the impact of gaming machines in regional centres.

1.2.1 Literature Review

The first task was to review the existing literature pertaining to the economic and social impacts of gaming machines. This enabled the Centre to document the various social and economic costs and benefits derived from electronic gaming machine activity and to determine which were appropriate for inclusion in our regional analysis. In particular, the literature review gave indication towards the extent of the social impacts of gaming machines, especially in respect of problem gamblers. The Commission study was most useful in this regard.

Other studies of particular relevance reviewed by the Centre include those regional studies conducted by Pinge (2000) and the Victorian Gaming and Casino Authority. Particular attention has been paid towards inquiries commissioned by the South Australia Government, which include those prepared by Hill et. al (1995) and the Social Development Committee (1998). International studies of particular relevance have also been reviewed.

¹¹ Australian Gambling Statistics, Tasmania Gaming Commission 2000.

¹² Productivity Commission, Vol. 1 p. 33.

¹³ *op. cit.*, p. 33.

Information derived from the literature review encouraged the Centre to further refine the methodology employed for this study.

1.2.2 Analysis of Existing Data

1.2.2.1 Examination of Gaming¹⁴ Data

Trends in gambling activity at the local, state and national levels have been examined. These comparisons have been based on regional and South Australian gaming machine data supplied by the Office of the Liquor and Gaming Commissioner. National and state data used for comparative purposes was sourced from the Tasmanian Gaming Commission.

More explicitly, trends in net gaming revenue, gaming tax, number of machines and number of venues have been examined on both an aggregate and per adult basis. The analysis provides information on regional differences in gaming intensity and therefore gives indication of the potential relative size of the regional economic or social impacts of gaming machines.

1.2.3 Economic and Social Impact Analysis

1.2.3.1 Examination of Household Expenditure Data

A common complaint cited by those who oppose gaming machines is the diversion of private expenditures away from other activities such as retail spending and spending on substitute leisure activities. The Centre's original intention was to assess the degree to which the introduction of gaming machines had diverted private expenditures away from other activities by examining changes in the Australian Bureau of Statistics (ABS) household expenditure data following the introduction of gaming machines. However, an examination of the household expenditure data revealed that households have severely under-reported their gambling expenditure. Given this fact, the Centre decided not to use the ABS household expenditure survey data to examine changes in household expenditure patterns induced by the introduction of gaming machines.

Since the examination of ABS household expenditure data has proved impractical, the Centre has consulted the various studies which survey gamblers to identify those areas of spending from which gamblers have (or would have) most likely diverted their current gambling expenditures.

1.2.3.2 Input Output Analysis

Although the Productivity Commission commissioned assessments of the net economic contribution of the gambling industries to the national economy, on the basis that such contributions were estimated to be relatively small, it decided against incorporating any net economic benefits into its overall estimate of the net impact of gambling industries. However, from a regional perspective the economic impacts may be relatively significant; this may be especially true given that one of the main beneficiaries of gaming

¹⁴ Gaming refers to only gaming machines or "poker" machines, whereas gambling refers to all gambling activities such as lotteries, racing, pools, instant money tickets, bingo, keno, etc..

machines — hotels — are a central feature of many regional areas and that associated gambling may significantly change the regional pattern of consumption.

The regional employment impact was assessed by comparing the employment created by electronic gaming machines with expenditure lost through the transfer of expenditure away from other types of consumption. The positive impact of electronic gaming machines was assessed by combining the results of a survey of gaming venues, and by input output analysis of expenditure due to increased government revenues from gaming machines. The survey covered, amongst other items, the change in their employment since 1994. Unfortunately the response rate to this survey was patchy and the Riverland was the only town or region from which a usable sample of returns was received. Consequently it was decided that a preliminary input-output analysis would be conducted for the Riverland region only, as a guide to how this issue could be approached were better data available.

The reduction in employment in other sectors was assessed by input output analysis on the likely expenditure patterns if there were no electronic gaming machines. The first step in addressing this task was to calculate the value of diverted expenditure. This was done by adjusting the net gaming revenue for electronic gaming machines down to allow for the expenditure which was diverted from other forms of gaming (which, other than racing, have zero regional employment according to 1996 census data). These regional diverted expenditures were then allocated between different sectors according to the distribution of 1998 household consumption expenditure. These sectoral diverted expenditures were then fed in to the Centre's Riverland Input-Output tables.

The results of these two tasks were then combined to produce the net employment impact on the Riverland towns due to the introduction of electronic gaming machines.

1.2.3.3 Examination of Net Revenue Impact Flows

An important aspect of the regional impact of gaming machines regards the potential for increased leakages of local incomes from the region through net outward taxation flows given the higher incidence of taxation associated with gaming machines, and/or through decreased local investment by the owners of capital (i.e., gaming machine operators and manufacturers). An attempt has been made at determining the extent and nature of these potential leakages from the regions. To achieve this task, an examination of the structure of gaming taxes has been undertaken. The examination of gaming taxes has necessarily involved consideration of various public finance issues including government reliance on gaming revenue, state government expenditure in regions, and the potential for alternative tax arrangements.

It has not been possible to examine in detail whether there has been changes in the ownership structure of hotels which might impact on revenue flows into and out of the cities. The Liquor Licensing Commission did review available data for one major Provincial City and reported to us a tentative observation that there was no evidence of an increase in external ownership or "monopolisation of the industry through ownership concentration". Notwithstanding, we consider that this is an area for further research to fully assess the potential for expenditure and investment leakages from a region.

1.2.3.4 Social Impact Analysis

The input output analysis provides estimates of the net economic impact of gaming machines on the regional areas. However, the review of gaming literature has indicated that the largest impacts from gaming machines are likely to be their social impacts.

The largest social benefit flowing from the liberalisation of gaming machine related gambling has been the increased satisfaction that consumers have derived from their consumption of leisure goods and services. To the extent that consumers divert spending away from other activities to gambling activities indicates that consumers value spending on gaming machines more highly. The increased satisfaction derived by consumers (also known as consumer "utility" within the economics literature) from electronic gaming can be measured in terms of increased consumer surplus.¹⁵ Following the Commission's methodology for estimating consumer surplus, the Centre has attempted to estimate consumer surplus gains for the various regions.

The negative social costs of gaming machines relate predominantly to the phenomenon of problem gambling, whereby individuals gamble excessively irrational amounts resulting in substantial emotional and financial impacts on the individual, their family, and the society at large. The impacts of problem gambling are multi-dimensional and numerous, they include, among others: family break down, costs of rehabilitation, reduction in work performance, financial hardship, and in the extreme, suicide. As discussed above, estimating quantitatively the negative social impacts of gambling is a difficult proposition. To this end, the Centre has reviewed the relevant gambling literature to identify the various negative impacts which should be included in any assessment of gaming machines social impacts, and to determine the likely extent of these impacts in quantitative terms and, where possible, in an Australian context. Quantitative estimates of the social impacts of gaming machines for each regional economy have subsequently been derived.

1.2.4 Consultation

It is realised that the extent and nature of the social and economic impacts (e.g., extent of problem gambling) of gaming machines in the regional areas of focus for this study may differ significantly from those estimated for other regions or the national or international level. In this respect, to gain a greater appreciation for the local dimension of the social and economic impacts of gaming machines, the Centre has consulted with local gaming establishments, the local Councils, health professionals, relevant social organisations (i.e., those that deal with problem gamblers) and other relevant organisation/individuals throughout the course of this study. We conducted site visits to a number of hotels and counselling services in several regions.

Specifically, the Centre sought information and data from the following:

- the relevant Council (on three occasions) regarding information on capital investment, hotel ownership structure, number of machines and other matters;

¹⁵ Consumer surplus represents the difference between a consumer's valuation (i.e., willingness to pay) of a particular product or service and the price actually paid for that product/service.

- the individual hotels and licensed clubs through a letter and survey, which was supported by the AHA and was posted out twice, plus follow-up;
- from Break Even Counselling Services through letter, survey and request for data which the Centre sought to analyse¹⁶;
- two letters of request to the Department of Recreation and Sports; and
- selected individuals within the respective cities associated with clubs, the business community, health and welfare sectors.

1.3 Definition of Gambling and Electronic Gaming

Gambling may be defined as the placement of a wager or bet on the outcome of a future uncertain event (TGC, 1999). Gambling takes place through a wide variety of legalised means which can be classified as either wagering or gaming. Wagering refers to legal gambling on racing (e.g., horse, greyhound etc) and sports, while gaming refers to all other forms of legal gambling excluding wagering - including electronic gaming machines, casino table games, lotteries, instant lottery tickets, bingo, pools and other forms of minor betting (Productivity Commission, 1999).

The focus of this report is on gambling associated with electronic gaming machines (EGM) or, as they are more commonly referred, 'poker' machines. Unless otherwise stated, use of the term 'gaming' in this report therefore refers only to legal gambling on electronic gaming machines. The Gaming Machines Act 1992 of the Parliament of South Australia defines a gaming machine as a device:

- (a) that is designed or has been adapted for the purpose of gambling by playing a game of chance or a game combined of chance and skill; and
- (b) that is capable of being operated by the insertion of a coin or other token (whether in that device or another device to which it is linked) or by the electronic transfer of credits accrued on some other gaming machine.

1.4 Provincial Cities and Non-Metropolitan South Australia

The introduction of gaming machines in South Australia, which commenced in 1994, needs to be analysed, understood and evaluated from the "local context". There were and there are decisions, interest groups, policy preferences and constraints which impact on the gaming machine issue and that will continue to influence the debate.

We include an overview of some of these issues here:

- at the time of introduction, many hotels (up to 25 per cent) were for sale as a result of changes in drinker preferences, demographic patterns and strict enforcement of drink-driver legislation;

¹⁶ Data was not able to be provided by the individual Break Even counselling groups, nor by the Department of Human Services.

- State debt and higher levels of competition between the States to attract international business investment required access to non-business related taxes to relieve fiscal pressure yet maintain (overall) cost competitiveness;
- there was a growth in State sponsored casinos across Australia increasing competition for the casino dollar and tourism spending;
- the South Australian Government had recently been exposed to severe financial losses from the failure of the State Bank;
- considerations related to the casino and gaming machines as well as the need to broaden the tax base invited consideration of the introduction of gaming machines; and
- there has been a very large and significant increase in the actual number of gaming machines with little attention paid by the manufacturers, and until quite recently, governments, to an appropriate user interface (i.e., display of information, appropriate warnings, etc.).

At a regional level, the method of introduction, timing and impact of gaming machines raised a number of significant issues, including, *inter alia*:

- that this occurred at a time when regional centres were losing population under the weight of economic reform including significant cut backs of Commonwealth and State public service positions and job losses in the utilities and the private sector;
- that this occurred at a time when regional centres were experiencing business closures, school closures, wind down of regional telecommunication centres, rail facilities and line closures, and a general reduction in service levels;
- a growing perception of an inability of regional centres to influence centralised policy making processes and decisions, such as with National Competition Policy, industry deregulation, reforms to housing and health, and hence a sense of loss, inertia and alienation, and heightened sensitivity to the potential impact of gaming machines;
- the impact of gaming machines on community activities, recreation and sporting clubs and private fund raising such as through charitable lotteries, bingo, community clubs, etc.; and
- the balance of revenue raised from gaming machines between local residents and tourists, given the lower representation of international tourists in South Australia (*vis a vis* Queensland, NSW) and the still lower representation of this group in regional South Australia.

Following the introduction of gaming machines other issues emerged such as the presumed impact on retail spending and small business, problem gamblers and the social and economic impact on the individual and families, the availability and funding of rehabilitation services, the adequacy of industry regulation, returns to capital/hotel owners/and Treasury through taxation, and the treatment of private hotels relative to community hotels/clubs. The Productivity Commission was later to conclude that benefits and costs were not distributed equally across communities heightening concerns

that the impact of the introduction of gaming machines required further analysis and a “local or regional” perspective.

In essence, questions were being asked about the distribution of benefits and costs within regional localities and between regions and metropolitan Adelaide.

2. Literature Review

2.1 Regional and National Studies Concerning Gaming Machines

2.1.1 The Productivity Commission Study

The Australian Productivity Commission report *Australia's Gambling Industries* represents the most intensive and comprehensive effort to quantify the economic and social impacts of gambling in Australia. The report was commissioned by the Federal Government in recognition of the 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" (Productivity Commission, 1999).

After considering the variety of economic and social impacts attributed to gambling, the Commission estimated the net community impact of Australia's gambling industries to range from a net cost of \$1.2 billion to a net benefit of \$4.3 billion. The estimated range presented reflected the inherent difficulty of estimating the economic, and in particular the social costs of gambling where the latter occur primarily at an individual or household level, and are therefore often hidden. The primary economic benefit identified by the Commission was the increased satisfaction derived by consumers from increased consumption of gambling given the trend towards liberalisation of gambling activities over recent years. All social costs identified and quantified related to problem gambling. These costs are investigated in Section 2.2.

While the Commission's focus was Australia's gambling industries as a whole, net community impacts were presented for the various forms of gambling and are summarised in Table 2.1. Significantly for this study, the Commission found that gaming machines potentially involve significant social costs. This was due to a high degree of problem gambling being associated with this form of gambling.¹⁷ The estimated net community impact attributed to gaming machines ranged from a net loss of \$2.6 billion, to a net benefit of \$1.1 billion.

Significant controversy was created by the Commission's inability to provide a narrow or accurate estimate of the net community impact of gambling activities. However, the Commission argued that the broad estimate was useful for policy purposes in the sense that:

- 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.

¹⁷ "Pokies are the most addictive and problem causing form of gambling", according to Professor D Mizerski, University of Western Australia.

Table 2.1
Estimated Consumer Benefits, Social Costs and Net Impacts of Gambling
By Mode of Gambling, Australia - \$ million (1997-98)

	Net Consumer Benefit		Net Social Cost		Net Benefit	
	Low	High	Low	High	Low	High
Wagering	629	885	267	830	-201	617
Lotteries	1,232	1,498	34	106	1126	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
All gambling	4,365	6,076	1,800	5,586	-1,221	4,277

Note: Net Benefit range calculated from high benefit minus low net social cost = high net benefit; low benefit minus high social cost = low net benefit.

Source: Productivity Commission, 1999.

Table 2.2
Benefits and Costs of Expenditure on Electronic Gaming Machines, Australia

	High Elasticity ¹	Low Elasticity
Non-Problem Gamblers		
No. of gamers ('000)	5,196.6	5,196.6
Expenditure (\$ million)	3,690.7	3,690.7
Consumer surplus (\$ million)	1,419.5	2,306.7
Taxation revenue (\$ million)	1,363.7	1,363.7
Net Benefit (\$ million)	2,783.2	3,670.3
Net benefit per gamer (\$)	536	706
Problem Gamblers		
No. of gamers ('000)	254.4	254.4
Expenditure (\$ million)	2,710.1	2,710.1
'Recreational' expenditure (\$ million) ²	279.0	279.0
Adjusted consumer surplus (based on Recreational expenditure) (\$ million)	139.5	335.8
Taxation revenue (\$ million)	1,001.3	1,001.3
Excess expenditure (\$ million) ³	-2,032.0	-2075.8
Social cost of problem gambling (\$ million)	-1,369.0 to -4,250.0	-1,369.0 to -4,250.0
Net Benefit (\$ million)	-2,260.2 to -5,141.2	-2,063.8 to -4,944.8
Net benefit per gamer	-8,884 to -20,209	-8,112 to -19,437

Notes: ¹ In this context Elasticity refers to the Price Elasticity of Demand, a measure of the extent to which the quantity of a good purchased by a consumer changes in response to a change in price. A low price elasticity indicates that demand is relatively unresponsive to a change in price.

² Estimate of the expenditure which problem gamblers would have made if they were not addicted. The PC derived these estimates by assigning each problem gambler the lower of the average expenditure on gaming machines by all gamblers, or the problem gamblers own expenditure on gaming machines.

³ The difference between the actual expenditure of problem gamblers and their "recreational" expenditure.

Source: Productivity Commission, 1999.

The fact that the electronic gaming machine industry produces significant benefits for non-problem gamblers and government revenue, but imposes significant costs on problem gamblers is even more apparent when the Productivity Commission's estimates of consumer benefits and social costs are split between non-problem gamblers and problem gamblers. The pattern of benefits and costs between these two groups, as well as a breakdown of expenditure patterns is outlined in Table 2.2. In the context of this calculation consumer surpluses and taxation revenue are net benefits, and excess expenditure and the social costs associated with problem gambling are net costs.

At a national level the net benefit from the activities of the 5.2 million non-problem gamblers is between \$2.8 billion and \$3.7 billion, a substantial benefit and supportive of the industries continued operation. The effect on problem gamblers is however a significant negative feature of the industry. They experience a net benefit of between -\$2.2 billion and -\$5.2 billion, or between -\$8,000 and -\$20,000 per gambler.

Unfortunately the Commission was unable to provide State or regional estimates of the community impact of gambling, or gaming machines for that matter. However, several interesting themes did arise. Of particular interest was the potential link identified between the location of gaming machines and the socio-economic status of these areas:

“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 the social costs in these areas will be higher”.

This is an important finding in respect of the Provincial Cities, which tend to have lower per capita incomes relative to the state or national average. In an econometric analysis of the relationship between income, gaming expenditure and the number of gaming machines for New South Wales, Victoria, Queensland and South Australia, the Commission confirmed the following relationships:

- an inverse relationship between income levels and the density of gaming machines in New South Wales, Victoria and South Australia. That is, regions associated with lower income levels are associated with a higher density of gaming machines. No such relationship was found for Queensland;
- a positive relationship between the number of gaming machines in a location and the amount spent per machine in Queensland, New South Wales and South Australia. This implies that although gaming machines have a tendency to be located in areas of lower income, the spending per machine is not necessarily lower but in fact higher on average; and
- for South Australia only, an inverse relationship between income and the total amount spent on gaming machines. Hence, regions with lower socio-economic status were associated with greater absolute amounts of gambling expenditure.

While the above relationships have raised concern that gaming machine businesses have strategically targeted areas of lower socio-economic status, it is possible that communities of lower socio-economic status simply contain a higher number of responsible recreational gamblers. For example, the historical geographic pattern of

hotels and clubs may favour areas of lower socio-economic status, where the recreational and social activities associated with hotels and clubs are traditionally favoured by residents in these areas. Furthermore, hotels and sporting/community clubs are often a central focus of many regional communities (e.g., the Provincial Cities), as such, the penetration of gaming machines into those communities is probably naturally higher.

The above relationships do raise the prospect that the positive and negative impacts associated with gaming machines are felt more intensively in regional or country areas. While the Commission asserted that the type of economic and social impacts of gambling activities in country areas were not substantially different from those that occur in metropolitan areas, it did recognise the potential for significant differences in the net outcomes "at the regional or local government levels, especially when tax flows are taken into account".

In this respect, several studies conducted principally in Victoria have investigated the economic and social impact of gaming machines in regional areas.

2.1.2 Regional Studies

Most notably, Pinge (2000) used input-output modelling to investigate the impact of gaming machines on the Victorian regional city of Bendigo. Pinge concluded that expenditure associated with gaming machines "had a significant negative impact on the region" with the consequence of "net loss of output, income and jobs to the region and high levels of social costs". The total estimated net community loss to the region was \$11.6 million. Pinge concluded that the opportunity cost of gaming in terms of diverted expenditure from other sectors of the local economy was lost output and income of \$5.3 million and \$7.5 million respectively, while employment would have been up by 237 full-time jobs in the absence of gaming. In other words, spending on gaming machines involved smaller multiplier effects through the local economy (i.e., drew on smaller amounts of local resources than did other forms of spending). This outcome reflected "large leakages out of the economy in the form of taxes and payments to the machine owners with very little of the total revenue left to circulate in the regional economy". In Victoria, approximately one third of net gaming expenditure initially leaves the economy through government taxation, while another third is distributed to the owners of gaming machines.

The leakage of gaming expenditure from the local economy is an important consideration for the Provincial Cities because taxation of gaming expenditure in South Australia is also high. Although the actual gaming tax rate varies with the level of venue net gaming revenue, South Australian gaming taxation revenue as a proportion of net gaming expenditure was 43.6 per cent in 1999-00. Although taxation represents a significant potential leakage from the local economy, government revenue may be returned to the region in the form of increased government spending on general government services, industry initiatives and special projects (e.g., construction projects). However, Pinge treats government taxation as a complete leakage from the local economy on the basis that there has been no observed increase in government expenditure in the region over the period of the analysis. Even so, this assumption appears extreme; some proportion of government revenue should arguably be treated as a benefit to the local community.

Nevertheless, Pinge argues that a redistribution of gaming expenditure towards the local economy would mollify the negative economic effects associated with gaming machines. Means of achieving this objective potentially include increasing the payout to consumers, increasing the share of net gaming revenue going to venue operators, or by tagging funds generated by gaming machines for specific local projects or services.

There are further concerns regarding the study by Pinge. Firstly, Pinge has not included any consumer surplus gains (an economic measure of the benefit derived by an individual from consumption of a good or service) associated with increased consumption of gambling, whereas the Productivity Commission regards increased consumer satisfaction as the principal benefit associated with the introduction of gaming machines. If the objective of the study is to estimate the net community impact of gaming machines, then an estimate of consumer surplus gain should be included.

A further concern relates to the method of allocating gaming expenditure to other sectors of the economy for the purpose of estimating the negative economic impact arising from the diversion of spending away from these sectors. Pinge allocates gaming expenditure to other sectors along average household consumption patterns. However, gaming expenditure is unlikely to be derived from such a broad range of sources, and may be derived from sources that also have small linkages through the local economy e.g., other forms of gambling and other recreation/leisure activities. More importantly, there is evidence that increased gaming expenditure in Victoria has been financed largely from savings and not from spending on other sectors of the economy (VCGA, 2000). That is, increased output, income and employment associated with gaming has not crowded out economic activity in other sectors of the local economy, and therefore represents a net benefit.

Finally, the assertion that an industry has weaker multiplier effects through the local economy is not a satisfactory argument for government intervention to curtail an industry. If it was, then government would have reason to divert consumer spending away from all activities that involve weak multiplier effects through the local economy. That consumers choose to spend their income on one form of good or service over another indicates that consumers value the former more highly. Government should therefore abstain from interfering in private spending decisions. Government intervention is only warranted to the extent that an economic activity involves significant externalities (i.e., costs to third parties). So for instance, government intervention to curtail gaming machines (accessibility or type of machine/product) is only justified where gaming machines give rise to problem gambling, which subsequently involves significant external social costs.

The Victorian Gaming and Casino Authority (VCGA) has commissioned several studies which look at the regional impact of gaming machines. Most recently, KPMG Consulting (VCGA, 2000) completed a longitudinal impact study which examined the economic and social impact of gaming machines and the Crown Casino on six regions within Victoria (Greater Dandenong, Greater Geelong, Maribyrnong, Moreland, Mildura and Wellington). The study comprised stakeholder and community consultation, a survey of community attitudes and an econometric analysis designed to examine the relative influence of certain factors in explaining regional variations of gaming expenditure. No attempt was made at estimating quantitatively the economic and social impact of gaming machines in the regions.

This longitudinal study discovered “widespread disapproval” of gambling across the six communities with 81 per cent of people surveyed disagreeing with the statement that ‘gambling does more good than harm’ and 82 per cent agreeing with the statement that ‘gambling is a serious social problem’. However, people’s actions did not correspond with their negative views towards gambling with half of those surveyed having participated in gambling within the last six months. The widespread participation in gambling together with the fact that people play poker machines primarily for social and entertainment reasons indicates that people derive substantial recreational benefit from consumption of gambling. As with the Productivity Commission study, the report argued that imposing significant restrictions on access to poker machines would reduce the recreational benefits to consumers of gambling activities and should be avoided.

Community perspectives of the local economic impact of gaming were mixed. On one hand, some argued that gaming machines had provided a positive boost to the local economy through increased investment and employment in local venues, others meanwhile expressed concern that taxes and profits to the owners of gaming machines drew funds out of the local economy and reduced spending on other local businesses. Residents in the Provincial Cities would almost certainly express similar arguments. The report acknowledged that the massive growth in consumer expenditure on gambling had negatively impacted other industries by drawing resources away from them. However, the report argued that this was not a concern for government policy because “change is an integral feature of any dynamic economy and generally governments leave businesses to respond to the changing expenditure patterns of consumers, rather than intervening to protect individual businesses from these effects”. Furthermore, leakages were a common feature of local economies where a majority of goods and services are imported into the region, as such, there was “no guarantee that residents would spend more money on local goods and services” if government restricted gambling activities.

A final interesting conclusion from the study is that gaming “does not provide a substantial boost to tourism”, in other words, gaming machines do not significantly increase visitor expenditure in the region. Although greater amounts of tourism were found to be positively associated with expenditure on gaming, the impact was extremely small. A dollar spent on accommodation led to only an additional 3 cents in expenditure on poker machines. This outcome is explained by the widespread availability of gaming machines which has allowed people to gamble locally.

2.1.3 South Australian Studies

There have been two reviews commissioned by the South Australian government which have examined the impact of gaming machines in South Australia. Unfortunately neither review explicitly examined the impact of gaming machines at the regional level in any detail.

The Inquiry into the Impact of Gaming Machines in Hotels and Clubs in South Australia (Hill et al, 1995) had the objective of assessing the impact of gaming on:

- demands for assistance from welfare agencies;
- fundraising from charities and other community groups; and
- small business.

With respect to the impact on welfare agencies, the inquiry concluded that gaming machines did lead to an increase in problem gambling and hence the need for counselling services and welfare support. There would be few, if any, who could now reasonably claim to refute this conclusion. In particular, there was an increase in women with gambling problems and low-income earners were identified as being particularly vulnerable as many were already potentially in a dependency cycle. Importantly, there was pressure on welfare agencies with “a large body of evidence that the resources currently available to welfare agencies to meet the material needs of those in the dependency cycle are inadequate”. Recommendations for addressing problem gambling included the adoption of early intervention strategies (e.g., training of hotel staff to facilitate early identification of problem gamblers), prevention strategies (e.g., improved information to the public on odds of winning and dangers of addiction), and re-training of existing counsellors to improve both their identification of problem gamblers and their techniques for rehabilitating problem gamblers.

Negative impacts from gaming machines were also identified for “those fundraisers who have in the past derived significant revenues from the sale of instant bingo tickets and the conduct of eyes down bingo sessions”. However, the extent to which gaming had reduced spending on these forms of fundraising was unclear because of other prevailing negative factors (e.g., increased competitiveness among fundraisers, subdued economic conditions including high unemployment, and a less trusting community). Stakeholders argued that government should provide compensation for those fundraisers adversely affected by the introduction of gaming machines. Possible forms of compensation included the establishment of an industry levy, loosening of restrictions on fundraisers ability to raise funds through gambling activities (e.g., increase maximum prize value of eyes down and instant bingo) and the establishment of a community support fund into which the government would pay funds. The Community Benefit (SA) fund is one response to the needs identified by the Hill Inquiry.

The impacts on small business are perhaps the most important from the Provincial Cities’ viewpoint. After examining growth in consumption expenditure and retail trade across all industry sectors in 1994-95, the inquiry concluded “gaming machines had not, so far, had an adverse impact on other areas of retail spending in aggregate”. However, the inquiry recognised that there were “clear winners and losers from the introduction of gaming machines” with the inquiry receiving “submissions from small businesses which have been adversely affected by a loss of trade to hotels, particularly small food retailers located in close proximity to gaming venues”. Nevertheless, as with recent reports, Hill et al argued that changed spending patterns reflected consumers preferences and were a natural consequence of a dynamic economy. In addition, there were other competitive pressures which had adversely affected small food retailers. These included the partial deregulation of shopping hours and evolution of service stations into convenience stores.

A Parliamentary Committee, the Social Development Committee (1998) investigated the economic and social impacts with respect to problem gambling and the introduction of gaming machines into South Australia. The Committee’s investigation was based on verbal evidence and written submissions provided by various stakeholders, gambling experts and other members of the general public. After considering the evidence presented, the Committee made various recommendations with regard to the regulation and legislation of gambling, gaming machines and other areas concerning gambling. The Committee presented its report to Parliament in August 1998 (First Session of Forty-

Ninth Parliament). The Committee recommended an immediate ceiling of 11,000 gaming machines and considered the proposition that the long term aim should be to reduce the number of gaming machines to 10,000. A freeze on the number of gaming machines was imposed in December 2000, by which time there were almost 13,000 machines. As at 30th April 2001 the actual number of machines according to the Liquor Licensing Commission was:

- installed 13,950; and
- approval to install 14,910,¹⁸

where the difference between approval to install and actually installed is due to some premises yet to be built and where a licence is temporarily suspended due to building renovations and improvements such that machines are not actually operating.

The Committee considered the role of Local Government with respect to the introduction of gaming machines, and recommended that:

Local government be notified, and have the right to be heard by, the Liquor and Gaming Commissioner, before any decision is made to grant a gaming licence in its Local Government Area, or to expand the number of gaming machines.

This recommendation reflected concern expressed by the Local Government Association over the minimal control that local governments had over the proliferation of gaming machines within their districts. In particular, there was a perception that many sporting and community clubs had suffered a reduction in trade following the introduction of gaming machines with those who actually adopted gaming machines still being unable to compete effectively against larger hotels. This is an important issue for local councils, many who support community clubs through nominal or token rents and/or impose limited charges to use community land and facilities. There was also concern that State Government had generated significant revenue from gaming machines but had only returned a relatively small proportion to combat the social impact of poker machines.

Following the Committee's report, the LGA conducted a survey on Gaming Machines (1999)¹⁹ which found:

- councils did not support a prohibition on gaming machines even though they assessed the impact of gaming machines as largely being negative on their local community;
- the impacts were observed principally to fall on the individual and their families, followed by community/sporting clubs, local businesses and a decline in local sponsorship;
- entertainment options and the quality of facilities were observed to have improved, which was associated with 'patronage switching' to hotels away from clubs; and

¹⁸ We have been advised the actual number of EGMs approved is 15,209. This increase since the Report of the Social Development Committee reflects the failure of Parliament to actually impose a "real cap" at the time of announcement of impending legislation rather than allow an extended period for applications.

¹⁹ LGA Survey received feedback from 58 Councils.

- the State Government was the appropriate level of government for licensing gaming machines, with some support for Councils having an unspecified input into the licensing process. Overall, Councils felt the State Government should be responsible for regulating the industry and for addressing the impact of gaming machines.

Given the Social Development Committee's reliance on anecdotal evidence, it was unable to draw strong conclusions on the impact of gaming machines on retail trade and small businesses. Subsequently it recommended that "an independent economic impact study on gaming be conducted to clarify and assess anecdotal evidence relating to the effects that gambling in general, and gaming machines in particular, are having on the retailing and, in particular, small business". The Centre is unaware of any independent, economic impact study subsequently having been conducted by the State Government, but this type of study could be commissioned by the proposed Independent Gambling Authority. The Centre is unaware of any formal response by the government to the Social Development Committee's report.

More recently, a Gaming Machine Review Committee was established in January 2001 to advise the government on responses to the general cap on the number of electronic gaming machines (EGMs) that was hurriedly passed on December 6th 2000, for a period extending to 31st May 2001. The Committee was also invited to provide comment to government on other matters related to gambling that it considered to be significant.²⁰

Clubs SA expressed concern about the distribution of EGM's between clubs and hotels and called for a redistribution of machines to favour community based clubs. This issue was not resolved by the Review group.

The Gaming Machine Review concentrated its discussion on matters of legislation and regulation, seeking to standardise conditions across all gambling codes and also debated codes of practice. There was consensus that acknowledged problem gambling as a significant concern for all stakeholders and a general agreement that a stronger focus was needed on "harm minimisation" within gambling industries.

There were four broad outcomes of the Gaming Machine Review Committee that were accepted by the State Government and outlined by the Premier on 4th April 2001:

1. proposal to establish an Independent Gambling Authority with a Minister for Gambling;
2. research priorities were proposed along with proposals about coordination of research;
3. a series of specific measures were identified that were intended to reduce problem gambling; and
4. advice to government to extend the general cap on the number of EGM's for a further period of 2 years until May 31, 2003. Research topics were also identified that would need to be considered before the 2003 debate on capping.

²⁰ The Terms of Reference for the Gaming Machine Review Committee was sought, however, discussions with the Department of Premier and Cabinet revealed that no official Terms of Reference had been specified for the Committee.

The most significant of the State Government's reforms is the establishment of an Independent Gambling Authority that will have responsibility for the oversight of gambling regulation in South Australia. In particular the IGA will have responsibility for the following objectives:

1. to develop and promote strategies for reducing the incidence of problem gambling and for preventing or minimising the harm caused by gambling; and
2. to undertake, assist or coordinate ongoing research into matters relevant to the Authorities functions, including research into —
 - a. the social and economic costs and benefits to the community of gambling and the gambling industry,
 - b. the likely impact, both negative and positive, on the community of any new gambling product or gambling activity that might be introduced by any section of the gambling industry,
 - c. strategies for reducing the incidence of problem gambling and preventing or minimising the harm caused by gambling, and
 - d. any other matter directed by the Minister.

In performing its functions and exercising its powers under this Act or a prescribed Act, the Authority must have regard to the following objects:

- a. the fostering of responsibility in gambling and, in particular, the minimising of harm caused by gambling, recognising the positive and negative impacts of gambling on communities; and
- b. the maintenance of a sustainable and responsible gambling industry in South Australia.

It is proposed that the Independent Gambling Authority will coordinate research into issues relevant to its functions. Importantly, this will include reporting on the social and economic impacts of gambling to the community and developing strategies for reducing the incidence of problem gambling. Also, it is proposed that the Authority will regulate (previously voluntary) codes of practice that will finally become legally enforceable. These codes of practice include mandatory measures designed to reduce problem gambling, including the installation of clocks in venues, the display of gambling warning signs, a ban on the cashing of cheques in gaming areas and a ban on people gambling while intoxicated. The Independent Gambling Authority will also administer a voluntary barring register for problem gamblers. Gamblers placed on the register will be banned from entering gambling venues (i.e., the casino or gaming machine venues). Gamblers may voluntarily elect to have themselves placed on the register by writing to the Independent Gambling Authority.

A number of additional reforms have been developed to help curb problem gambling; these include (Parliamentary Counsel, 2001):

- A ban of autoplay facilities on all electronic gaming machines. This is designed to slow down the continuous playing cycle and force players to "make conscious decisions regarding each playing cycle and will minimise the incidence of players playing more than one machine at a time".

- Formalising a ban on the introduction of note acceptors on all electronic gaming machines. Whilst note acceptors have never been approved by the Liquor and Gaming Commissioner, this regulation will prevent note acceptors from ever being introduced.
- The establishment of a daily limit on all cash withdrawals from Automatic Teller Machines and EFTPOS facilities located at gaming machine venues. The proposed cash limit is \$200.
- An increase in the minimum rate of return for new gaming machines from 85 per cent to 87.5 per cent. This is intended to reduce the average amount lost by gaming machine customers.

The current freeze on gaming machines is also proposed to be extended for a further two years to allow the conduct of further research to determine whether or not the freeze on gaming machines should be continued.²¹

The freeze on EGM's was extended to enable further research and debate on unresolved issues associated with consideration of a permanent freeze. These issues include:

- what happens when a new venue (a greenfield site) is established away from existing EGMs venues and wants a licence for EGM's but there is a permanent cap in place;
- the trading of licences for EGM's. The current freeze does not permit EGM licences to be transferred from one venue to another. Some stakeholders do not regard this situation as sustainable in the long term;
- the global allocation for EGM's between clubs and hotels;
- the potential for regional freezes (as in Victoria);
- dealing with EGM licences foregone; and
- the use of "smart card" technologies for loyalty programs, banning processes for problem gamblers etc..

Finally, it is proposed that a Minister for Gambling be appointed and be separate from the Treasurer. The Committee sought to ensure that the functions of the Treasurer are separated from gambling regulation, eliminating the potential conflict of interest present under existing arrangements. The Review Committee has proposed a balanced set of actions, weighted equally towards responsible industry practices, and individual responsibility, while acknowledging that the "product" contains some inherent dangers and thus some consumer protection controls on "the product" are also warranted.

There are considerable and important areas for further research and a number of unresolved issues to be debated in the future. While the scope of this report concentrates on the impact of gaming machines on the regional Provincial Cities, we note that the industry is not static and that Internet based gambling and interactive sports betting are likely to impact on the share of gaming which is presently attributed to electronic gaming machines.

²¹ The freeze on gaming machine numbers was approved to continue from May 31st, 2001. There is considerable debate about the effectiveness of the cap and the current freeze on the number of electronic gaming machines.

2.2 Costs and Benefits of Gaming Machines

Gaming machines involve a range of economic and social impacts. However, there is a general lack of agreement, regarding how in particular, private and social costs and benefits and therefore the net impact of gaming machines, should be evaluated. For example, critics of gaming machines propose measures to significantly restrict access to gaming machines on the basis of their significant negative social impacts (e.g. problem gambling), but sometimes do not consider the substantial benefits that would be lost by responsible recreational gamblers who derive enjoyment from their unrestricted access to gaming machines. The following section briefly lists the various benefits and costs commonly attributed to gaming machines.

Prior to considering the various impacts of gaming machines, we should first consider the debate surrounding private and social impacts, and which should be included in an assessment of the overall net community impact of gaming machines. A majority of the negative impacts associated with gaming machines are considered private costs, that is, costs incurred by economic agents (individuals) who were party to the decision to engage in the activity (e.g., gambling). However, private impacts are typically not included in community impact assessments because such costs are based on individual decisions which in a rational world are normally made to maximise individual welfare. In this situation government intervention to curtail the activity is not warranted because it would not result in an improvement to the welfare of the individual and therefore society.

Government intervention to reduce the severity of an activity is traditionally justified when there are substantial adverse social impacts. Social impacts are primarily externalities. These are impacts imposed involuntarily on individuals who were not associated with the decision to undertake the activity. For example, the additional law enforcement costs to government as the result of crime committed by problem gamblers to support their gambling activity represents an externality. However, the Productivity Commission argues that those private costs, which result from irrational decision making, should also be treated as social costs. With respect to gamblers, the Productivity Commission argues that:

“These people exhibit psychological traits and behaviours that do not appear to accord with conventional notions of rational decision-making. To the extent that there (sic) 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 government ought to concern themselves.”²²

In other words, the widespread availability of an activity (or good) induces irrational decision making and overuse of that activity by a small proportion of the population such that large private costs are the result. In effect, the private costs come to represent significant social costs in a variety of forms including medical, health, policing and regulation, and insurance costs to the wider community. This is the case with smoking related illness and death, and so it is with problem gamblers. Government intervention to reduce the private costs by restricting access to the activity is therefore warranted since some individuals have an inability to control their own irrational behaviour which leads to decisions that do not maximise individual welfare. This is a sound argument

²² Productivity Commission, p. 4.7.

which has application to other goods that are addictive and have large private and social costs such as in the impact on the public health system, e.g., heroin.

A further social cost of gambling relates to impacts on family members of problem gamblers and some recreational gamblers. The utility gained by one member of a family spending on gambling may be greater or less than the utility gained by other members of that household, if the money spent on gambling was applied differently.

Anecdotal evidence from Break Even counsellors suggests that some members of households (e.g., children), suffer significant deprivation as a result of household finances being redirected for essential consumption goods to gambling. These impacts have not been studied, but are likely to be significant in some problem gambler and recreational gambler households. These effects are outside the scope of this study, but warrant subsequent examination.

2.2.1 Benefits of Gaming Machines

The Productivity Commission identified two main benefits of gaming machines at the national level. The primary benefit identified was the satisfaction derived by consumers from their consumption of gambling, an activity from which consumers derived entertainment value. That consumers derived enjoyment from gaming machines is demonstrated by consumer surveys, which show that the majority of gamblers play gaming machines primarily for social or entertainment reasons.

Consumer satisfaction derived from the consumption of gaming is measured by the economic concept of consumer surplus. Consumer surplus represents the difference between what a consumer is willing to pay for a good or service and what they actually pay for that particular good or service. Consumer surplus benefits due to gaming machines are estimated for the Provincial Cities in Section 4.2.5.

Increased government taxation revenue is the second main benefit identified by the Productivity Commission. While tax revenue represents a definite benefit from the national perspective, from a regional viewpoint, tax revenue collected by central authorities represents a potential negative impact if government tax revenue is not returned to the region through equivalent spending on regional services. This possibility has concerned many local government associations and is investigated for the Provincial Cities in Section 4.1.3.

The consumer satisfaction derived from the consumption of gambling and government tax revenue were the only two benefits included in the Productivity Commission's quantitative estimate of the benefits of Australia's gambling industries. While the Productivity Commission acknowledged the existence of employment and value added benefits attributable to the gambling industries, it decided against including such benefits on the basis that they were relatively small. This conclusion follows from the fact that growth in gambling industries have necessarily drawn resources and consumer spending away from other industries such that "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."²³ In other words, increased spending on

²³ Productivity Commission, p. 5.1.

gaming machines has drawn resources and capital away from other industries, therefore reducing output and employment in these industries which leads to an uncertain net economic outcome for the local economy.

While the Centre agrees with the Productivity Commission's assessment, many regional areas of South Australia did experience depressed economic conditions in the early to mid 1990s, resulting in a high level of unemployed resources. Under this environment, the introduction of gaming machines could produce a positive net expansion in economic activity by employing unemployed resources from within the region. For example, community consultation by KPMG (VCGA, 2000) for six regional areas of Victoria identified increased employment opportunities, especially for younger people, as one benefit of gaming machines. However, to the extent that gambling expenditure is drawn from consumer spending on other sectors of the local economy, these sectors will experience decline and employ fewer resources, therefore leading to smaller positive net impacts for the regional economy.

KPMG's community consultation identified other benefits which may apply equally in the Provincial Cities. Most importantly, gaming machines have allowed hotels and some clubs to finance expansion and upgrading of their facilities. Not only has this improved services for patrons and members, it has also given impetus to "urban renewal" as surrounding areas have improved in appearance with other businesses being attracted to the area. However, some argue that this simply shifts economic activity from one locality to another, leading to degradation of other areas. A further benefit of increased gaming venue profitability is that such venues have increased capacity to provide support to charities, welfare organisations and sporting clubs. In this case, some proportion of revenue received by venues should be treated as a social benefit. We discuss regional employment trends, investment and charitable donations for the Provincial Cities in Section 4.1.3.

2.2.2 Costs of Gaming Machines

With the introduction of gaming machines, the prevalence of gambling opportunities within our society has increased dramatically, leading to a significant increase in problem gambling. It is the extent to which gaming machines have given rise to increased problem gambling which explains the majority of costs commonly attributed to gaming machines.

No agreed upon definition of problem gambling exists. However, on the basis of definitions reported by, and submitted to the Productivity Commission, the Centre defines problem gambling as the excessive (irrational) gambling undertaken by an individual beyond their economic means, which subsequently gives rise to private (i.e. the individual and/or family) and/or social costs. Problem gamblers are characterised by a variety of potential states; these include feelings of anxiety, depression or guilt over gambling, chasing losses, relationship breakdown, financial difficulties, preoccupation with gambling, etc., (Productivity Commission, 1999). We might add feelings of loneliness and isolation, stress and tension.²⁴

²⁴ As reported to Gamblers Helpline and specialist counsellors.

Many other terms have been used to describe problem gambling (e.g., 'compulsive', 'excessive', and 'neurotic'). Perhaps the most interesting is "pathological gambling" which classifies problem gambling as a diagnosable mental disorder. This definition applies to a smaller subset of the problem gambler population and has been more commonly used in other countries. M. Marshall (1998) provides a useful summary definition of pathological gambling:

"In the opinion of most practitioners and researchers who have studied it, pathological gambling is an addiction. Pathological gambling may be defined as a chronic and 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 the continuation of the behaviour despite detrimental consequences."²⁵

Relative to pathological gambling, M. Marshall notes that:

"Problem gambling is a more inclusive application, applied to a much larger category of people who do not display sufficient symptoms to receive a formal diagnosis of pathological gambling, but who nevertheless experience problems, sometimes of a serious nature, in association with their gambling."²⁶

To the extent that the definition of problem gambling includes individuals who experience problems with gambling that results in significant private/social costs, but who are not formally diagnosed as pathological gamblers, it therefore seems reasonable to adopt the wider (i.e., more inclusive) definition of problem gambling.

The costs of problem gambling are felt at an individual, family and social level. In this respect, the Productivity Commission (1999) identified the following costs of problem gambling. At the individual level, the cost of problem gambling is demonstrated by depression, anxiety, ill health and suicide which includes costs related to attempted suicide and thoughts of suicide. These impacts flow directly from the financial and relationship problems caused by problem gambling. In turn, those costs that affect problem gamblers (depression, anxiety etc) may also affect family members. The Productivity Commission estimates that 7.3 people, including work colleagues, are adversely affected by every problem gambler. Based on latest prevalence data which indicates that there are approximately 23,000 problem gamblers in South Australia (CPSE, 2001²⁷), and the Commission's estimate, this implies that around 168,000 South Australians experience adverse effects due to problem gambling, but are themselves not problem gamblers. Further impacts on family members may be felt in terms of poverty, domestic abuse, and ultimately, family breakdown which results in the emotional and financial costs of divorce.

Problem gambling imparts costs on other members of society more broadly. For example, problem gamblers affect work colleagues and employers through reduced work productivity. In addition, unemployment due to inadequate work performance leads to employment replacement costs for the employer, employment transition costs for the problem gambler as they seek new employment, and financial costs to the

²⁵ Marshall, M., p. 5.

²⁶ Marshall, M., *op. cit.*, p. 4.

²⁷ Centre for Population Studies in Epidemiology (2001), referred to as CPSE Report in the text.

government (i.e., taxpayers) through funding of unemployment benefits. Other costs at the broad societal level include bankruptcy (although there is an incentive not to attribute bankruptcy as being gambling related) and crime committed to support compulsive gambling behaviour which increases law enforcement costs. Further financial burdens to the public sector include the financial cost of counselling and support services provided by government and charities, and health services. In South Australia the hotel industry is a major contributor to Break Even Counselling Services. Finally, problem gamblers may negatively impact friends if they borrow money to cover gambling losses.

Aside from the problem gambling related costs of gaming machines identified by the Productivity Commission, the other main costs of gaming machines include the leakage of taxation revenue from the region (discussed in the previous section) and diversion of consumer spending from other local businesses. As was argued several times in the literature review, that other retailers have suffered a decline in retail activity is not a negative impact of gaming machines as it reflects shifting consumer expenditure patterns which are a factor in all dynamic economies. However, to the extent that gaming machines give rise to problem gamblers who spend excessive amounts on gaming machines due to their irrational/addictive behaviour, then these expenditures which have been diverted from other spending activities can therefore be treated as a cost of gaming machines. Such diverted expenditure may in fact be very large; for example, the Productivity Commission estimates that 42.3 per cent of all gaming machine expenditure is accounted for by problem gamblers.

2.3 Economic and Social Impact on Clubs in South Australia

Another dimension of the broad impact of gaming machines concerns their impact on licensed clubs. Clubs play an important role in our society, one that is unfortunately often overlooked by the general public and public sector decision makers. Clubs provide financial and material support to community organisations (including charities) and sporting teams which, in their absence, would probably be either severely lacking, or could only be provided by government. Most importantly, unlike the majority of hotels which are privately owned, clubs are non-profit organisations which reinvest most of the profits earned back into the community. This takes place through improving or providing additional facilities and services to members (e.g., sporting facilities), making direct donations to community organisations and charities, and providing sponsorship to sporting teams. In this respect, clubs play a central role in promoting social inclusion and community involvement, maintaining and building sporting and community infrastructure, encouraging participation in sport and recreation, and helping to develop community leadership. We acknowledge the similar role that many hotels also play in direct support of local community organisations and sporting groups.

With the introduction of gaming machines, there is a concern that clubs have been negatively impacted financially by competition from hotels, which have drawn retail activity away from clubs. This has subsequently curtailed clubs' ability to provide facilities and services to the community and sporting organisations it is claimed, and in turn, compromised their social development role.

The negative impact of gaming machines on licensed clubs was previously recognised by the Social Development Committee in 1998, importantly, it also revealed a possible adverse impact for local councils:

“Mr Comrie (Chief Executive Officer of the Local Government Association) informed Committee members that since gaming machines had been legalised, numbers of local sporting and community clubs, which relied on members’ custom and bar trade for income, were experiencing financial difficulty. In some cases, this meant that their reason for being - “to be able to provide additional facilities for their members” - was severely curtailed. Mr Comrie pointed out that in many cases “the council is concerned that it has had to pick up the financial consequences of that impact”. “In terms of clubs on council premises, the simple fact is that, in the vast majority of cases, the local sporting or community clubs has been adversely affected by the introduction of poker machines...Most of them, though, in terms of scale and location, have been unable to compete effectively, on a level playing field context, with larger hotels”. Many clubs have also been constrained by town-planning zones, which have prevented them from trading for longer hours or expanding.”²⁸

The inability of clubs to compete effectively with hotels derives from their non-profit legal status that naturally limits their financial ability to raise capital and access finances in order to meet the up front capital cost of purchasing gaming machines and establishing gaming facilities. In the Provincial Cities some 96 per cent of all gaming machines were purchased and owned, rather than leased.

Furthermore, as community associations, clubs have the primary objective of supporting and providing facilities for sporting and/or community organisations; clubs therefore do not, as rule, have the financial scope to also undertake the initial substantial investment required to install gaming machines. In contrast, hotels do not have this prior obligation. In addition to having a limited asset base, a majority of clubs are located on Crown or council land and operate under a right of lease or an agreement with local government. The need to obtain council permission in order to upgrade and expand their facilities also restricts their ability to introduce gaming machines and compete with hotels (Social Development Committee, 1995).

The Licensed Clubs Association of South Australia (Clubs SA) recently commissioned a social and economic impact study of clubs in South Australia. The report provides recent information on both the relative importance of clubs to the South Australian community, and the impact of gaming machines on clubs.

The Clubs SA report found that over 350,000 South Australians (potentially 31 per cent of the State’s population although there would be overlap in this number) were a member of a club in 2000. There were 1,151 active licensed clubs in South Australia in 2000. In comparison with other States, South Australia has a higher incidence of clubs but a lower average membership with 978 adults per club on average, compared to 3,112 adults per club in NSW and 3,381 adults per club in Queensland. Not only does this indicate a substantial role played by clubs within the South Australian community, it reveals that South Australian clubs are competing against each other for a relatively small pool of potential members. One possible implication is that for clubs to remain

²⁸ Social Development Committee, p. 40.

viable, there may be a need for a reduction in the number of clubs (and hence competition). This may in part be achieved through an amalgamation of competing clubs.

Although clubs provide important benefits to the community in terms of employment, taxes, and payments to suppliers, of more relevance are the intangible benefits (e.g., extent of volunteerism, use of sporting equipment, discounted meals, discounted drinks etc.) and sponsorship and donations provided by clubs. These features are of more relevance because they represent the additional benefits provided by clubs to the community, which are not necessarily provided by hotels or other organisations (at least to the same extent or as now is the case, discounted meals are subject to aggressive competition by hotels). CMP Marketing conservatively estimate that the average value of intangible benefits provided by each South Australian club is \$10,110 per annum, or \$11.6 million for the industry as a whole. In terms of sponsorship and donations, the club industry provides benefits of \$2.8 million in aggregate,²⁹ or \$2,400 per club. Unfortunately, there is no historical data with which to gauge the impact of gaming machines on clubs' ability to provide intangible benefits and sponsorship/donations to the community and sporting organisations. Nevertheless, the sponsorship, donations and intangible benefits provided by clubs are significant; when the enjoyment and satisfaction derived by members and consumers of clubs facilities and services are taken into account, then the community contribution of clubs would definitely be very significant.

Although gaming machines are argued to have negatively impacted clubs, they have provided a significant financial boost to some clubs that have installed gaming machines. For instance, the Clubs SA report indicates that gaming machine clubs had an average annual turnover of approximately \$1.2 million compared to \$186,000 for the industry as a whole. In turn, the adoption of gaming machines has enhanced the capacity of these clubs to provide greater benefits to both their members and the wider community. For example, whereas each South Australian club on average provides sponsorship and donations of \$2,400 per annum, gaming clubs on average provide donations and sponsorship in the order of \$24,000 per annum. Furthermore, the authors of the Clubs SA report note:

"For the gaming clubs, poker machines have made a huge impact on the club and its facilities. By taking the initiative of making the gaming floor work, other facilities have been updated. The majority of Riverland Clubs observed that without gaming they would not be in existence today. In most cases they are planning or are currently undertaking renovations that may not have been possible without the introduction of the extra revenue from the machines."³⁰

The report does not discuss the situation of those clubs with electronic gaming machine licences and which have subsequently experienced financial difficulties, several having been wound up. Notwithstanding, the benefits from gaming machines are enjoyed by only a small proportion of clubs — only 8 per cent of clubs registered with Clubs SA (88 clubs) had a gaming licence in 2000; this compares with 80 per cent of hotels. This unevenness reflects in part, the difficulty incurred by clubs in establishing gaming

²⁹ The AHA (SA) claim their members provide support to charities, sport and community groups in the order of \$9m per annum.

³⁰ CMP Marketing, p. 104.

facilities and the method of industry development since the introduction of EGM's in 1994. What also is an obvious point, is the fact that many clubs simply do not have suitable premises in which to locate gaming machines.

We do not deny that there are other significant factors at play here, including the obvious fact that many clubs would not wish to participate in the gaming sector of the economy and many are not of a sufficient size to be able to do so. Notwithstanding, the location (venue) and scale of participation in the gaming industry is as set out in Table 2.3. Turnover data for machines in clubs shows that on average, clubs have a lower market share (i.e., share of turnover) than the number of machines would suggest, indicating lower patronage rates across most clubs.

Table 2.3
South Australia: 2000

	Venues	No. of Machines	Average Number of Machines Per Venue
Hotels ¹	497	12,301	24.8
Clubs ²	88	1,649	18.7
Total		13,950 ³	

Notes: ¹ 497 out of 620 hotels, or 80 per cent, possess machines.

² 88 out of 1,151 clubs have a licence.

³ total number of machines approved 14,910.

The Annual Report of the Liquor and Gaming Commissioner in 1998 noted that the "installation rate of machines had fallen significantly since start-up with the monthly average being 153 in 1994-95, 157 in 1995-96, 99 in 1996-97 and 37 in 1997-98".³¹ As at June 1998 there were 10,898 gaming machines, while at June 2000 the total number approved had reached 14,910, suggesting an increase in the start-up rate over this latter period.

The Productivity Commission (1999) reported the distribution of electronic gaming machines across clubs, hotels and casinos by state. Based on 1998 data and excluding EGM's located in casinos, South Australian clubs had 12 per cent of EGM's compared to the national average of 65 per cent. The distribution between clubs and hotels in each State and Territory was shown as (clubs : hotels):

- South Australia (12:88)
- Victoria (50:50)
- New South Wales (73:27)
- Queensland (64:36)
- Tasmania (16:84)
- ACT (98:2)
- Northern Territory (77:23)

³¹ Annual Report of the Liquor and Gaming Commissioner.

Focus groups conducted with smaller non-gaming clubs and larger gaming clubs for the Clubs SA report provided qualitative information on the difficulties being experienced by clubs, especially smaller ones:

“...smaller clubs are suffering with the introduction of poker machines as they cannot compete with the facilities and low cost food and alcohol of hotels. The smaller clubs believe that if there were not some favourable improvement in to the market soon, their clubs would become financially inactive and have to close”.³²

There was a consensus that many clubs would struggle to survive in the future and that the introduction of poker machines into hotels was the “primary reason blamed for their general financial and membership decline”. Complicating matters, local council restrictions were observed as a major factor limiting clubs’ ability to compete with hotels. In particular, a tendency to not grant approval for expansion of club premises (whereas it was stated that approval for hotel development seemingly faced little council resistance), leases that only allowed limited growth, minimal financial support for financing expansion and other council regulations were observed as major factors hampering clubs ability to grow. In summary, there was a perception that local councils did not understand or recognise the value of clubs to the community.

In recognition of the important social contribution of clubs and the negative impact gaming machines appear to have had on clubs in recent years, Clubs SA recently submitted a position paper to the Gaming Machine Review outlining their recommendations for addressing the above concerns. Clubs SA argues that the concentration of gaming machines into hotels “is unhealthy because it concentrates wealth into the hands of private owners, not all of who are reinvesting into South Australia”. Consequently, Clubs SA argues that increased reinvestment of gaming machine expenditure into the community could be achieved by promoting the role of clubs in providing gaming machines. To do this, Clubs SA recommends that a long term policy aim of achieving an even distribution of gaming machines (i.e., 50/50) between clubs and hotels be adopted. It is claimed that this could be achieved by maintaining the freeze on gaming licences for hotels, while relaxing the restriction on clubs and allowing them to obtain gaming licences until the desired distribution was achieved. However, the current aggregate cap on gaming machines would need to be relaxed to achieve this objective.³³ Even this strategy would be unlikely to ensure even distribution within clubs. It would be more likely that expansion would occur in those clubs which already have machines.

Furthermore, Clubs SA argue that government policy should recognise that clubs do not have adequate access to finance and capital to install gaming machines and construct appropriate facilities. In this respect, Clubs SA recommends that clubs with gaming machines should be granted a \$100,000 tax-free threshold, and that a special licence should be created that would allow specific clubs (i.e., “host” clubs of other clubs’ machines) to have 100 gaming machines co-located under one roof, while maintaining the maximum limit of 40 gaming machines for each individual club. The latter would promote economies of scale by allowing clubs to pool their limited resources, and enable

³² CMP Marketing, p. 98.

³³ If a general cap were introduced then a progressive shift from hotels to clubs could occur where a hotel gave up a licence or reduced the number of machines approved and these were transferred to clubs.

the adoption of more effective management techniques than would be possible at a smaller club level.

It should be noted that clubs already receive more favourable treatment than hotels in respect of the taxation of gaming machines revenues (see Appendix A for gaming machine tax rates in respect of the 1998-99 and 1999-00 financial years). This more favourable treatment recognises the important contribution that clubs make to the community by increasing the amount of gaming revenue reinvested back into the community through clubs. However, the benefit afforded by more favourable taxation does not address the relative disadvantages facing clubs in terms of accessing suitable finances and capital for the purchase and installation of gaming machines.

The argument that, on average, clubs would provide greater benefits to the community than hotels in terms of distributing gaming revenues back to the community is not without merit. However, to the extent that the majority of social costs associated with gaming machine derive from problem gambling, it is questionable whether a policy that increases the total number of gaming machines (and therefore increases the prevalence of gaming machines) would prove socially beneficial given that it potentially exacerbates problem gambling. While an alternative option in this respect would be to slowly transfer gaming machines from hotels to clubs, this could prove unnecessarily expensive given the substantial investment in gaming facilities already undertaken by hotels. It should also be recognised that not all hotels are privately owned. Community hotels, like clubs, have a non-profit legal status which requires them to reinvest all monies earned back into the community. What is clear is that many community hotels have reinvested profits back into improving the hotel and the facilities it provides.

Also, the high incidence of clubs within South Australia creates difficulty in determining the extent to which clubs have been negatively impacted by competition from hotels, from other changes in society and from other clubs (and potentially other forms of entertainment). Difficulties experienced by clubs may reflect an excessive supply of clubs, especially smaller clubs, competing for a relatively small pool of potential members.

Clubs do provide significant benefits to the local community. It is important to assess to what extent these benefits have been eroded by competition from hotels. The potential negative impact on clubs is important from a Provincial City perspective because clubs are of even greater importance to regional and rural communities. Data shows that clubs are disproportionately concentrated in rural areas; in 2000, 53 per cent of South Australian clubs were located in rural areas compared with 23 per cent of the State's population. A reduction in the number of clubs, or a deterioration in the quality and/or quantity of facilities and services provided by clubs to their members and the wider community, would potentially damage the social fabric (and maybe spirit) of these communities. Although the greater profitability of hotels has allowed them to increase their sponsorship and donations to sporting and community organisations, a decline in the services and facilities maintained and offered by clubs may possibly only be offset by increased funding from both local and State government.

2.4 Funds Established Under the Gaming Machines (Miscellaneous) Amendments Act 1996

In recognition of the pressures gaming machines have exerted on various community and sporting organisations, three funds have been established under Section 73 of the Gaming Machines (Miscellaneous) Amendments Act 1996 with the purpose of reinvesting gaming machine taxation revenues back into the South Australian community. They are:

- The Charitable and Social Welfare Fund;
- The Sport and Recreation Fund; and
- The Community Development Fund.

In total, these funds were allocated \$25 million in 1999-00. This represents approximately 12 per cent of total State government taxation revenue derived from gaming machines in 1999-00 which is not an insignificant amount. By comparison, the Provincial Cities in aggregate paid approximately \$22.6 million in gaming machine taxation in 1999-00. (Total State Government taxation revenue from gaming machines was \$211.8 million in 1999-00.) The funding programs are discussed separately below.

2.4.1 Charitable and Social Welfare Fund

The Charitable and Social Welfare Fund is publicly known as Community Benefit SA. The objective of Community Benefit SA is to provide financial assistance to charitable or social welfare organisations. In particular, the Fund grants money for “one-off projects to non-government, non-profit, incorporated community organisations which help people in need, including organisations which have had an increased demand since gaming machines were introduced” (Department of Human Services, 2000).

We were informed that “all applications to the Community Benefit Fund (SA) are assessed on merit and on criteria which include level of disadvantage of the client group, likely effect of project intervention, extent of benefit and outcome, cost effectiveness, linkage to other programs and capacity of the organisation to deliver the project. The Board aims to provide an equitable distribution of funds across target groups, geographic regions and the number and range of organisations. Priority is given to the funding of smaller projects”.³⁴

The fund provides financial support for two different types of projects:

- “Community Service Projects which assist families and people in need who are suffering poverty or hardship, risk breakdown, and are the most disadvantaged in the community; and
- Fundraising Projects which enable organisations to increase their annual revenue by developing new long term fundraising strategies that may replace previous gambling related methods”, (Department of Human Services, p. 4).

³⁴ Correspondence to the Centre, Department of Human Services, July 2001.

Grants are available in two different forms - normal grants (up to \$30,000) and special grants (\$30,001 to \$75,000) where the latter provides funding for projects that are considered high priority from a community perspective. With respect to Special Grants, funding is made available on the basis that the organisation faces an overwhelming level of demand that exceeds the organisation's fundraising capacity. In addition, the organisation must have previously been engaged in significant fundraising activities prior to the introduction of gaming machines, and have experienced a decline in fundraising revenues following the introduction of gaming machines. From 2000/2001, Special Grants have been replaced by Strategic Special Grants.

For Special Grants (Mark II — funding rounds 7-9) and Strategic Special Grants, the Centre has cited evidence that agencies are able to demonstrate that:

- the agency was involved in substantial fundraising activities prior to the introduction of gaming machines; and
- the agency has experienced a downturn in fundraising associated with the introduction of gaming machines.

"Records of Fundraising Income" application forms illustrate the loss of income, in some cases quite substantial losses of income, following the introduction of gaming machines and the reason for special grants being awarded.

Community Benefit SA annually receives \$3 million in gaming taxation revenue from Treasury to redistribute back to the community. Since being established in late 1996, a total of \$11.2 million has been allocated over nine funding rounds with a total of 550 different community agencies receiving funding for 1,144 one-off projects. Importantly, demand for grants continues to exceed supply, suggesting a need for increased resources to the Fund. For example, a total of 824 applications requesting \$11.6 million in funding was received in 1999-00. Of these, a total of 308 applications (37.4 per cent), or \$2.6 million in funding (22.4 per cent) was approved by the Fund. This need for increased funding has also been recognised by Mr Stephen Mann, chairman of the fund:

"Despite the expenditure of \$11.2 million over 4 years, we are still observing the difficulties that are facing organisations in the community. The Board Members and staff of the fund are aware of the many unmet needs and of the excellent community initiatives and supports that cannot be implemented because of the limitations of the Fund. Once again we commend to you (Minister for Human Services) and to your colleagues the need to increase the annual amount available through this important Fund. The community of South Australia would benefit greatly from such an increase."³⁵

The amount of funding and grants approved by the Fund for the individual Provincial City regional areas are reported on in Section 4.1.3.

³⁵ Department of Human Services, p. 2.

2.4.2 Sport and Recreation Fund

The Sport and Recreation Fund distributes grants to community sporting and recreation organisations who require financial assistance. A total of \$2.5 million is annually made available under the fund. Grants provided from the Sport and Recreation Fund³⁶ are administered by the Office for Recreation and Sport. The two main components of the Fund are the Active Clubs Program and the Statewide Facilities Program.³⁷ The amount of funding and grants approved by the Fund for the Provincial City regional areas are reported on in Section 4.1.3.

Under this program, funding can only be provided to those organisations that do not hold a gaming machine licence.

An interesting question is posed by the recent announcement of the Federal Government to provide \$5 million for the purpose of restoring historic hotels “for country hotels battling to survive without poker machines”. Only hotels without gaming machines can apply to the Federal Government fund (for grants between \$10,000 and \$100,000). Clearly, the impact of gaming machines on some hotels is acknowledged. What then about sporting and community clubs? How can the State Government address the impact on clubs in South Australia?

One option would be for State funding assistance for community based alternative recreation to be piloted through Clubs SA, including:

- capital grants to upgrade community sport and recreation facilities;
- incentives for co-location, mergers or amalgamations to enhance resource efficiency; and
- training and management support to improve the administration of clubs and to market alternative recreation activities.

Local Councils should be involved in such a scheme as they currently support many local community and sporting groups and can provide an input into questions of resource utilisation and efficiency. Proposals could be sponsored by the local government.

2.4.3 Community Development Fund

The Community Development Fund was established to provide financial assistance for community development and the provision of government health, welfare and education services. A total of \$19.5 million was made available to the fund in 1999-00. The Fund is administered by the Department of Treasury and Finance and distributed across government agencies for mainstream services in education, health, welfare and other purposes across the State.

³⁶ Established under the Gaming Machines Miscellaneous Amendment Act, 1996.

³⁷ Scholarship Program and Management Development are the other two sub-programs.

2.4.4 Gambler Rehabilitation Fund (GRF)

The GRF was established from contributions by the hotels through the Independent Gaming Corporation (\$1.5m per annum) and the South Australian government (\$0.8m in financial year 2001-02) to support gambler rehabilitation services in metropolitan and rural areas. Recurrent funding of \$2.045 million is allocated in 2001-02 to support 31.4 full-time equivalent staff in the following agencies:

- Anglicare;
- Adelaide Central Mission;
- Salvation Army;
- Wesley Uniting Mission;
- Relationship Australia (covers Murray Bridge, Riverland, Mount Barker);
- Centacare Whyalla (covers Whyalla, Port Lincoln, Port Augusta, Roxby Downs and Woomera);
- Lifeline South East (SA) (Mount Gambier and surrounds);
- Port Pirie Central Mission;
- Nunkawarrin Yunti (Aboriginal Service);
- the Flinders Medical Centre; and
- Multicultural and Ethnic Community services.

Monthly returns from funded Break Even counselling agencies (what might be termed administrative data) has not been able to be provided to the Centre and we understand there is some conflict between the counselling agencies and the Department about the “ownership of this data”. There is no point in skirting around this issue — after a lengthy period of operation and successive monthly returns from agencies it is incomprehensible that aggregate data is not reported and available to the agencies.

The Department has therefore, the basis for a profile of the problem gambler and potential impact on families and information on aggregate numbers (albeit less than 10 per cent of problem gamblers are said to seek out independent counselling), location, and trends as a result of administrative data collections, but the failure to address systematic data collection and analysis effectively conceals potentially highly useful information.

This is perplexing when the Gambler Rehabilitation Fund (GRF) is said for the purposes of “the provision of funds to agencies to deliver services to gamblers and their families and *to fund research into gambling* (our emphasis). One consequence of a lack of systemic data collection and analysis of monthly returns is the need to conduct extensive telephone poll surveys on the prevalence of problem gambling (i.e., SERCIS³⁸ report). Even in regard to this, the Centre requested non-personal data and postcode information to calculate the prevalence of problem gamblers in the Provincial Cities and no protocols had been established to make this non-personal and non-identifiable data available. The

³⁸ Social, Environmental and Risk Context Information System — SERCIS Report, sponsored by CPSE in the Department of Human Services. Hereafter referred to as the CPSE Report.

Gambling Research Reference Group has established priorities for research although we are unsure whether this information is publicly available and who has access to this research funding.

The CPSE study referred to above, investigated the prevalence of problem gambling in South Australia, and sought to identify “any association between problem gambling and ... location”. The Centre’s own study is complementary to the CPSE survey and has specifically investigated the extent of problem gambling by location (i.e., Provincial Cities and metropolitan Adelaide).

CPSE itself quotes the Productivity Commission on the difficult issue of identifying problem gamblers — problem with initial contact, of non-response and refusal, of denial, problem with indigenous communities — so multiple methodologies are required. Telephone poll surveys are likely to underestimate the extent of problem gambling.

CPSE comments that overcoming limitations of methods involves the “piecing together of information gathered via a range of research methods through a process called triangulation”. This is precisely why the Centre sought data from the Department of Human Services — from the CPSE study and from Break Even agency monthly returns — to match it against our own. On almost all occasions, while individual officers were helpful, the absence of protocols or the inability to release non-confidential data was extremely frustrating and should be urgently addressed.

2.5 Pattern of Gambling in South Australia

Finally, in this introductory section, we report on patterns of gambling in South Australia. The Centre of Population Studies in Epidemiology (CPSE) of the South Australian Department of Human Services has recently completed a comprehensive telephone survey of South Australian adults designed to elicit information on the prevalence and social impact of problem gamblers (the CPSE study/report). Because the survey was relatively large with a total of 6,045 respondents aged 18 years and over being interviewed, it represents an important source of information on South Australian gambling characteristics. The Productivity Commission’s *National Gambling Survey* provides an alternative source of information on South Australian gamblers, however, the sample size for South Australia was relatively small (1,000 adults) and is therefore less reliable than the CPSE survey.

Table 2.4 presents information on the participation of respondents in various forms of gambling. In total, 75.6 per cent of respondents had participated in some form of gambling over the past 12 months. The most popular form of gambling was lotteries, with approximately 61 per cent of respondents having gambled on lotteries in the last year. Gaming machines were the next most popular form of gambling activity with 36 per cent of respondents having participated in this form of gambling. Interestingly, the Productivity Commission’s *National Gambling Survey* found that a higher proportion of South Australians had played gaming machines, with 41 per cent of respondents indicating they had gambled on gaming machines in the 12 months prior to the survey. Other popular forms of gambling included Racing (16 per cent) and Keno (11 per cent).

Table 2.4
Participation in Different Forms of Gambling (last 12 months)
South Australia - 2001

Gambling activity	Per cent
Lotto or any other lottery game (e.g., Powerball, Pools, Super66, Lottery)	61.2
Gaming machines	36.4
Instant scratch tickets	32.1
Racing	16.1
Keno	10.7
Casino table games	4.9
Played games like cards, mah-jongg privately for money at home/other place	3.9
Bingo at a club or hall	3.2
Bet on a sporting event like football, cricket or tennis	2.7
Internet gambling	0.1
Did not participate in a gambling activity	24.4

Source: Centre for Population Studies in Epidemiology, 2001.

Selected demographic characteristics for both all gamblers and those who played gaming machines are presented in Table 2.5. The percentages displayed in the Table refer to gamblers/gaming machine gamblers as a proportion of the variable population. So for example, reading from the table reveals that 77.3 per cent of all male respondents had participated in some form of gambling activity in the last 12 months, while only 36.1 per cent of all males had played gaming machines.

In terms of gender, an even proportion of males (36 per cent) and females (37 per cent) had played gaming machines in the last year. In terms of all gambling activities, males (77 per cent) had a higher participation rate than females (74 per cent). This higher participation rate would largely reflect the increased popularity of betting on horses and greyhounds among males (21 per cent of males had gambled on racing compared to 12 per cent of females).

An analysis of gaming machine gamblers by age group reveals that persons aged 18 to 24 years have significantly higher participation in gaming machine gambling than other age groups. Approximately 51 per cent of persons aged 18-24 years had played gaming machines compared to 36 per cent of the total population. This becomes even more significant when it is realised that this age group has a participation rate in all gambling activities (72 per cent) that is below the population average of 76 per cent. Given that problem gambling is more highly associated with gaming machines, it suggests that this age group is more exposed to the potential danger of becoming a problem gambler, if only because hotels are a principal source of entertainment and serve as a meeting place for young people. Gaming machines were less popular among persons aged 75 years and over with only a quarter of this age group having played gaming machines in the last year. This was consistent with their lower participation in all gambling activities. All other age groups had gaming machine participation rates that were similar to the population average.

Table 2.5
Demographic Characteristics of Respondents Who Play Gaming Machines
South Australia - 2001

Variables	Gaming machine gamblers (per cent of variable population)	All gamblers (per cent of variable population)
Gender		
Male	36.1	77.3
Female	36.7	73.9
Age group (years)		
18 to 24 years	51.0	72.4
25 to 34 years	35.7	79.5
35 to 44 years	32.2	77.9
45 to 54 years	36.9	78.5
55 to 64 years	38.8	79.8
65 to 74 years	34.3	71.5
75 or more years	24.8	59.0
Area of Residence		
Metropolitan Adelaide	37.5	75.6
SA Country (rural and remote)	33.2	75.3
Marital Status		
Married/De Facto	35.7	77.3
Separated/Divorced	36.1	77.9
Widowed	25.6	64.1
Never Married	42.7	72.7
Highest educational qualification obtained		
Secondary	40.4	77.6
Trade/Apprenticeship/Certificate/Diploma	36.6	77.6
Degree or higher	22.7	65.1
Work status		
Employed full-time	38.9	80.4
Employed part-time	38.7	76.2
Unemployed	34.3	74.9
Home duties/student/retired/other	32.7	69.9
Gross annual household income		
Less than \$12,000	28.8	65.4
\$12,001 to less than \$20,000	33.9	72.7
\$20,001 to less than \$40,000	40.1	78.9
\$40,001 to less than \$60,000	38.1	79.5
\$60,001 to less than \$80,000	40.6	83.0
\$80,001 or more	35.0	76.1
Don't know/Not stated	33.6	67.1
Overall	36.4	75.6

Source: Centre for Population Studies in Epidemiology, 2001.

Perhaps the most surprising feature of the demographic characteristics of respondents is that a smaller proportion of country residents have played gaming machines than metropolitan gamblers. Around 33 per cent of country respondents indicated that they had played gaming machines in the last 12 months compared to 37.5 per cent of metropolitan respondents. While the figure for South Australian country participation is not statistically significantly different from the population average (i.e., the proportion of all persons who have played gaming machines), it is nevertheless surprising. In relative terms, the Provincial Cities have a disproportionately large share of both gaming expenditure and gaming machines (see Section 3.2) which together would logically indicate that an increased proportion of country residents play gaming machines. A more limited range of entertainment options and the central role played by hotels and clubs as entertainment venues in rural areas would naturally encourage greater participation by country residents.

Although an alternative explanation for disproportionately larger expenditure by the Provincial Cities is a higher share of problem gamblers in country areas, results from the survey indicate that the reverse holds true — the Adelaide metropolitan area has a higher incidence of problem gambling. Figures quoted in the report indicate the prevalence of problem gamblers in metropolitan Adelaide at 2.3 per cent of the population and 1.4 per cent of South Australian country (rural and remote) population.

Another possible explanation is that there is greater spending on gaming machines by tourists in rural areas, but this is highly unlikely. In fact, attributing higher expenditure to tourists is not supported by the pattern of gaming expenditure as evidenced by data held by the Liquor Licensing Commission. The most obvious explanation here is the small sample size and that grouping together “rural and remote” hides the true picture for regional centres and cities (also under reporting in telephone surveys). Those in remote areas clearly have less opportunities to gamble.

As it is currently reported, lower participation rates for country areas would imply that gamblers in the Provincial Cities spend a very high amount per gambler, an amount that would raise concern over the sustainability of such spending and therefore the well-being of gamblers (see Appendix B for an examination of gaming machine expenditure per gambler based on participation rates identified by the CPSE study). In fact, it would be significantly high enough to raise concern over the reliability of the CPSE figure for the country participation rate. In our view the sample size for non-metropolitan Adelaide combined with the problems associated with telephone poll surveys (i.e., under-reporting) casts doubt over the results for non-metropolitan Adelaide.

Interestingly, the disparity between country and metropolitan residents was not observed for those respondents who had participated in any form of gambling activity.

Looking at the demographic profile of gamblers by educational status, participation rates by educational status showed that for gaming machine gamblers, respondents with a higher educational status were less likely to have played gaming machines in the last 12 months. For those with a lower educational status, gaming machines and gambling in general was seen as a more attractive form of recreation and leisure than for other respondents.

In terms of employment status, gaming machine participation rates were fairly even across different categories of work status. It is surprising that participation rates for unemployed persons and those who were not engaged in the workforce (e.g., students, retirees, persons with home duties) were not lower compared to full time employees given that these people generally have less financial resources to facilitate participation in such an activity. Indeed, the profile for all gamblers reveals a much stronger trend of lower participation rates for unemployed persons³⁹ and persons not engaged in the workforce relative to full time employees. In this respect, the profile of gaming machine gamblers and all gamblers by gross annual income shows that people on very low incomes are less likely to have gambled in the past 12 months.

³⁹ Centrelink and the Department of Family and Community Services have initiated a joint pilot program to identify clients whose financial difficulties could relate to gambling and to link clients with community service providers. They note that there is a stigma surrounding gambling and that "rural customers are particularly unwilling to disclose gambling problems". Where Centrelink customers are repeatedly requiring advance payments, have lost employment or financial details simply "don't add up", then these indicators could trigger intervention. The Port Lincoln Centrelink office is participating in the trial with a Victorian and Queensland office.

3. Analysis of Existing Data — National, State and Regional

In order to gain an appreciation for the relative impact of gaming machines in the regions, the following section analyses trends in gaming activity at the national, state and regional levels. In particular, trends in the number of gaming machines and venues have been investigated to gauge the penetration of gaming machines into the regions, while regional gaming expenditures have been examined to determine the actual intensity of gaming at the regional level. Analysis of this data highlights regional differences in gaming activity, and provides indication of the susceptibility of regions to the potential social and economic impacts flowing from gaming machines. The impact of gaming machines on other forms of gambling are also investigated.

South Australian state and regional data was obtained from the Office of the Liquor and Gaming Commissioner. For comparative purposes, state and national data was sourced from the Tasmanian Gaming Commission. Other relevant data was obtained from Australian Bureau of Statistic's sources.

3.1 National and State Trends

3.1.1 Gambling Expenditure

The following analysis of national and state trends in aggregate gambling and gaming machine expenditure is drawn from Tasmanian Gaming Commission data. Gambling "expenditure" refers to the amount lost by consumers on gambling activities and is the recognised measure for consumer spending on gambling. One deficiency with respect to the Tasmanian Gaming Commission data on gaming machines is that it excludes expenditure on gaming machines in casinos. These expenditures are recorded under "casino" expenditure; this has the effect of understating total spending on gaming machines. Also, because the Tasmanian Gaming Commission data incorporates gambling expenditures by tourists, State differences in gambling expenditure may be explained by differences in tourism activity rather than differences in local spending patterns. However, this influence has far more application to casinos rather than gaming machines which are located in hotels and clubs and visited mainly by local residents.

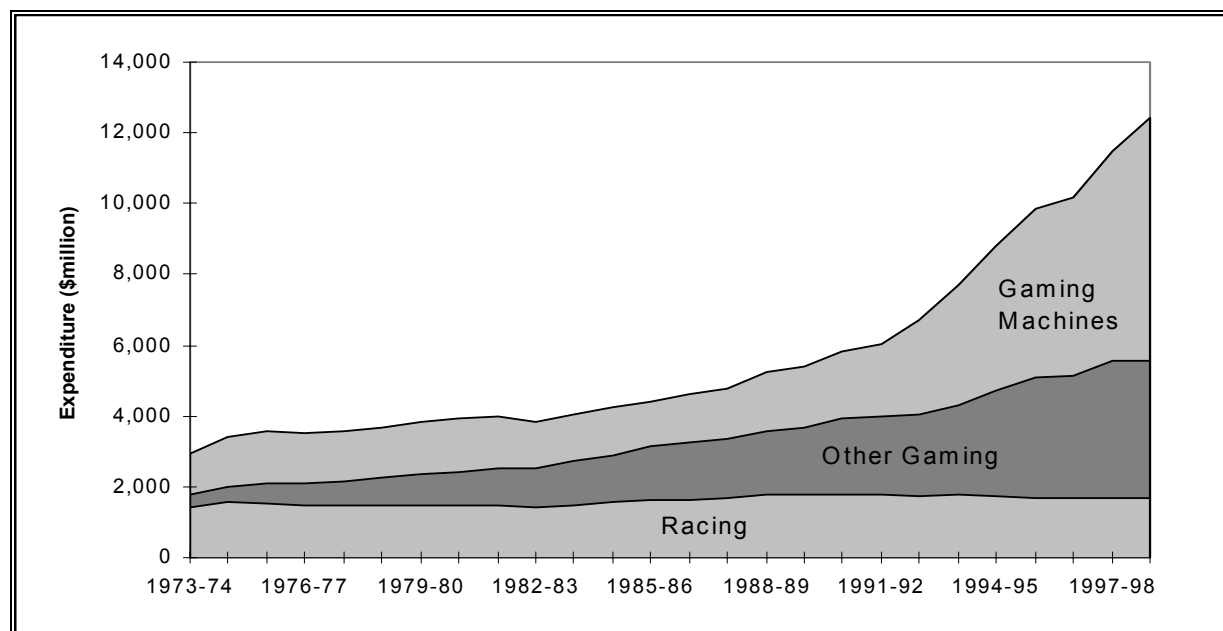
A sectoral breakdown of total Australian gambling expenditure since 1973-74 in real terms is presented in Figure 3.1. The "other gaming" classification covers all forms of gaming except gaming machines. For simplicity, sportsbetting has also been incorporated into "other gaming" since it currently represents only a small proportion of total gambling expenditures.⁴⁰

Total national gambling expenditure grew slowly over the 1970s and early 1980s. With the liberalisation of gambling activities as State governments responded to funding pressures by exploring alternative sources of government revenue, there was an acceleration of growth in gambling expenditure during the late 1980s followed by a very substantial increase in total gambling expenditure through the 1990s. By 1998-99, total

⁴⁰ It is anticipated the level of expenditure on Sports betting will rise significantly over the next 5 years.

national gambling expenditure was \$12.4 billion.⁴¹ A majority of this expenditure was accounted for by gaming machines (\$6.9 billion), followed by spending on “other gaming” activities (\$3.9 billion) and racing (\$1.7 billion).

Figure 3.1
Australian Gambling Expenditure By Type
Real Terms - 1973-74 to 1998-99



Source: Tasmanian Gaming Commission, Australian Gambling Statistics, 1998-99.

The sustained rise in total gambling expenditures is explained, firstly, by continuous growth in “other gaming” expenditures over the period, and secondly, robust growth in expenditure on gaming machines during the 1990s. Racing expenditures have remained relatively flat over the period, declining marginally over the 1990s.

Growth in “other gaming” expenditures is largely explained by the establishment of legalised casinos. South Australia, Western Australia and Queensland introduced their inaugural casinos in 1985-86. More recently, the Crown casino opened in Victoria in 1994 while the Star City casino opened in New South Wales the following year. Other forms of gambling have also contributed to growth in “other gaming” expenditure. Lotto was finally introduced into all states by 1981-82 with lotto expenditures growing steadily over the period. Instant money lotteries also became popular during the earlier 1980s while Keno was introduced into all states except Western Australia during the 1990s.

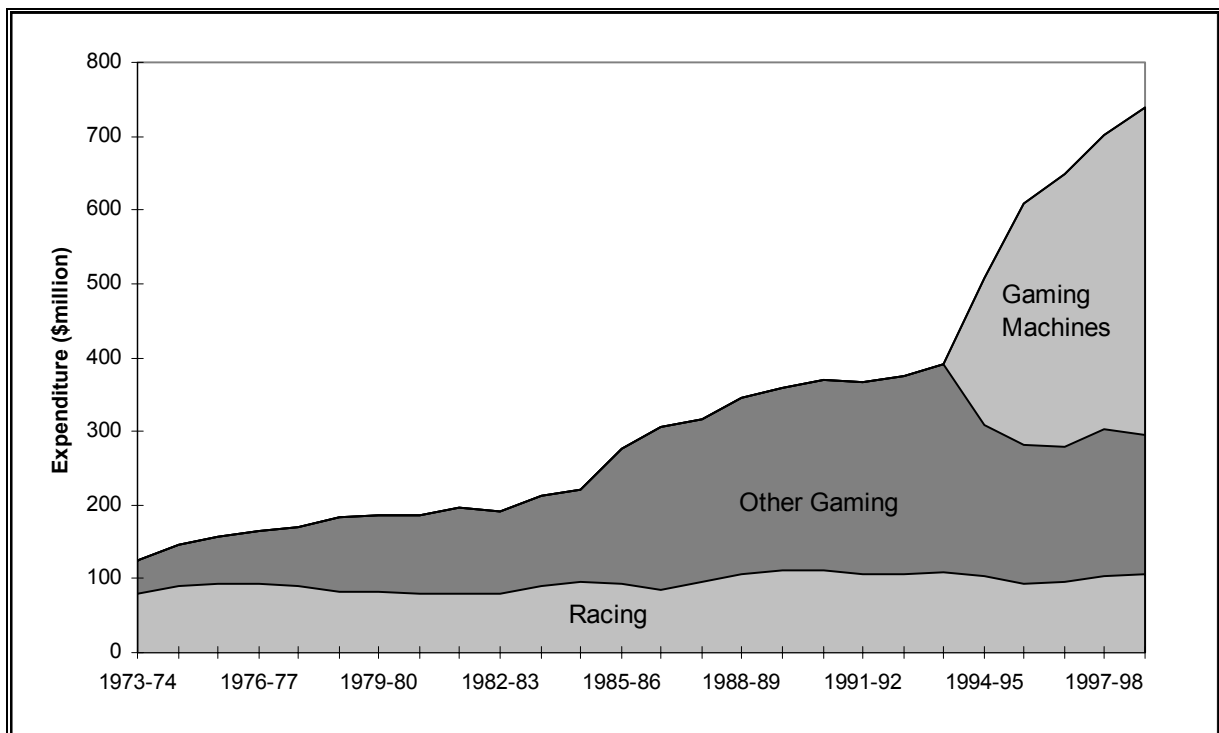
The large increase in gaming machine expenditures during the 1990s reflects the introduction by several states of gaming machines into non-casino venues (i.e., hotels and clubs). Electronic gaming machines were introduced into Victoria in 1991, Queensland in 1992 and South Australia in 1994.

⁴¹ For the 1999-2000 year this figure had increased by a further \$1b to some \$13.3b or \$931 per person. This equates to 3.5 per cent of household disposable income and is more than the total GSP of Tasmania.

The corresponding South Australian trends in gambling expenditure by broad sector are depicted in Figure 3.2. The introduction of gaming machines in 1994 induced a massive increase in consuming spending on gambling over the remainder of the decade. Total gambling expenditure increased from \$370 million in 1990-91 to \$739 million in 1998-99, an effective doubling of gambling expenditure over this period. By 1998-99, gaming machine expenditures represented 60 per cent of total gambling expenditures in South Australia. By comparison, gaming machines accounted for 55 per cent of national gambling expenditures in 1998-99. Like Australia, South Australian racing expenditure has remained relatively flat over the period of investigation.

Interestingly, Figure 3.2, for South Australia indicates that expenditure on "other gaming" declined following the introduction of gaming machines, unlike the national trend depicted in Figure 3.1. This suggests that gambling on gaming machines has, in part, substituted for spending on other forms of gambling. The sustained rise in spending on "other gaming" at the national level despite widespread introduction of gaming machines (Vic, Qld and SA) is probably explained by the legalisation of other forms of gambling, particularly casinos, in other states during this time.

Figure 3.2
South Australian Gambling Expenditure By Type
Real Terms - 1973-74 to 1998-99



Source: Tasmanian Gaming Commission, Australian Gambling Statistics, 1998-99.

Table 3.1 shows South Australian and Australian trends in gambling expenditure by type. Data is shown for those major categories that comprise "other gaming" while all other forms of gambling that are too small to report separately are included in the subtotal for "other gaming".

Total national gambling expenditure increased by 114 per cent between 1990-91 and 1998-99 from \$5.8 billion to \$12.4 billion.⁴² This increase is explained by robust growth in gaming machine expenditure which had the effect of raising total gambling expenditure by 86 per cent over this period, and expenditure on "other gaming" which increased total gambling by 30 per cent. Racing expenditure (horse and greyhound) declined over this period and has remained relatively unchanged since 1975-76.

Table 3.1
Gambling Expenditure By Type
Australia and South Australia - Selected Years (\$1998-99)

	Racing	Gaming Machine	Other Gaming				Sub Total	Total* Gambling
			Casino	Lotto	Instant Money	Minor Gaming		
Australia								
1975-76	1520.3	1448.3	26.4	198.8	0.0	40.6	571.6	3540.2
1980-81	1448.4	1514.6	43.9	518.8	16.8	139.0	963.5	3926.5
1985-86	1643.0	1300.2	261.4	669.4	239.4	178.0	1485.8	4428.9
1990-91	1773.9	1888.7	608.1	822.2	280.7	341.8	2139.8	5802.4
1991-92	1757.8	2027.5	633.8	853.9	287.4	348.8	2235.1	6020.3
1992-93	1721.8	2682.9	738.0	813.3	284.7	347.3	2327.3	6732.0
1993-94	1765.3	3388.8	908.4	857.4	272.7	327.9	2535.4	7689.6
1994-95	1737.8	4075.6	1310.5	914.5	249.2	295.5	2970.4	8783.8
1995-96	1678.8	4727.9	1845.4	921.1	221.4	230.6	3426.3	9832.9
1996-97	1680.7	5014.2	1980.7	888.4	214.4	173.6	3466.7	10161.6
1997-98	1662.6	5940.1	2259.9	934.9	227.6	197.3	3879.5	11482.2
1998-99	1704.1	6852.3	2193.6	995.3	231.9	183.8	3872.5	12428.9
South Australia								
1975-76	92.8	0.0	0.0	12.8	0.0	39.5	64.5	157.3
1980-81	78.9	0.0	0.0	20.2	16.6	59.9	108.1	187.0
1985-86	93.5	0.0	53.8	45.3	21.9	58.8	183.6	277.1
1990-91	111.3	0.0	100.2	86.9	20.2	50.7	258.9	370.2
1991-92	106.1	0.0	100.6	78.7	18.3	50.1	259.5	365.6
1992-93	107.3	0.0	112.8	67.5	19.9	54.9	268.6	375.8
1993-94	108.0	0.0	128.2	67.8	15.6	55.7	283.9	391.9
1994-95	102.6	198.3	89.4	65.1	11.7	25.2	206.0	506.9
1995-96	92.3	327.6	78.5	64.6	8.5	22.5	188.3	608.2
1996-97	95.7	368.8	71.6	63.2	8.3	26.0	183.2	647.6
1997-98	104.8	399.5	77.0	68.4	8.4	29.3	197.4	701.8
1998-99	106.7	442.5	76.6	70.6	9.3	19.3	189.4	738.6

Notes: * Total Gambling is sum of racing, gaming machines and 'other gaming' sub-total.

Source: Tasmanian Gaming Commission, Australian Gambling Statistics, 1998-99.

Looking at the data for South Australia, the impact of gaming machines on other forms of gambling are more clearly shown by Table 3.1. Prior to the entry of gaming machines into South Australian hotels and clubs, casino expenditure had increased steadily since the opening of the Adelaide Casino in 1985-86. With the introduction of gaming machines in 1994-95, casino expenditure declined by 30 per cent in that financial year and has declined further thereafter. Other forms of gambling that experienced declines

⁴² Gambling expenditure increased to \$13.7b in 1990-2000 and to \$14.5b in 2000-01.

include “minor gaming” (down 55 per cent) and “instant lotteries” (down 25 per cent). The impact on minor gaming is significant because this category includes forms of gambling employed by charities and social organisations to raise funds (e.g., Bingo). Racing experienced only a short-term negative impact from gaming machines with expenditure recovering in 1997-98. In terms of all forms of gaming expenditure, racing was 59 per cent of total gambling expenditure in South Australia in 1975-76 and has steadily fallen to 14 per cent of total gambling expenditure as more opportunities and types of gambling have been introduced. A decline in Lotto expenditure from the peak of \$87m in 1990-91 has continued gradually through the 1990s.

Several interesting findings emerge from Table 3.1. Firstly, while South Australia accounted for 5.9 per cent of total Australian gambling expenditure in 1998-99, South Australian gaming machine expenditure represented 6.3 per cent of national gaming machine expenditure. That South Australia has a higher share of gaming machine expenditure relative to its share of total gambling expenditure does not necessarily indicate that South Australians’ gamble more intensively on gaming machines or that gaming machines are more prevalent in South Australia than Australia. This is because the absence of gaming machines (in non-casino venues) in Western Australia artificially boosts South Australia’s share of national gaming machine expenditure; thus, excluding Western Australia reveals that South Australia accounted for 6.3 per cent of total national gambling expenditure in 1998-99.

Overall, South Australia’s share of national gaming machine expenditure is therefore consistent with its share of total gambling expenditure.

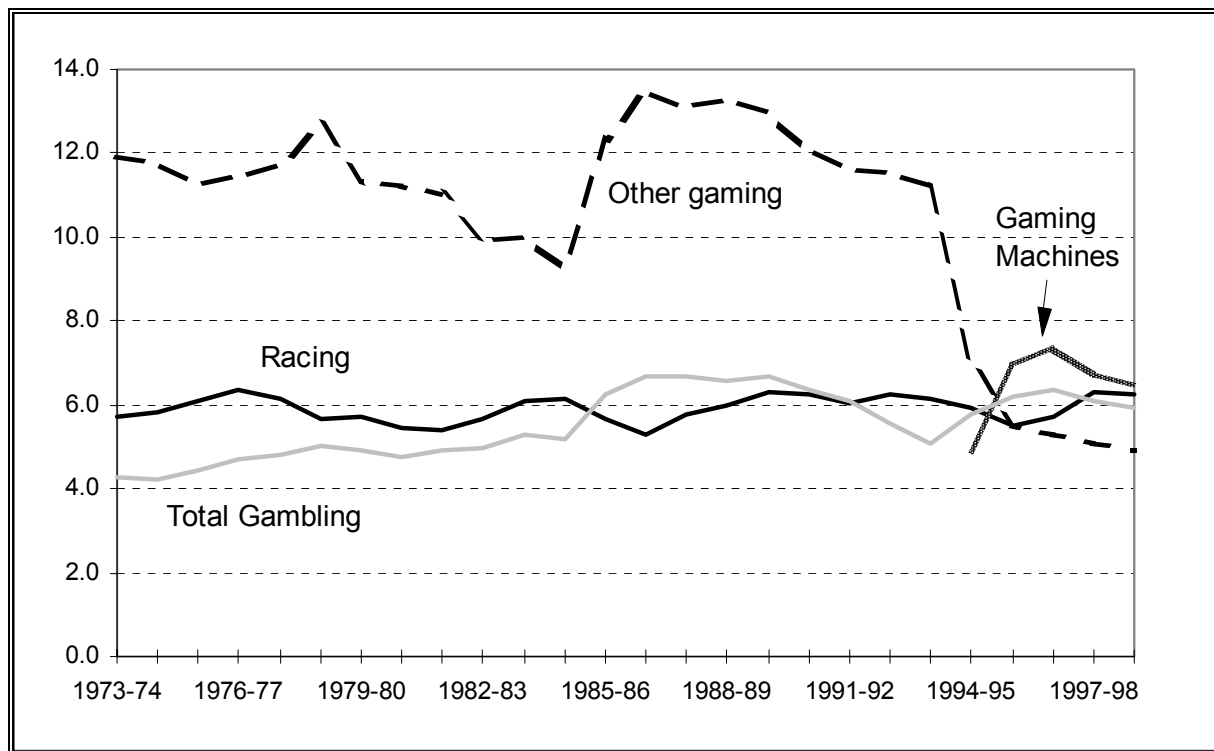
An indication of the intensity of South Australian gambling may be derived from a comparison of South Australia’s share of gambling expenditure relative to its share of the adult population (defined as persons aged 18 years and over). South Australia accounted for 8 per cent of Australia’s adult population in 1999; this indicates that South Australia does in fact gamble less intensively on gaming machines and in aggregate relative to the Australian average. The only gambling activity in which South Australia has a larger relative expenditure is minor gambling which accounted for 10.5 per cent of Australian gambling expenditures in 1998-99. This result may be explained by South Australia’s relatively older population whereby older people have a greater interest in minor forms of gambling (e.g., eyes-down bingo).

Trends in South Australia’s share of Australian Gambling expenditure by type of gambling are illustrated in Figure 3.3. South Australian total gambling expenditure as a proportion of national gambling expenditure has increased by 1.7 per cent since 1973/74. Traditionally South Australia has retained a relatively high share of national “other gaming” expenditure. However, there was a dramatic fall in South Australia’s share of “other gaming” spending in 1994-95. The diversion of other gaming expenditures to poker machines would be the primary factor behind this, however, the introduction of casinos in other states around this time (i.e., growth of other gaming at the national level) would also be important. Again, from Figure 3.3 we can see that South Australia’s share of Australian racing expenditure has remained relatively steady over the period of the analysis.

We can make three observations thus far:

- South Australia's share of gaming machine expenditure is consistent with its share of all gambling expenditure;
- South Australia's adult population gambles less intensively than in other States; and
- there are implications for clubs, charities and community facilities in the dramatic decline in 'other gaming' expenditure which has occurred since the introduction of gaming machines and the manner in which they were introduced.

Figure 3.3
South Australian Gambling Expenditure as
Proportion of Australian Gambling Expenditure
By Type of Gambling Expenditure - 1973-74 to 1998-99



Source: Tasmanian Gaming Commission, Australian Gambling Statistics, 1998-99.

Although gaming machine expenditure appears to have been sourced partially from other forms of gambling, the substantial rise in gaming machine expenditures indicates a significant stimulus of new gambling expenditures. The introduction of gaming machines into hotels and clubs exposed a wider array of the community to gambling, in particular women and pensioners, leading to a significant increase in new gambling expenditures. This is demonstrated by State trends in real gambling and gaming per adult as shown in Table 3.2.

In 1990-91, Victoria and South Australia had the lowest gambling expenditures per adult of all States at \$302 and \$341 respectively. Nationally, gambling expenditure per adult was \$456 in 1990-91. With the introduction of gaming machines, expenditure per adult increased significantly in both Victoria and South Australia. Victorian expenditure per adult increased to \$969 by 1998-99, an increase of 221 per cent, while South Australian expenditure per adult increased 90 per cent to \$650 per adult. By comparison, national gambling per adult increased by 92 per cent (to \$874 per adult) between these periods. Queensland (104 per cent) is the other state to have experienced a more rapid increase in gambling per adult than South Australia. The larger increase for Victoria and Queensland reflects several factors, namely, the opening of new casinos during this period and the earlier introduction of gaming machines. Furthermore, tourism probably plays a more important role in both of these states in particular, the Crown casino has been characterised by a heavy marketing campaign, especially towards the high roller segment of the market. This would boost per capita gambling expenditures in both of these States.

Table 3.2
Real Gambling and Gaming Expenditure Per Adult (\$ 1998-99)
By State - Selected Years

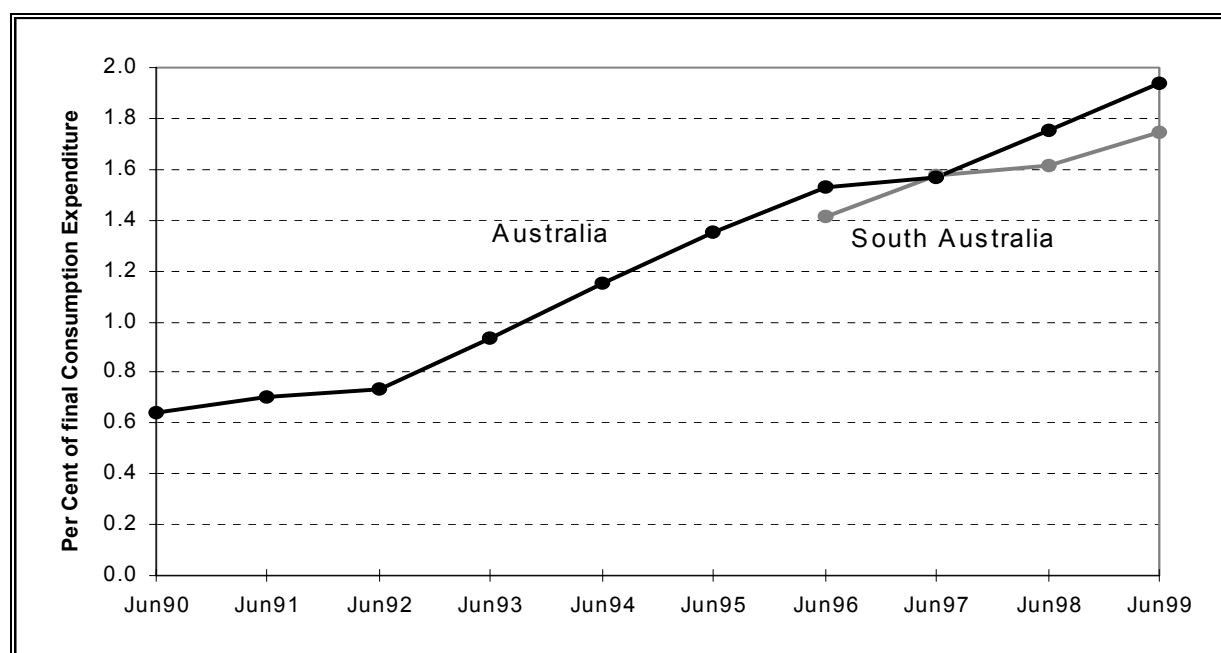
	NSW	VIC	QLD	SA	WA	TAS	AUSTRALIA
<i>Gambling Expenditure Per Adult</i>							
1975-76	644.2	265.7	191.0	181.6	209.5	220.9	373.8
1980-81	635.7	280.6	163.8	199.3	179.8	337.7	376.3
1985-86	567.6	297.9	268.4	273.6	249.1	362.8	385.6
1990-91	650.6	301.6	375.6	341.3	420.2	374.9	456.5
1991-92	662.0	309.4	399.5	333.8	416.0	397.0	466.4
1992-93	689.7	374.4	486.6	341.4	473.3	387.8	515.0
1993-94	712.8	495.7	571.1	354.0	557.4	403.0	580.7
1994-95	772.1	668.0	557.3	456.1	580.2	424.5	654.1
1995-96	832.3	762.6	627.1	544.9	596.8	437.1	721.2
1996-97	853.8	804.6	624.8	577.0	534.9	466.9	734.9
1997-98	963.2	920.7	697.8	621.0	523.4	515.0	819.1
1998-99	1053.9	968.8	765.9	649.6	468.9	563.2	874.3
<i>Gaming Expenditure Per Adult</i>							
1975-76	425.6	-	-	-	-	-	152.9
1980-81	400.7	-	-	-	-	-	145.1
1985-86	313.7	-	-	-	-	-	113.2
1990-91	412.2	3.1	-	-	-	-	148.6
1991-92	422.8	11.1	14.4	-	-	-	157.1
1992-93	455.8	85.9	118.3	-	-	-	205.2
1993-94	476.5	223.4	160.0	-	-	-	255.9
1994-95	517.9	286.8	174.4	178.4	-	-	303.5
1995-96	530.4	373.3	217.4	293.5	-	-	346.8
1996-97	535.4	424.9	205.3	328.6	-	16.1	362.7
1997-98	636.5	492.8	238.3	353.6	-	68.8	423.8
1998-99	724.1	547.7	291.1	389.2	-	112.6	482.0

Source: Tasmanian Gaming Commission, Australian Gambling Statistics, 1998-99 and ABS, AUSSTATS, Population by Age by Sex, (3201.0).

The impact of gaming machines on aggregate gambling trends is clearly illustrated by the rise in gaming machine expenditure per adult. South Australian gaming machine expenditure per adult increased from nil prior to the introduction of gaming machines in 1994, to \$389 per adult by 1998-99. Significantly, this is higher than the total level of all gambling expenditure per adult prevailing in 1993-94 (\$354) shown in the top half of Table 3.2.

Because gaming machines were introduced several years earlier in Victoria and Queensland, trends in gaming expenditure in these States provide an indication of the likely immediate future direction of South Australian gaming expenditure. The Victorian experience would suggest that gaming expenditure per adult will continue to increase solidly over coming years. In contrast, per adult gaming expenditure has increased only slowly in Queensland. Despite introducing gaming machines later, South Australia (\$389) had a higher level of spending per adult than Queensland (\$291) in 1998-99. Potential explanations for this outcome would include the opening of additional casinos during this period in Queensland which have drawn gambling expenditures away from gaming machines (or at least are recorded in data for casino gambling), and the higher population growth rate in Queensland which dilutes growth in gaming expenditure per adult. These factors would suggest that South Australia is more likely to follow the Victorian experience with expenditure per adult continuing to grow over forthcoming years. Furthermore, the high level of gaming expenditure per adult for New South Wales (\$724) - where gaming machines have a much longer history (gaming machines were formally introduced into NSW clubs in 1956) - would also suggest that South Australian gaming expenditure will increase (perhaps significantly) in the longer term.

Figure 3.4
Gaming Machine Expenditure as a Proportion of
Household Final Consumption Expenditure
South Australia and Australia - 1990 to 1999 (Year Ended June)

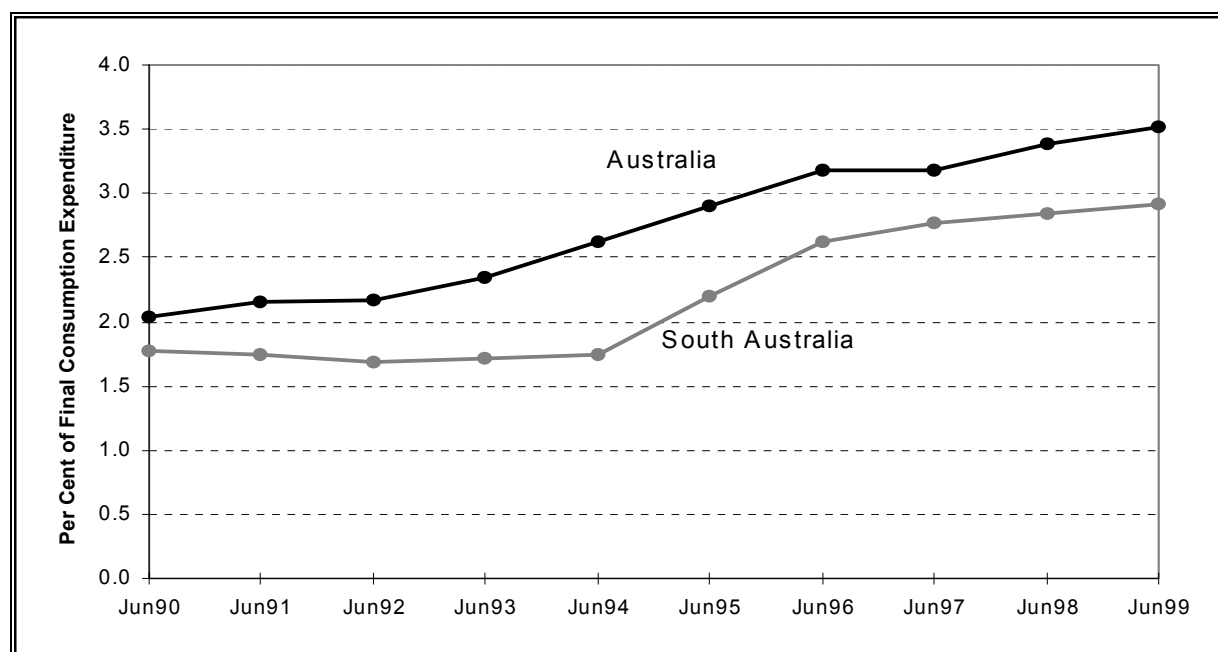


Source: Tasmanian Gaming Commission, *Australian Gambling Statistics, 1998-99* and ABS, *Australian National Accounts, State Accounts*, (5220.0).

A strong rise in gaming expenditure per adult signifies an inducement of new gambling expenditures within the community. This outcome has raised concern that spending on gaming machines has crowded out other forms of household expenditure, thus negatively impacting on other sectors of the economy. Figure 3.4 provides insight into the impact of gaming machines on household expenditure by illustrating the evolution of gaming machine expenditure as a proportion of household final consumption expenditure over time, for both South Australia and Australia. National gaming expenditure as a proportion of household final consumption expenditure increased from 0.6 per cent in 1989-90 to 1.9 per cent in 1998-99. Again, this reflects the liberalisation of gambling activities which has satisfied previously unmet demand for gambling. With the introduction of gaming machines, South Australian gaming expenditure has quickly reached a comparable proportion of household expenditure; gaming expenditure represented 1.75 per cent of final consumption expenditure in 1998-99.

The impact of gaming machine expenditure on household spending is perhaps more strikingly demonstrated by its impact on total gambling expenditure as a proportion of consumption expenditure (see Figure 3.5). Prior to the introduction of gaming machines, South Australian gambling expenditure as a share of final consumption expenditure remained constant at 1.7 per cent of final consumption expenditure. However, with the introduction of gaming machines, gaming expenditure as a proportion of household final consumption expenditure grew substantially, to 2.9 per cent of final consumption expenditure in 1998-99.

Figure 3.5
Total Gambling Expenditure as a Proportion of
Household Final Consumption Expenditure
South Australia and Australia - 1990 to 1999 (Year Ended June)



Source: Tasmanian Gaming Commission, *Australian Gambling Statistics, 1998-99* and ABS, *Australian National Accounts, State Accounts*, (5220.0).

The rise in gaming expenditure as a proportion of household consumption expenditure indicates that South Australians and Australians have become more intensive consumers of gambling over the past decade, especially with the introduction gaming machines and other forms of gambling. This trend potentially suggests that gaming machines have crowded out other forms of household expenditure, however such conclusions cannot be drawn from this data. For instance, gaming expenditure may potentially be sourced from savings, therefore implying no impact on other forms of household spending and other sectors of the economy. However, gambling expenditure is almost certainly not derived solely from savings; we have already seen evidence that gaming expenditure was partially sourced, at least initially, from other forms of gambling.

3.1.2 Gaming Machines and Venues: South Australia and Victoria

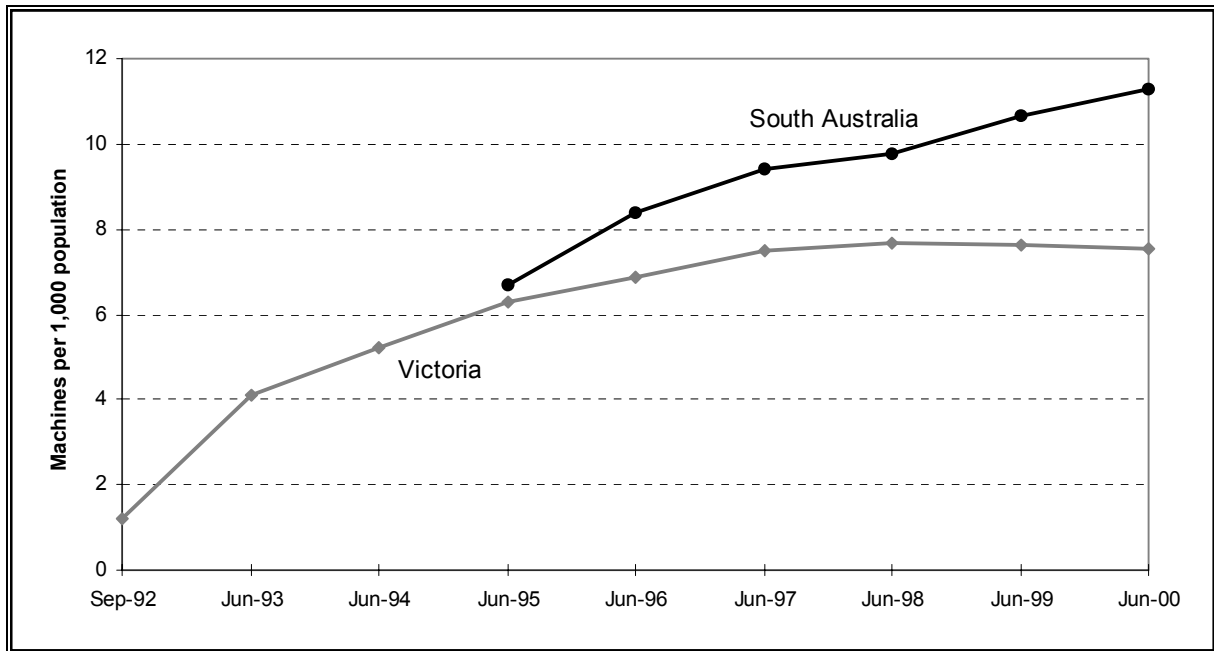
The following section briefly examines the growth in gaming machines and gaming venues to determine the penetration of gaming machines into the South Australian community. To the extent that gaming machines are more prevalent and are accessible to a larger proportion of the population, then the economic and social impacts of gaming machines are likely to be higher. For comparative purposes, trends in the growth of gaming machines and venues in South Australia have been compared against those for Victoria.

Figure 3.6 illustrates growth in gaming machines for both South Australia and Victoria in terms of the number of gaming machines per 1,000 adults. The penetration of gaming machines into South Australia has been much more rapid than in Victoria. By the end of their first complete year of operation, there were approximately 7 gaming machines per 1,000 adults in South Australia. In contrast, 3 or 4 years passed before Victoria achieved the same level of penetration of gaming machines. For the remainder of the period, gaming machine penetration increased faster in South Australia than Victoria. By June 2000, there were approximately 11 machines per 1,000 adults for South Australia compared to 8 for Victoria.

In Victoria, the announcement of a State cap on poker machines in December 1997 explains the stabilisation and slower penetration of gaming machines per adult population from 1998 onwards. A freeze on the number of gaming machine in South Australia was instituted on the 14th December 2000.

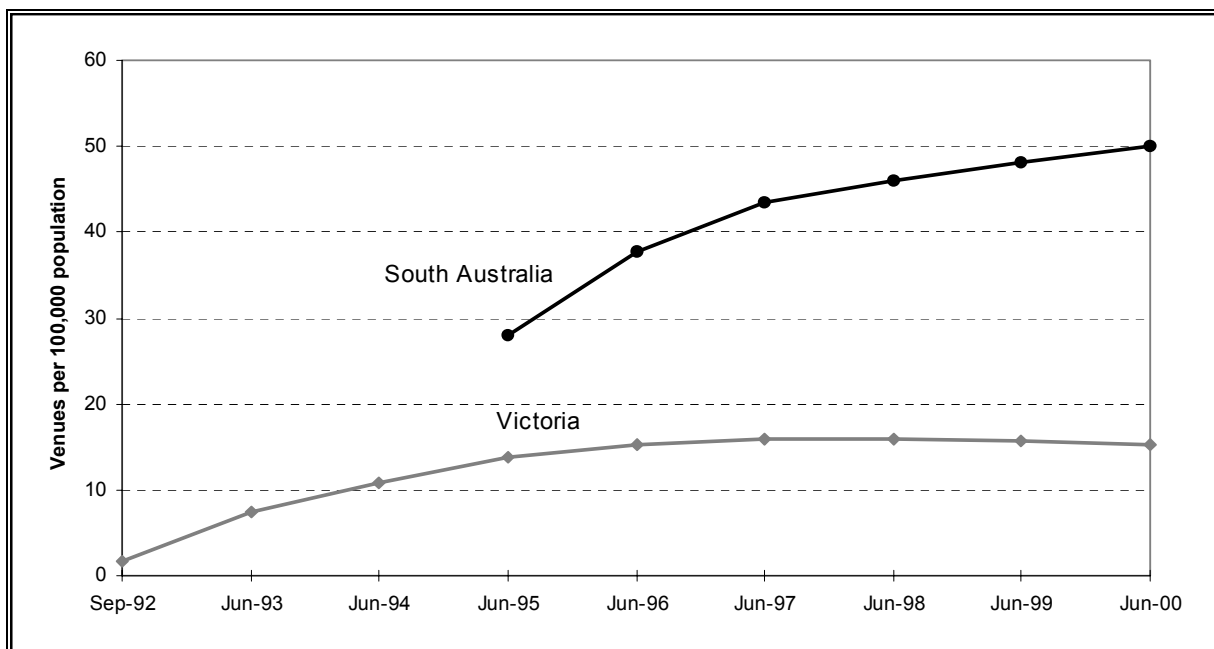
Not surprisingly, South Australia also has a higher penetration than Victoria in terms of the number of venues with gaming machines per 100,000 adult population (see Figure 3.7). By June 1995, there were 28 gaming venues per 100,000 adult population in South Australia compared to 14 for Victoria, this is despite Victoria having introduced gaming machines almost 3 years earlier. South Australian venues increased steadily over time such that there were 50 venues per 100,000 adult population in 1998-99. This is significantly higher than the level of gaming venues prevailing in Victoria at this time (15 venues per 100,000 adults).

Figure 3.6
Gaming Machines per 1,000 Estimated Adult Resident Population
South Australia and Victoria - September 1992 to June 2000



Source: Office of the Liquor and Gaming Commissioner, Victorian Casino and Gaming Authority (www.gambling.vcga.vic.gov.au) and ABS, AUSSTATS, Population by Age by Sex, (3201.0).

Figure 3.7
Gaming Machine Venues per 100,000 Estimated Adult Resident Population
South Australia and Victoria - September 1992 to June 2000



Source: Office of the Liquor and Gaming Commissioner, Victorian Casino and Gaming Authority (www.gambling.vcga.vic.gov.au) and ABS, AUSSTATS, Population by Age by Sex, (3201.0).

The increased availability of gaming machines in South Australia would suggest that South Australia is potentially more susceptible to the economic and social impacts of gaming machines relative to Victoria. However, it is interesting to note that despite implementing a cap on gaming machines in December 1997, Victorian gaming expenditure per adult still continued to increase at an equal or faster rate than in South Australia over the following years. In fact, the cap on gaming machines, and their reduced penetration in general, appears to have simply induced Victorian gamblers to gamble more intensively in order to compensate for these factors. Table 3.3 shows that in 1998-99, expenditure per machine in Victoria was \$71,611 compared to \$37,045 for South Australia. The experience for Victoria suggests that the decision by the South Australian government for a general freeze or cap on the number of poker machines in December 2000 may have little effect on aggregate gambling expenditures in South Australia or regional areas.

However, the mobility of machines between venues is cited as an important factor in expenditure density in Victoria. This is obviously not the case in South Australia and this may be one reason why the imposition of a cap or freeze could be more effective in reducing aggregate gambling expenditure. The introduction of the cap and its impact should be monitored closely to better understand its potential to influence aggregate gaming expenditures and to moderate problems that arise from the accessibility of gaming machines. However, it is fair to say that while South Australia has twice introduced a general cap on the number of machines, the actual number of machines approved and installed has continued to increase. This is because the way the cap has been implemented has allowed applications to be made and approved up to the date of commencement of "the general cap". In that sense, South Australia has never had a cap but rather a date at which applications can no longer be accepted.

Table 3.3
Gambling Expenditure Per Machine (\$)
South Australia and Victoria - 1992-93 to 1998-99

	Victoria	South Australia
1992-93	20,994	-
1993-94	42,758	-
1994-95	45,662	26,888
1995-96	54,470	35,367
1996-97	56,773	35,288
1997-98	64,255	36,663
1998-99	71,611	37,045

Source: Office of the Liquor and Gaming Commissioner and Victorian Casino and Gaming Authority (www.gambling.vcga.vic.gov.au).

3.1.3 Gambling Taxation Revenue

State government taxation revenue from gambling sources has increased significantly over the last decade. This reflects the liberalisation of gambling activities by State governments as they have explored and developed alternative revenue sources in response to funding pressures. Most importantly, gaming machines have provided a

significant boost to underlying government finances. In recognition of this environment, the following section reviews the trend in State government gambling taxation revenues over the last decade.

Aggregate taxation revenues derived from gaming machines and all gambling sources is shown by State in Table 3.4. In 1988-89, total South Australian government revenue obtained from all gambling sources was approximately \$100 million. Mainly in response to the introduction of gaming machines, total South Australian gambling revenue has increased to \$317 million in 1998-99 - this represents an increase of 215 per cent. Nationally, total gambling revenue has increased by 167 per cent over this period, while Queensland (356 per cent) and Victoria (254 per cent) have experienced the largest rise in total gambling taxation revenue. Because Western Australian has refrained from introducing gaming machines, it recorded the slowest growth (87 per cent) in aggregate gambling taxation revenue between 1988-89 and 1998-99.

Table 3.4
Government Taxation Revenue from
Gambling and Gaming Machines (\$ million)
By State - 1988-89 to 1998-99

	NSW	VIC	QLD	SA	WA	TAS	AUSTRALIA
<i>Government Revenue from All Gambling</i>							
1988-89	726.6	397.2	126.9	100.6	111.7	30.6	1,524.7
1989-90	812.3	463.9	208.0	114.7	138.0	34.8	1,806.9
1990-91	856.1	482.3	235.7	126.0	153.4	38.3	1,933.3
1991-92	871.3	496.6	267.5	127.8	156.2	41.3	2,005.7
1992-93	918.3	581.3	290.7	133.3	173.5	42.2	2,191.3
1993-94	1,010.3	744.6	335.7	131.8	186.0	45.0	2,514.3
1994-95	1,082.0	905.2	385.3	182.0	206.1	50.0	2,878.3
1995-96	1,189.3	1,051.3	416.7	225.8	229.3	52.1	3,237.7
1996-97	1,237.9	1,157.2	445.0	248.9	205.1	60.7	3,425.8
1997-98	1,350.1	1,296.4	502.7	284.1	216.9	62.6	3,791.2
1998-99	1,407.1	1,407.9	579.2	317.1	209.0	67.3	4,072.9
<i>Government Revenue from Gaming Machines</i>							
1988-89	288.1	0.0	0.0	0.0	0.0	0.0	288.1
1989-90	341.1	0.0	0.0	0.0	0.0	0.0	341.1
1990-91	358.7	6.4	0.0	0.0	0.0	0.0	365.1
1991-92	361.5	10.9	4.8	0.0	0.0	0.0	377.2
1992-93	380.8	102.0	47.4	0.0	0.0	0.0	530.2
1993-94	430.8	263.2	70.1	0.0	0.0	0.0	764.1
1994-95	497.7	391.6	79.9	62.6	0.0	0.5	1,032.4
1995-96	529.2	513.8	90.8	110.1	0.0	2.2	1,246.1
1996-97	548.6	629.0	100.6	134.5	0.0	4.5	1,417.2
1997-98	689.8	706.7	179.8	160.7	0.0	10.4	1,747.4
1998-99	828.2	822.8	230.0	191.3	0.0	15.5	2,087.7

Source: Tasmanian Gaming Commission, *Australian Gambling Statistics*, 1998-99.

Relatively stronger growth in South Australian gambling taxation revenue has seen the State's share of total Australian gambling taxation revenue increase from 6.6 per cent in 1988-89 to 7.8 per cent in 1998-99.

The impact of gaming machines on South Australian aggregate gambling taxation revenue is demonstrated more clearly by comparing growth in gambling revenue prior to, and after the introduction of gaming machines. Between 1988-89 and 1993-94, South Australian gambling revenue increased by 31 percent. Following the introduction of gaming machines in 1994-95, total gambling revenue increased by 74 per cent between 1994-95 and 1998-99. Furthermore, in aggregate terms, revenue from gaming machines increased from nil in 1993-94 to \$191 million in 1998-99, while total South Australian gambling revenue increased by less (\$185 million) over this period. Growth in South Australian gambling revenue following the introduction of gaming machines is therefore explained solely by gaming machine revenues. Gaming machines have in effect crowded out (i.e., substituted for) other forms of gambling, and therefore State government revenue derived from these other gambling sources has declined.

State gambling taxation revenues are presented in per adult (persons aged over 18 years of age) terms in Table 3.5. Differences in per adult gambling taxation revenue between States may either reflect differences in aggregate expenditure patterns or State government gambling taxation regimes. Differences in aggregate expenditure patterns may in turn reflect differences in other factors, such as the prevalence of gaming machines.

Interestingly, prior to the introduction of gaming machines, South Australia had the lowest gambling taxation revenue per adult (\$119) of all States in 1993-94. With the widespread diffusion of gaming machines into South Australia, gaming revenue per adult increased to \$279 in 1998-99 - the third highest revenue per adult that year. Victoria (\$395) and New South Wales (\$292) had the highest revenue per adult in 1998-99, while in the absence of gaming machines, Western Australia (\$152) had the lowest. Despite the large rise in gambling taxation revenue per adult, South Australian gambling revenue per adult remained below the national average of \$287 in 1998-99.

Nevertheless, gaming machines remain a relatively important source of revenue for the South Australian government. For example, in terms of gaming machine taxation revenue per adult for 1998-99, South Australia (\$168) possessed a level of gaming machine taxation revenue above the national average (\$147) in 1998-99.

3.2 Regional Trends in Electronic Gaming Activity

This section analyses trends in gaming machine activity for the Provincial Cities. The Provincial Cities are the South Australian regional areas of Mount Gambier, Murray Bridge, Port Augusta, Port Lincoln, Port Pirie, Whyalla and the Riverland. The geographic area of Provincial Cities has been defined according to local council areas as specified by the Local Government Localities listing of May 1999; these local council areas correspond with the Australian Bureau of Statistics Statistical Local Areas (ABS, 1999). The Riverland has been defined as the agglomeration of Berri-Barmera, Loxton-Waikerie and Renmark-Paringa local councils. In this section, the three council areas are aggregated into Riverland for discussion purposes, but for estimating the extent of

problem gambling and policy issues relevant to this group, the three council areas are reported separately in Chapter 4. In particular, trends in gaming machine expenditure, gaming machine taxation revenue and the number of machines and venues have been investigated for each Provincial City from data provided by the Office of the Liquor and Gaming Commissioner.

Table 3.5
Per Adult* Government Taxation Revenue from
Gambling and Gaming Machines (\$)
By State - 1988-89 to 1998-99

YEAR	NSW	VIC	QLD	SA	WA	TAS	AUSTRALIA
<i>Government Revenue from All Gambling</i>							
1988-89	172	125	63	95	99	94	124
1989-90	189	143	99	107	119	104	145
1990-91	196	147	110	116	130	114	152
1991-92	197	150	121	117	130	121	155
1992-93	206	174	128	121	142	123	168
1993-94	224	222	144	119	150	130	190
1994-95	237	267	161	164	162	144	214
1995-96	256	307	170	202	177	150	237
1996-97	263	334	177	222	155	174	248
1997-98	284	369	197	251	160	180	270
1998-99	292	395	223	279	152	193	287
<i>Government Revenue from Gaming Machines</i>							
1988-89	68	0	0	0	0	0	24
1989-90	79	0	0	0	0	0	27
1990-91	82	2	0	0	0	0	29
1991-92	82	3	2	0	0	0	29
1992-93	85	31	21	0	0	0	41
1993-94	95	78	30	0	0	0	58
1994-95	109	116	33	56	0	2	77
1995-96	114	150	37	99	0	6	91
1996-97	117	181	40	120	0	13	103
1997-98	145	201	70	142	0	30	125
1998-99	172	231	88	168	0	44	147

Note: * Persons aged over 18 years of age

Source: Tasmanian Gaming Commission, *Australian Gambling Statistics*, 1998-99, and ABS, AUSSTATS, Population by Age by Sex, (3201.0).

3.2.1 Gaming Machine Expenditure

The trend in gaming machine expenditure for the individual Provincial Cities and South Australia are shown in Table 3.6. Following the introduction of gaming machines in 1994, total gaming machine expenditure for the Provincial Cities increased rapidly to \$42.3 million in 1995-96, which has subsequently increased to \$56.2 million by 1999-00;

this represents a 33 per cent increase in expenditure between 1995-96 and 1999-00. By comparison, South Australian aggregate gaming machine expenditure has grown more rapidly, increasing by 52 per cent over this period, from \$319 million to \$486 million.

Table 3.6
Gaming Machine Expenditure (\$ million)
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
Riverland	10.03	11.16	11.28	12.13	12.98
Mount Gambier	8.90	9.76	10.45	11.08	11.91
Murray Bridge	4.01	4.82	5.34	5.70	6.16
Port Augusta	4.24	4.46	5.01	5.20	5.57
Port Lincoln	3.28	3.74	4.39	5.26	5.69
Port Pirie	4.78	5.13	5.13	5.60	5.74
Whyalla	7.09	7.48	7.50	8.05	8.13
Provincial Cities	42.33	46.55	49.10	53.02	56.17
South Australia	319.23	364.26	394.63	442.46	485.99

Source: Office of the Liquor and Gaming Commissioner.

Of the Provincial Cities, Port Lincoln (73 per cent) experienced the largest rise in gaming machine expenditure between 1995-96 and 1999-00. In terms of growth in expenditure, Port Lincoln was followed by, in descending order, Murray Bridge (54 per cent), Mount Gambier (34 per cent), Port Augusta (31 per cent), the Riverland (29 per cent), Port Pirie (20 per cent) and Whyalla (15 per cent).

Reflecting their larger populations, the Riverland (\$13 million), Mount Gambier (\$11.9 million) and Whyalla (\$8.1 million) had the largest gaming machine expenditures in 1999-00. Murray Bridge (\$6.2 million) had the next largest expenditure, while Port Pirie (\$5.7 million), Port Lincoln (\$5.7 million) and Port Augusta (\$5.6 million) all had a similar level of gambling expenditure.

Although gaming machine expenditure has increased more slowly in the Provincial Cities relative to South Australia, the Provincial Cities account for a disproportionately large share of expenditure relative to their share of the State population. Table 3.7 shows that while the Provincial Cities accounted for 9.1 per cent of the State population in 1999-00, the Provincial Cities were responsible for 11.6 per cent of gaming machine expenditure. Two factors could explain this outcome. Firstly, there may be a tendency for people living in the Provincial Cities to gamble more intensively relative to the State average. Secondly, gaming machines and venues may be more prevalent within the Provincial City areas, meaning that gambling opportunities are more widespread and that a larger proportion of the population within these regions potentially engages in gambling on gaming machines. Data presented below does indeed indicate that these two factors explain the Provincial City's disproportionately larger share of gaming machine expenditure.

It is important to note that while the Provincial Cities account for a disproportionately large proportion of the State's gaming machine expenditure, their share of gaming machine expenditure has in fact declined over the period of the analysis from 13.3 per cent in 1995-96, to 11.6 per cent in 1999-00. A potential explanation could be that the hotels and clubs within the various Provincial Cities were adept at quickly installing gaming machines following their introduction in 1994; this possibly led to a rapid saturation of venues with gaming machines which limited the potential for subsequent growth in gaming machines and gambling expenditure relative to South Australia. Alternatively, economic conditions outside the Provincial City areas (i.e, metropolitan Adelaide) may have been more favourable towards the formation or expansion of gaming machine venues (i.e., hotels and clubs).

Table 3.7
Share of South Australian Gaming Machine Expenditure and Population (Per Cent)
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
<i>Share of Gaming Machine Expenditure</i>					
Riverland	3.1	3.0	2.9	2.7	2.7
Mount Gambier	2.8	2.7	2.6	2.5	2.4
Murray Bridge	1.3	1.3	1.4	1.3	1.3
Port Augusta	1.3	1.2	1.3	1.2	1.1
Port Lincoln	1.0	1.0	1.1	1.2	1.2
Port Pirie	1.5	1.4	1.3	1.3	1.2
Whyalla	2.2	2.0	1.9	1.8	1.7
Total Provincial Cities	13.3	12.8	12.4	12.0	11.6
South Australia	100.0	100.0	100.0	100.0	100.0
<i>Share of Total Population</i>					
Riverland	2.2	2.2	2.2	2.2	2.2
Mount Gambier	1.5	1.5	1.5	1.5	1.5
Murray Bridge	1.1	1.1	1.1	1.1	1.1
Port Augusta	0.9	0.9	0.9	0.9	0.9
Port Lincoln	0.8	0.8	0.8	0.8	0.8
Port Pirie	1.2	1.2	1.2	1.2	1.2
Whyalla	1.6	1.5	1.5	1.5	1.5
Total Provincial Cities	9.3	9.2	9.2	9.2	9.1
South Australia	100.0	100.0	100.0	100.0	100.0

Source: Office of the Liquor and Gaming Commissioner and ABS, Population by Age and Sex (3235.4).

Looking more closely at individual regional areas, Mount Gambier, the Riverland and potentially Port Lincoln had a relatively high share of gaming expenditure. Murray Bridge, Port Augusta and Whyalla also had a higher proportion of gaming machine expenditure compared to their population share, however, their inflated expenditure share is probably not that significant. Only Port Pirie had a level of gaming machine expenditure that was directly proportional to its share of the State's population. In the case of Mount Gambier the extent of its per capita expenditure is probably slightly

exaggerated, as it acts as a service centre for some of the neighbouring population, particularly the District Council of Grant. Although Grant had an adult population of over 6,000 in 1998 it only has one venue with a limited number of machines and an average NGR⁴³ per adult which is significantly below the average for regional South Australia; the data strongly suggest that many of the residents of Grant use gaming machines in Mount Gambier when they chose to gamble.

The use of an aggregate figure for the Riverland also hides some of the variability in expenditure between the Provincial Cities. Despite having similar income levels,⁴⁴ \$13,064 per adult for Berri Barmera and \$12,960 for Loxton Waikerie, and the same number of gaming venues (7 each), these two Riverland council regions have significantly different levels of expenditure. Berri Barmera had the highest NGR per capita of all the Provincial Cities in 1999, recording an expenditure level of \$633 per adult. Loxton Waikerie by contrast recorded an expenditure level of \$361, the lowest of the cities.

The data in Table 3.7, which show that the Provincial Cities have a disproportionately large share of the gaming expenditure, can alternatively be expressed in expenditure per capita terms. Table 3.8 shows how the higher share of gaming expenditure for the Provincial Cities translates into higher gaming expenditure per capita relative to South Australia. For instance, in 1999-00 the Provincial Cities had an average expenditure per adult of \$539, which is 27 per cent higher than the State average of \$425. Reflecting the stronger growth in South Australian gaming expenditure, the difference in expenditure per adult between the Provincial Cities and South Australia has declined over time - spending per adult was originally 43 per cent higher for the Provincial Cities relative to the South Australian average in 1995-96. In fact, for each year of the analysis, every Provincial City had an expenditure per adult that was higher than the South Australian average.

Table 3.8
Gaming Machine Expenditure Per Adult (\$)
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
Riverland	409	455	454	489	522
Mount Gambier	532	582	621	654	700
Murray Bridge	330	395	434	456	489
Port Augusta	414	443	499	524	560
Port Lincoln	355	404	467	556	591
Port Pirie	359	384	382	419	431
Whyalla	404	430	434	470	481
Provincial Cities	408	449	471	509	539
South Australia	286	324	349	389	425

Source: Office of the Liquor and Gaming Commissioner and ABS, Population by Age and Sex, (3235.4).

⁴³ NGR: net gaming revenue, figure not reported here, due to confidentiality of data.

⁴⁴ Based on ATO TaxStats Total Income minus Net Tax paid.

A higher expenditure per adult for the Provincial Cities is probably explained by a greater prevalence of gaming machines which encourages/allows a greater proportion of the local population to participate in gaming machine gambling. Indeed, data presented in Section 3.2.2 reveals that gaming machines are more widespread throughout the Provincial Cities relative to the State as a whole. Furthermore, hotels and clubs are usually a central entertainment feature within regional areas. The introduction of gaming machines into these venues would naturally expose a broader segment of the local population to gaming machines. However, a higher expenditure per adult could also be explained by more limited entertainment opportunities within the Provincial City areas. This could encourage greater spending on gaming machines.

With respect to the individual Provincial Cities, Mount Gambier had the highest expenditure per adult at \$700 in 1999-00. Port Lincoln (\$591) and Port Augusta (\$560) also had relatively high levels of gambling expenditure, while an expenditure per adult of \$522 for the Riverland may be considered low given the regions disproportionately high share of State gambling expenditure. Murray Bridge (\$489), Whyalla (\$481) and Port Pirie (\$431) all had spending per adult below the Provincial City average.

Gaming expenditure per machine gives some insight into gambling intensity, however differences between regions may simply reflect the availability of gaming machines rather than actual differences in spending patterns between the respective regions. Table 3.9 shows that gaming expenditure per machine is substantially lower for the Provincial Cities relative to South Australia. On average, Provincial City gamblers lost \$29,562 per machine in 1999-00, while South Australians lost \$38,153 per machine. Only Murray Bridge (\$38,510) had a higher level of spending per machine than the State average.

Table 3.9
Gaming Machine Expenditure Per Machine (\$)
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
Riverland	28,407	29,000	28,402	28,752	30,040
Mount Gambier	33,966	31,782	30,558	30,683	28,969
Murray Bridge	41,804	31,694	35,619	35,596	38,510
Port Augusta	25,689	25,197	21,688	20,007	21,166
Port Lincoln	32,790	20,026	23,704	25,186	31,594
Port Pirie	27,812	24,191	24,208	25,795	24,125
Whyalla	42,468	41,791	41,924	44,014	37,626
Provincial Cities	32,193	29,114	28,951	29,262	29,562
South Australia	34,467	34,854	36,211	37,045	38,153

Source: Office of the Liquor and Gaming Commissioner.

A higher concentration of gaming machines in the Provincial Cities together with the fact that the Provincial Cities spend more per adult on gaming machines (i.e., have a disproportionately large share of gaming expenditure), leads to reduced spending per machine but not reduced spending overall. In this regard, the following section examines data on the number of gaming machines and venues and finds that gaming

machines and venues are more prevalent in the Provincial Cities. The relationship between the intensity of gaming machines and spending per adult is more closely examined in the following section.

3.2.2 Gaming Machines and Venues: The Provincial Cities

Data presented here reveals that both gaming machines and gaming machine venues are more prevalent within the Provincial Cities relative to the State, with Port Pirie the only Provincial City to have a number of adults per gaming venue which is consistent with the aggregate for South Australia.

The analysis of gaming machine and venue numbers in Section 3.1.2 has already shown that the penetration of gaming machines into South Australia has been much more rapid than in Victoria. A higher prevalence of gaming machines increases the exposure of the local population to gaming machines and as a result, raises gambling expenditure. In turn, this potentially increases the economic and social impacts of gaming machines. For example, if an increased number of gaming machines leads to greater gambling expenditure within the region, then the amount of income leaving the region through State government taxation will be higher. Hence, these issues are very important from a regional perspective as well as a State perspective.

Table 3.10 provides information on both the number of gaming machines and the number of machines per 1,000 adult population for each of the Provincial Cities and South Australia. There were 1,900 gaming machines located within the Provincial Cities in 1999-00, and this represents 14.9 per cent of all gaming machines within South Australia (14.2 per cent in 1995-96). Relative to their share of the State's adult population (9.1 per cent), the Provincial Cities therefore have a disproportionately high share of the State's gaming machines.

A disproportionately high share of gaming machines is subsequently reflected in the number of gaming machines per 1,000 adults. The Provincial Cities averaged 18 machines per 1,000 people in 1999-00 compared to 11 machines per 1,000 people for South Australia.

An increased prevalence of gaming machines, which encourages a greater proportion of the population to participate in gaming machine gambling, would most likely explain the higher expenditure per adult (and the greater share of the State's gaming machine expenditure) observed for the Provincial Cities. Furthermore, an increased number of gaming machines explains the lower spending per machine identified for the Provincial Cities in Table 3.9. However, greater expenditure could also potentially be accounted for by increased spending per gambler rather than an increased proportion of adults gambling on gaming machines. In particular, a higher incidence of problem gamblers would boost gaming expenditure within the Provincial Cities - the Productivity Commission estimates that problem gamblers account for approximately 42 per cent of all gaming machine expenditure. Without direct evidence of local participation rates in gaming machine gambling or of gambling spending patterns for the Provincial Cities, it is impossible to conclude which feature dominates.

Table 3.10
Gaming Machines
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
<i>Number of Gaming Machines</i>					
Riverland	353	385	397	422	432
Mount Gambier	262	307	342	361	411
Murray Bridge	96	152	150	160	160
Port Augusta	165	177	231	260	263
Port Lincoln	100	187	185	209	180
Port Pirie	172	212	212	217	238
Whyalla	167	179	179	183	216
Provincial Cities	1315	1,599	1,696	1,812	1,900
South Australia	9262	10,451	10,898	11,944	12,738
<i>Gaming Machines Per 1,000 Adult Population</i>					
Riverland	14	16	16	17	17
Mount Gambier	16	18	20	21	24
Murray Bridge	8	12	12	13	13
Port Augusta	16	18	23	26	26
Port Lincoln	11	20	20	22	19
Port Pirie	13	16	16	16	18
Whyalla	10	10	10	11	13
Provincial Cities	13	15	16	17	18
South Australia	8	9	10	10	11

Source: Office of the Liquor and Gaming Commissioner.

Differences in the frequency of gaming machines and spending per machine between the Provincial Cities indicates that regions/gamblers, to a degree, compensate for reduced availability of gaming machines by gambling more intensively. For example, both Murray Bridge and Whyalla have low prevalence in terms of gaming machines with 13 machines per 1,000 adult population each. Meanwhile, both regions have a relatively high expenditure per machine (\$38,510 and \$37,626 respectively) that is almost equivalent to South Australian spending per machine (\$38,153). By contrast, Port Augusta and Mount Gambier have the highest incidence of gaming machines with 26 and 24 machines per 1,000 adult people respectively, but relatively low expenditure per machine (\$21,166 and \$28,969 respectively).

With respect to the other Provincial Cities, Port Lincoln (19 machines), Port Pirie (18 machines) and the Riverland (17 machines) had an incidence of gaming machines per 1,000 adult population that was similar to the Provincial City average of 18 machines, and therefore higher than the South Australian average of 11 machines.

Data on the number of venues with gaming machines and the number of adults per gaming machine venue is presented in Table 3.11. The number of adults per gaming venue provides an indication of the relative prevalence of gaming venues within the

various regions. For instance, with 903 people per gaming machine venue, Port Augusta had relatively more gaming machine venues than any other Provincial City in 1999-00, which together had an average of 1,428 people per venue. In comparison, the intensity of gaming venues at the South Australia level was lower with 2,025 people per venue on average. Given that gaming machines are more prevalent in the Provincial Cities, it is not surprising that there are relatively more gaming venues within these regions.

Not all Provincial Cities have a relatively high incidence of gaming machine venues. With 2,100 persons per gaming venue, Murray Bridge has a lower intensity of venues than South Australia as was the case in Whyalla at 2,411 person per venue.

Table 3.11
Gaming Machine Venues and Adults Per Gaming Venue
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
<i>Number of Gaming Machine Venues</i>					
Riverland	17	20	21	21	21
Mount Gambier	10	10	11	12	13
Murray Bridge	5	5	5	6	6
Port Augusta	8	9	11	11	11
Port Lincoln	6	8	8	8	8
Port Pirie	5	6	6	6	7
Whyalla	6	7	7	7	7
Provincial Cities	57	65	69	71	73
South Australia	417	484	513	540	565
<i>Adults Per Gaming Venue</i>					
Riverland	1,441	1,228	1,183	1,181	1,183
Mount Gambier	1,672	1,677	1,531	1,412	1,308
Murray Bridge	2,429	2,442	2,459	2,079	2,100
Port Augusta	1,280	1,118	913	903	903
Port Lincoln	1,541	1,160	1,174	1,184	1,203
Port Pirie	2,665	2,225	2,239	2,227	1,905
Whyalla	2,925	2,484	2,472	2,446	2,411
Total Provincial Cities	1,820	1,594	1,509	1,466	1,428
South Australia	2,674	2,320	2,205	2,107	2,025

Source: Office of the Liquor and Gaming Commissioner and ABS, AUSSTATS, Population by Age by Sex (3201.0).

In contrast with the trend in gaming machines, at the Provincial City level, the number of venues with gaming machines has increased by 28 per cent since 1995-96 whereas on a State basis the number of venues has increased by 35 per cent. The higher incidence of gaming machines and gaming venues for the Provincial Cities, together with slower growth in gaming venues but more rapid growth in gaming machines for the Provincial Cities immediately following the introduction of gaming machines, suggests that gaming machines penetrated the Provincial Cities more rapidly relative to South Australia. Subsequently, gaming expenditure for the Provincial Cities quickly reached a higher

level. Since that time, State level gaming expenditure has grown more rapidly as the capacity for increasing the number gaming machines and venues in the remainder of the State was greater.

3.2.3 Gaming Machine Taxation Revenue

It has been shown previously that the Provincial Cities, on average, have a higher level of gaming machine expenditure relative to South Australia. This is demonstrated by a higher gaming machine expenditure per adult, whereby the Provincial Cities averaged \$539 per adult versus \$425 per adult for South Australia. It subsequently follows that greater gaming expenditure will be associated with a higher level of taxation revenue, and therefore an increased amount of income potentially leaving the region. Aggregate taxation revenue details for the Provincial Cities are presented in Table 3.12.

Table 3.12
Gaming Machine Tax Revenue (\$ million)
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
Riverland	3.42	4.03	4.40	4.27	4.68
Mount Gambier	3.07	3.58	4.19	4.56	4.89
Murray Bridge	1.38	1.79	2.17	2.37	2.68
Port Augusta	1.48	1.61	1.94	1.97	2.20
Port Lincoln	1.14	1.34	1.67	2.16	2.36
Port Pirie	1.64	1.84	2.00	2.29	2.29
Whyalla	2.44	2.78	3.08	3.54	3.50
Provincial Cities	14.55	16.97	19.45	21.16	22.61
South Australia	110.11	134.50	160.68	191.26	211.79

Source: Office of the Liquor and Gaming Commissioner.

Aggregate gaming machine taxation revenue collected by the State government from the Provincial Cities in 1999-00 was \$22.6 million. The amount of taxation revenue collected from the Provincial Cities has increased by 55 per cent since 1995-96. In comparison, the amount of tax revenue collected at the State level has grown more strongly over this period (increasing 92 per cent) in response to stronger growth in gaming machine expenditure for the state as a whole. Nevertheless, the Provincial Cities contribute relatively more in gaming machine taxation, with the Provincial Cities averaging \$217 in gaming taxation revenue per adult compared to \$185 per adult for South Australia (Table 3.13).

Expressing this in another way, the Provincial Cities accounted for 9.1 per cent of the State's population in 1999-00, while they were responsible for 10.7 per cent of all gaming machine taxation revenue. In effect, because the Provincial Cities spend more on gaming machines relative to the state as a whole, they make a larger contribution to gaming machine taxation revenue. The larger expenditure on gaming machines is due to either an increased concentration of gaming machines which permits a larger percentage of the population to participate, or simply because people within these

regions naturally spend more on gaming machines (e.g., due to restricted entertainment options).

Table 3.13 shows taxation revenue per adult. In terms of per adult estimates, Mount Gambier (\$287) had the highest taxation revenue per adult in 1999-00 while Port Pirie (\$172) had the lowest taxation revenue per adult. Mount Gambier was followed by - in descending order - Port Lincoln (\$246), Port Augusta (\$222), Murray Bridge (\$213), Whyalla (\$207), and the Riverland (\$188).

Table 3.13
Gaming Machine Tax Revenue Per Adult (\$)
Provincial Cities - 1995-96 to 1999-00

Area	1995-96	1996-97	1997-98	1998-99	1999-00
Riverland	139	164	177	172	188
Mount Gambier	183	214	249	269	287
Murray Bridge	114	146	177	190	213
Port Augusta	144	160	193	198	222
Port Lincoln	123	145	177	227	246
Port Pirie	123	138	149	171	172
Whyalla	139	160	178	207	207
Provincial Cities	140	164	187	203	217
South Australia	99	120	142	168	185

Source: Office of the Liquor and Gaming Commissioner.

3.3 Summary of Data Analysis

The introduction of gaming machines in South Australia in 1994 has resulted in an increase in gambling expenditure to \$739 million in 1998-99, with 60 per cent attributed to electronic gaming machines. Following the introduction of EGMs, expenditure at the casino and for minor gaming and instant lotteries have all declined, indicating a significant degree of expenditure switching. Expenditure on racing has declined from 59 per cent of all gambling expenditure in 1975-76 to represent approximately 14 per cent of current gambling expenditure.

Overall, looking at the State as a whole:

- South Australia's share of gaming machine expenditure is consistent with its share of all gambling expenditure;
- South Australia's adult population gambles less intensively than in other States;
- there are implications for clubs, charities and community facilities in the dramatic decline in 'other gaming' expenditure which has occurred since the introduction of gaming machines and the manner in which they were introduced;
- expenditure per adult on all forms of gambling was \$650 in 1999 while the Australian average was \$874 per adult;

- gaming expenditure as a proportion of household final consumption expenditure was 2.9 per cent in 1999 (Australia, 3.5 per cent);
- total gambling taxation revenue represented 8.0 per cent of total State taxation revenue in 1999 or \$280 per adult, (the third highest revenue per adult in 1999);
- taxation revenue from gaming machines in South Australia in 1998-99 represented 60.2 per cent of government revenue from all forms of gambling which is the highest proportion of all States and Territories;
- there are 11 machines per 1,000 adult persons in South Australia, compared to 8 machines per 1,000 persons in Victoria;
- there are 50 venues per 100,000 persons compared to 15 in Victoria; and
- expenditure per machine averaged \$37,045 in South Australia in 1999 compared to \$71,611 in Victoria, a comparison which is influenced by the cap on the number of machines in Victoria since December 1997, the actual number of venues and machines and the mobility of machines within the Victorian gaming industry.

Regional trends for the combined Provincial Cities show:

- gaming machine expenditure (losses) in the Provincial Cities represented 13.3 per cent of all losses in the State in 1995-96 declining to 11.6 per cent in 1999-00 above the combined population share of 9.1 per cent;
- average expenditure per adult in the Provincial Cities on EGMs was \$539 which was 27 per cent higher than the State average of \$425 (1990-00);
- the Cities possess a disproportionate share of all gaming machines at 14.9 per cent with a population share of 9.1 per cent;
- the Cities possess a higher number of machines per 1,000 adult persons at 18 machines, compared to a State average of 11;
- all but Murray Bridge have a lesser number of adults per gaming venue than the State average, reflecting the intensity of gaming venues in the Provincial Cities; and
- in 1999-00 the Provincial Cities averaged \$217 in gaming taxation revenue per adult compared to \$185 per adult for South Australia.

4. Economic and Social Analysis

4.1 Economic Impact of Gaming Machines

In this section we examine the economic and social impact of gaming machines on the Provincial Cities, with a particular emphasis on problem gamblers, but also to understand the link between those factors most likely to influence patterns to be observed in net gaming revenue within the Provincial Cities. We report on expenditure and grants within the regions based on data provided by State Government agencies. Social impacts of gaming machines are discussed based on data and information supplied by Councils, hotels, and licensed clubs, counsellors and other community groups.

4.1.1 Econometric Analysis

As mentioned in the literature review, the Productivity Commission (in its report 'Australia's Gambling Industries') conducted econometric analysis on the relationship between regional income and net gaming revenue. The econometric analysis found evidence of concentration of gaming machines in lower socio-economic areas. In particular they found an inverse relationship between a region's income and the total amount spent on gaming machines. They also found a negative and significant relationship between median weekly income and average annual expenditure on electronic gaming machines for regions in South Australia. This could be seen as suggesting that persons in lower income groups:

- are more likely to gamble using electronic gaming machines; and/or
- are more likely to lose (spend) more when they do so.

This is not necessarily the case however, as statistical correlation does not imply causation. It could just as easily be the case that expenditures and income are both related to some other factor, such as age.

The Centre was interested in testing the factors which influence the differences in net gaming revenue between different areas in an attempt to determine if there was a link between low incomes and electronic gaming machine revenue, or whether it was other factors which were influential. The regression technique used was ordinary least squared (OLS) regression, and the dependant variable chosen was Average Net Gaming Revenue per Adult in each council area.

For the purposes of this econometric analysis regions were defined as current council areas, as this was the level at which data on electronic gaming machine numbers and net gaming revenue was provided by the Liquor and Gaming Commission. Disposable income was calculated as total income minus net tax, sourced from the Australian Taxation Office's 1998/99 Taxstats database. Unemployment numbers were drawn from the Department of Employment, Workplace Relations and Small Business "Small Area Labour Markets" publication, and were used as a proportion of the adult population. As unemployment is expressed as a proportion of the adult population, rather than as a proportion of the labour force, these numbers are not directly comparable with the ABS'

unemployment rates. Other data was sourced from the ABS. As Mount Gambier acts as a service centre for neighbouring towns, data on the Mount Gambier council and the District Council of Grant was combined for the purposes of the econometrics.

Adjusted R-squared is the most commonly used measure of significance for OLS regressions, measuring the proportion of the actual variation in the dependant variable explained by the estimated equation. The F-test statistic is a measure of the overall significance of the coefficients in the equation, hence the 'Probability F' is the probability that all of the coefficients other than the intercept are zero. As can be seen from the various test of significance this equation is a good model of the factors influencing the level of Net Gaming Revenue per adult in South Australia.

A significant number of other factors were included in the analysis but were eliminated from the final estimated equation as they were not statistically significant. Factors considered in the initial analysis included:

- the proportion of disability pensioners;
- the proportion of sole parents;
- the proportion of residents aged 18 to 25;
- the proportion of residents aged 60+;
- the proportion of residents aged 65+;
- the number of persons per private dwelling;
- the proportion of the adult population who have never been married;
- the proportion of adults in employment; and
- the proportion of adults not in the labour force.

Table 4.1
Influences on Net Gaming Revenue per Adult in Council Areas.

	Coefficients	Standard Error	t Stat	P-value
Intercept*	-222.838	106.68	-2.09	0.0410
No. of Venues/km ² *	273.261	58.53	4.67	0.0000
No. of machines/1000 adults*	11.731	2.19	5.36	0.0000
Ave disposable income *	0.015	0.01	2.86	0.0059
UE as a % of Adults*	27.559	11.42	2.41	0.0190
ATSI % of population**	9.596	5.23	1.84	0.0713
Proportion housing trust***	4.402	2.81	1.57	0.1227

* Significant at the 5 per cent level

** Significant at the 10 per cent level

*** Significant at the 15 per cent level

Adjusted R²: 0.8431

F-statistic: 59.2307

Prob. F: 3.8 E-23

At the suggestion of Ralph Lattimore of the Productivity Commission the Centre tested the model to ensure that simultaneity bias was not present. Simultaneity bias exists when one of the explanatory variables is endogenously with the dependant variable; that is, the level of one of the explanatory variables is determined by the other explanatory variables. If simultaneity bias is present the coefficients estimated for the model are not reliable, and OLS regression cannot be used.

In the case of this model of net gaming revenue Mr Lattimore's concern was that either hotel and club owners would decide whether to become a electronic gaming machine venue or decide how many machines to install based on their estimate of likely NGR per capita in their area produced using a similar range of factors as this model. Simultaneity bias was tested for both venues per square kilometre and machines per 1,000 adults using a version of the Hausman test.⁴⁵ The results of this test showed that simultaneity bias was not present for either of these factors and hence that the results of the modelling were robust.

Turning to the results of the analysis as summarised in Table 4.1, it can be seen that there is a slight positive relationship between disposable income and average per adult net gaming revenue, implying that all other factors being equal, expenditure would be higher in a high income council area than in a poor one. The number of electronic gaming machines relative to the adult population, and the geographic concentration of machines in the council area are also influential factors in explaining differences in average net gaming revenue between councils. There are also several demographic variables associated with increased annual average net gaming revenue (the last three variables in Table 4.1). It is likely that it was the correlation between these three demographic factors linked with higher regional expenditure and low incomes which produced the apparent link between lower incomes and higher electronic gaming machine expenditure for South Australia, highlighted in the Productivity Commission's report. The significant factors are:

- higher unemployment as a proportion of adults;
- higher proportions of persons identifying as Aboriginals or Torres Straits Islanders; and
- higher proportions of private dwellings rented from the Housing Trust.

The demographic factors (other than income) identified as being associated with higher average net gaming revenue per adult could be useful in determining the extent to which regions (either at the council or the SLA level) need specific assistance from the government. Table 4.2 provides data on these factors for each of the Provincial Cities as well as averages for metropolitan and non-metropolitan South Australia.

As can be seen from Table 4.2, eight of the nine Provincial Cities are above the state average in terms annual net gaming revenue per adult, but only two of the nine are above average in terms of income (Mt Gambier and Port Lincoln, only very marginally). This suggests that the higher expenditure is related to other "risk factors", and may well not be desirable. This supposition is borne out by the data outlined in Table 4.2. Of the

⁴⁵ Davidson, R and J.G.. MacKinnon (1989) "Testing for Consistency using Artificial Regressions," *Econometric Theory*, 5, pp. 363-384.

seven Provincial Cities with unexpectedly high annual net gaming revenue per adult all have above average unemployment, and six of the seven are above average for each of the proportion of Aboriginals and the proportion of dwellings rented from the Housing Trust.

Table 4.2
Profile of the Provincial Cities

	NGR per Adult (\$)	Ave Income per Adult (\$)	Venues/Sq km (No.)	EGMs/1000 Adults (No.)	Adult Unemp. Per cent	ATSI Per cent	Houses rented, Housing Trust Per cent
Berri Barmera	686.30	13,720.27	0.0135	19.7	6.7	2.25	11.42
Loxton Waikerie	372.52	13,566.50	0.0009	15.4	3.6	0.78	7.17
Renmark Paringa	525.53	13,526.58	0.0076	17.3	5.8	1.30	9.68
Mount Gambier & Grant	530.37	15,284.25	0.0073	18.3	5.2	0.94	12.26
Murray Bridge	493.85	11,692.44	0.0033	12.8	7.7	3.69	14.91
Port Augusta	560.24	12,833.11	0.0095	26.5	7.8	13.84	26.10
Port Lincoln	600.25	14,399.07	0.2635	23.3	6.5	4.50	18.35
Port Pirie	429.61	12,129.28	0.0024	18.1	8.5	1.56	14.91
Whyalla	474.73	13,195.45	0.0068	12.6	8.8	2.19	36.33
<i>Provincial Cities Total</i>	<i>512.47</i>	<i>13,493.16</i>	<i>0.0040</i>	<i>17.8</i>	<i>6.8</i>	<i>3.13</i>	<i>18.07</i>
<i>Other Non-Metro</i>	<i>311.01</i>	<i>12,140.33</i>	<i>0.0002</i>	<i>15.5</i>	<i>4.6</i>	<i>2.76</i>	<i>3.51</i>
Total Non-Metro	394.18	12,698.81	0.0003	16.4	5.5	2.92	9.84
Adelaide Metro	438.10	14,780.62	0.0999	9.7	5.2	0.84	9.67
Total SA	427.80	14,292.20	0.0007	11.3	5.2	1.35	9.71

Source: Liquor and Gaming Commission, ABS, ATO., calculations SACES.

Note: Unemployment is expressed as a proportion of the adult population rather than as a proportion of the labour force.

Looking specifically at demographic characteristics — adult unemployment, aboriginality and housing trust rental — and comparing Berri-Barmera and Loxton-Waikerie, two areas with equivalent income levels, Table 4.2 shows these demographic characteristics as being influential in net gaming revenue outcomes. Accessibility to venues through geographic concentration of the population and through the concentration of machines (EGMs per 1,000 adults) are also important. Loxton-Waikerie has fewer machines per adult population and the population is less concentrated.

One policy recommendation which is suggested by the econometric results is that whilst a statewide cap on, or reduction in, electronic gaming machine numbers may not be desirable because of the benefits of the machines (both consumer surplus and taxation revenue) regional restrictions could be. For regions identified as being “at risk” because of the demographic profile restrictions could be placed on machine numbers to reduce overall electronic gaming machine expenditure. Other ameliorating measures such as slower play, or restrictions on the value and number of credits which could be wagered per game could also be targeted at these “at risk” regions. An alternative approach would be to rate regions/areas on a “susceptibility or at risk profile” based on the demographic profile of the area, region or town and ensure that appropriate level of resources are provided to higher risk communities.

Another recommendation arising from these econometric results is that there would appear to be a need for detailed epidemiological research into the demographic factors which were significant in the econometrics. This research would be conducted to establish whether the factors are themselves linked to a higher preponderance of problem gambling, or whether they are acting as indicators for some other causal factor.

There needs to be further research to substantiate these findings and to link the results to public policy deliberations, with at least an initial starting point being to develop a 'regional risk profile'.⁴⁶

4.1.2 Input Output Analysis

As well as the issue of the damage caused by problem gambling the other area that is commonly raised as a cause for concern with electronic gaming machines is the claimed damage to regional employment through diverting expenditure away from the retail sector. In an attempt to determine whether or not this concern was justified the Centre conducted a survey (with the support of the Australian Hotels Association) of gaming machine venues in the Provincial Cities (hotels and licensed clubs). The survey covered, amongst other items, the change in their employment since 1994. Unfortunately the response rate to this survey was patchy and the Riverland was the only town or region from which a usable sample of returns was received.

Consequently it was decided that a preliminary input-output analysis would be conducted for the Riverland region, as a guide to how this issue could be approached were better data available. It should also be able to provide some guide as to how justified the concerns about losses in regional employment appear to be.

Methodology

In any assessment of the economic contribution of a particular activity to the state's (or a region's) economy, the direct impacts of its related expenditures are only part of the story. There are further impacts in the form of:

- indirect effects, as the production activity induced by the direct impacts flows through other industries; and
- induced effects, as household and (potentially) government incomes arising from the direct and indirect impacts are spent, with further impacts on economic activity.

For this study, indirect and induced effects have been estimated using multiplier analysis based on input output tables. National input output tables have been tailored to better reflect the structure of the economies of each of the Provincial Cities, and are then used to calculate the total economic impacts of the diversion of expenditure associated with the electronic gaming machines. Appendix F provides a brief summary of input-output analysis.

⁴⁶ The Centre has taken some steps to examine a risk profile for towns and regions, including for Eyre Peninsula region and the South East region.

In order to properly conduct an economic impact analysis it is necessary to be very clear as to what is being used as the alternative scenario (also known as the counterfactual). The scenario used should be considered to be the most likely to occur if the event being analysed did not occur, and should be clearly identified. In this case we have assumed that in the absence of electronic gaming machines being introduced in South Australia expenditure on other forms of gambling would have remained at their 1993-94 levels as a proportion of household expenditure. It was assumed that the remaining net gaming revenue would have been spent on consumption.

There were two primary tasks in this input-output analysis, firstly calculating the extent to which employment has increased in gaming machine venues (based on survey returns and input-output analysis), and secondly determining how much employment is likely to have fallen in other sectors (using input-output analysis). Each of these tasks involved a number of steps and required some assumptions to be made.

Increase in Gaming related Employment

The estimates for the increase in gaming related employment are derived from the returns from venues regarding their average weekly payroll expenditure, and from the current award wages for hotel and club employees (adjusted backwards for previous years by the average annual growth in full-time private sector wage costs). Assumptions were also made on the grading of employees (standard bar and gaming employees, or supervisors); on the proportions of employees who were full-time, permanent part-time and casual (based largely on the survey returns); and on the quantity of overtime worked. It was assumed that:

- 75 per cent of staff in venues were gaming machine operators/bar staff, and 25 per cent were gaming room supervisors; and
- the distribution of staff was 40 per cent full-time, 10 per cent part-time (loading 110 per cent), 45 per cent casual (loading 150 per cent), and 5 per cent (of any status) working Sundays and public holidays (loading 200 per cent).

This average weekly salary (\$619 in 1999) was applied to the payroll information of the responding firms to produce estimated Full-Time Equivalent (FTE) employment for the responding venues. As total employment by 'Pubs, taverns and bars' and 'Clubs (hospitality)' for the region was known for 1996 from the Census results, it was possible to estimate the share of total sectoral employment represented by the responding venues. The 'reporting venue' estimates for each year were then factored up by this share of 1996 employment, such that they provided an estimate of total regional employment in these sectors.

As can be seen from Table 4.2A, the estimated gross increase in employment in gaming machine venues for the Riverland coincident with the introduction of electronic gaming machines is 95 FTE staff members. These estimates of the increase in employment are likely to be conservative, as they do not include any allowance for multiplier effects due to expenditure by these employees.

Table 4.2A
Changes in Employment by Gaming Venues For Riverland Region: 1994 to 1999

	1994	1996	1998	1999
Ave weekly payroll for reporting venues (\$)	69,985	95,009	111,139	120,218
Estimated employment, reporting venues (FTE)	133	176	194	202
Estimated total sectoral employment (FTE)	184.1	244.0	268.2	279.3
Gross increase from 1994 (FTE)				95.2

The other factor that impacts on employment is government expenditure, as a significant proportion of net gaming revenue is paid in taxes. The Centre has run two scenarios:

- A 100 per cent of government gaming taxation revenue is spent in region in which it is collected; and
- B 50 per cent of revenue is spent locally.

These two potential expenditure figures for each council were then run through the Input-Output tables to produce the gross employment effects of government expenditure.

Table 4.2B
Employment Attributable to Government Expenditure: Riverland Region
FTE Employees

	Berri Barmera	Loxton Waikerie	Renmark Paringa	Total
100 per cent of tax revenue spent locally	27.4	15.0	17.5	59.9
50 per cent of tax revenue spent locally	13.7	7.5	8.8	29.9

Table 4.2B illustrates the potential gross impact of spending the taxation revenues from electronic gaming machines in the region in which they are collected. The totals column shows that for these two scenarios government expenditure is likely to increase gross employment in the Riverland by between 30 and 60 FTE employees. The combined results for employment by venues and government spending suggests that the gross employment attributable to the introduction in electronic gaming machines is between 125 and 155 FTE employees.

Decrease in Employment due to Expenditure Switch

Of course these gross employment benefits from electronic gaming machines needed to be offset by the decrease in regional employment due to expenditure being switched towards gaming from other areas. For the purposes of these calculations it has been assumed that the rate of household savings remained unchanged.

The first step in addressing this task (i.e. calculating the decrease in regional employment in other sectors for the Riverland due to the diversion of expenditure to electronic gaming machines) was to calculate the value of diverted expenditure. This was done by adjusting the net gaming revenue for electronic gaming machines down to allow for the expenditure which was diverted from other forms of gaming (which, other

than racing, have zero regional employment according to 1996 census data). The level of diversion was calculated by increasing the 1993/94 expenditure for non-gaming machine gambling in line with the rate of increase in total household expenditure, and comparing this 'no change' estimate with the actual expenditures on these forms of gambling. The results of this analysis suggested that up to 1998/99 other forms of gambling had fallen by \$110 million since the introduction of electronic gaming machines, accounting for approximately one quarter of the net gaming revenue from electronic gaming machines. Consequently to calculate the regional diversion of expenditure local net gaming revenue for electronic gaming machines was adjusted down by 24.5 per cent. This produced diverted expenditure estimates of \$4.36 million for Berri Barmera, \$2.59 million for Loxton Waikerie and \$2.85 million for Renmark Paringa.

These regional diverted expenditures then needed to be assigned between different sectors so that they could be inserted into the regional Input-Output tables the Centre has developed for each of the Provincial Cities. This was done by distributing the diverted expenditure between different sectors according to the pattern of household consumption expenditure (excluding expenditure on rent and education) for 1998/99 outlined in the ABS' Australian Economic Indicators publication (2001). For the purposes of this analysis expenditure in the sector 'Other goods and services' was divided 60:40 between Wholesale & retail trade, and 'Cultural, recreational and personal services'. Table 4.2C illustrates the assumed distribution of the origin of this diverted expenditure between sectors.

Table 4.2C
Assumed Sectoral Origin of Diverted Expenditure

	Proportion of Expenditure	Berri Barmera (\$'000)	Loxton Waikerie (\$'000)	Renmark Paringa (\$'000)
Total Diverted Expenditure		-4,362.9	-2,587.0	-2,845.8
Wholesale and retail trade	0.414	-1,805.2	-1,070.4	-1,177.5
Accommodation, cafes and restaurants	0.103	-448.2	-265.8	-292.4
Road transportation	0.131	-570.3	-338.1	-372.0
Services to transport	0.034	-146.2	-86.7	-95.4
Communication services	0.030	-132.4	-78.5	-86.4
Finance and insurance	0.087	-379.2	-224.8	-247.3
Cultural, recreational and personal services	0.202	-881.4	-522.6	-574.9

The final step in this task was to feed these reductions in expenditure into the input-output tables for the three Riverland councils. The results in terms of reductions in FTE employee numbers were:

- Berri Barmera: -56.9
- Loxton Waikerie: -33.7
- Renmark Paringa: -37.1
- Total, Riverland: -127.7

Conclusion

The gross increase in employment due to the introduction of electronic gaming machines is estimated to range between 125 and 155 FTE employees, depending on whether the government has increased regional expenditure by 50 or 100 per cent of the increase in local revenues.

Off-set against this gross increase in employment due to electronic gaming machine venues and government expenditure is the reduction in employment due to reduced spending in other sectors. The results from the input-output analysis suggest that the combined direct and indirect effects of this reduction in expenditure are approximately equal to a decline in employment of 128 FTEs.

These two estimates indicate that, providing the government has increased their regional expenditure by an amount equal to at least half of the regional increase in taxation revenues then the net effect of the switch in spending towards electronic gaming machines is either zero or slightly positive. This result is dependent upon what has happened to government expenditure in the regions; unfortunately the current structure of state budgets does not allow this trend to be verified.

4.1.2.1 Economic Benefits of Gaming Machines - A Survey of Gaming Venues

While gaming machines have given rise to negative social impacts in terms of problem gambling, there has simultaneously been positive economic benefits in terms of increased employment and investment, primarily by gaming venues. For the purpose of obtaining relevant information on the economic impact of gaming machines, a survey was sent to all gaming machine establishments located in the Provincial Cities. Among other things, the survey sought information on the level of investment undertaken by gaming venues, and changes in gaming venue employment, payroll, local expenditure and donations and sponsorship. Qualitative information on how the introduction of gaming machines had affected the type of facilities and services offered by venues, and how they had affected venues' ability to provide donations and sponsorship, was also requested.

In addition, the survey included a series of questions pertaining to problem gambling, (e.g., how effective venues were in identifying and helping problem gamblers). The responses to these questions are summarised separately in Section 4.2.1.

The survey was distributed to a total of 71 venues. The Centre visited gaming establishments in the Riverland and Mount Gambier to encourage venues that had not responded to do so. A total of 23 surveys were eventually received. Hotels and licensed clubs were sent the surveys twice accompanied by a letter from the AHA (SA); they were visited by AHA representatives and sometimes by Council staff and Break Even Counsellors. Overall, the response rate after this effort was very poor.⁴⁷ Unfortunately, the limited response has constrained the Centre in undertaking a more complete input-output analysis to explore the impacts of investment and employment in the regions.

⁴⁷ Equivalent to a response rate of 32 per cent.

Type of Facilities and Services Offered by Venues

Almost all venues reported that gaming machines had a positive effect on the type of facilities and services they offered to their customers and/or members. Income from gaming machines had allowed many venues to significantly upgrade their existing facilities and/or provide additional facilities and services. For example, some venues had upgraded existing "dining room facilities, bar facilities and accommodation facilities", while others who did not previously provide such facilities and services were now able to do so. Examples of new facilities provided included a playground for children, bistro area, motel for accommodation, outdoor eating area and a drive through take-away food facility.

The combination of upgraded facilities and the introduction of gaming machines had subsequently increased patronage, resulting in a significant increase in beverage and food trade. The following evidence was supplied in this regard:

- the average number of meals supplied per month at one venue had increased by 710 per cent between 1994 and 2001;
- at another venue, the number of meals sales per week had increased by 248 per cent (time frame of increase not supplied); and
- one venue was now able to offer meals most days of the week rather than just over weekends.

Increased patronage not only increased trade activity, but also allowed several venues to operate for longer hours. This would enable employees to work longer hours or otherwise increase venue employment.

Gaming machines had enabled the majority of venues to improve their facilities and services provided. For a small minority of venues gaming machines had not affected the type of facilities and services offered by the venue. For one venue the provision of gaming machines even cost the venue money. This reflects the scale operation whereby a small number of machines are insufficient to recoup the capital and operating costs of supplying the machines. On the other hand, the income provided by gaming machines had for several venues "meant the difference between continuing to operate viably and not being able to operate at all". Certainly, without the income derived from gaming machines, the improvement in the range and extent of services as indicated by venues would not have been possible.

Ability to Provide Sponsorship and Donations to the Local Community

Responses indicated that gaming machines have enabled the majority of gaming establishments to increase the amount of donations and sponsorship they provide to the local community. Venues have not only increased their level of sponsorship, but also the variety/range of organisations which are provided with financial or in-kind support. Organisations that were supported include hospitals, schools, sporting clubs, fundraisers and charities.

In order to gauge the extent to which venues had increased their level of sponsorship, venues were asked to provide data on the amount of sponsorship and donations they provided in 1996 and 2000. For those venues that returned the survey and properly completed this question, the average level of sponsorship provided in 1996 was \$23,727 per venue. By 2000, the level of support had increased to \$39,351 per venue. This represents an increase of \$15,624 or 66 per cent.

Obviously the introduction of gaming machines has significantly increased the ability of gaming venues to provide donations and sponsorship to the local community. This outcome has offset, to a degree, the decline in fundraising revenues experienced by charities and other community groups partly as the result of the introduction of gaming machines.

4.1.2.2 Capital Expenditure By Gaming Establishments – Survey of Local Councils

One benefit of gaming machines is that they have allowed gaming venues to finance expansion and upgrading of their facilities, improving services for venue customers. Furthermore, this has increased employment opportunities at local venues and has arguably promoted “urban renewal” in surrounding areas.

To better understand the level of investment undertaken by Provincial City gaming venues, the Centre asked local councils to provide information on the number and value of non residential building and construction approvals given to hotels and clubs in respect of the installation or housing of gaming machines. This included approvals given for upgrades, extensions and the construction of new buildings or venues. Table 4.3 summarises the aggregate amount of capital investments approved by local councils over the eight years to 2001. In some instances capital investments had been approved but had thus far not commenced.

Table 4.3
Total Gaming Machine Related Capital Expenditure
Provincial Cities: 1993 – 2001

Provincial City	Capital Expenditure (\$)
Berri-Barmera	2,653,800
Loxton-Waikerie	967,790
Renmark-Paringa	3,000,000
Riverland	6,621,590
Mount Gambier	1,684,000
Murray Bridge	663,880
Port Augusta	1,696,000
Port Lincoln	3,856,000
Port Pirie	565,000
Whyalla	379,300
Total Provincial Cities	15,465,770

Source: Information supplied by Councils.

Over the period from 1993 to 2001, the councils had approved capital investments totalling \$15.5 million. Not surprisingly, Provincial Cities with high levels of capital investment tended to be those cities with relatively higher gaming machine expenditure and/or relatively more gaming machines. Provincial Cities with high levels of capital investment included the Riverland (especially Renmark-Paringa and Berri-Barmera), Port Lincoln, Port Augusta and Mount Gambier. The majority of capital investment for Port Lincoln related to one investment only that, at the time of writing, had been given planning consent only.

Murray Bridge, Port Pirie and Whyalla had relatively lower levels of capital expenditure.

4.1.3 Revenue Flows

We have already noted that we do not support the conclusions of the Pinge (2000) study on the Bendigo region in Victoria, because the structure of ownership of gaming machines (by Tabcorp and Tattersalls) is different in Victoria to the situation that exists in South Australia, and this impacts on profit retained and reinvested in a local community and the returns to capital. In South Australia, gaming machines are predominantly owned by the hotels. The Pinge study also fails to attribute any consumer surplus gains associated with recreational gaming. Just as leakage of gaming expenditure from the local economy is an important consideration for the Provincial Cities equally, expenditure in the regions for infrastructure, capital works, government and community services represent important injections in the cities. The Regional Infrastructure Program administered by the Department of Industry and Trade following the recommendations of the South Australian Regional Development Task Force is a case in point.

Understanding how gaming machines have affected revenue flows in and out of the Provincial Cities since their inception is extremely difficult. While it is easy to determine how much initially leaves the regions through the taxation of gaming machines, it is almost impossible to calculate how much is returned to the regions through government funding of projects and services. This is mainly because the majority of gaming machine taxation revenues are not tagged for specific purposes and instead feed directly into the State Governments' general revenue pool.

Notwithstanding, a small proportion of gaming machine taxation revenues are tagged for specific purposes. In particular, three funds — the Charitable and Social Welfare Fund; Sport and Recreation Fund; and the Community Development Fund — have been created to distribute some portion of gaming machine revenues back to the community. Funding for Break Even Services are provided by the AHA (SA) \$1.5 million, and the South Australian Government (\$0.8 million) in 2000-2001. Additional funds were allocated in the 2001-2002 State Budget. The Centre has sought to determine what proportion of the resources provided to these funds were redistributed back to the Provincial Cities.

Funding under the Community Development Fund — some \$19.5 million in 1999-2000 — is distributed across government agencies for new initiatives and programs and there is no reason to conclude that non-metropolitan South Australia “misses out” from this.

In fact, quite the contrary, because special programs in education, Attorneys-General, Human Services have been implemented in regions and the Provincial Cities.

Information on funding through the Charitable and Social Welfare Fund and through Recreation and Sport are considered here, specifically because community and sporting organisations are most likely to have experienced difficulties in fund raising and patronage retention after the introduction of gaming machines. Private donations by hotels and clubs are not reported here as they do not represent injections into the region.

The data has been sourced from the Departments of Human Services and the Office for Recreation and Sport.

4.1.3.1 Charitable and Social Welfare Fund

In Section 2.4.1 we noted that the Charitable and Social Welfare Fund (publicly known as Community Benefit SA) provides financial support to charitable or social welfare organizations, including those that have experienced increased demand for their services following the introduction of gaming machines. There is annual funding of \$3 million for redistribution back to the community. The Board "aims for an equitable distribution of funding in terms of disadvantaged target groups (including Aboriginal people, ethnic communities and people with disabilities), geographic regions and the number and range of organisations".⁴⁸ A review of projects funded shows that consideration is given to the geographical spread of agencies applying, the type of projects funded and a recognition of the impact of gaming through the establishment of Special Grants and Strategic Special Grants. Agencies are able to demonstrate the financial impact of gaming on especially fund raising, and thereby receive consideration for Strategic Special Grants. Up to twelve agencies have received SSGs. The types of projects funded include for services to individuals and families, group programmes, community development activities, community facilities and equipment, vehicle, office and IT equipment and to recruit and train volunteers. Over 80 agencies have been assisted for fund raising since 1996-97.

Table 4.4 shows the geographic distribution of funding provided by Community Benefit SA for the two most recent project rounds (8 and 9) and all project rounds conducted so far (rounds 1 to 9). Unfortunately the geographic areas used for reporting purposes by Community Benefit SA are very broad and not clearly defined, meaning that comparisons with the Centre's estimated population shares according to local council areas does not provide an accurate indication of whether the Provincial Cities receive funding in line with their share of the total population. However, the data nevertheless strongly indicates that the Provincial Cities do receive a disproportionately higher share of funding relative to their share of the State population. This is quite a positive outcome. The data also supports the conclusion that the Board endeavours to achieve a balanced and equitable distribution across geographical regions.

Summarised in Table 4.4, the Provincial Cities, broadly defined, have received approximately 18 per cent of the funds allocated by Community Benefit SA over the 9 rounds conducted so far. This is much larger than the Provincial Cities share of the total South Australian population, which is estimated at 9.5 per cent in 1999. The large

⁴⁸ Department of Human Services, p. 16.

difference between these two shares is explained by the much broader geographic areas used by Community Benefit SA to describe the Provincial Cities. The size of the difference gives confidence to the conclusion that the Provincial Cities have received a fair share of the finances available from the Charitable and Social Welfare Fund.

Table 4.4
Regional Projects Funded by Community Benefit SA

	Funding (\$)			Per cent of South Australian Total		
	Round 8 ¹	Round 9 ¹	Rounds 1-9 ²	Round 8 ¹	Round 9 ¹	Rounds 1-9 ²
Riverland	25,216	23,610	288,726	1.8	2.1	2.6
Mt Gambier/South East	8,630	24,900	276,111	0.6	2.2	2.5
Murray Bridge/Murray Lands	64,900	53,250	410,531	4.7	4.6	3.7
Pt Augusta/Leigh Creek	1,060	22,724	240,523	0.1	2.0	2.2
Pt Lincoln	36,606	10,380	297,274	2.7	0.9	2.7
Pt Pirie	36,550	36,273	308,794	2.7	3.2	2.8
Whyalla	1,260	34,723	179,400	0.1	3.0	1.6
Broad Provincial City Areas	174,222	205,860	2,001,359	12.7	17.9	17.9
South Australia	1,375,623	1,148,760	11,151,498	100.0	100.0	100.0

Note: ¹ Rounds conducted in 1999-00.

² Rounds conducted from 1996-97 to 1999-00.

Source: Department of Human Services, 2000.

Table 4.5
Gaming Machine Taxation Revenue (\$'000)
Provincial Cities and South Australia — 1995-96 to 1999-00

Council Name	1995-96	1996-97	1997-98	1998-99	1999-00	Total
Berri Barmera	1,432	1,718	1,896	1,901	2,137	9,083
Loxton Waikerie	1,030	1,115	1,238	1,122	1,170	5,675
Renmark Paringa	955	1,193	1,268	1,252	1,370	6,039
Riverland	3,417	4,026	4,402	4,275	4,677	20,797
Mount Gambier	3,066	3,583	4,187	4,559	4,889	20,285
Murray Bridge	1,379	1,785	2,173	2,372	2,682	10,391
Port Augusta	1,477	1,611	1,939	1,968	2,204	9,199
Port Lincoln	1,137	1,342	1,666	2,155	2,365	8,664
Port Pirie	1,638	1,845	2,004	2,292	2,294	10,072
Whyalla	2,436	2,781	3,080	3,537	3,502	15,337
Total Provincial Cities	14,549	16,973	19,451	21,158	22,613	94,745
South Australia	110,109	134,499	160,676	191,260	211,790	808,334

Source: Office of the Liquor and Gaming Commissioner.

While the Provincial Cities may have received a relatively high share of the funds distributed by Community Benefit SA, the amount is relatively small (even given the geographic differences in the definition of regions and postcode coverage) compared to the total amount of gaming machine taxation revenue collected from the Provincial

Cities (\$2 million from \$94.7 from gaming tax revenue collected as summarised in Table 4.5). However, this is only one source of injections into the regions; in regard to the total amount of funds allocated to this program there may be some scope to argue for a higher allocation given that submission requests well exceed all that can reasonably be funded, and that many agencies are able to demonstrate the financial impact of gaming machines on revenue raising.

4.1.3.2 Sport and Recreation Fund

The Office of Recreation and Sport administers the Sport and Recreation Fund (\$2.5 million) to provide assistance to sport and recreation under four sub-programs (budget for each program in 1999/2000 shown in brackets):

- Active Club Program (\$940,000);⁴⁹
- Management and Development Program (\$860,000);⁵⁰
- SASI Talent Scholarship Fund (\$90,000); and
- State Sports Facility Fund (\$500,000).

Funds from the Active Club Program are distributed on an electorate basis — \$20,000 per electorate in 1999-2000 for each of the 47 electorates increasing to \$40,000 per electorate in 2000-2001. In 1999-2000 some 915 applications were received requesting \$6.5 million of funding or seven times the available funds. Over the period 1996 to 1999 funding to non-metropolitan regions (electorates) varied between 37 per cent and 41 per cent. An amount of \$72,000 or approximately 8 per cent of funds can be attributed specifically to clubs within the Provincial Cities. The other programs generally provide for state-wide services, although most of the parent organisations are located in the metropolitan area. Generally, it is not possible to determine a metropolitan/non-metropolitan split and in some cases it is not appropriate to attempt to do so.

Overall, the funds available are limited relative to gaming tax revenue collected and are allocated for purposes other than to compensate for patronage loss. It is principally a fund which has been established because of gaming machine taxation and not because of the potential impact of gaming machines on sporting organisations.

4.1.3.3 Hotel Care Community Project Fund

The AHA provides to a community funding program — Hotel Care Community Projects — with the assistance of a levy administered through the Independent Gaming Corporation. The Corporation collects \$.5 million annually based on gaming machine monitoring fees. The AHA provides the administrative support, reviews and approves submissions to the fund. The program is for hotels only and is in addition to individual hotel sponsorship. Projects are intended to benefit charity and community organisations, where projects require up to \$10,000 and are to support children, young people and health related projects. We have not sought to analyse the geographical distribution of projects funded by the AHA for the purposes of this report.

⁴⁹ In the financial year 2000-2001 budget allocation increased to \$1.88 million.

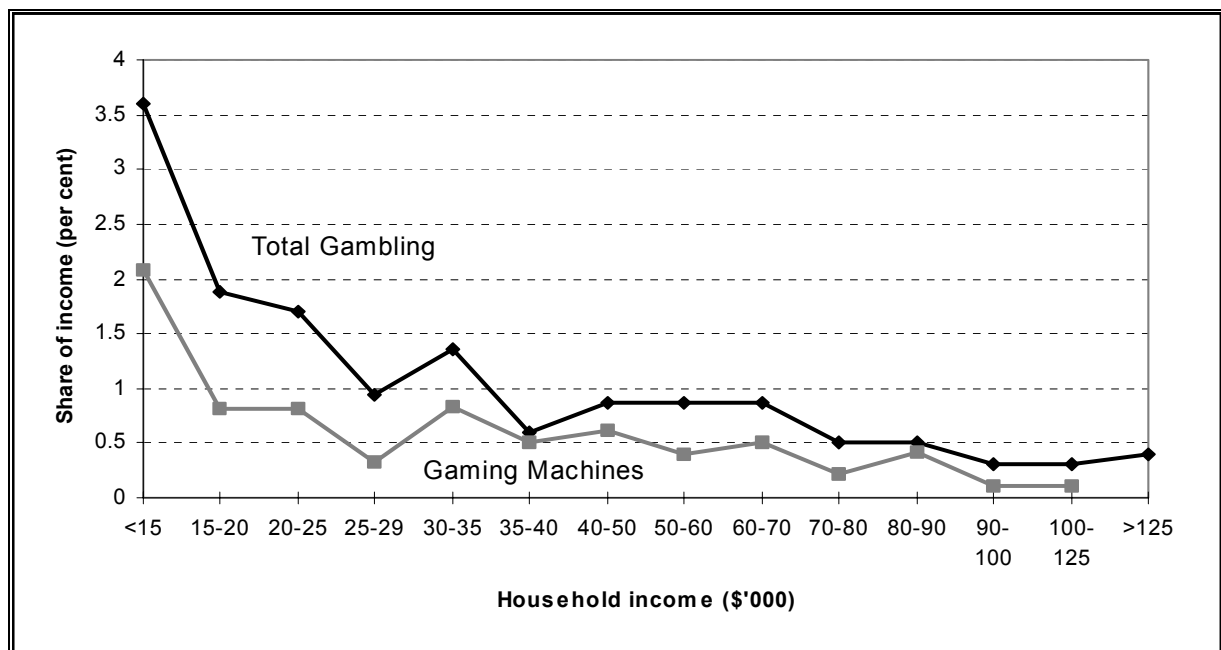
⁵⁰ Total budget in 1999-2000 for this program was \$6m.

4.1.4 Is Gambling Taxation Regressive?

While the potential loss of regional income represents the primary negative impact of the taxation of gaming machine expenditure from a local government perspective, another concern arises over the regressive nature of gaming machine taxation. A tax is said to be regressive when the burden of taxation falls disproportionately on lower income households/individuals. Expressing this another way, a regressive tax is one in which the tax paid represents a smaller proportion of income for high-income earners than for low-income earners. From an equity and fairness standpoint, taxes which achieve vertical equity (i.e., the tax paid as a proportion of income is the same for all income groups) or are progressive (i.e., the tax paid as a proportion of income rises as income increases) are preferable to regressive taxes since they minimise the burden placed on lower income groups. Because lower income groups spend relatively more (as a proportion of income) on gambling than do higher income groups, there is little doubt that gaming machine taxation is regressive. Unfortunately, this implies that the introduction of gaming machines has almost certainly negatively impacted lower income groups.

The Productivity Commission (1999) and Smith (1999) have both separately examined the equity impacts of gambling taxation and both conclude that gambling taxation is regressive. Figure 4.1, which uses data derived from the Productivity Commission's *National Gambling Survey*, illustrates gambling and gaming machine tax as a proportion of household income for Australia. Figure 4.1 clearly shows that gambling taxation is regressive with gambling tax as a proportion of household income being higher for low-income households. For example, for households with an income of less than \$15,000 per annum, total gambling taxes equate to 3.6 per cent of household income compared to 0.6 per cent for households with an income of \$35-40,000.

Figure 4.1
Gambling and Gaming Machine Tax as a Proportion of Household Income
Australia



Source: Productivity Commission, 1999.

Figure 4.1 also demonstrates the regressive nature of gaming machine taxation. In fact, a Productivity Commission comparison of different gambling taxes found that taxes on gaming machines and lotteries were the most regressive forms of gambling taxation and therefore “provide the most cause for concern on equity grounds”. The Productivity Commission subsequently recommended that any consideration for reducing gambling taxes to improve equity outcomes should focus on gaming machine and lottery taxes. However, as noted by the Productivity Commission, the scope for reducing the burden on lower income groups by reducing taxation on gaming machines and raising other state taxes is limited because many other sources of state government taxation are also regressive including excise on petrol, alcohol and tobacco which are collected for the States by the Commonwealth. Furthermore, lowering taxes on gaming machines may potentially increase gaming activity and therefore exacerbate problem gambling, which is a highly undesirable outcome. Alternatively, increasing taxes may actually increase the negative social and private costs of gaming machines if problem gamblers, who largely suffer from an addiction to gambling, are not deterred from playing gaming machines and suffer increased losses in the event that gaming machine taxes are raised (Smith, 1999). The conclusion here is that tax rates are a blunt instrument for addressing problem gambling.

Nevertheless, the South Australian government, as part of its recently announced set of reforms to tackle problem gambling, announced an increase in the minimum rate of return for new gaming machines from 85 per cent to 87.5 per cent. This change will have the effect of reducing the effective rate of taxation on new gaming machines. However, an increase in the rate of return may have little to no impact on aggregate returns to players. This is because the actual return to South Australian gamblers is already above the proposed new minimum of 87.5 per cent. For example, Tasmanian Gaming Commission data shows that in 1998-99, 88.1 per cent of all gaming machine turnover was returned to South Australian gamblers. The higher legislated minimum return will only increase actual returns to players to the extent that suppliers increase the average return to ensure compliance with the new minimum.⁵¹ In the absence of this effect, the burden of gaming machine taxation on lower income groups will not be addressed by the proposed higher minimum rate of return.

Smith (1999) notes that gambling taxes have become more regressive over time as the accessibility of gambling for lower income groups has increased and demand has shifted to more regressive forms of gambling, namely gaming machines. Using data from the Australian Bureau of Statistics Household Expenditure Survey (HES), Smith finds that:

“gambling losses have become a greater burden on lower income groups since 1984. By 1993-94, gambling had increased from around 8-9% of recreational expenditures to around 10-11% for households in the bottom two income quintiles, while it reduced substantially in the higher income quintiles.”⁵²

Smith recognises that reducing gambling taxes to improve equity outcomes are limited by the regressive nature of other state taxes. While a range of progressive taxes, such as income or wealth taxes, are available to state government to fund reductions in gambling taxes in order to improve overall equity, Smith argues that the “resort to gambling

⁵¹ A supplier may also increase the payout from a machine in order to attract more players.

⁵² Smith, p. 15.

taxation has often been a strategy to avoid or delay introducing more progressive taxes, such as income taxes, which are nevertheless, more controversial politically”.

The decision to pursue regressive gambling taxation sources rather than more politically sensitive progressive taxes (e.g., property and wealth taxes) may reflect the belief that because gambling taxes are voluntary, they are fairer (i.e., painless) and more acceptable to the community (Smith, 1999). While the Productivity Commission argues that consideration should be given to the negative equity impacts of voluntary forms of taxation when devising taxation policy, Smith rightly disagrees with the argument that gambling taxes are entirely voluntary. Because problem gamblers are effectively addicted to gaming machines and lack self control over their gambling expenditures, their decision to spend on gambling cannot realistically be considered voluntary. Importantly though, problem gamblers account for very large share of total gambling expenditure, implying that gambling taxation is heavily concentrated among a small proportion of the population. For instance, the Productivity Commission estimates that approximately 42.3 per cent of Australian gaming machine expenditure is accounted for by problem gamblers. This pattern of expenditure, whereby a substantial proportion of gambling taxation revenue is derived from addicted gamblers, clearly cannot be considered ‘voluntary’ or ‘painless’. It also raises questions over the ethics of government who derive such a large share of their gambling taxation revenue from such a small and vulnerable segment of the population (Smith, 1999).

The regressive nature of gaming taxation also has an important regional dimension, as recognised by Smith (1999):

“The concentration of gambling expenditure, and the disproportionate share in the incomes of poorer households, also has important geographic distributional implications. If low income populations and heavy gambler populations coincide in the same geographic area, the adverse social and economic impact of gambling will be heavily concentrated in particular localities”.⁵³

In this respect, the regressive nature of gaming machine taxation is important from a Provincial Cities’ perspective because the Provincial Cities tend to have lower average incomes relative to the State average. Average net incomes per adult for the Provincial Cities and South Australia are shown in Table 4.6. With the exception of Mount Gambier and Port Lincoln, all Provincial Cities had a lower average net income per adult in comparison with the South Australian average in 1998-99. As a whole, the Provincial Cities had an average net income per adult of \$13,493 compared to \$14,292 for South Australia. Given the regressive character of gaming taxation, a lower taxable income for the Provincial Cities, though not huge, does suggest that the burden of gaming taxation will fall more heavily on the population of the Provincial Cities. Indeed, the review of taxation trends in Section 3.2.3 has already shown that due to a disproportionately higher expenditure on gaming machines, the Provincial Cities on average pay a higher level of gaming machine tax (\$217 average tax per adult in Provincial Cities compared to an average of \$185 for South Australia as a whole, 1999-00).

⁵³ Smith, *op. cit.*, p. 16.

Table 4.6
Average Net Income Per Adult
Provincial Cities and South Australia - 1998-99

Region	Average Net Taxable Income Per Adult
Riverland	13,607
Mount Gambier (C) & Grant (DC)	15,284
Murray Bridge (RC)	11,692
Port Augusta (C)	12,833
Port Lincoln (C)	14,399
Port Pirie (C)	12,129
Whyalla (C)	13,195
Provincial Cities	13,493
Adelaide Metropolitan	14,781
South Australia	14,292

Source: Australian Taxation Office, Australian Taxation Statistics, 1998-99 (www.ato.gov.au) and ABS, AUSSTATS, Population by Age and by Sex (3201.0).

4.2 Social Impact of Gaming Machines

The Centre undertook to liaise with gambling counsellor services located within or responsible for the geographical areas covered by the Provincial Cities. The principal focus of this activity was to understand and document the experience of “the social impacts of gaming machines” from the expert helping professionals. The Centre requested data from the agencies⁵⁴ and invited individuals to respond to a mail-out interview schedule. Selected interviews were conducted by visits to several regions and by telephone. We gratefully acknowledge the contribution of individuals and agencies. The following is a summary of the insights and information concerning the social impacts of gaming machines provided by professional counsellors working with a diversity of individuals, groups and community organisations responding to gambling issues.

4.2.1 Understanding Gambling Problems: A Survey of Counsellors and Hotels

A balanced approach to analysing gambler behaviour is to recognise that certainly there are individuals with problem gambling behaviours and equally there are inherent dangers in certain gambling products. This of itself suggests two public policy responses:

- the need for individual assistance within a public health/counselling or medical model (i.e., through agencies such as Break Even, Relationships Australia); and
- constant surveillance of gambling products to ensure adequate consumer protection (i.e., information, knowledge, publicity, restrictions and controls).

⁵⁴ The Centre was originally advised that the DHS could not provide any data from the Break Even Network and that we would need to write to individual agencies. After doing this, the individual agencies were advised that they could not supply data to the Centre. From this point on, approximately mid-May 2001, the Centre discontinued any data requests.

The focus should be on the gambling behaviour and the context in which this occurs, as well as the product, rather than emphasising the ‘classification of the person’. One experienced counsellor⁵⁵ referred to this as:

- the *individual* victim blaming or disease model with reference to the “addict, problem or pathological gambler”; this is appropriately the field of research for the health professional, the psychologist, medical practitioner; and
- the *product* and the environment in which that product is located, regulated and so on; this is appropriately the field of research of the social scientist.

Individual responsibility — no one denies this element — needs to be set against a broader environmental and population basis if strategies for the individual and strategies for community action are to be successfully implemented. Community strategies imply more than addressing whether the number of machines should be capped — it may imply restricting accessibility (as we do for smoking); it may imply restrictions and limitations in regard to access to money, or the technology of machines, safety standards (i.e., ‘environmental changes’).

Overall, the person and the product need to be equally considered.

Who are problem gamblers ...

- equally males (47 per cent) and females (53 per cent), aged between 30 and 50 years, with the 30-50 age group accounting for approximately two-thirds of all problem gamblers;
- indigenous and non-indigenous Australians (it is an activity which is non-discriminatory);
- problem/heavy gamblers are across all socio-economic levels including the unemployed (22 per cent of problem gamblers) to the professional white collar worker;
- women who are “at home, empty nest”, including some women with a history of isolation, intermittent work history and with a history of abuse. This was considered to be an important and sometimes hidden sub-group comprising 10 per cent of problem gamblers; and
- key groups are low income, isolated and depressed young males and older females, often with certain traits such as low self-worth.

Problem gamblers ...

- upwards of 90 per cent of clients have a problem arising from EGMs with most of the remaining 10 per cent having problems associated with the TAB;
- almost exclusively report they have a problem only with gaming machines due to the continuous format of the product;
- they self identify (85 per cent) or partner (9 per cent);

⁵⁵ Weetman, N., (2001), “Gambling — To Harm or Not to Harm?”, unpublished, available from SA Centre for Economic Studies, March.

- principally males who have gambled most of their life, experience big increase in losses and debt leading to social and legal problems;
- EGMs have created a new breed of problem gambler, many who have never gambled before, although it is recognised accessibility of this form of gambling has highlighted other social issues; and the
- 'need to escape'.

Primary Social Impacts

Counsellors based their comments on extensive experience with the client group — experience which informs the agencies of the following impacts: *[The Centre notes these are subject to measurement]:*

- increase in debt including loss of assets *inter alia*; car, family valuables, even family home [*measurable*];
- within family, loss of trust, arguments, emotional/ relationship dysfunction;
- crime which may stem from severe gambling losses and loss of employment [*measurable*];
- increased visits to local doctor associated with other health problems [*measurable*];
- time lost at work, productivity at work [*measurable*];
- personal loss of self control;
- withdrawal from community activities, feelings of isolation;
- suicide and suicidal ideation, depression;
- loss of 'dreams' and identification with 'a future';
- neglect of children's health and education as significant impact of family breakdown [*measurable*];
- destitution with decreased expenditure on food, utilities and other essential services with cancellation of telephone, electricity, water where accounts are unpaid [*measurable*];
- domestic violence (with no attribution of cause-effect implied) [*measurable*];
- bankruptcy [*measurable, subject to existing legislation*]; and
- health factors including smoking, drinking and depression.

It is clearly difficult to quarantine private costs from broader social costs where impacts are identified on other family members and costs to local services and non-government organisations (police, courts, health system). More difficult are the inter-generational impacts on children's health and education. Within indigenous communities excessive gambling was suggested as reinforcing the cycle of poverty, stress and social dysfunction contributing further to a cycle of social poverty and social disadvantage. The association and co-location of gambling with exclusively licensed premises may

exacerbate problem for aboriginal communities. This has important implications, yet surprisingly little research or documentation exists on current impacts.

Regional Dimensions

Exposure to gaming machines is more frequent in regional areas observed Break Even Counsellors and there is general support for this observation as indicated in this report. There is a more limited range of entertainment and alternative activities in regional areas, a factor which the Productivity Commission endorsed. This exposes a wider variety of the community to gaming machines and therefore increases the potential for problem gaming. The lower income status of some regions when combined with greater access and exposure to gaming machines can disproportionately impact on a city or region.

The Centre notes here that informed opinions and assessment have been measured against the independent data — income levels, number of venues, number of machines per capita to verify that the level of exposure is potentially much higher in the Provincial Cities. Several agencies suggested that the level of transparency within some communities provides greater opportunity for intervention.

Other regional dimensions include:

- statistics suggest rural/regional centres have significant number of problem gamblers (more hidden problem gamblers), although metropolitan services conclude 4 to 5 per cent of all players have a problem statewide (2 per cent problem gamblers; 3 per cent having a potential problem);
- considered to be fewer support services and experience longer wait to access services. This is combined with fear of 'others finding out' within smaller, tighter communities;
- clubs/hotels are the main (sometimes only) recreational venue and hence increased opportunity and accessibility for gambler. There are fewer entertainment options in rural and remote areas than hotels/clubs with gaming machines;
- some workers considered there had been clear impacts on other businesses such as retail, the smaller café/restaurant within regional communities which are already struggling economically. Small business closures can be attributed to the introduction of EGMs; and
- anonymity in gambling behaviour and when seeking help could act to hide the problem.

Support Services

Generally it was reported that the waiting times to see a counsellor are increasing, even though many in rural centres will travel to the metropolitan services where they are not known. It appears there is also a need for financial counselling services and often the more complex cases are referred to metropolitan agencies associated with gambling.

A 'mobile worker' to cover remote areas of the State would support more frequent visitations to smaller communities. Problem gamblers place pressure on other health resources such as for depression, counselling, medical visitations. There may be a case for more workers to specifically assist Aboriginal communities — we raise this because of data reported in Section 4, but note that the Centre is not in a position to make a firm recommendation on this issue.

Hotel Owners — An Assessment of Responses

General response was that hotel owners are helpful with people who report as having a problem, although they are not generally conversant with the impact on family, households, work and friends. This can give rise to some degree of defensiveness.

"Most have been open to accepting information from the Break Even service". Within smaller communities hotels have been responsive and "are happy to assist when required".

Some negative responses were voiced, including the following:

- have not been responsible, aggressive marketing, disinclined to promote the risks;
- illegal behaviour in offering credit to a client; and
- receive few referrals from licensed premises,

but overall it was the view of most respondents that hotel owners have been open and cooperative in regard to the issue of problem gamblers.

Policy Options

One counsellor suggested "the introduction of smart cards are a must so that people could only have one card at any one time and could set a permanent limit on how the card is used. ATM's are a problem, but in some rural communities that may be their closest bank and closing it down would be bad for the whole community. Slow machines down and introduce machines that give you more choices such as nudge banks as they have in the UK. Enforce present guidelines".

Intervention strategies such as shorter operating hours were considered or somehow restricting the time available for those with "severe problems who are there from opening until close".

Other suggestions included:

- education, as there is little recognition of known hazardous characteristics of gaming machines;
- harm reduction juxtaposed against increased accessibility is unlikely to be successful; and
- need for a national strategy.

4.2.1.1 Dealing With Problem Gamblers – A Survey of Hotels and Gaming Venues

In addition to seeking information on the economic impact of gaming machines, the Centre's survey of gaming machine establishments also sought information on how gaming machine establishments cope with problem gamblers. In particular, venues were asked to provide information on whether they were able to effectively identify problem gamblers, what mechanisms exist for problem gamblers to bar themselves, what training is provided to staff in respect of identifying potential problem gamblers, and whether they employ any specific strategies to minimise harm from problem gambling. A summary of gaming machine venues' responses to these issues is provided here.

Identifying Problem Gamblers

The majority of gaming establishments indicated that they were able to effectively identify problem gamblers. Factors that were considered important in identifying problem gamblers included:

- whether the customer is a "regular patron". For a regular customer "you notice when they increase their betting wage and the frequency they enter the gaming room". The smaller and tighter nature of regional communities, where venue staff know relatively more about their customers, probably helps in detecting potential problem gamblers. For example, one venue commented that "problem gamblers are easy to identify, as we know most customers in all areas of the hotel, very well. Identifying a lonely person who comes in each day and spends \$5.00 to have a conservation is easy to distinguish from people who spend beyond their means regularly";
- the amount of "denominations spent" by problem gamblers; and
- the amount of time spent by the customer in the gaming room.

As indicators of potential problem gambling, the last two factors are obviously more effective when combined with the first factor - it is easier for a venue to identify when a regular customer is experiencing potential gambling problems than for a non-regular gambler. This is because the venue has a greater understanding of the regular gamblers' previous gambling patterns and/or their relative affluence. The venue can identify when the regular gambler begins to gamble beyond their means.

Other potential signs of problem gambling include "stress" and "anger" displayed by gamblers. Training of staff to recognise the signs of problem gambling was also put forward as a reason why venues were able to identify problem gamblers.

While the majority of venues believed that they were able to effectively identify potential problems gamblers, a significant but small proportion indicated that they weren't able to effectively identify problem gamblers. For these venues, one of the main problems was a lack of knowledge over the gamblers "financial position" and hence whether the patron could afford to gamble the amount they did.

Mechanisms for Barring Problem Gamblers

Venues were asked to specify what mechanisms existed at their venue for gamblers to bar themselves. Almost all venues indicated that they had (self) barring forms available on sight for those individuals who wanted to voluntarily bar themselves from the gaming room/venue. Several venues indicated that they currently had individuals barred from their venue.

Other forms of assistance provided by venues to assist patrons with gambling problems include:

- Signage. This includes signs giving contact details for gambling help services (e.g., Break Even services and Gambling Helpline) and other warning signs which alert patrons to the risks of problem gambling;
- Pamphlets and other literature made available to “assist problem gamblers in finding assistance”; and
- Friendly staff who provide assistance to customers seeking help with their gambling problem. Assistance provided includes directing customers to gambling help services and advice on self-barring.

Training for Staff

Information was also sought from venues on what training is provided to staff in terms of identifying potential problem gamblers. It is clear that staff had received some form of training, however, it was not certain from the responses provided that the form of training received dealt specifically with problem gambling issues.

A number of venues indicated that staff had received training through formal courses, such as TAFE courses, and that management/staff attended the “usual industry seminars”.

Those venues that did not employ formal training methods used other mechanisms to educate their staff about problem gambling. For example, one venue relied upon “in-house training from senior employees who had previous training from a responsible persons course”. Some venues relied upon staff meetings to discuss problem gambling issues and identify potential problem gamblers. Other venues relied upon information provided by the Australian Hotels Association to educate staff about the “responsibilities and aims in dealing with responsible gambling”. For example, the Australian Hotels Association had assisted one hotel by “supplying booklets and procedures” which were used as “training manuals for all gaming staff”.

Controlling Specific Individuals

On the issue of problem gambling, venues were asked to indicate what steps they took to control specific individuals and comment on how successful they felt these actions were.

For some venues, enforcing a self-imposed ban was the main control imposed on specific individuals. Of these venues, most believed that self-barring was an effective method for controlling an individual's gambling problem, although, it was recognised that self-imposed bans have limited effectiveness "because they are voluntary".

Partly in recognition that most individuals with gambling problems are unlikely to voluntarily impose a self-ban, some venues made an active attempt to identify potential problem gamblers (e.g., by "monitoring spending") and approach these individuals to raise concerns over their gambling behaviour. Where individuals are receptive to these approaches, staff direct these individuals to gambling help services and may even recommend a self-ban. However, such actions often elicit negative responses, with gamblers becoming angry and embarrassed over being approached. Given this outcome, some venues are naturally reluctant to make such an approach, which simply "risks losing a customer to another hotel because of embarrassment". Under these circumstances, neither the problem gambler nor the gaming venue benefit.

Given the difficulties outlined above, other venues took a less interventionist approach by simply making a "customer aware of their losses" in a less direct/forceful manner.

Other venues listed a range of measures which were in place to control problem gambling. For example one venue commented that "we have no ATM, no EFTPOS in gaming room. We do not cash cheques or give credit to any players. If a player has a substantial win, we pay at least half by cheque". Only a handful of venues stipulated such a wide range of measures.

Other Issues

Venues were invited to make comments on any other issues they considered relevant to the study. Naturally these responses were diverse. Other comments made in respect of problem gambling include:

- "Most problem gamblers are on the lower pay bracket i.e., indigenous, casual property workers";
- "We have more problem drinkers (alcoholics) than we do gamblers but nobody seems concerned about a study on reducing alcoholism in long term drinkers";
- "Pokies fill a big chunk of entertainment...I know several players who play to unwind, get rid of their stress from work, but do we ever hear about the good they do?";
- "We would have more problem gamblers with TAB than gaming. Strongly suggest that loyalty programmes be outlawed. If anything causes problems I believe this does"; and
- "Hoteliers to my knowledge, try to operate their business correctly and professionally as they can. Responsible service of alcohol, food and gaming are of main priority to our industry".

4.2.2 Demographic Profile and Gambling Characteristics of South Australian Problem Gamblers

Section 2.2 briefly outlined the various social costs and benefits of gaming machines. In the Sections 4.2.2-4.2.5 we examine the demographic characteristics of South Australian problem gamblers, provide quantitative estimates of the social costs of problem gambling and report on the extent of problem gambling in South Australia. Given the complexity involved and resources needed to estimate the various social costs of problem gambling, the Centre has relied on the Productivity Commission's methodology and subsequent estimates of the social costs of problem gambling.

To better understand "who are" problem gamblers, the following section presents a demographic profile of South Australian problem gamblers based on data obtained from the survey of South Australian gambling patterns conducted by the Centre for Population Studies in Epidemiology. In addition, data from Gambling Helpline Callers is also examined to provide further insight into the motivations and demographic characteristics of problem gamblers. The Centre surveyed and interviewed staff from a number of gambling help services.⁵⁶

The estimated prevalence rate of problem gambling by demographic characteristics (e.g., prevalence among males), and the relative size of problem gamblers by their demographic characteristics (e.g., male problem gamblers as a proportion of total problem gamblers) is shown for South Australia in Table 4.7. (Unfortunately prevalence rates by demographic characteristics for gaming machine problem gamblers were not reported separately by the CPSE). Information on the relative size of problem gamblers by common demographic characteristics permits the identification of 'who are' problem gamblers, while data on prevalence rates by demographic characteristics facilitates the identification of those individuals who are more susceptible to developing gambling problems.

A higher proportion of adult males (2.4 per cent) experience significant problems with gambling than do females (1.7 per cent). This outcome is consistent with the higher male participation rate in all gambling activities. While males (57 per cent) represent a larger proportion of all problem gamblers than do females, according to the CPSE survey a slightly larger proportion of gaming machine gamblers are women (51.5 per cent); this would suggest that a greater or similar proportion of gaming machine problem gamblers are females; an observation which is supported by the counselling agencies.

One of the more interesting aspects of the demographic characteristics of problem gamblers is the high prevalence rate among the 25 to 34 year old age group — 3.2 per cent of this age group is composed of problem gamblers compared to 2.0 per cent of the total adult population. This high prevalence rate is perhaps more profound when expressed as a proportion of the total population — while 20 per cent of all gamblers are aged between 25 and 34 years of age, this age group accounts for 29.3 per cent of all problem gamblers.

⁵⁶ The Department of Human Services was not able to provide information in an aggregate format from individual agency returns.

Table 4.7
Demographic Characteristics of Problem Gamblers
South Australia - 2001

Variables	Prevalence Rate	Proportion of Problem Gamblers
Gender		
Male	2.4	56.9
Female	1.7	43.1
Age group (years)		
18 to 24 years	2.0	12.2
25 to 34 years	3.2	29.3
35 to 44 years	2.3	22.0
45 to 54 years	2.2	19.5
55 to 64 years	1.7	9.8
65 to 74 years	1.1	5.7
75 or more years	0.5	1.6
Area of Residence		
Metropolitan Adelaide	2.3	82.9
SA Country (rural and remote)	1.4	17.1
Marital Status		
Married/De Facto	1.8	59.3
Separated/Divorced	2.4	8.1
Widowed	1.4	4.1
Never Married	3.1	28.5
Highest educational qualification obtained		
Secondary	2.4	63.4
Trade/Apprenticeship/Certificate/Diploma	1.8	26.0
Degree or higher	1.3	10.6
Work status		
Employed full-time	1.8	35.0
Employed part-time	3.7	33.3
Unemployed	3.6	8.1
Home duties/student/retired/other	1.3	23.6
Housing/dwelling status		
Owned or being purchased by the occupants	1.6	64.8
Rented from the Housing Trust	5.7	13.9
Rented Privately	3.6	20.5
Other	3.1	0.8
Gross annual household income		
Less than \$20,000	1.9	20.5
\$20,000 to less than \$40,000	2.3	23.0
\$40,001 to less than \$80,000	2.1	30.3
\$80,001 or more	2.2	16.4
Not stated	1.6	9.8
Overall	2.0	100.0

Source: Centre for Population Studies in Epidemiology, 2001.

Looking at other age groups, problem gambling is concentrated among the younger and middle age groups. While persons aged 18 to 54 years comprise 69 per cent of the South Australian adult population, they account for the bulk (83 per cent) of South Australia problem gamblers. Higher representation from the younger and middle age groups partially reflects greater participation in gambling activity by this broad age group (71 per cent of all gamblers are aged between 18 and 54 years of age); it also reflects higher participation by younger persons in gaming machine gambling whereby problem gambling is more highly associated with this form of gambling.⁵⁷

An interesting finding from the CPSE survey is a lower prevalence of problem gambling for the South Australian rural and remote areas (1.4 per cent) compared to the Adelaide metropolitan area (2.3 per cent). Initially this outcome makes intuitive sense as it would be expected that regional areas, with more sparsely distributed populations, would have relatively fewer gaming machines and therefore lower participation in gaming machine gambling. However, other indicators of gaming machine gambling indicate a relatively higher prevalence rate for problem gambling in the Provincial Cities.

The Centre requested the CPSE group to disaggregate the rural and remote figure in Table 4.7. They pooled the postcodes the Centre provided to create a “provincial centres variable” from which the percentage of frequent and problem gamblers were calculated. The sample size was very small. We were provided with an analysis which indicated that the proportion of “problem gamblers” in the relevant postcodes was 1.4 per cent (the actual figure was 1.49 per cent which should be rounded to 1.5 per cent) within a possible range from 0.7 to 3.2 per cent. We cannot accept this estimate of 1.4 per cent for the reasons set out below, and for the potential problems associated with telephone poll surveys considered earlier in this report (see also Appendix B). In addition, telephone poll surveys are likely to seriously underestimate representation of the indigenous population, which is another important consideration for the Provincial Cities. Moreover, in 4.2.4 we report consistent findings for States and regions of evidence of a positive relationship between the prevalence of problem gambling, and the concentration and availability of gaming machines.

Data examined in Section 3.2 has already shown that the Provincial Cities have a significantly higher gaming expenditure per adult and relatively more gaming machines and venues compared to the average for South Australia. A relatively higher share of gaming machine expenditure points to a higher prevalence of problem gambling in the Provincial Cities (otherwise recreational gamblers would be gambling excessively high amounts on gaming machines). Relatively higher expenditure is also consistent with a higher incidence of gaming machines and venues in the Provincial Cities that would seemingly encourage greater participation in gaming machine gambling, and therefore generate a higher degree of problem gambling. This is one important reason why the Centre decided against using the CPSE’s estimated rural prevalence rate of problem gambling to estimate the number of problem gamblers for the Provincial Cities.

⁵⁷ For instance, Productivity Commission survey data indicates that 56 per cent of all Australians aged 18 to 24 years played gaming machines in the 12 months prior to the Commission’s survey compared to 39 per cent of all adults. Meanwhile, the Productivity Commission estimated the prevalence of problem gambling at 4.7 per cent for gaming machine gamblers compared to 2.6 per cent for players engaged in all commercial gambling activities.

The demographic profile of problem gamblers does provide some evidence that economically disadvantaged individuals are more susceptible to problem gambling. For example, the prevalence rate is higher for persons who are unemployed (3.6 per cent), work only part-time (3.7 per cent) and rent from the Housing Trust (5.7 per cent). The prevalence rate is also higher for individuals with lower educational qualifications. The prevalence of problem gambling is fairly even across all income ranges, suggesting little correlation between economic disadvantage and vulnerability to problem gambling. Again this finding is supported by the experience of Break Even professional counsellors.

In conclusion, the demographic profile indicates that problem gambling occurs across a wide spectrum of demographic characteristics. This is consistent with feedback from the network of Break Even counsellors. That is, anyone may potentially develop problems associated with gambling except perhaps persons aged 75 years and over. However, there is evidence that some individuals may be more susceptible to developing gambling problems (e.g., unemployed, never married, those with lower educational attainment and those renting from housing trust).

From its survey data, the Productivity Commission discovered that problem gambling was higher among gaming machine gamblers compared to gamblers who favoured other forms of gambling. This finding is indirectly confirmed by the CPSE survey data, which shows that the majority of South Australia problem gamblers (91 per cent) had played gaming machines in the 12 months prior to the survey (see Table 4.8). Although the data does not explicitly confirm a higher prevalence rate among gaming machine gamblers, it is highly suggestive of problem gambling being more highly associated with gaming machines. In this respect, Gambling Helpline data for the first quarter of 2001 provides further evidence of high gaming machine related problem gambling. Of those callers who reported a preferred form of gambling, 90 per cent indicated gaming machines as a preferred form of gambling. Again, this is consistent with the experience of counselling groups as reported to the Centre.

Table 4.8
Problem Gamblers by Type of Gambling Activities Undertaken
South Australia - 2001

Gambling Activity	Number	Per cent
Gaming machines	111	90.6
Lotto/lottery games (including Powerball, Pools, Super 66)	105	85.3
Instant scratch tickets	82	66.6
Keno	74	60.5
Racing (horse/greyhound)	53	43.2
Casino table games	25	20.7
Private Gambling (e.g., cards, mah-jongg)	23	18.8
Sportsbetting	15	12.3
Bingo at a club or hall	14	11.8
Internet gambling	1	0.4

Source: Centre for Population Studies in Epidemiology, 2001.

The higher association of problem gambling among gaming machine gamblers is largely due to the continuous nature of this form of gambling i.e., participants may continually make bets subject to available funds. On all evidence there is no reason to dispute this and we have not found any suggestion to the contrary in the literature. In addition, because gaming machines are installed in hotels and clubs, they are more readily available compared to other forms of gambling. For example, the lotto can only be played several times per week whereas gaming machines may be played continuously during opening hours for hotels and clubs.

Other popular forms of gambling undertaken by problem gamblers include lotteries (85 per cent), instant scratch tickets (67 per cent) and keno (60.5 per cent).

While the Productivity Commission found that problem gambling was in fact highest amongst gamblers who played casino table games, this form of problem gambling represents less of a problem than gaming machine related problem gambling because gaming machines are played by a much larger number of people (CPSE data shows that 36 per cent of South Australians played gaming machines while only 5 per cent played casino table games). Casino table game related problem gambling would certainly be only a minor problem in the Provincial Cities where this form of gambling is unavailable. Clearly and irrefutably, the product should receive as much attention in public policy terms as does the problem gambler.

Problems with gambling — and therefore the social costs of gambling — may be sustained over very long periods. Table 4.9 reports self-diagnosed South Australian problem gamblers by length of time of gambling problem in the past. Approximately 20 per cent of all South Australian problem gamblers have experienced a problem with gambling that has lasted between 1 and 2 years. A further 15.5 per cent have had a problem that has lasted 3 or more years.

Table 4.9
Length of Time had Gambling Problem¹ in the Past by Frequent and Problem Gamblers
South Australia - 2001

Variable	Frequent Gamblers ² Per cent	Problem Gamblers Per cent	Total Per cent
Less than 12 months	17.7	56.5	44.3
1 to 2 years	37.9	19.6	25.3
3 to 5 years	10.9	10.7	10.8
10 to 30 years	26.6	4.8	11.6
Can't say	7.0	8.4	8.0
Total	100.0	100.0	100.0

Note: ¹ Self-diagnosed problem gamblers

² Defined as persons who gambled at least once a fortnight on all gambling activities excluding lotto and bingo.

Source: Centre for Population Studies in Epidemiology, 2001.

While a large proportion of problem gamblers who experienced a past problem with gambling indicated that their problem lasted less than 12 months (44 per cent of problem gamblers), only a small proportion of those with a current gambling problem (15 per cent) reported having a problem for the same length of time. In fact, 50 per cent of self-

diagnosed problem gamblers reported having a current gambling problem which has lasted between 2 and 5 years. It would seem that the liberalisation of gambling activities — especially gaming machines — over recent years has not only increased the number of problem gamblers, but also possibly the average length of time over which gambling problems are sustained.

Gambling Helpline data provides insight into the motivations driving South Australian problem gamblers to gamble. Data showing Gambling Helpline callers by their motivation to gamble and gender is presented in Table 4.10. The main motivations for gambling — boredom, depression, financial matters and stress — are all negative influences. This provides some evidence that other underlying factors may be the main cause of a caller's gambling problem rather than "addiction" to gambling.

Table 4.10
Gambling Helpline Callers by Motivation to Gamble by Gender*
South Australia - March quarter 2001

Motivation	Number			Per Cent of Total Population		
	Male	Female	Total	Male	Female	Total
Anxiety	15	30	45	3.3	4.7	4.1
Boredom	67	92	159	14.6	14.4	14.5
Depression	42	79	121	9.2	12.4	11.0
Stress reduction	44	59	103	9.6	9.2	9.4
Financial	55	63	118	12.0	9.9	10.8
Life event	7	28	35	1.5	4.4	3.2
Loneliness	28	27	55	6.1	4.2	5.0
Peer pressure	3	1	4	0.7	0.2	0.4
Relationship	5	13	18	1.1	2.0	1.6
Social	22	16	38	4.8	2.5	3.5
Pleasure	6	13	19	1.3	2.0	1.7
Excitement	24	36	60	5.2	5.6	5.5
Entertainment	38	43	81	8.3	6.7	7.4
Other	3	4	7	0.7	0.6	0.6
Not known	99	134	233	21.6	21.0	21.3
Total	458	638	1096	100.0	100.0	100.0

Note: * Multiple responses were allowed for this question.

Source: Gambling Helpline, South Australia, Quarterly Report, March quarter 2001.

4.2.3 Estimated Cost of Problem Gambling

The main social costs of gaming machines are those costs related to problem gambling. These various social costs, which apply to problem gamblers from all gambling modes, were summarised earlier in Section 2.2.2.

The Centre has used Productivity Commission estimates of the social costs of problem gambling to estimate the social costs of gaming machine related problem gambling for the Provincial Cities.

The Productivity Commission grouped the various social costs of problem gambling into the following categories:

- financial impacts (bankruptcy, family debts);
- effects on productivity and employment;
- crime and legal costs (imprisonment, court cases);
- personal and family impacts (depression, attempted suicide, divorce); and
- treatment costs.

Given the inherent difficulties and numerous uncertainties involved in quantifying the social costs of problem gambling, the Productivity Commission presented high and low cost estimates for each adverse social impact where appropriate. This was particularly important for intangible impacts — e.g., depression, emotional distress of family members and thoughts of suicide — where the degree of impact varies from person to person, making it almost impossible to provide a point estimate of the social cost of the adverse impact.

The high and low cost estimates in some cases were based on “a range of the dollar values ascribed to the consequence, and in others a range in the number of people affected”.

In most cases, the number of people affected by certain adverse consequences was determined from the results of the Productivity Commission’s *National Gambling Survey*. So for example, the Commission’s survey indicated that almost 5,600 people had to change jobs as a result of their gambling. This figure was subsequently used to calculate the employment related costs of problem gambling (i.e., earning loss, employee job search costs and employer staff replacement costs).

In the previous section it was observed that other factors (e.g., divorce, breakup of a relationship) might potentially be the originating source for the adverse impacts experienced by problem gamblers rather than gambling activities themselves. In recognition that gamblers might continue to experience problems in the absence of gambling, the Productivity Commission, following a discussion with problem gambling researchers, “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”.

Before proceeding to the quantitative estimates of the social costs of problem gambling, it should be noted that the Productivity Commission’s estimates are potentially understated. Due to a lack of adequate information (for both the prevalence and costs of certain impacts) and the inherent difficulty in measuring certain impacts, the Commission has tended to err on the conservative side for some estimates (especially intangible benefits which are often found to be very large), while other potential impacts have not been estimated. In particular, the Productivity Commission (1999) did not provide cost estimates 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 rarely or sometimes depressed; and
- actual suicides caused by gambling.⁵⁸

The Productivity Commission's per person and aggregate estimates of the adverse social costs of problem gambling for Australia are presented in Table 4.11. Note that the aggregate results refer to problem gambling costs associated with all forms of gambling rather than just gaming machines.

In aggregate terms, the social cost of problem gambling is estimated to range from a low of \$1.8 billion to a high of \$5.6 billion. The largest component of social costs is clearly those intangible costs related to family and personal impacts (e.g., depression, thoughts of suicide), which are the most difficult to estimate quantitatively. For example, the largest single cost item is the emotional distress experienced by the immediate family members of severe problem gamblers, which is estimated at between \$756 and \$2,267 million.

For our purposes, of more interest is the social cost per problem gambler. On the basis of the Productivity Commission's estimated number of total problem gamblers (292,737 persons), the aggregate estimates imply that the total social cost of problem gambling ranges from a low of \$6,000 per problem gambler to a high of \$19,000 per problem gambler. The Centre has used these estimates, together with the estimated number of gaming machine problem gamblers, to calculate the social cost of gaming machine related problem gambling for the Provincial Cities. These estimates are presented Sections 4.2.5.

⁵⁸ Productivity Commission, p. 9.10. For further information on the methodology used by the Productivity Commission to estimate the social costs of problem gambling, please consult the Commission's report into *Australia's Gambling Industries*.

Table 4.11
Estimated Individual and Aggregate Costs of Problem Gambling
Australia - 1999

Impact	People Impacted Number	Per Person Cost Assumption		Total Cost	
		Low \$	High \$	Low \$ million	High \$ million
Financial					
<i>Bankruptcy</i>	317	4,000	4,000	1.3	1.3
Productivity and employment					
<i>Productivity loss at work</i>	7,000-49,200	3,000	3,000	21	150
<i>Productivity loss outside work</i>				7.2	50
<i>Earnings loss</i>	5,600	4,300	4,300	24	24
<i>Employee job search</i>	5,600	2,400	2,400	13	13
<i>Employer staff replacement cost</i>	5,600	3,900	3,900	22	22
Crime and legal costs					
<i>Cost of police incidents</i>	6,300	510	510	3.2	3.2
<i>Court cases</i>	700	8,000	8,000	5.6	5.6
<i>Jail costs*</i>	336	15,000	15,000	5.1	5.1
Personal and family					
<i>Emotional distress of immediate family members^a</i>					
Moderate PGs	190,901	ne	ne	ne	ne
Severe PGs	151,129	5,000	15,000	756	2,267
<i>Emotional distress of parents^b</i>					
Moderate PGs	168,200	ne	ne	ne	ne
Severe PGs	133,200	0	5,000	0	666
<i>Breakup of a relationship^c</i>					
Gambler	28,800	5,000	15,000	144	432
Other party	28,800	5,000	15,000	144	432
<i>Divorce and separation</i>					
Gambler and family	12,107	15,000	30,000	182	363
<i>Violence</i>	551	5,000	15,000	2.8	8.3
<i>Depression^d</i>					
Rarely to sometimes	108,320	ne	ne	ne	ne
Often to always	46,160	5,000	15,000	231	692
<i>Seriously thought of suicide^e</i>					
Gambler	7,972	15,000	30,000	120	239
Immediate family	5,377	15,000	30,000	81	161
Parents	4,212	0	5,000	0	21
<i>Effective suicides</i>	35-60	ne	ne	ne	ne
Gambling counselling services				20	20
Total				1,800	5,586

Note: PG Problem gambler. ne Not estimated. * Per person cost assumption based on annual per prisoner cost of \$52,983 and average jail duration time of 3.4 months. ^a Excludes breakdown of a relationship, divorce and separation and attempted suicide numbers who are estimated separately. ^b Excludes attempted suicide group who are estimated separately, and parents for whom the gambler reported 'no effect at all'. ^c Excludes divorce and separation numbers. ^d Excludes subsequent suicide groups. ^e excludes attempted suicide group. All number include a causality adjustment.

Source: Productivity Commission, 1999.

It should be recognised that the Productivity Commission estimates of the social costs of problem gambling include some internal costs of problem gambling in addition to the external costs of problem gambling. This decision has caused some controversy because traditionally only external costs — costs that are imposed involuntarily on third parties who were not party to the decision to undertake the activity — are included in cost-benefit analysis. However, to the extent that internal costs result from the public availability of a good (i.e., gaming machines), which induces irrational behaviour in individuals (i.e., problem gambling) that can often only be curbed by third-party intervention (e.g., by counselling services and/or the State through regulation of access), then it seems reasonable to treat such internal costs as social costs.

4.2.4 The Extent of Problem Gambling: A Review of the Base Case

The most common test used to estimate the prevalence of problem gambling is the South Oaks Gambling Screen (SOGS) developed by Lesieur and Blume (1987). The SOGS is a 20-item questionnaire, which elicits information on respondents' gambling behaviour that is considered indicative of problem gambling behaviour. For example, respondents are asked whether they have gambled more than they intended to, have borrowed money to gamble or pay gambling debts, feel they have a problem with gambling and have ever been criticised by others over their gambling behaviour. Affirmative responses are awarded a value of 1 while negative responses receive no score. On a scale of 0 to 20, respondents who score 5 or more are considered "probable pathological" gamblers.

Although the SOGS is widely used by researchers and rehabilitation professionals, the use of SOGS has attracted criticism. In particular, some Australian researchers argue that because Australia has a strong culture of gambling, a cut-off score of 5 or more results in an unacceptably high number of respondents being falsely identified as problem gamblers (otherwise known as a false-positive coding). Some Australian researchers have attempted to overcome this problem by adopting a threshold of 10 or more (Marshall, M., 1998). An alternative approach is to ask the questions of the SOGS in terms of gambling behaviour over a shorter period (e.g., the last 12 months prior to the interview) rather than over a respondent's lifetime as was originally intended by the SOGS. This approach measures the current prevalence of problem gambling and was adopted by the Productivity Commission.⁵⁹

Because the negative impacts of problem gambling lie on a continuum of varying degrees of severity, choosing the correct threshold depends on "judgements about what levels of severity are policy relevant" (Productivity Commission, 1999). In this sense, the Productivity Commission identified three relevant groups of gamblers:

- gamblers who have no problems (level I gamblers);
- moderate problem gamblers (level II problem gamblers); and
- severe problem gamblers (level III gamblers).

⁵⁹ There are other concerns surrounding the use of SOGS as a measure of the prevalence of problem gambling - see the Productivity Commission's *Australia's Gambling Industries* (1999) for a thorough discussion of these issues in an Australian context. Despite these concerns, the SOGS remains the best measure available for estimating the number of problem gamblers.

Severe problem gamblers are those gamblers who experience severe negative problems from gambling (e.g., depression, suicide thoughts, divorce and crime) and require “intervention by help services”. Moderate problem gamblers are those who have “public health or other risks which are significantly higher than the average”. This group experiences problems of less severity than severe problem gamblers (e.g., chasing losses, guilt, some depression and high expenditures) but are of policy significance because governments may wish to adopt preventative measures (e.g., public awareness campaigns, regulatory measures) that reduce the likelihood of this group from developing severe gambling problems (Productivity Commission, 1999).

To determine the appropriate thresholds for estimating the number of moderate and severe problem gamblers, the Productivity Commission compared the number of moderate and severe problem gamblers estimated using 5 or more and 10 or more on the SOGS respectively, against other indicators of problem gambling derived from the Commission’s *National Gambling Survey*. These other indicators included self-perceptions questions about gambling problems, questions that identified harmful impacts from gambling and questions which revealed the need to obtain help with gambling problems.

In terms of severe problem gamblers, the Commission found that a SOGS of 10 or more tended to underestimate the number of severe problem gamblers. The Productivity Commission overcame this problem by using the Dickerson method to estimate the number of severe problem gamblers. This approach involves applying the following different weights to respondents 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 Dickerson method was found to adequately measure the number of severe problem gamblers. The number of moderate problem gamblers was calculated as the number of persons who scored 5 or more on the SOGS less the estimated number of severe problem gamblers using the Dickerson method.

On the basis outlined above, Table 4.12 presents Productivity Commission estimates of the number of moderate and severe problem gamblers by State for all gambling activities. Nationally, 2.1 per cent of the adult population (approximately 293,000 adults) is estimated to have significant problems with gambling. Of these adults with gambling problems, approximately 130,000 (around 1 per cent of the adult population) have severe gambling problems while an estimated 163,000 (1.15 per cent of the adult population) have moderate gambling problems.

Interestingly and importantly, the comparison of state prevalence rates provides evidence of a positive relationship between the prevalence of problem gambling and the supply/availability of gambling activities. States with high concentrations of gaming machines and other forms of gambling, such as New South Wales and Victoria, have high prevalence rates (2.55 and 2.14 per cent respectively), while those with no gaming machines and/or limited gaming activities, such as Western Australia and Tasmania, have low prevalence rates (0.7 and 0.44 per cent respectively). This pattern would

suggest that the Provincial Cities, which have significantly more gaming machines relative to South Australia as a whole, would also potentially have a greater prevalence of problem gambling than South Australia.

Unfortunately, the Productivity Commission estimates of the prevalence of problem gambling appear unreliable for South Australia - they are relatively high compared to other states, especially for the SOGS 10+. The Commission argued that this was probably due to sampling error. Nevertheless, on the basis of the questionable Productivity Commission data, 2.45 per cent of the South Australian adult population (almost 28,000 adults) is estimated to have problems with gambling. If this estimate were accurate (and there are reasons to doubt the accuracy based on sampling error), then only New South Wales (2.55 per cent) would have a higher prevalence of problem gambling.

Table 4.12
Productivity Commission Estimate of the Prevalence of Problem Gambling
States and Territories - 1999

State/Territory	Number			Per cent		
	Moderate	Severe	Total	Moderate	Severe	Total
New South Wales	62,502	59,798	122,300	1.30	1.25	2.55
Victoria	46,951	28,974	75,925	1.32	0.82	2.14
Queensland	28,944	19,665	48,609	1.12	0.76	1.88
Western Australia	7,195	2,353	9,548	0.53	0.17	0.70
South Australia	12,182	15,627	27,809	*	1.38*	*
Tasmania	1,221	305	1,526	0.35	0.09	0.44
Australian Capital Territory	2,959	1,629	4,588	1.33	0.73	2.06
Northern Territory	1,433	998	2,431	1.12	0.77	1.89
Australia	163,388	129,349	292,737	1.15	0.92	2.07

Note: * 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: Productivity Commission, 1999.

Following the completion of a Gambling Research Forum held in Adelaide in July of 2000, the Minister for Human Services commissioned (on the advice of the Gambling Research Reference Group) a telephone survey of gambling patterns in South Australia. The study, coordinated by the Centre of Population Studies in Epidemiology (CPSE), provides a more robust estimate of the prevalence of problem gamblers in South Australia.⁶⁰

While the CPSE also used the South Oaks Gambling Screen to estimate the number of problem gamblers, it used a slightly different methodology for estimating the prevalence of problem gambling. Like the Productivity Commission study, problem gamblers were defined as persons who scored 5 or more on the SOGS scale, however, in addition, respondents who rated their gambling problem as 5 or more on a linear scale of 1 to 10 (but did not score 5 or more on the SOGS) were also identified as being a problem gambler. Using this method, CPSE estimates that 2.0 per cent of the South Australia

⁶⁰ The initial sample size was 6,045 adults compared to 1,000 adults for the Productivity Commission study.

adult population are problem gamblers, approximating the Productivity Commission estimated of 2.1 per cent of the Australian adult population. Curiously, CPSE states that this represents around 22,000 adults, however applying this proportion to the estimated resident adult population for June 2000⁶¹ reveals that this represents more than 23,000 adult South Australians.

Unfortunately the CPSE provides no estimate of the number of severe and moderate problem gamblers. Given that it is useful to do so for both comparative and policy purposes, the Centre has largely followed the methodology of the Productivity Commission to estimate the number of moderate and severe problem gamblers from disaggregated CPSE data. The only difference between the Centre and Productivity Commission approach is that to the extent respondents self diagnosed themselves as having a significant gambling problem but did not score 5 or more on the SOGS, then the Centre classified these respondents as moderate problem gamblers rather than excluded them altogether.⁶² The Centre's estimates, together with the Productivity Commission's estimated problem gambling prevalence rates for South Australia and Australia are presented in Table 4.13.

Table 4.13
Comparison of Prevalence Rates
Australia and South Australia - 1999 and 2001

	SACES ¹	Productivity Commission (1999)	
	South Australia	South Australia	Australia
	Number		
Moderate	13,063	12,182	163,388
Severe	10,412	15,627	129,349
Total	23,475	27,809	292,737
	Per cent of Adult Population		
Moderate	1.14	1.07	1.15
Severe	0.91	1.38	0.92
Total	2.05	2.45	2.07

Note: ¹ Based on CPSE 2001 telephone survey.

Source: Productivity Commission, 1999 and Centre for Population Studies in Epidemiology (CPSE), 2001.

Using the CPSE survey data, approximately 1.14 per cent of the South Australian adult population (around 13,000 adults) are estimated to have moderate problems with gambling while 0.9 per cent (10,000 adults) are estimated to experience severe problems with their gambling. Significantly and importantly, the Centre's estimate for the prevalence rate of severe and moderate problem gamblers for South Australia derived from CPSE data is almost identical to the prevalence rates estimated for Australia by the Productivity Commission.

⁶¹ ABS, AUSSTATS, Population by Age and Sex, (3201.0).

⁶² The inclusion of self-identified problem gamblers represents an upward bias to the Centre's estimate of the number of moderate problem gamblers relative to the Productivity Commissions.

The overall estimate of the prevalence of problem gambling for South Australia based on CPSE data (2.05 per cent) is significantly lower than the estimate based on Productivity Commission data for South Australia (2.45 per cent), a result which tends to substantiate the view that sampling error for South Australia was present in the Commission's study. In particular, the number of severe problem gamblers is estimated to be significantly lower (by around 5,000 adults) using the CPSE data (see Table 4.12).

We first ask the question — what does the prevalence rate of 2.1 per cent (estimated in the Productivity Commission study) imply for the Provincial Cities if the key assumption of the Productivity Commission — that the proportion of problem gamblers is constant across the country — holds true. Recall that this assumption is based on similar penetration rates of machines, in the number of venues, that regions are similar in their demographic profile, income levels and so forth. The results for the Provincial Cities are shown in Table 4.14.

Table 4.14
Estimated Number of Problem Gamblers Based on
Productivity Commission Prevalence Rates
Provincial Cities - 1999

	All Problem Gamblers			Gaming Machine Problem Gamblers
	Moderate	Severe	Total	
Berri Barmera	97	77	174	153
Loxton Waikerie	106	85	190	168
Renmark Paringa	83	66	149	131
Riverland	285	228	513	452
Mount Gambier*	263	210	473	416
Murray Bridge	143	115	258	227
Port Augusta	114	91	206	181
Port Lincoln	109	87	196	173
Port Pirie	154	123	277	243
Whyalla	197	158	354	312
Total Provincial Cities	1,197	958	2,155	1,896
South Australia	13,084	10,467	23,551	20,722

Note: * Includes population of Grant (DC).

Source: Productivity Commission, 1999, and ABS, Population by Age and Sex, (3235.4).

Considering first, the estimates of problem gamblers for all gambling modes, the Productivity Commission incidence rates indicate that there are approximately 2,155 problem gamblers in the Provincial Cities. Of these problem gamblers, 1,197 experience moderate problems (i.e., all forms of gambling) with their gambling behaviour while 958 have severe problems. Because these estimates are based on population prevalence rates, absolute differences in the number of problem gamblers between Provincial Cities will reflect differences in population. Therefore, the Provincial Cities with the greatest number of problem gamblers — the Riverland, Mount Gambier and Whyalla — are those cities with the largest populations. Data summarised in Table 4.13 can be understood as the 'base case', assuming that there are no differences between regions,

regional profiles, States and the national average. In fact, we know that this is not the case.

Data from the Productivity Commission's *National Gambling Survey* indicates that 39 per cent of the Australian adult population had played gaming machines in the 12 months prior to the survey. Furthermore, the Commission has determined that 4.67 per cent of all gaming machine gamblers are problem gamblers. Using these two figures, it is estimated that there are 1,896 gaming machine problem gamblers in the Provincial Cities compared with 2,155 in total. This provides important insight into the impact of gaming machines on problem gambling — gaming machines are found to account for an overwhelming majority (88 per cent) of all problem gamblers.

It should not be interpreted that in the absence of gaming machines there would be 1,896 fewer problem gamblers in the Provincial Cities. Some proportion of these problem gamblers would continue to experience problems with gambling even in the absence of gaming machines, especially if their gambling problem is the result of other factors (e.g., family breakup, unemployment etc). Nevertheless, these problem gambler estimates provide strong evidence that the introduction of gaming machines have significantly increased the social costs of problem gambling in the Provincial Cities and South Australia. The data confirms the experience and survey responses from counsellors and health professionals reported earlier — specifically, that up to 90 per cent of clients have a gambling problem as a result of EGMs and not other forms of gaming.

4.2.5 Social Costs

Estimates of the number of problem gamblers in each of the Provincial Cities, produced using the Productivity Commission's incidence data, have just been discussed at 4.2.4. Recall that a key assumption required for these calculations (and adopted by the Commission) was that the proportion of problem gamblers is constant across the country. This assumption was necessary as the Productivity Commission did not report regional data on the incidence of problem gambling.

However, the use of national prevalence estimates are unlikely to reflect the diversity of regional experiences. This means, that for those regions with demographic profiles identified in Section 4.1.1 as 'high risk' in terms of gambling expenditure these are likely to be lower bound estimates.

For example, if national prevalence data was appropriate for Berri Barmera then, based on its expenditures, either the *average* problem gambler would have to have spent \$22,000 per annum (national average \$10,650) if non-problem gambler's expenditure was average, or the average non-problem gambler would have spent \$1,240 (national average \$710) if problem gambler's spending was average. Neither explanation (nor some intermediate point where both problem gambler and non-problem gambler expenditures are well above the national average) seems particularly credible given that average income for the council is below the national average.

A much more accurate picture of the extent of problem gambling in the Provincial Cities is required — and is available — through using a variant of the gaming expenditure per problem gambler approach.

In order to try and address this problem, the Centre sought to devise a methodology whereby estimates of the incidence of problem gambling in a particular region could be produced from existing data. This alternative approach used data from the Productivity Commission on average national net gaming revenue per non-problem and problem gambler to calculate the average proportion of after tax income spent by each type of gambler. By making the assumption that these averages were constant between regions, average net gaming revenue estimates could be calculated for both types of gambler in each region. In order to allow for the more important role hotels play in the community life of rural and regional South Australia we have assumed that, as a proportion of income, expenditure in rural and regional South Australia is 10 per cent higher than the national average. As a balance to this we have also assumed that expenditure in Adelaide is slightly lower than the national average, such that the State average equals the national average. This data was then combined with information on overall participation in gaming to estimate the number of problem gamblers implied by each of the city's expenditure levels. As a check the Centre sent its methodology and results to staff at the Productivity Commission for a review. They concluded that, providing it was only applied to councils or regions where the assumptions made were reasonably close to the 'facts on the ground', the approach appeared methodologically sound and was a reasonable (and imaginative) way of proceeding.

Three key assumptions were made by the Centre in order to implement the methodology. It was assumed that:

- A the proportion of persons using electronic gaming machines in regions other than the Provincial Cities reflects the results of the CPSE survey (i.e., 37.5 per cent in Adelaide and 33.2 in rural South Australia). For the Provincial Cities we have applied the Productivity Commission's participation rate for South Australia (Vol. 3, p. B.2) of 41 per cent to reflect the greater role of hotels in these cities;
- B heterogeneous preferences regarding gambling expenditure within each type of region (Adelaide and non-metropolitan South Australia), for both problem and non-problem gamblers; and
- C expenditure in each region by visitors is offset by expenditure by locals in other regions.

The extent to which these assumptions appear to be reasonable determines whether or not the methodology is appropriate for a particular region. In the case of the Provincial Cities the Centre believes that the model is a useful tool as the assumptions appear to hold. The reasons for this belief are that there is no evidence that participation in gaming for the Provincial Cities differs markedly from the state average. The Provincial Cities are also reasonably dense geographically, hence most of the population has reasonable access to gaming machines. Also, because they are not part of broader conurbations it seems reasonable to assume that the vast majority of expenditure on electronic gaming machines within the Provincial Cities is made by local residents (with spending by tourists essentially offset by spending by local residents whilst in other regions).

Box 1 Calculation Methodology

The first stage in our calculation methodology is to determine the proportions of average income spent nationally by non-problem and problem gamblers.

Let $a = (R1/npng)/Y1$, where R1 is the net gaming revenue due to non problem gamblers, npg is the number of non-problem gamblers (both based on data in the Productivity Commission's report) and Y1 is average income per non-problem gambler.

Similarly, let $b = (R2/pg)/Y2$, where R2 is the net gaming revenue due to problem gamblers, pg is the number of problem gamblers (with both estimates again coming from the Productivity Commission's report) and Y2 is average income per problem gambler.

Assume $Y1 = Y2 = Y$, where Y is average national disposable income (defined as Total Income minus Net Tax⁶³ divided by the number of adults). This assumption means that we are assuming that problem gambling is broadly even distributed between income levels. Evidence from the Productivity Commission's report on Gambling suggests this is probably a reasonable assumption, though it may obviously not be true in all regions. Also note that $R1 + R2 = R$, where R is total net gaming revenue.

We know that total net gaming revenue can be expressed as follows:

$$R_m = (R1_m * npg_m) + (R2_m * pg_m)$$

In any given region we know the regional disposable income Y_m (from TaxStats data) where the subscript 'm' refers to a specific region. We can then specify the regional expenditure function in terms of income (which we know) rather than the regional expenditures by problem and non-problem gamblers (which we don't know).

$$R_m = (aY_m * npg_m) + (bY_m * pg_m)$$

We also know R_m (total gaming revenue) and g_m (the number of gamers). Since $npng_m = g_m - pg_m$, we can substitute this into the equation leaving only one unknown - the number of problem gamblers.

$$R_m = (aY_m * (g_m - pg_m)) + (bY_m * pg_m)$$

This equation can then be rearranged and solved for pg_m to produce an estimate of the number of problem gamblers in the region m :

$$pg = (R_m - (aY_m * g_m)) / (bY_m - aY_m)$$

Reviewing Assumption A:

Turning to the implications of the assumptions not being met, if the actual overall proportion of South Australian's who gamble was below the CPSE estimates then the model would tend to understate regional problem gambler numbers. Conversely if the CPSE estimate understates the number of South Australians participating in gaming then the model would overstate the extent of regional problem gambler numbers.

⁶³ Both from 1998/99 TaxStats data.

Reviewing Assumption B:

If preferences were not heterogeneous within regions for each gambler type then the model would tend to overestimate the number of problem gamblers in high expenditure regions, and underestimate it for low expenditure regions. The most likely cause of preferences not being heterogeneous would be in rural councils where the significant distance between many residents and the hotels or clubs of the region means that an average gambler would gamble less often and generally spend less because of the inconvenience of gambling.

Reviewing Assumption C:

If the assumption of local expenditure did not hold then the model would overestimate the number of problem gamblers in regions which cater to gamers from neighbouring councils and under estimate numbers for councils with few gaming facilities which saw their gamblers go to neighbouring regions. This would suggest that the model is not appropriate for councils such as the Adelaide City Council (covering the CBD), and certain other metropolitan councils which act as “entertainment hubs” for several councils.

Prior to discussing the results of these calculations we reiterate that national prevalence data does not reflect the diversity of regional experience (and expenditure data) while the demographic profile of regions indicates varying degrees of risk. If national prevalence data was appropriate, based on expenditure data in the regions then, looking at Berri-Barmera (but the basic argument holds for all Councils):

- the average problem gambler would have to have spent \$22,000 per annum (more than twice the national average of \$10,650) if non-problem gamblers expenditure was average; or
- the average non-problem gambler would have spent \$1,240 per annum (when the national average is \$710) if problem gambler’s spending was average.

Again, we believe that neither explanation nor some intermediate point where both problem gambler and non-problem gambler expenditures are well above the national average seems credible given that average income for the Councils is below the national average.

Table 4.15 displays the results of these calculations for each of the Provincial Cities as well as regional aggregates. The number of problem gamblers is estimated at 3,097 persons or 2.81 per cent of the adult population. For the state as a whole these calculations imply a slightly smaller number of problem gamblers, however for the Provincial Cities they imply much higher numbers of problem gamblers than were estimated using national average prevalence data. In order to further test and substantiate these estimates, the Centre wrote to Break Even Gambling services in each of the towns or regions and posed a series of questions to the individual agencies to provide a confidential estimate of problem gamblers for the cities/towns shown in Table 4.15. The Centre’s estimate of the number of problem gamblers was not provided to the agencies. All agencies responded. The totals provided by the agencies for all regions represents 92 per cent of the Centre’s estimate; in three cases the estimate was slightly

above that of the Centre and in four cases just slightly below. Overall the agencies indicated theirs were conservative estimates and in most cases did not include indigenous problem gamblers who tend not to use mainstream services. The unseen estimates provided by the Break Even gambling services support the Centre's calculations which are based on known population data and net gaming revenue.

With the exception of Loxton Waikerie, all of the Provincial Cities have an above average proportion of problem gamblers in their population. Berri Barmera appears to have the worst problem, followed by Port Augusta, Murray Bridge and Port Lincoln.

In contrast to the Provincial Cities, estimated problem gambling for the rest of regional South Australia is well below the state average. Part of this lower preponderance of problem gambling is likely to be due to a lack of opportunity to gamble given the geographic spread of many of the state's rural and regional councils. However the Provincial Cities' higher population densities cannot be the only explanation, as the average estimated prevalence of problem gambling for the Adelaide metropolitan area is broadly in line with the state average. That is to say, the higher number of problem gamblers is not simply due to a higher population density in the respective cities or towns. There are other factors at play here, and the Centre has noted that higher expenditure is related to other risk factors (see Section 4.1.1.).

Table 4.15
Prevalence of Electronic Gaming Machine Related Problem Gambling
South Australian Provincial Cities: 1998/99

	Adult Pop.	After tax income	Gamers	Non-Problem Gamers	Problem Gamers		Ave. loss per NPG ³	Ave. loss per PG ³
	(No.)	(\$)	(No.)	(No.)	(No.)	(% of Adults)	(\$)	(\$)
Berri Barmera	8,422	13,720.27	3,453	3,059	394	4.68	685.19	9,343.23
Loxton Waikerie	9,200	13,566.50	3,450	3,323	127	1.38	677.51	9,238.51
Renmark Paringa	7,174	13,526.58	2,941	2,732	209	2.91	675.52	9,211.33
Mount Gambier & Grant ¹	22,858	15,284.25	9,372	8,856	515	2.25	763.29	10,408.27
Murray Bridge	12,477	11,692.44	5,115	4,685	430	3.45	583.92	7,962.31
Port Augusta	9,936	12,833.11	4,074	3,709	365	3.67	640.89	8,739.09
Port Lincoln	9,474	14,399.07	3,884	3,566	318	3.36	719.09	9,805.48
Port Pirie	13,365	12,129.28	5,480	5,163	317	2.37	605.74	8,259.80
Whyalla (C)	17,120	13,195.45	7,019	6,599	421	2.46	658.98	8,985.84
Adelaide Metro	869,498	14,780.62	326,062	308,286	17,858	2.06	652.35	10,065.30
Prov City Total	110,025	13,493.16	44,788	41,692	3,097	2.81	673.85	9,188.57
Other Non Metro SA²	154,496	12,140.33	51,957	49,715	2,241	1.43	606.29	8,267.32
Total SA²	1,136,019	14,292.20	422,807	399,693	23,196	2.04	648.87	9,732.70

Notes: ¹ For the purposes of these calculations Mount Gambier and Grant are treated as one region, as Mount Gambier is a significant service point for residents of Grant and much of Grant DC's electronic gaming machine expenditure is likely to occur in Mouth Gambier.

² Other Non-Metro SA and SA Total does not include the unincorporated sections of Flinders Ranges, Lincoln, Murray Mallee, Pirie, Riverland, Whyalla, Yorke and Western.

³ NPG = Non-Problem Gambler, PG = Problem Gambler.

Source: Productivity Commission, Liquor and Gaming Commission, ATO, and ABS calculations SACES.

Having derived estimates for the numbers of problem gamblers in each of the Provincial Cities it is possible to estimate the social cost of problem gambling in each of the cities. The social cost of problem gambling has two dimensions. First there is the direct social cost which results from factors such as increased crime (particularly embezzlement), health impacts on problem gamblers, the cost of relationship breakdown, and the psychic cost of living with a problem gambler to the families of severe problem gamblers. The second source of social costs is 'excess loss' by problem gamblers. This is defined as the difference between the actual money problem gamblers lose, minus the amount they would have lost had their gambling been rational. For these calculations the Centre has used the estimates of direct social cost produced by the Productivity Commission, and has assumed that if they were gambling rationally the average loss for problem gamblers would equal the average loss for their council area.

Table 4.16 outlines the extent of the social costs stemming from problem gambling for South Australia's Provincial Cities. As would be expected based on the distribution of problem gamblers, all of the Provincial Cities except for Loxton Waikerie had substantial social costs from problem gambling on electronic gaming machines. Even if all of the tax revenues (last column) from electronic gaming machines were spent in the council in which they were collected, the benefits of this revenue would still be significantly outweighed by just the excess expenditure by problem gamblers (column: Excess Loss) in the Provincial Cities other than Loxton Waikerie.

Table 4.16
Social Cost of Electronic Gaming Machine Related Problem Gambling
South Australian Provincial Cities: 1998/99

	Social Cost (\$'000)	Excess Loss (\$'000)	Total Social Cost (\$'000)	Tax Revenue (\$'000)
Berri Barmera	2,125.3 to -6,597.8	3,414.0	-5,539.2 to 10,011.8	2,137.0
Loxton Waikerie	-686.1 to 2,130.0	1,089.8	-1,775.9 to -3,219.8	1,170.1
Renmark Paringa	-1,126.0 to -3,495.5	1,783.2	-2,909.2 to -5,278.7	1,369.9
Mount Gambier & Grant	-2,777.2 to -8,621.7	4,969.8	-7,747.0 to -13,591.4	4,966.2
Murray Bridge	-2,319.0 to -7,199.2	3,174.6	-5,493.6 to -10,373.8	2,682.1
Port Augusta	-1,967.3 to -6,107.3	2,955.9	-4,923.1 to -9,063.2	2,204.0
Port Lincoln	-1,716.4 to -5,328.5	2,893.6	-4,610.1 to -8,222.2	2,364.7
Port Pirie	-1,705.9 to -5,295.8	2,422.5	-4,128.4 to -7,718.4	2,293.8
Whyalla	-2,266.6 to -7,036.6	3,501.8	-5,768.4 to -10,538.4	3,502.3
Adelaide Metro	-96,322.7 to -299,029.5	168,222.5	-264,547.3 to -467,255.6	170,813.6
<i>Prov City Total</i>	<i>-16,689.7 to -51,812.4</i>	<i>26,366.3</i>	<i>-43,056.0 to -78,178.7</i>	<i>22,690.1</i>
<i>Other Non Metro SA</i>	<i>-12,080.5 to -37,503.4</i>	<i>17,171.3</i>	<i>-29,251.8 to -54,674.7</i>	<i>18,274.4</i>
Total SA	-125,092.9 to -388,379.5	210,829.8	-335,924.7 to -599,212.8	211,778.1

Source: Productivity Commission, Liquor and Gaming Commission, ATO, and ABS calculations SACES.

Of course the social costs of electronic gaming machines are only part of the picture, their enjoyment by non-problem gamblers also produces a benefit through allowing consumers to spend their money on a good that they value more highly than those which were previously available. There are also benefits to the community through

more funds being available through the taxation of Net Gaming Revenue (NGR) for the delivery of government services.

In calculating the social benefits to consumers the Centre has followed the methodology developed by the Productivity Commission. They identified two sources of community benefit as resulting from the use of electronic gaming machines:

- the consumer surplus; and
- the taxation revenues.

Consumer surplus is the value of the satisfaction consumers derive from their consumption of a good minus the price they have to pay to receive it. It is calculated as the value of expenditure divided by two times the price elasticity of demand.

Calculating the consumer surplus for a type of product like gambling where it can be “addictive” for some consumers is considerably more difficult as it does not seem intuitively logical to ascribe a benefit for the enjoyment of spending which only occurs because of a compulsion. In their report on gambling the Productivity Commission got around this problem in an innovative way. They calculated consumer surplus normally for expenditure by non-problem gamblers, but used an “adjusted” consumer surplus for problem gamblers. The overall consumer surplus was then calculated as the sum of the actual consumer surplus for non-problem gamblers and the adjusted consumer surplus for problem gamblers.

The adjusted consumer surplus was calculated for problem gamblers by assuming that they only derive satisfaction from that portion of their expenditure which they would spend if they were not addicted. To calculate the amount that an average problem gambler would spend without the compulsion, the Productivity Commission revisited their survey results for problem gamblers and assigned each the lower of their actual expenditure or the mean expenditure. From this they calculated an average “non-addiction” expenditure for problem gamblers which was used in the consumer surplus calculations. This is the approach which the Centre has used for its regional benefit calculations, although as no information was available on actual expenditures by problem gamblers on electronic gaming machines the Centre made the assumption that in the absence of “addiction” problem gamblers would have the same expenditure patterns as non-problem gamblers.

Table 4.17 presents the results of the Centre’s calculations of the Social Costs and Social Benefits (and the Net Social Benefits) of gaming on electronic gaming machines for each of the Provincial Cities and for regional aggregates. Social Cost is comprised of the direct social costs of problem gambling, and the ‘excess losses’ incurred by problem gamblers. The Social Benefits of gaming comprise consumer surplus for non-problem gamblers, adjusted consumer surplus for problem gamblers, and the taxation revenues received from electronic gaming machines. The range within which Total Net Social Benefits should lie is calculated by adding the highest cost figure to the lowest benefit figure, and the lowest cost to the highest benefit.

Table 4.17
Benefits and Costs of Electronic Gaming Machines
South Australian Provincial Cities: 1998/99

	Social Cost		Social Benefit		Total Net Social Benefit	
	Lower bound (\$'000)	Upper bound (\$'000)	High elasticity (\$'000)	Low elasticity (\$'000)	Lower bound (\$'000)	Upper bound (\$'000)
Berri Barmera	-5,539.2	-10,011.8	3,078.2	3,736.2	-6,933.6	-1,803.0
Loxton Waikerie	-1,775.9	-3,219.8	2,079.0	2,669.4	-1,140.8	893.5
Renmark Paringa	-2,909.2	-5,278.7	2150.4	2,674.7	-3,128.3	-234.5
Mount Gambier + Grant	-7,747.0	-13,591.4	7,762.9	9,612.4	-5,828.6	1,865.5
Murray Bridge (RC)	-5,493.6	-10,373.8	3,859.9	4,661.0	-6,513.8	-832.6
Port Augusta (C)	-4,923.1	-9,063.2	3,235.2	3,940.1	-5,828.0	-983.0
Port Lincoln (C)	-4,610.1	-8,222.2	3,465.4	4,212.6	-4,756.8	-397.5
Port Pirie (C)	-4,128.4	-7,718.4	3,592.5	4,453.8	-4,125.9	325.3
Whyalla (C)	-5,768.4	-10,538.4	5,313.2	6,516.7	-5,225.2	748.3
Adelaide Metro	-264,547.0	-467,255.1	253,969.6	308,955.5	-213,285.5	44,408.5
Prov City Total	-43,056.0	-78,178.7	34,538.7	42,483.4	-43,640.0	-572.6
Other Non Metro SA	-29,251.8	-54,674.7	30,546.9	38,568.4	-24,127.8	9,316.7
Total SA	-335,924.4	-599,212.3	319,033.0	389,959.9	-280,179.3	54,035.5

Source: Productivity Commission, Liquor and Gaming Commission and ATO, calculations SACES.

Table 4.17 shows that given the severity of problem gambling, for five of the nine Provincial Cities, the net impact of electronic gaming machines is unambiguously negative. For the Provincial Cities as a group, the range of net benefits from electronic gaming machines extends from -\$43.6 million to -\$0.6 million. Whilst non-problem gamblers enjoy substantial benefits from being able to gamble using electronic gaming machines, these benefits are more than outweighed in these five Provincial Cities by the scale of the costs of problem gambling. Two of the other Provincial Cities have a range almost entirely in the negative, while Mount Gambier and Grant DC trend more strongly to a negative than a positive outcome. Only one of the Provincial Cities, Loxton Waikerie, seems as likely to benefit as lose from gaming machines.

On a broader level the total impacts on the Provincial Cities are unambiguously negative, whereas for other non-metropolitan South Australia the range of net benefits is more inclined towards benefits than costs. For the state as a whole the range of net benefits from electronic gaming machines extends from -\$280 million to +\$54 million, suggesting that whilst a net negative result is more likely, a net positive or neutral result is still possible. This pattern of negative impacts being regionally concentrated reinforces the idea that some form of regional restrictions may be necessary.

5. Conclusions

The econometric analysis conducted by the Productivity Commission found evidence of:

- a concentration of gaming machines in lower socio-economic areas;
- an inverse relationship between a region's income and the total amount spent on gaming machines; and
- a negative and significant relationship between median weekly income and annual average expenditure on electronic gaming machines.

We discuss in Section 4.1.1 that this could be seen to suggest that persons in lower income groups:

- are more likely to gamble using electronic gaming machines; and/or
- are more likely to lose (spend) more when they do so,

and accordingly, the Centre sought to determine these factors which influence the differences in net gaming revenue between different areas.

The results indicate that the three significant demographic factors which produce the apparent link between lower incomes and higher electronic gaming machine expenditure in South Australia are:

- higher unemployment as a proportion of adults;
- higher proportions of persons identifying as Aboriginal or Torres Strait Islanders; and
- high proportions of private dwellings rented from the Housing Trust.

The two spatial geographic factors accounting for differences in average net gaming revenue are related to accessibility and concentration — the number of EGMs relative to the adult population and the actual concentration in a defined geographical area. Those council areas with higher net gaming revenue per adult — compare for example Berri-Barmera and Port Augusta with Loxton-Waikerie — confirm that higher expenditure is related to the risk factors identified in this report.

The Centre has first calculated a base case (Section 4.2.4) to estimate that number of gaming machine problem gamblers — 1,896 in the Provincial Cities — on the assumption that there are no differences between regions, regional profiles, States and the national average.

In fact, as this report indicates, we know this is not the case and that there are regional risk profiles. A more accurate picture is required because the national prevalence data does not reflect the diversity of regional experience and expenditure data. The methodology is discussed in Section 4.2.5 and the results are summarised in Tables 4.15 and 4.17:

- for the number of problem gamblers in each region (Table 4.15); and
- the benefits and costs of electronic gaming machines for each region (Table 4.17).

Based on the distribution of problem gamblers, all of the Provincial Cities except Loxton-Waikerie had substantial costs from problem gambling. If all the tax revenue were spent in the council from which they were collected, the benefits of this revenue would still be outweighed by just the excess expenditure by problem gamblers (the Excess loss).

Given the severity of problem gambling, for the Provincial Cities as a group, the range of net benefits from electronic gaming machines extends from -\$51 million to -\$5 million. While non-problem gamblers enjoy substantial benefits from being able to gamble, these benefits are more than outweighed in seven of the nine Provincial Cities (excluding Loxton-Waikerie and Mount Gambier) by the scale of the cuts of problem gambling.

For other non-metropolitan areas the range of net benefits is more inclined towards benefits than costs, which reflects the more limited accessibility and reduced concentration of EGMs. For the State as a whole, while a net negative result is more likely, a net positive or neutral result is possible.

The pattern of negative impacts being regionally concentrated reinforces the idea that some form of regional restrictions may be necessary.

We conclude that:

- a far more substantial and concerted effort is required a tackling problem gambling as a whole. The changes contained in recent legislation following the report of the Gaming Machine Review Committee are a good first step, notably:
 - the proposal to establish an Independent Gambling Authority;
 - the establishment of clear research priorities;
 - the extension of the cap until May 31st, 2003 in order that a more open and public debate can be held;
 - a ban on autoplay facilities to slow down continuous playing cycles;
 - a ban on note acceptors on all electronic gaming machines; and
 - the establishment of daily limits on cash withdrawals;
- the regional nature of costs also suggests that regional caps or even reductions in machine numbers, may well be a necessary part of any harm minimisation strategy. In addition, until further research is conducted and a formula for machine and venue concentration is established, there should be no trading of licences allowed;
- there are geographical distributional implications arising from the location of gaming machines and the regressive nature of gaming taxes. While the Provincial Cities have lower average net income relative to the South Australian average, the average gaming tax at \$217 per adult (1999-00) is greater than the State average (\$185). While scope for reducing the burden on lower income groups is restricted, the State Government should:

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- investigate ways to increase expenditure from gaming taxes in the regions from which the revenue is sourced; and/or
 - reduce the amount of tax collected through imposing regional caps on the number of poker machines;
 - There is evidence presented in this report (and other statistical data available for analysis) which indicates a high rate of gaming expenditure by some indigenous groups. Too little is known about the incidence of problem gambling and impact on communities.
Advice is needed from Aboriginal communities about the extent of the problem and strategies to address gaming issues (e.g., education, diversion programs, support for employment, recreation).
 - the significant concentration of costs on the Provincial Cities indicates more resources need to be directed to the major non-metropolitan centres, including to service Coober Pedy, Roxby Downs and Ceduna; and
 - more research is needed on the nature of problem gambling, how it can be detected and what strategies can help ameliorate it

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Appendix A

Gaming Machine Taxation Rates

Tax rates for gaming machine venues varies according to the legal status of the business. For example, venues with a non-profit status are taxed at lower rate than other venues. The lower tax rate for non-profit businesses recognises the important community development role of non-profit organisations and seeks to increase the amount of gaming expenditure directed back to the community through the non-profit organisation.

Tax rates for gaming businesses in respect of the 1998-99 and 1999-00 financial years are reproduced below. Note that tax rates for gaming machines in South Australia are applied to net gaming revenue (NGR).

In the case of a non-profit business (e.g., clubs and community hotels), the applicable tax rate is an amount calculated in accordance with the formula set out in Table A.1. For all other cases (e.g., privately owned hotels), the amount of tax paid is determined by the formula specified in Table A.2.

Table A.1
Tax Rates for Non-Profit Businesses
South Australia - 1998-99 to 1999-00

Tax Threshold	Tax Rate
For an annual NGR of \$399,000 or less	30 per cent of NGR
For an annual NGR of more than \$399,000 but equal to or less than \$945,000	\$119,700 plus 35 per cent on the excess NGR over \$399,000
For an annual NGR of more than \$945,000	\$310,800 plus 40 per cent of the excess NGR over \$945,000

Source: Gaming Machines Act 1992

Notes: NGR = net gaming revenue.

Table A.2
Tax Rates for All Other Businesses
South Australia - 1998-99 to 1999-00

Tax Threshold	Tax Rate
For an annual NGR of \$399,000 or less	35 per cent of NGR
For an annual NGR of more than \$399,000 but equal to or less than \$945,000	\$139,650 plus 43.5 per cent on the excess NGR over \$399,000
For an annual NGR of more than \$945,000	\$377,160 plus 50 per cent of the excess NGR over \$945,000

Source: Gaming Machines Act 1992

Notes: NGR = net gaming revenue.

Tax rates for the 2000-01 year have been reduced by 9.09 per cent to offset the impact of the Goods and Services Tax. In accordance with the Gaming Machines Act 1992, a surcharge was introduced on tax rates at the beginning of the 1997-98 financial year to recover a shortfall in expected taxation revenue for the 1996-97 financial year.

Appendix B

Expenditure by Gamblers

Participation Rates

The study of South Australian gambling patterns conducted by the Centre for Population Studies in Epidemiology indicated that the participation rate for gambling on gaming machines was lower for the South Australian country area compared to the metropolitan area. This result was surprising given that the Provincial Cities have a disproportionately large share of gaming machines and gaming machine expenditure, and that more limited entertainment options and a stronger hotel/club culture for rural areas appears to encourage greater participation in playing gaming machines in these areas. It is therefore interesting to consider the amount of expenditure per gambler that these participation rates would imply for the Provincial Cities in comparison with South Australia.

Table B.1 shows gaming machine expenditure by gambler for the Provincial Cities and South Australia; expenditure has also been presented as a proportion of average net income per adult. Using the participation rates from the CPSE survey for country areas and South Australia, the average gaming machine expenditure per gambler for South Australia in 1999-00 is estimated at \$1,173. In comparison, the Provincial Cities as a whole would have a significantly higher expenditure per gambler of \$1,625. Expressing these expenditures in terms of a proportion of the region's average net income per adult, then average gaming machine expenditure represents 8.2 per cent of net income for South Australian gamblers, and 12 per cent of net income for Provincial City gamblers.

Table B.1
Expenditure by Gaming Machine Gamblers
Provincial Cities and South Australia - 1999-00

	Expenditure Per Gambler (\$)	Per cent of Average Net Income (%)
Riverland	1,576	11.6
Mount Gambier & Grant	2,116	13.8
Murray Bridge (RC)	1,488	12.7
Port Augusta (C)	1,687	13.1
Port Lincoln (C)	1,808	12.6
Port Pirie (C)	1,294	10.7
Whyalla (C)	1,430	10.8
Provincial Cities	1,625	12.0
South Australia	1,173	8.2

Source: Office of the Liquor and Gaming Commissioner, 2001, Centre for Population Studies in Epidemiology, 2001, and ABS, Population by Age and Sex, (3235.4).

The use of CPSE participation rates obviously produces a very high, and perhaps unsustainably high, level of expenditure per gambler for the Provincial Cities. If the CPSE estimates are correct, then this raises concern over the well-being of Provincial City gamblers who are spending an extremely high proportion of their income on one leisure activity, gaming machines. For example, if gamblers are spending over a tenth of their net income on gaming machines, are they spending adequately on other essential items?

Using data supplied from the CPSE report on the prevalence rate of problem gambling, and relating this to known net gaming expenditure then

- the average loss per non-problem gambler in the Provincial Cities would be \$1,183 compared to the Adelaide metropolitan area of \$593, and the State at \$656.

This itself indicates the likelihood of a higher incidence of problem gambling.

In summary, if we are to accept the lower participation rate for the South Australian country area compared to the metropolitan area as provided by the CPSE study, then based on actual turnover and net gaming revenue, then there must be a much higher average expenditure per gambler in the Provincial Cities and remote regions. This must then translate into a much higher number of frequent gamblers and problem gamblers — people who have an average expenditure out of net income on gaming of approximately 10 per cent are clearly problem gamblers.

Given these factors — the reported lower participation rate, the reported lower prevalence rate for frequent and problem gamblers and the reported turnover and net gaming revenue figures for the Provincial Cities — then there must be some doubt over the accuracy of CPSE's estimate of the rural participation rate given the very large discrepancy between South Australian and Provincial City gaming machine expenditure and those other factors mentioned above.

Appendix C

Survey/Interview Schedule

Introduction:

- a) Identify who are the “problem gamblers”/heavy gamblers (confirm against previous information/studies; any regional characteristics).

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characteristics by age, gender, race

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- b) Assess whether they have any views on the classification/typology and nomenclature used to categorise gambling activities (e.g., problem gamblers, pathological gamblers, frequent gambler, etc.)?

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- 1. In your experience as a counsellor, what are the primary social impacts of problem gambling, especially those relating to gaming machines. [Expand]

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- a) Social/Community versus private costs

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b) Impact on other family members

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2. Assess the extent of the impact of gaming machines on the number of problem gamblers i.e., To what extent have poker machines exacerbated problem gambling.

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3. Regional dimension of problem gambling

a) Is there any reason to suspect that problem gambling is a greater problem in rural/regional areas.

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Complexity of Consequences

b) Given the smaller nature of regional communities, are the impacts of problem gambling more apparent/obvious in regional communities. If so, how. [Identify]

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c) In this respect, are the impacts of problem gambling on the community more intense (e.g., more harmful to the broader community).

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d) Is there adequate support services for problem gamblers in regional areas.

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e) Level of funds, increase in funds — what is the situation for agencies?

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4. Assess experience on how hotels/owners have responded to the issue of problem gamblers — strategies implemented, impose bans, responsible/defensive?

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5. Policy choices? What would you see like to happen? (e.g., close ATMs in pubs, ban or restrict EFTPOS facilities, restrict hours in which machines operate, stronger advertising of harm) introduce smart card. [Explore Options]

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6. Assess availability of data on problem gambling that the Centre could review. *[Michael has requested this]*

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Appendix D

Mail Out to Hotels and Licensed Clubs

STRICTLY CONFIDENTIAL

Survey of Gaming Machine Establishments

Note:

Once the aggregate data is analysed by the SA Centre for Economic Studies these pages will be shredded. There is no name or location of establishment required. The code number (see above) to protect confidentiality is held only by the Centre.

You may wish to provide a:

Contact person (Name):

Contact details (Telephone):

Question 1. Investment Impacts: Required Council Approval

Can you record date, type of investment in the following table (investment would have required application to Council and approval):

Date	Upgrade Existing \$ Value	Extension \$ Value	New Building \$ Value
INITIAL INVESTMENT/COST TO INSTALL MACHINES			\$

Question 2: Investment Impacts: Did Not Require Council Approval

Can you record date, type of investment that did not require council approval (i.e., upgrade fixtures, fittings/furniture, floorings, airconditioning, air cleaning systems etc.):

Date	Type of Investment (Please Specify)	\$ Value

Question 3. Employment Impacts

Since the introduction of gaming machines, how many additional staff does the venue now employ? Compare later period (e.g., 1996-2001) if you were not the owner in 1994.

	Full-Time	Part-Time	Casual	Total
1994				
2001 (now)				

Question 4: If you did not increase the number of staff, however, increased the hours worked by existing staff, please provide the average weekly payroll figures from 1996 and 2001.

Date	Average Weekly Payroll Figures
1994	
1995	
1996	
1997	
1998	
1999	
2000	
2001	

Question 5a: What proportion of your current machines are:

Owned	%
Leased	%

Question 5b: Thinking only of the current number of machines you operate. What do you estimate was the total capital cost of your machines and associated equipment (e.g., coin dispensing, signage, etc.)?

\$ _____

Question 6: Comparing two periods (say, 1996-2001, today) how much would expenditure on local produced goods and services (food, supplies, cleaning, maintenance, printing) in your town/city changed?

Period	Average Cost Per Month
1996	\$
2001	\$

Question 7. How has the introduction of gaming machines affected the type of facilities and services offered by your venue (e.g., offer extra facilities/services, type of facilities/service, number of meal sales per week increased up to)?

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Question 8. How has the introduction of gaming machines affected your ability to provide sponsorship and donations to the local community (e.g., sporting teams, charities etc).

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The answer to question 9 is strictly confidential:

Question 9. Can you provide a quantitative estimate of the impact of gaming machines on donations and sponsorship you provide locally and how this has changed between the two period shown?

1996 est \$ _____ 2000 est \$ _____

Identifying Problem Gamblers

Question 10a. Are you able to effectively identify problem gamblers (do you experience difficulties in identifying problem gamblers)?

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Question 10b: What mechanisms exist for problem gamblers to bar themselves?

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Question 10c: What training is provided to staff on identifying potential problem gamblers?

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Question 11. What steps do you implement to control specific individuals and can you comment on the success of the actions you take.

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Please feel free to make any other comments you consider relevant to the study:

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Thank you for your co-operation
Please return to the Centre in the envelope provided.

Appendix E

Considering Spatial Impacts: A View from Victoria

In a recent article in *The Age* newspaper, Dr James Doughney described a random walk across the spatial location of suburbs in Victoria where a “pokie loss severity index” was ranked alongside ABS data on the socio-economic condition of suburbs. The random walk revealed higher losses in poorer neighbourhoods or communities relative to higher income communities. The ability of Tabcorp and Tattersalls in Victoria to shift machines across suburbs may potentially exacerbate this situation. This restriction on machine mobility in South Australia may result in a more even incidence of gambling machine losses.

This “random walk” is similar to the “labour market random walk” of Professor Bob Gregory from the Economics Faculty of The Australian National University, who has demonstrated the concentration of employment in some suburbs of major capital cities relative to higher unemployment (or casual employment) or both parents/partners in lower socio-economic suburbs. The Gregory random walk illustrated the trend towards both adult partners either being in work or out of work dependent upon the suburb of residence.

Labor’s Victoria: the place to bet

The renowned economist John Maynard Keynes told a 1930s British Royal Commission into betting that, for gambling to be socially healthy, it must be “frivolous”. That is when a gambler loses — and they all do in the long run — the loss must be small relative to the family budget.

Keynes’ stand was moral but also very practical. Gambling was not bad because it encouraged hopes of unearned income. Rather, said Keynes, it ceased to be frivolous and become “evil” when “indulgence of this hope” caused people to “lose a great deal of money”. When losses rose as a proportion of the family budget, psychological pain compounded financial misfortune.

Keynes argued that the only winner was the gambling “industry”: bookmakers and lottery operators. Government had not only good cause but also the moral obligation to intervene to minimise the harm. New research by the Workplace Studies Centre of Victoria University shows that just the opposite is happening in Victoria with poker-machine gambling. The Centre’s research has already reinforced that machines are concentrated on low-income municipalities.

Couple with this research suggesting (a) that 80 per cent of losses come from 20 per cent of users, and (b) that people gamble close to home and we have an inescapable conclusion: the industry thrives on the backs of heavy gamblers in low-income areas.

An index developed by the Centre, the “pokie loss severity index”, ranks the impact of poker-machine gambling on an area by dividing average losses per adult there by the Australian Bureau of Statistics index of disadvantage in the area. The severity index embodies Keynes’ principle: a dollar lost in a low-income community has more effect than a dollar lost in a wealthier one. To picture the results, imagine a journey across Melbourne in a south-easterly direction.

We start at St Albans and Deer Park in the City of Brimbank, which has a severity ranking of 58 or about 20 per cent higher than the City average of 48.5. Then we hit Maribyrnong, which has the highest ranking in Melbourne of 100. We might even pass the Ashley Hotel, Braybrook, a venue in the most severely affected small area in the State.

From Maribyrnong we travel through the CBD and down the scale to 42.5 in the City of Yarra. Yarra is interesting, however, because pokie venue locations have higher severity rankings than the municipality as a whole.

Then we strike Stonnington and Boroondara, containing suburbs such as Toorak, Camberwell, and Balwyn. The index plummets to 20.5 and 10. As the journey continues through Glen Eira and Monash the index rises towards 60, and by the time we arrive at Dandenong it has reached the second-highest level in greater Melbourne at 76.5.

In opposition, the ALP railed against Kennett’s pokie policies and promised action. In government it is sitting on its hands. It seems to be paralysed. Meanwhile, the gaming industry, including Tattersalls and Tabcorp, continue to make vast profits from the misfortune of ordinary Victorians. Important concerns over the lack of clocks and natural lighting in venues, and over advertising, bet limits and locations of automatic teller machines, have surfaced in the past week. Gaming Minister John Pandazopolous seems oddly reticent on these issues, despite this government’s boast that it would be more open to fundamental policy change.

The complaints of the State Opposition about government inaction are patently hypocritical. It will take years for the conservatives to live down Kennett’s obscene union with Victoria’s gambling barons.

Nonetheless the big problem remains: what is the Bracks Government going to do to force Tattersalls and Tabcorp to minimise the social harm caused by their monopoly profiteering from heavy gamblers in less well-off areas?

Worse, the government continues to partner the industry in inflicting the pain. Of every dollar lost, 33 cents goes to Tattersalls and Tabcorp and a minimum of 33 cents goes into State coffers.

The government should deliver promptly on its promise to redistribute poker machines more evenly throughout the community.

Yet this is only part of the social policy remedy. If the redistribution does not allow that a dollar lost in Toorak is not the same as a dollar lost in Braybrook, then poorer areas will remain disadvantaged.

The Age, 12th January 2001

Dr James Doughney is senior researcher at the Workplace Studies
Centre, Victoria University

Email: jamie.doughney@vu.edu.au

This story was found at:

<http://www.theage.com.au/news/2001/01/12FFXRZNZATHCX.html>

Appendix F

Input-Output Analysis

An input output table presents a breakdown of the economy into a number of producer sectors. Data is presented for each sector indicating what inputs the sector uses to produce its outputs, and indicating what sectors it sells its output to. Coughlin and Mandelbaum (1991) describe an input output table as “ ... [a] mathematical description of how all sectors of an economy are related.”

Inputs for a sector include a range of intermediate inputs, produced by other firms in the region, and several primary inputs such as imports, wages and salaries, profits and taxes. Outputs can be sold as intermediate inputs to other producers or to various final demand uses such as final consumption, investment and exports.

Input-output tables can be used to estimate the indirect and induced impacts (as well as direct impacts) on output, income and employment arising from the purchase of goods and/or services produced in a region. They therefore can be used to estimate the likely economic impacts of various activities, such as a major construction project or exporting.

The direct, or “initial”, multiplier measures for a primary or intermediate input supply group, the first round supply response required when the output of a purchaser industry or final demand changes by one unit.

The second level of impact known as “indirect impacts”, measures increased production by intermediate suppliers in the economy to meet the demand generated by the increase in expenditure of the initial impact. These intermediate suppliers then increase their demand for products provided by their intermediate suppliers, and so on. This process could be continued ad infinitum, but in practice the later round effects rapidly converge towards zero.

These increases in activity in the economy also act to increase local incomes. This increase causes the third level of impacts (consumption induced impacts), as at least some of this increased income is spent locally thereby adding to economic activity. These impacts also potentially continue ad infinitum, but in practice converge toward an insignificant level fairly quickly.

As the Australian Bureau of Statistics only publishes input-output tables for Australia as a whole, these tables have been adjusted to better reflect the structure of the economies of each of South Australia’s Provincial Cities. The adjustment was performed using the “location quotients” technique, which involves altering the national input-output table to indicate higher import propensity to the extent that a region lacks the capacity to meet input demands from local production. The adjusted table better approximates the region’s specific industrial structure.