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Social and Economic Impact Study into Gambling in Tasmania

Volume 1

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PO BOX 125, RUNDLE MALL, SOUTH AUSTRALIA 5000
PHONE (+61-8) 8303 5555 FAX (+61-8) 8232 5307
LEVEL 2, 230 NORTH TERRACE, ADELAIDE

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This report was prepared by the following researchers:

Michael O'Neil, Executive Director
Nicola Chandler, Senior Research Economist
Anthony Kosturjak, Senior Research Economist
Steve Whetton, Senior Research Economist
Sarah Lindsay, Senior Research Associate

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The draft reports ─ Volumes 1 and 2 ─ were provided to the Tasmanian Department of Treasury and Finance and the Department of Health and Human Services. Officers of these agencies provided helpful comments and suggestions that have been incorporated in this final report. In addition it was a requirement that the draft report be submitted to two independent peer reviewers. Both reviewers provided insights and valuable comments on the draft report which have in most cases been taken up. We record our appreciation of the contribution provided by the peer reviewers.

Finally, to the many citizens of Tasmania who participated in the telephone survey and prevalence survey, we thank you for your contribution.

Note: The Prevalence Survey was conducted in August and September 2007. It is referred to as the 2007 Prevalence Survey.

The results of the survey are one component of the overall *Social and Economic Impact Study* and are reported in 2008. When referring to reporting of the results of the survey we use the term Prevalence Study (SACES 2008).

Abbreviations

ABS	Australian Bureau of Statistics
AHA	Australian Hotels Association
ARIA	Australian Remoteness Index for Areas
ATM	Automatic Teller Machine
CPGI	Canadian Problem Gambling Index
CSL	Community Support Levy
DT&F	Department of Treasury and Finance
DHHS	Department of Health and Human Services
GSP	Gambling Support Program (in the Department of Health and Human Services)
EGMs	Electronic Gaming Machines (or "Pokies")
GABA	Gambling and Betting Addiction Inc
GDP	Gross Domestic Product
GIG	Gambling Industry Group
GSP	Gross State Product
HDI	Household Disposable Income
HES	Household Expenditure Survey
NGR	Net Gaming Revenue (which is player loss)
OLS	Ordinary Least Squared regression
PC	Productivity Commission
RST	Racing Services Tasmania
SACES	South Australian Centre for Economic Studies
SEIFA	Socio-Economic Index for Areas (ABS)
SLA	Statistical Local Area
SOGS	South Oaks Gambling Screen
TasCOSS	Tasmanian Council of Social Services
TGC	Tasmanian Gaming Commission
TGES	Tasmanian Gambling Exclusion Scheme
VGMs	Video Gaming Machines (also known as EGMs)

Executive Summary

The South Australian Centre for Economic Studies (SACES) has undertaken an analysis and review of the social, financial and economic impact of gambling in Tasmania and herein we summarise the findings of the study. The final report is presented in two volumes:

Volume 1: Social and Economic Impact (ToR: (a), (b) and (d)); and

Volume 2: The Prevalence Study identifying the incidence of problem gambling and community attitudes (ToR (c)).

This Executive Summary combines the major findings contained in both volumes of the report.

Overview

This report is divided into five sections (A-E) which align with the terms of reference.

Section A: provides an *overview* to the study including a discussion of the methodology to address the social impacts from gambling, a review of the history and structure of the gambling industry in Tasmania, an examination of data/trends in gambling participation and finally, issues raised in submissions to the study.

Section B: provides a discussion of our approach to, and an assessment of, the *economic impacts* of gambling, including employment in Tasmania's gambling industries and a consideration of the economic benefits of gambling and tourism.

Section C: provides an assessment of the *financial impacts* of gambling in Tasmania covering revenue generated, payments and administration.

Section D: considers an assessment of the *social impacts* of gambling with a discussion of problem gambling, the approach to harm minimisation, and a review of crime and gaming expenditure. This section also examines regional variations in expenditure and concludes by quantifying the social and economic impacts of gambling.

Section E: outlines a future research framework.

Industry structure

The last three decades have witnessed a progressive liberalisation of gambling activities. The range of gambling activities available to the public has steadily expanded, so that Tasmanians now have available every major type of gambling played in Australia. These include racing, sports betting, lotteries, EGMs, casino, keno, football pools and minor gaming.

Tasmania has generally had a more liberal approach to gambling compared to other states and territories. As a consequence, it has played an important role in the development of particular gambling products, being the first jurisdiction in Australia to sanction a private sector gaming operator (Tattersall's 1897), the first to establish a casino (1973) and the first to licence a betting exchange (Betfair 2006).

The small size of the Tasmanian economy has presented challenges to development of some local gambling industries. A lack of economies of scale has meant that the racing industry has struggled to compete against interstate markets which are able to offer greater prize

money and attract stronger competition. Furthermore, Tasmania has been unable to maintain a locally based lottery provider, due in part to its relatively small population.

Tasmania's gaming sector is a monopoly-like structure, with the principal operator being the Federal Hotels Group holding exclusive rights to operate table gaming, gaming machines and keno throughout the state until 30 June 2018 after which the licence converts to a rolling five year licence, renewable annually.

The sole licensed gaming operator provides oversight/monitoring of electronic gaming machines (EGMs) through Network Gaming and is also the sole commercial decision maker as to whether a licensed venue operator is provided with EGMs. It is also a licensed venue operator in its own right. The situation in Tasmania is that the gaming operator has considerable market power to shape the industry.

Gambling outlets and products

- The number of EGMs is capped at 3,680 with licensed clubs entitled to a maximum of 40 and hotels 30. The two casinos have 1,280 or 34.8 per cent of the total number of EGMs.
- Tasmania has fewer EGMs than the average for the rest of Australia on a per 1,000 person basis at 7.52 compared to Australia 9.75.
- On a per 1,000 person basis Tasmania has four times the number of EGMs in casinos compared to the rest of Australia (Tasmania: 2.62; Australia 0.6), fewer machines in hotels (Tasmania 4.52; Australia 5.69) and still fewer in clubs (Tasmania 0.38; Australia 3.45).
- The average number of EGMs per hotel was 23.5 (Australia 21) and the average per club was 19 (Australia 49).
- As at June 2006, 94 hotels operated 92.4 per cent of non-casino EGMs (N=2,208) and ten clubs operated the remainder (N=188) or 7.8 per cent, a fall from 16 per cent at the time of the Productivity Commission (1999) report.[1]
- There were 83 lottery outlets, 164 keno outlets, 129 TOTE outlets, 15 bookmakers, 4 racing clubs and Betfair, the betting exchange, operating throughout Tasmania in June 2007.

Trends in gambling expenditure

- Total gambling expenditure in Tasmania increased in the 25 years to 2005/06 in real terms from $123 million to $287 million or by 133 per cent (Australia 260 per cent) above the rate of population increase in Tasmania of 27 per cent (Australia 51 per cent).
- Total real gambling expenditure in Tasmania in the period 1980/81 to 2005/06 has grown more slowly compared to Australia (average rate of growth: Tasmania 3.4 per cent; Australia 5.3 per cent).
- The period of strongest growth in real gambling expenditure at 7.0 per cent in the period 1995/96 to 2000/01 followed the introduction of EGMs in hotels and clubs.

[1] The Spirit of Tasmania vessels operated 46 EGMs.

- Average expenditure per adult at $774 per annum or 2.4 per cent of household disposable income is below that for Australia at $1,122 per adult or 2.9 per cent of HDI. This is in part due to lower average incomes in Tasmania. Only Western Australia has lower expenditure per adult at $551 or 1.4 per cent of HDI.
- Per capita expenditure on EGMs in Tasmania in the casinos, hotels and clubs was $597.
- The three largest contributors to total gambling expenditure are EGMs in hotels and clubs 38.1 per cent, total casino gambling at 34.7 per cent and lotteries 17.2 per cent.

Wagering and racing

- The four racing clubs held a total of 77 race meetings comprising 625 races with prize money of $9.1 million in 2006/07.
- Wagering or racing in Tasmania totalled (in 2005/06) $319 million with losses at $28 million or 8.8 per cent of total wagered. This compared to an average player loss of 14 per cent of the total wagered by all Australians who wager.
- Tasmanians had an average racing expenditure of $75 per adult in 2005/06 well below the Australian average of $138 per adult.

Lottery products

- Tasmanians had a relatively high average expenditure on lottery products at $134 per person which is 11 per cent higher than the national average of $121 per person. The difference is almost entirely due to much higher expenditure on keno at $55 per person compared to $13.50 nationally.

EGMs: hotels, clubs, casinos

- EGMs account for 8 per cent of total expenditure in the two casinos in 1986/87 to now account for 92 per cent in 2006/07. Tasmania has relatively high participation in all forms of casino gambling at an average expenditure of $270, above the national average of $187 per adult.
- Total expenditure on EGMs in hotels and clubs increased in real terms from $29.8 million in 1997/98 to $129.7 million in 2004/05. This represented an average growth rate of 23 per cent per annum while total real gross household income in Tasmania rose by 2.9 per cent per annum. However, this growth has abated with real expenditure in 2006/07 some 16 per cent below its peak achieved in 2004/05.
- Per capita expenditure on EGMs in the casinos was $254 and for all hotels and clubs it was $342. This combined total of $597[2] represented 77 per cent of the average expenditure per adult on all forms of gambling (i.e. $597/$774).
- Average expenditure per machine is approximately $19,248 in clubs, $48,152 in hotels and $70,827 in the casinos.
- Smoking bans and the state-wide cap on EGMs have contributed to the fall in real expenditure.

[2] Small rounding effect here, total is $597.

Sports betting

- Sports betting remains a relatively minor form of betting at $0.8 million in 2005/06 with an average loss of $2.10 per adult (Australia $10.70 per adult).

Assessment of Economic Impacts

On balance, claims that the gambling industry has significantly contributed to economic growth in the aggregate economy **is not substantiated**, while equally the claims that spending on gambling has impacted on traditional areas of spending (i.e. retail) is **equally not able to be substantiated**. This is *not to* conclude that some businesses in some localities may not have been adversely affected (Section 7.4).

A potentially important area of economic impact from gambling is on other forms of expenditure. The results of modelling non-gambling consumption expenditure, gambling expenditure and income suggests that the levels of gambling expenditure **does not effect** the level of non-gambling final consumption expenditure (Section 7.2)

Further modelling suggested that gambling expenditure **does not** have a statistically significant impact on State Final Demand and **does not** have a statistically significant impact on Total Compensation of Employees (effectively wages and bonuses) (Section 7.2).

Together the analysis suggests that there has been no impact on aggregate economic activity in Tasmania as a result of gambling expenditure. *This suggests that it is best characterised as representing a transfer of activity between sectors of the economy rather than an increase in total output.*

There is **some evidence** from the *National Accounts* data that gambling may act as a substitute for other forms of 'recreation and culture' expenditure, and that the rate of growth of recreation expenditure is negatively correlated with the rate of growth in gambling expenditure (Section 7.3).

There is **some evidence** from the *Household Expenditure Survey* that suggests that households which participate in gambling have higher than expected expenditure on food, non-alcoholic drinks and alcohol (Section 7.3).

There is **no evidence** from the analysis of investment data that increases in gambling expenditure have had a positive net impact on investment in Tasmania as a whole (Section 7.4).

The one form of economic impact from gambling whose effect was unambiguously positive was the consumer surplus (a measure of satisfaction or utility) which Tasmanians derived from gambling activities. This analysis identifies a **net benefit** of between $71 to $120 million from consumers' enjoyment of gambling; although this is largely off-set by excess losses of problem gamblers of $91 million (Section 7.5).

Employment impacts

It is difficult to obtain an accurate estimate of the total level of employment associated with the gambling industry from available data sources (Section 8.8).

There is no evidence from ABS Labour Force Survey data that the introduction of gaming machines had a positive impact on the level of employment in the clubs and hotels sector; employment in the sector fluctuated around the 3,000 person mark throughout the entire 1990s and into the early 2000s (Section 8.3.2). In recent years employment in clubs and hotels increased from around a level of 3,000 persons in 2003/04 to around 4,000 persons in 2006/07 (Section 8.3.2). Our assessment is that recent growth is due to more buoyant economic conditions enjoyed by Tasmania coupled with employment growth associated with meals and catering services offered by hotels. Some small component may be due to gambling services.

Gaming machine gambling has a relatively low labour intensity. SACES has previously estimated that venues with gambling facilities employed an average of 3.2 persons per $1 million in gambling income, 8.3 persons per $1 million income from sales of liquor and other beverages and 20 persons per $1 million income from meal and food sales (Section 8.3.2).

There is some indication that the introduction of gambling facilities has had a positive impact on economic activity at venues with these facilities. However, it also suggests that the increase in economic activity has come at the expense of economic activity at venues without gambling facilities (Section 8.4). From an economic perspective, it is the net impact on employment which is important.

Clubs and hotels with gambling facilities in Tasmania had an average of 23 employees per business compared to an average of 11 employees for those without gambling facilities. Average total income was also significantly higher for Tasmanian clubs and hotels with gambling facilities compared to those without gambling facilities ($2.5 million c.f. 1.0 million) (Section 8.4).

Gambling and tourism

It remains a matter of debate and some uncertainty as to whether gambling has any influence on trends in tourism. Plotting the relationship between the number of international visitors per 1,000 local population and total per capita expenditure on all forms of gambling for all states and territories reveals there is no clear relationship between the number of overseas visitors and relative expenditure on gaming machine and casino gambling. This is particularly the case for gaming machine gambling (Section 9.3).

There is **no clear relationship** between gambling expenditure and the number of out-of-state tourists (Section 9.3). Equally there is **no clear relationship** between local (intrastate) tourism and overall gambling expenditure.

Data supplied by the Federal Hotels Group shows that the proportion of inbound (international) room nights to total room nights for the two casinos was 6.1 per cent falling to 4.0 per cent in 2007. Industry sponsored research indicates that overseas players account for a relatively large share of takings from table games at Australian casinos. The decline in

expenditure on table games at the two Tasmanian casinos suggests that the availability of casinos in other states has reduced any comparative advantage that Tasmania may once have enjoyed in regard to overseas players.

Assessment of Financial Impacts

Gambling taxation is an important source of revenue for the Tasmanian Government. At $84.3 million in 2006/07 this represented 11.5 per cent of state own source revenue.[3] This placed Tasmania in the "middle of the pack" with the proportion of revenue coming from gambling taxes highest in the ACT at 15.1 per cent, followed by South Australia at 14 per cent and Victoria 13.1 per cent. Western Australia is ranked lowest at 6.1 per cent.

While the absolute contribution of gambling taxes and fees to Tasmania's own source revenue increased from $67 million in 2001/02 to $86 million in 2006/07 the share of state tax revenue coming from gambling taxes and fees has been falling.

The largest source of revenue in 2006/07 was from gaming taxation (EGMs) at $50.8 million, then lotteries $24.1 million and tax and product levies on Betfair at $5.0 million.

Gaming machines whether located in hotels, clubs or the casino account for approximately 60 per cent of the total gambling taxation and lotteries account for a further 29 per cent.

Average taxation rates for the casino, gaming machines and keno in Tasmania were calculated at 22.3 per cent which are close to the average nationally (Section 10.5.1).

Tasmania is very similar to all states and territories regarding the Community Support Levy (CSL), the categories for funding and the manner of distribution. The CSL raised $4.5 million in 2006/07.

Harm minimisation

In regard to harm minimisation measures this study confirms that the main source of gambling problems derive from EGMs be they in hotels, clubs or casinos. Those identified as higher risk (problem or moderately at risk) were significantly more likely to use ATMs at the casino and to be loyalty cardholders.

Tasmania has several venue and machine specific measures in place to minimise harm that are ahead of current practice in other jurisdictions.

Tasmania is distinguished from other jurisdictions in the following ways:

- banning ATMs in gaming venues is best practice (the two casinos are excluded);
- Tasmania was the first state to ban smoking inside any licensed venue;
- there are no venues operating gaming for 24 hours[4];
- competitive advertising of gaming is moderated, partly through the brand name of "Oasis", and partly through the industry voluntary codes of practice;

[3] Gambling taxes and fees totalled $86 million in Table 10.1 in 2006/07 and was 11.9 per cent of the share of state tax revenue. Licence fees are set as a cost recovery charge on industry to cover the cost of regulation and monitoring.

[4] Up to 20 hours (88 venues); up to 19 hours (5 venues), and up to 18 hours (10 venues).

- gaming machines with note acceptors are not permitted in hotels and clubs, while autoplay is prohibited; and
- there is a maximum bet limit of $10 in clubs and hotels.[5]

Several of these features most likely contribute to the difference in expenditure per machine for clubs, hotels and casinos.

The Tasmanian Self-Exclusion Scheme is also well designed and importantly, linked directly to counselling services. It is consistent with best practice schemes found elsewhere.

The Tasmanian licensing application process does not currently require a social or community impact assessment as part of the licence application.

Crime and gaming expenditure

An examination of the relationship between gaming expenditure and crime was undertaken. A **positive and significant** relationship was found between gaming expenditure and some crime rates, particularly "income generating crimes" (Section 13.6).

Other influences play a much larger role on crime **so caution is urged** in relation to this finding. Notwithstanding, the relationship between gaming expenditure and income generating crime was more significant (i.e. fraud and gaming expenditure) than non-income generating crime (Section 13.6.4).

Regional variations in expenditure

The study found an association between communities that are more disadvantaged (on the SEIFA index), the regional concentration of gaming machines and NGR.

The study found an association between high per capita NGR but lower medium income. As a consequence, expenditure on gaming as a share of income accounts for 0.2 per cent and 0.5 per cent in those councils ranked in the 9th and 10th decile, (more advantaged) but 1.6 per cent and 2.1 per cent in those councils ranked in the 2nd and 3rd decile (more disadvantaged) respectively.

EGMs earn higher per capita revenue in disadvantaged areas, while revenue per machine generally falls as the level of disadvantage declines. This pattern is found in regions in other states (SACES, 2001).

A proxy for disadvantage ─ the proportion of households which do not own a motor vehicle ─ was found (in regression analysis) to have the largest impact on expenditure, closely followed by EGM density.

That NGR appears to be the most significant influence on the number of Helpline callers from a region, with the LGA with the highest total expenditure expected to have 36 more callers than those regions with no EGMs suggests a need to examine the spatial determinants giving rise to the development of problem gamblers.

[5] Limit has been in place for some time, whereas other states are now amending or planning changes to maximum bet limits.

Assessment of Social Impacts

The estimated prevalence of problem gambling is the foundation of any social cost estimate.

The 2007 results[6] indicate that 0.54 per cent of Tasmanian adults (N=2,030) scored in the problem gambling range and 0.86 per cent of adults (N=3,250) were moderately at risk.

The high risk and moderately at risk groups are distinct from regular gamblers in their experience of depression, disruptions to family life, incurring substantial debts, and disruptions to work and study.

Net impact

The estimate of the net impact of gambling in Tasmania is summarised in Table E.1. The forms of benefits and costs making up our assessment of the net impacts are consumer surplus (benefit), taxation revenue (benefit), excess expenditure by problem gamblers (cost) and social costs of problem gambling (cost).

It is important to note that all of the impacts included (with the exception of the increase in taxation revenue to the Tasmanian Government) are ***estimates*** only. The choice of different assumptions around the social costs to problem gamblers, or in the calculation of consumer surplus (particularly the choice of the price elasticity of demand), could lead to a different balance of costs and benefits. It is also the case that there are a number of impacts, particularly in relation to the social costs arising from problem gambling, which could not be quantified or valued and which are therefore excluded from the social impact calculation.

Table E.1
Net Economic Impact of Gambling on Tasmania ($ million)

	Lower bound	Upper bound
Benefits		
Net increase in economic activity	0.0	0.0
Net increase in investment	0.0	0.0
Net increase in employment	0.0	0.0
Consumer surplus	**71.5**	**120.2**
Net increase in tourism	0.0	0.0
Taxation revenue	**88.8**	**88.8**
Costs		
Potential increase in regional disadvantage	ne	ne
Excess expenditure by problem gamblers	**-91.3**	**-91.3**
Social cost of problem gambling	**-131.7**	**-42.2**
Net economic impact	**-62.7**	**75.5**

Note: ne Value of impact could not be estimated.
Source: ABS, PC, Tasmanian Department of Treasury and Finance, AGS. SACES calculations.

The compilation of the table is based on the following:

- At the level of individual expenditure categories there is little evidence of any impact from gambling expenditure. The only category of expenditure on which the level of gambling spending has an unambiguous impact is Recreation and Culture (excluding gambling) where an increase in gambling expenditure leads to a reduction in expenditure on recreation and culture.

[6] Using the Canadian Problem Gambling Index (CPIG) screen.

- Shifts in consumption patterns do not represent a net economic impact (in the absence of a change in the overall level of economic activity or an increase in productivity), thus no benefit or cost arising from any such shift has been included in the calculation of the net impact of gambling.
- On investment, the safest conclusion to draw is that there is, at best, no evidence that the increase in gambling expenditure has led to an increase in the level of private sector investment, and thus the net benefit related to investment expenditure included in the calculation of the net impact of gambling is $0.00.
- There is no evidence of any *net* employment related benefits to Tasmania from gambling, and thus the benefit included in the calculation of the net impact of gambling is $0.00.
- Consumer surplus (benefit): there is an estimated net benefit of $71 to $120 million from consumers enjoyment of gambling, which has been incorporated in the calculation of the total benefit from gambling.
- There is little or no evidence of any positive or negative relationship between tourism and gambling expenditure. The net benefit included in the calculation of the net impact of gambling is $0.0.
- Direct tax revenue (as it is applied to the benefit of the community) is considered a net benefit for Tasmania of $88.8 million.
- The social cost arising from the excess losses of problem gamblers (e.g. the difference between their actual expenditure, and their assumed expenditure if they were not problem gamblers) is estimated at - $91 million.
- The estimated annual total social cost of problem gambling (in 2007 dollars) ranges from -$42 million to -$132 million. This is an annual cost per problem gambler of $8,000 to $25,000.

Drawing together the quantifiable economic and social costs suggest that the net impact on Tasmania is ambiguous, with the net benefit of the quantifiable impacts of gambling ranging from **-$62.7 million to +$75.5 million**.

Prevalence Study (SACES 2008)

Project summary

The second component of the Social and Economic Impact Study of Gambling in Tasmania was the completion of a prevalence survey to obtain up-to-date figures concerning the prevalence of gambling and problem gambling in Tasmania. The prevalence survey was the fifth designated[7] major stand-alone survey to be conducted in the State since 1994. It was undertaken to meet Terms of Reference 4 "to identify the incidence of problem gambling in Tasmania compared with other States and Territories" and to provide insights into changes in the attitudes and behaviour of Tasmanians since the last survey in 2005.

[7] It would be the sixth study if we include the national survey conducted by the Productivity Commission which surveyed Tasmanians (see Table 1.1).

Methodology

- The study involved a telephone survey of 4,051 Tasmanian adults in August and September 2007. Respondents were interviewed using the Computer Assisted Telephone Interview System (CATI) and selected using the most recent White Pages residential listings.
- Households were randomly sampled, although in keeping with the methodology used in the previous 2005 survey, quotas were set for the 4 major Statistical Districts of Tasmania. Quotas based on the most recent ABS Census were also set for the 18-24 year old age-group to ensure adequate representation of young people in the final sample.
- The survey achieved a satisfactory contact rate of 73 per cent, although the survey completion rate (40 per cent) was somewhat lower than in other Australian surveys.
- All respondents were asked to indicate whether they had gambled; the type of activity involved; their attitudes towards gambling in Tasmania; and to provide demographic information.
- People who gambled on at least one activity were asked to provide details of how often they gambled. Those who gambled on electronic gaming machines were asked a series of questions relating to time and expenditure, the influence of venue proximity, the role of ATMs in venues,[8] and their use of loyalty cards.
- Respondents who gambled at least once per week (or 52 times or more per year) on activities other than lotteries, scratch tickets or bingo, completed the entire survey. Each was administered a validated problem gambling screening tool as well as questions relating to the harms associated with problem gambling.
- The CPGI with a last 12 months time-frame was the screening instrument used in this study. This measure had also been included for the first time in 2005 and is the recognised measure for prevalence research in Australia.

The prevalence of gambling in Tasmania

- 71.7 per cent of the sample had gambled at least once in the previous year.
- The most popular activities were lotteries (52.3 per cent), scratch tickets (31.8 per cent), gaming machines (28.5 per cent) and keno (25.9 per cent).
- Only 16.8 per cent gambled on horse races, 7 per cent on casino table games, and 3.9 per cent on sports.
- All participation rates for individual activities did not differ significantly from those obtained in the 2005 survey.
- Participation rates for Internet gambling and poker tournaments were very low (< 2 per cent).
- Few people took advantage of electronic media/technology to gamble.
- 7 per cent of the sample gambled at least weekly on an activity other than lotteries, scratch tickets, or bingo (a significant increase from the 2005 survey).
- Demographic analyses showed that males were more likely than females to gamble on racing, sports, casino table games, private card games, the Internet, and in poker

[8] ATMs in the casinos and use of ATMs nearby to hotels and clubs as ATMs are not permitted in hotels and clubs.

tournaments. Participation rates in these activities were also higher amongst younger people.

- Overall gambling participation rates as well as regular gambling was generally higher in males, young people (18-29 years), in those of Aboriginal descent, and amongst people with lower levels of educational attainment.
- The lowest participation rates were observed in older people (60+ years), in those with a university education, or among students.
- Internet gambling, casino table gambling, and horse racing was more strongly favoured by people with greater education and/ or higher personal incomes.

Electronic gaming machines (EGMs)

- Around 40 per cent of Tasmanians who played EGMs reported travelling 0-5 km from their homes to play gaming machines.
- Comparative analysis showed that Tasmanians travelled further to gamble on EGMs than South Australians.
- The proximity of an EGM venue to people's homes was considerably more important than the proximity of venues to their workplaces.
- Tasmanians were significantly more likely than South Australians to gamble on EGMs at a casino.
- Sessions of EGM gambling conducted at a casinos tended to be longer than those at clubs or hotels.
- Almost 2 in 5 EGM players report that they do not take breaks when they gambled.
- The amount of money lost on EGMs at the most recent session was almost the same as in the 2005 survey. Over 40 per cent of people reported spending up to $10 and only 4.7 per cent reported spending more than $100.
- Higher expenditure levels were reported by people aged 18-29 years and by those living in the Greater Hobart area.
- The average duration of an EGM gambling session at a casino was reported to be 58 minutes and 38 minutes at a club or hotel.
- Relatively few people reported withdrawing money using credit cards or from a cashier before they gambled, although 1 in 5 used ATMs. Over 20 per cent of monthly+ (play more than once a month) EGM gamblers used ATMs compared with only 5 per cent of occasional players (less than monthly).
- Tasmanians were similar to South Australians in terms of their use of various methods to obtain money to gamble at venues.
- Just under a third (32.3 per cent) of casino EGM players reported owning loyalty cards as compared with only 4.2 per cent who gambled at clubs or hotels. Forty per cent of card holders said that they always used their card when they gambled.

Attitudes towards gambling

- Only 10 per cent of the sample believed that Tasmania had benefited from EGMs (a figure identical to that obtained in the 2005 survey).

- 33 per cent agreed that Tasmania had benefited financially (a significant increase from the figure of 26.9 per cent obtained in 2005).
- Only 17 per cent said that Tasmania had benefited socially from the introduction of EGMs (This was almost identical to 2005 figure of 16.4 per cent).
- Younger males and those who gambled at least monthly on EGMs generally had more positive attitudes towards EGMs than others in the sample.
- There was a small decrease in the perception of the quality of monitoring and control of EGMs in Tasmania: down from 47 per cent in 2005 to 39 per cent in 2007.
- Respondents were administered a series of questions from the most recent Victorian Community Attitudes Survey. These questions showed that: most people felt that gambling was too widely accessible in Tasmania (76.6 per cent), that EGMs were a serious social problem (87.1 per cent), and that the number of machines should be reduced (75 per cent).
- Very few (12.8 per cent) felt that EGMs were good for the local community, and only 16 per cent felt that they had increased its social life. However, 42 per cent felt that EGMs had contributed to employment growth.
- In general, Tasmanians had more negative views about gambling in their community than Victorians.

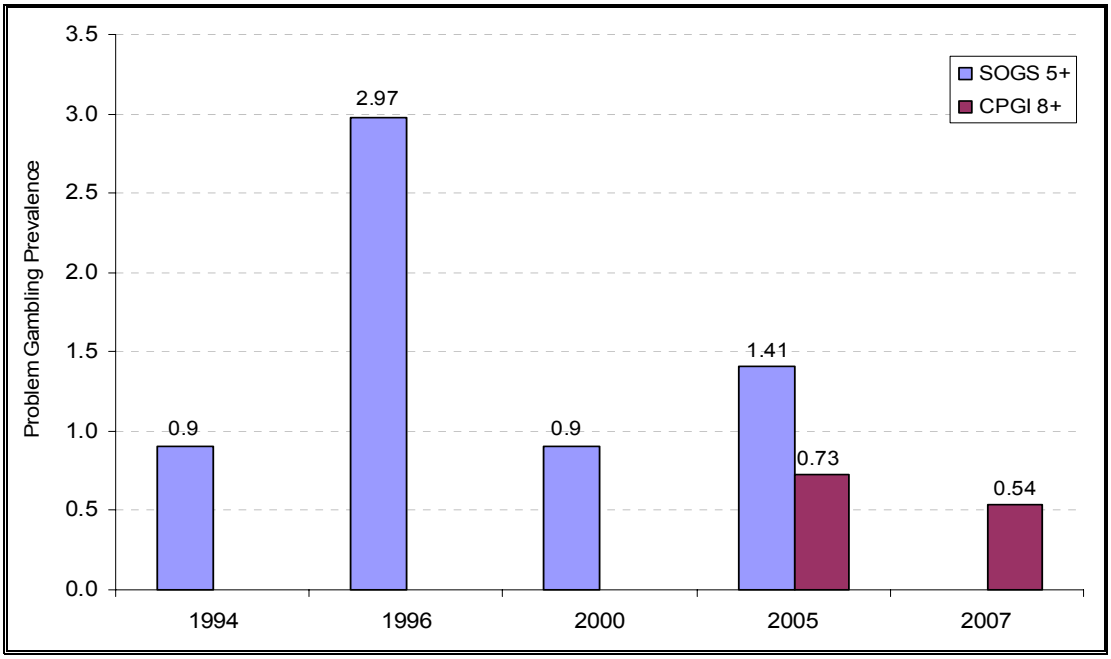
Problem gambling in Tasmania

- The results from the CPGI showed that an estimated 0.54 per cent of the sample scored in the problem gambling range, 0.86 per cent in the moderate risk range, and 0.99 per cent in the low risk range.
- These figures were not significantly different from the figures obtained in 2005 (0.73 per cent for problem and 1.02 for moderate risk).
- Tasmanian problem gambling and 'moderately at risk' rates were similar to South Australia, but lower than in Victoria and Queensland.
- Problem gambling rates have been very unstable over time when measured using the SOGS, but more similar when using the CPGI. The CPGI is a more conservative measure of problem gambling and typically yields a lower proportion of problem gamblers than SOGS scores of 5+ (see Figure E.1).
- Psychological (e.g. depression) and financial problems (e.g. being unable to afford to pay bills, being in debt) were the most common problems reported by problem and moderately at risk gamblers.
- The level of harm experienced by Tasmanians was similar to that recently observed in South Australia, but lower than in the 2005 Tasmanian survey. There was also a decrease in the percentage of people reporting having experienced difficulties with gambling.
- Problem gambling rates were significantly higher in males, in people aged 18-29 years, and in those living in the Greater Hobart area.
- Those identified as higher risk (problem or moderate risk) were significantly more likely to use ATMs at the casinos and to be loyalty card holders.

- Fifty percent of the sample said that they knew someone with a gambling problem. For 12.8 per cent of the sample, this person was a close family member. Two-thirds identified EGMs as the source of the problem, 15 per cent identified horse racing, and 9 per cent identified casino tables games.
- A quarter of moderate risk and problem gamblers reported that gambling was their main leisure activity.

Figure E.1

Prevalence Studies: Tasmania 1994-2007



Substance use

- A series of analyses examined the relationship between gambling and substance use.
- 26.9 per cent of regular gamblers were smokers compared with 18.3 per cent of people in the rest of the sample
- 14.8 per cent of regular gamblers were heavy smokers (100+ cigarettes per week) compared with only 6.2 per cent for the rest of the sample.
- Forty percent of moderate risk and problem gamblers were smokers and 34.5 per cent were heavy smokers.
- There was no significant association between regular gambling and general alcohol consumption, but regular gamblers were significantly more likely to be heavy drinkers (20 or more standard drinks per week) than others in the sample (18.4 per cent vs. 6.8 per cent).
- Moderate risk and problem gamblers were no more likely to be heavy drinkers than other regular gamblers.
- There was some increase from 2005 in the proportion of people reporting that they drank more when they gambled.

Help-Services

- There was a significant decrease from 2005 in the number of people who were able to recognise various formal and informal sources of help for gambling problems.

Section A

Overview

In Section A ─ consisting of five chapters ─ the researchers firstly provide an introduction to the study and then in Chapter 2, we illustrate the complexity and the debate surrounding the measurement of social impacts. A brief review of the history of gambling in Tasmania and the structure of the gambling industry and gambling environment is outlined in Chapter 3. Trends in gambling behaviour and participation including interstate comparisons are examined in Chapter 4.

In the final chapter in this section the researchers consider the submissions received as a result of the Treasurer's invitation to make written submissions to the study. Also considered is the 2002 Parliamentary Inquiry into the *Impact of Gambling Machines*.

The researchers have treated the submissions in this way to allow the voices of industry, the community service sector and gambling help service providers and others to be heard without censorship by the authors. A second purpose is that each of the submissions have their own views on the benefits and costs of the industry including economic and social impacts.

1. Introduction

1.1 Background

The Department of Treasury and Finance on behalf of the Tasmanian Government awarded a competitive tender to the South Australian Centre for Economic Studies (SACES) to undertake a social and economic impact study into gambling in Tasmania.

Under section 151(5) of the *Gaming Control Act 1993* (the Act) the Treasurer must cause an independent review of the social and economic impact of gambling in Tasmania to occur every three years. The Treasurer indicated that this study will be the first of repeated studies into the impacts of gambling in Tasmania. This commitment is reflected in the terms of reference outlining the scope and objectives of this study (see section 1.2).

Table 1.1 lists the research commissioned by the Tasmanian Government and that conducted by the Productivity Commission on the Tasmanian gambling environment since 1994. The current study includes a prevalence survey (so there have been five stand-alone prevalence surveys conducted in Tasmania since 1994, plus the national Productivity Commission study) but for the first time, provides an analysis and overview of the social and economic impact of gambling in Tasmania.

Table 1.1
Gambling Studies: Tasmania

Year	Type of Study	Consultant
1994	P	Australian Institute for Gambling Research, Roy Morgan Research
1996	P	Australian Institute for Gambling Research, Roy Morgan Research
1999	S/E, P	Productivity Commission (National Study)
2000	P	Roy Morgan Research
2005	P	Roy Morgan Research
2007	S/E, P	SA Centre for Economic Studies (current study)

Note: P = Prevalence study; S/E = social/economic/broader study.

1.2 Terms of Reference

The Centre was provided with specific terms of reference to guide the overall study. The terms of reference were publicly available and were referred to by the Centre in all publications, in requests for public submissions and in interviews and correspondence with stakeholders. The terms of reference are shown below.

The Study is to:

a) quantify and assess the broad social impacts of gambling in Tasmania;

b) analyse the economic impacts of gambling in Tasmania and quantify the financial impacts upon State and local government, as well as an assessment of its effect upon tourism, recreation, economic development and employment;

c) identify the incidence of problem gambling in Tasmania and analyse that in comparison with other States and Territories: and

d) establish a framework and methodology to enable the research to be repeated and used for longitudinal analysis.

In conducting the study it was a requirement that:

- consultation with stakeholders be undertaken during the study;
- the national definition of problem gambling be used as endorsed by the Ministerial Council on Gambling. That definition is the following:
  - "Problem gambling is characterised by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community";[9]
  - estimates of gambling prevalence be comparable with the previous Tasmanian Gambling Prevalence Study (2005) using the nationally agreed gambling screen, 'the CPGI'; and
- the draft report be subject to independent peer review before it is finalised.

The Centre was required to report by the 31 March 2008 although an extension was granted until 28 May 2008 due to delays experienced in obtaining a national data set, that was required for statistical analysis including interstate comparisons of gambling participation and expenditures.

1.3 Public submissions, consultations, data collection

When announcing the appointment of the Centre to undertake this study, the Treasurer Michael Aird, MLC stressed the independence of the study noting that the "government places a high level of importance on this independent study and I want to ensure it is done properly and thoroughly." To assist in this task the Treasurer invited written public submissions and an advertisement calling for submissions was placed in local newspapers (see Appendix B).

The Department of Treasury and Finance provided an initial contact list of individual stakeholders, government agencies, regulatory authorities, gambling industry contacts and their representative bodies, non-government organisations including, *inter alia,* charitable, welfare and gambling help service agencies, and other important contacts. The researchers added to this initial list throughout the course of the study.

The researchers arranged meetings and discussion times with, for example, industry groups (e.g. the Federal Hotels Group, AHA, TOTE Tasmania), the Tasmanian Gaming Commission, with councils and the Local Government Association, welfare and problem gambler help service providers, and government agencies (Liquor and Gaming Branch, Gambling Support Program) and political representatives.

In addition to written public submissions the researchers wrote to various stakeholders requesting information and/or clarification of issues raised in the written submissions. All agencies that were visited by the researchers were encouraged to provide written submissions.

A list of written submissions received is shown at Appendix C. They were divided equally between gambling industry providers, welfare and peak non-government agencies and concerned individuals and others. Relevant reports were provided by a number of government agencies and industry organisations (e.g. DHHS, DT&F, TOTE Tasmania).

[9] National definition of problem gambling was developed by SACES and endorsed by the Ministerial Council on Gambling. See "Problem Gambling and Harm: Towards a national definition", report commissioned by Gambling Research Australia (2005).

1.4 Structure of the report

The report is divided into two volumes corresponding to the terms of reference:

- Volume 1: Social, Financial and Economic Impact (ToR: (a), (b) and (d)); and
- Volume 2: The Prevalence Study identifying the incidence of problem gambling (ToR (c)).

In Volume 2 the researchers provide a discussion of the results of telephone interviews with over 4,000 Tasmanian residents, considering their participation in gambling activities, the use of electronic gaming machines (EGMs), attitudes towards gambling, problem gambling, co-morbidities and use of help services. Comparisons with other States and Territories are also provided. Volume 2 also provides a full summary of the methodology employed in conducting the fifth stand-alone prevalence study conducted in Tasmania since 1994.[10]

Volume 1 addresses the terms of reference above and is divided into five sections;

Section A: Overview, the Gambling Environment and Submissions on Gambling;

Section B: Assessment of Economic Impacts;

Section C: Assessment of Financial Impacts;

Section D: Assessment of Social Impacts; and

Section E: Future Research Framework

Section A: provides an introduction to the study prior to examining the issue of social impacts and the various approaches to assessing social impacts. An overview of the history of gambling in Tasmania, the gambling environment and changes and trends in gambling participation and preferences is provided in Chapters 3 and 4. Comparisons with other States and Territories are discussed, particularly in relation to the structure of the industry and trends in gambling behaviour and participation. Finally, this section provides a summary of the issues raised in written submissions to this study, as well as an overview of matters considered in the Tasmanian parliamentary inquiry into the "Impacts of Gaming Machines" (2002).

Section B: sets out the framework used in this study to estimate the economic benefits and costs of gambling and in particular the impact on non-gambling expenditure. This section also considers the impact of gambling in relation to employment and tourism.

Section C: the financial impacts of gambling in Tasmania are discussed. This section deals with revenues and outlays, taxes and transfers and community benefit distributions. We also consider the financial impacts on the individual in this section.

Section D: is concerned with an assessment of social impacts, community attitudes to gambling (including reference to questions included in the prevalence survey), the approach to harm minimisation in Tasmania to ameliorate social impacts, gambling and crime and aspects of EGM expenditure and problem gambling. Econometric analysis is provided on regional impacts of electronic gaming machine gambling in Chapter 14. The final two chapters conclude the study by valuing social impacts and then quantifying the benefits and costs of gambling.

[10] The principle author of the Prevalence Study Volume 2 was Dr Paul Delfabbro of the School of Psychology (University of Adelaide) in association with Michael O'Neil, Executive Director of the South Australian Centre for Economic Studies (Adelaide and Flinders Universities) and Harrison Health Research (Adelaide), a health research company that conducted the telephone interviews. They are nationally recognised as experts in this field, conducting interviews for the two most recent South Australian prevalence studies.

Section E: considers a framework and methodology to enable the research to be repeated. An approach would combine macro analysis with micro-regional analysis including updating the prevalence of problem gambling.

It is important to note that the researchers are *not* making recommendations to the Tasmanian Government in this report. The terms of reference *do not* require the consultants to provide recommendations; rather they specifically require the research team to "analyse, quantify, identify, assess and compare" and then, to provide a comprehensive report as is possible to the responsible Minister.

The terms of reference do require the researchers to consider a framework and methodology to update this study and where possible to enable longitudinal analysis of the impacts of gambling.

2. Understanding Social Impacts

Findings

- There is no consensus among researchers on the definition of social impacts, nor for defining, measuring and testing for social impacts. This is partly due to this topic of debate being a relatively new area of research.
- The measurement of social impacts is complex requiring a multidisciplinary approach encompassing analysis at the individual, household, community, regional and State level[11] within a consistent framework.
- The economic framework[12] is generally dominant in Australia. It is the principal approach used throughout this study although other approaches are utilised.
- Perhaps reflecting the difficulty of defining and measuring social impacts, the researchers note that Tasmanian legislation related to gambling refers to social impacts, but has no practical definition nor process to assess them.
- Perhaps as well, it is not possible to separate economic and social impacts from gambling and policy approaches reflect this.

2.1 Introduction

This study was required to examine the social, economic and financial impacts of gambling in Tasmania. The economic and financial impacts are relatively more straightforward to identify, quantify and measure, whereas there remains considerable debate about the identification, extent and measurement of social impacts. In order to gain an understanding of the social impacts of gambling, SACES undertook a review of the literature around this subject. The references to much of this literature conclude that understanding, defining and measuring social impacts is a complex issue with researchers and policy-makers taking a range of stances and approaches.

We posed some questions to the TGC regarding the official definition of social impacts in the legislation and the part that the assessment of social impacts plays in the allocation of gambling licences.[13] One of the key responses was to tell SACES that, "No definition of the social and economic impact of gambling is provided in the Act", which made the task of examining these impacts, as required by this study, a more challenging undertaking.

In order to give some shape to what is a grey area with little consensus, SACES have applied a framework as described below, in which we defined three approaches for a given piece of research or policy. The three approaches are not mutually exclusive, and may or may not overlap, but are helpful in putting some parameters around a complex issue. It should be noted that the three frameworks are distinctions provided by SACES to classify the approaches of policy-makers and licensing arrangements in the gambling sector. We are not referring to help services or support programs, which normally include measures to ameliorate or prevent adverse effects from problem gambling, and are in place in every state and territory.

[11] See Anielski (2008: p. 25).

[12] Economic framework defines and lists economic impacts and social impacts to calculate net impacts. Debate about what constitutes social impacts within this framework is on-going.

[13] As part of the study for the Independent Gambling Authority of South Australia (2008), SACES consulted the gambling regulators in each state with regard to their treatment of social impacts in legislation and gambling licence applications. The TGC was approached as part of this process.

SACES classified the approaches of researchers to understanding social impacts under three headings – the economist, sociologist and psychologist approaches.

Illustrating the Different Perspectives

In addition to looking at the relevant literature, this chapter makes reference to the views of welfare and human service agencies including financial and gambling help service providers, which, as will be seen in Chapter 5 provided submissions relating to this report, focusing on the social impacts of gambling in Tasmania. We refer to submissions provided by industry that tend to focus more on the economic and financial aspects of the gambling industry. The submissions illustrate the different perspectives of stakeholders in relation to the social impacts of gambling.

Gambling support and human service agencies (in both written submissions and face-to-face consultations) consider real-life examples of people they deal with on a day-to-day basis who are facing real and significant problems because of their gambling or the gambling of others. Problems range from social to financial to personal, and many more people are affected than just the gamblers themselves. One of the key observations arising from the submissions from human services agencies in Tasmania is the inclusion of this wide range of impacts in their discussion of social impacts. On the other hand industry submissions tend to take a narrower focus on economic and financial impacts from gambling. In doing so they refer to industry initiatives and the regulatory framework particularly for harm minimisation designed to minimise social costs.

Without either party expressing it in these exact terms:

- human services/gambling help service agencies experience the very private costs of an individual's, family's or householder's private and negative impacts of problem gambling; where as
- industry deals with public costs/public impacts as private impacts are essentially a matter of personal choice (i.e. they encourage responsible gaming but they are not ultimately responsible for an individual's behaviour).

This is a large area of research and discussion, and there is no clear consensus of the dividing line between private and social impacts.

It follows from day-to-day experience of gambling help service providers and others that they stress the need for a community-wide approach to consumer protection and to dealing with the problems that arise. Their submissions state that gambling causes problems for people from all walks of life and that even though they are difficult to quantify, they must still be addressed. It also then follows that those who deal with the private and negative impacts of gambling experienced by a wide cross section of individuals do not tend to separate the economic and social impacts of gambling. This is also the stance of many researchers and several jurisdictions, most notably New Zealand and Queensland.

2.2 An overview of the main approaches taken in the literature

The literature on measuring the social impacts from gambling may be classified into three broad frameworks:

1. Economic framework – relating to the economist's approach.
2. Social/community or public health framework – relating to the sociologist's approach although not exclusively limited to this discipline.
3. Individual framework – relating to the psychologist's approach.

These frameworks are not mutually exclusive and some researchers have incorporated more than one approach while others have produced work which falls very clearly into one area. A brief description of each approach follows. The different approaches are important because they influence our understanding of gambling participation and problem gambling and the range and emphasis of policy interventions and objectives.

The **economist approach** incorporates a number of assumptions about the nature of the individual consumer. According to classical economic theory, the consumer is assumed to be driven by the desire to maximise their own utility, which they do by making rational decisions based on perfect market information. Economists tend to assign a dollar value to the costs and benefits arising from a product, activity or policy and assess whether the net impact is positive or negative, in dollar terms.

The analysis in this first volume is based on the economist approach in the main, and the assumptions are presented in the next section.

The **sociologist approach**, also frequently referred to as the public health approach, tends to focus on the impact of a product, policy or activity on society as a whole. (Other professions may also take this all-encompassing approach, such as social workers and policy-makers.) Looking particularly at gambling, sociologists (and these other groups) tend to highlight those in the community who are considered to be most vulnerable to harm from gambling. They are concerned with impacts on families, employment, education, health and social cohesion. This approach may take into account the economic impacts, but takes the position that the economic and social impacts of gambling cannot be neatly separated.

Like the economist, the **psychologist approach** focuses on the individual, but rather than looking purely at economic behaviour, the psychologist aims to model and explain behaviour based on the individual's characteristics such as age, gender, ethnicity and co-morbidity. This approach has led to the 'medicalisation' of the problem gambler and the development of gambling screens, such as SOGS and the CPGI,[14] to assess the severity of the gambler's behaviour. A lot of the work done by psychologists has concentrated on behavioural characteristics of the pathological or problem gambler. The second volume of this report, which is a prevalence survey of gambling in Tasmania, fits with this approach.

While we have principally followed the "economist approach" in undertaking this study, it is important to note that SACES has used all three approaches in various components of this study. We have conducted analysis of regional aspects of problem gambler numbers and regional variations in expenditure; we conducted a prevalence survey to assess the extent of

[14] SOGS is the South Oaks Gambling Screen, a test for problem gambling originating in the USA. CPGI: Canadian Problem Gambling Index.

problem gambling and attitudes to gambling; and we examined gambling and crime to assess whether there was any observed relationship between these two variables.

The approach we adopted was designed to provide answers within the terms of reference for this study. The approach was selected given budget, data and time constraints. SACES is aware and has used other approaches to assess particularly, social and community impacts and we consider other approaches in our discussion of a "methodology and framework to enable this research to be repeated" (ToR(d)).

2.3 The economist approach

The economist approach to the analysis and evaluation of a product, activity or policy is to focus on the costs and benefits arising from it and assess whether the net impact is positive or negative. How costs and benefits themselves are calculated can vary, particularly with social costs, but economists use a range of approaches to assign a dollar value to all costs and benefits and then tally the total.

With the economist approach comes a number of assumptions about the nature of the individual consumer who, according to classical economic theory is generally assumed to make rational decisions, based on perfect market information, and aiming to maximise their own utility. It is an objective way of modelling people's behaviour, be it nationally, or by characteristics such as consumers, producers or governments.

The economist approach includes consideration of social impacts. However, there is debate among economists about which social impacts should be included, what should be measured and how. Some focus on the cost-benefit approach, some prefer the consumer surplus approach, and others criticise both of these methodologies. There are also criticisms within the economist arena about the ability to assign causalities to social impacts, which is difficult or impossible to pinpoint when a number of factors are at work.

The Productivity Commission (PC) takes the economist approach to defining and measuring the impacts from gambling in its 1999 report, *Australia's Gambling Industries*. The Productivity Commission report is important in this discussion since Australian jurisdictions all reference the findings and approach in their legislative and policy frameworks. It was the first body to measure both economic and social impacts at a national level, and was thus instrumental in putting the social impacts from gambling at the forefront of the literature around gambling. The economist approach tends to produce quantifiable estimates of social impacts and is therefore an attractive approach for policy makers. It is important that estimates of social impacts are included in this approach, as they are within this report.

2.4 The sociologist/public health approach

The sociologist or public health approach incorporates both the economic and social impacts of gambling, coming from the standpoint that the two cannot be neatly separated, and that the economist's perspective may take too narrow a view. It takes into account a larger number of factors than the economist framework. It does not make the distinctions between tangible and intangible impacts, or between private and social impacts, and does not make assumptions about rationality of choice.

This approach emphasises social factors in the determination of public health, including income and income distribution, education, employment, gender, social support networks and other relevant social and economic issues. It covers the quality of life of individuals, families and communities, including the impacts of gambling on vulnerable and at-risk groups, and recognises that both costs and benefits come from gambling. It encompasses the socio-economic, behavioural, biological, cultural and policy-based influences on gambling and public health. It also recognises the life-cycle aspect of gambling in society, as gambling can have impacts on the fabric of society over time. This multi-faceted framework "has the potential to identify multiple strategies for action, prevention and intervention" (GPI Atlantic, 2004, p.5).

Azmier et al. (2001) argue that the economist approach is not comprehensive enough to sufficiently analyse the impact of gambling on public health in order to inform policy decisions. Specifically, they say that economic impact analysis fails to include real private and social impacts, thereby inflating the importance of the benefits; and cost-benefit analysis relies on "easily challenged assumptions that have limited utility because they are not generalisable to other regions" (p.3). This approach is reflected in New Zealand where the New Zealand *Gambling Act 2003* explicitly recognises the public health nature of harm from gambling and allocated the management of problem gambling to the Ministry of Health. The Act also includes provision for increased community involvement in the decision-making process regarding the location of non-casino gaming venues. All local councils are required to undertake a social and economic impact assessment, and to develop and adopt a policy regarding the location of non-casino gaming machine venues.

The Australian state which has followed the public health approach most closely is Queensland. Amendments to Queensland gambling legislation in December 2000 gave regulators the authority to take social and community issues into account when making licensing decisions, and made it compulsory for applicants to prepare and submit a community impact statement (CIS) for applications of 'significant community impact'. Most Australian jurisdictions require social impact assessments to accompany gaming licence applications, which involve varying levels of detail and rigour. When a gambling regulator requires this kind of data to be collated as part of a gambling application, then it is in part, employing the public health approach.

The Tasmanian gambling legislation has no definition of social impacts of gambling, and the gambling licensing application process does not require a social impact assessment or community impact statement or similar to be submitted by applicants. The application process for a casino licence or gaming operator's licence focuses on ensuring a high level of probity and integrity in the conduct of gambling activities as is the case with other jurisdictions. There are also limits on EGMs numbers in venues. However, the final decisions about where gaming machines may be placed are made as a commercial decision by industry rather than government policy.

Thus, there is no single approach across jurisdictions. Here we are illustrating the different approaches adopted by jurisdictions that in part reflect the relevant gambling control Acts, the structure of industry and policy approaches to the management and regulation of the industry.

2.5 The psychologist approach

The psychologist approach focuses on the individual, focusing in on behavioural patterns and how these might be influenced. Consequently, many of the studies coming under this approach tend to concentrate on a small number of people experiencing problems. Research in this area addresses links between gambling and other 'co-morbid' behaviours such as alcohol or drug dependency and also between gambling and depression, suicide and other psychological disorders.

The second volume of this report takes the psychologist approach, in carrying out the prevalence survey for Tasmania, looking at a sample of Tasmanians and carrying out an analysis of the features of those people and the factors in their lives that influence their gambling behaviour.

There is a wide range of disorders that may be linked to problem gambling, including drug and alcohol dependency, obsessive-compulsive disorder and depression, and in addition, problem gambling may be triggered by, or exacerbated by, any number of personal issues such as loneliness, relationship issues, problems with work or home life, or financial problems. Therefore, understanding and researching problem gambling involves a wide range of disciplines and issues. Similarly, the effective treatment of problem gambling must reflect this, as stated by IPART (2004, pp.129-130):

> Generally, the literature examining the aetiology of problem gambling behaviour suggests there is no clear mechanism by which people develop problems and consequently no clear preferred approach to treatment... A variety of factors have been documented as contributing to the development of problematic gambling behaviour—including cognitive variables (such as personality traits), cultural and social influences, co-morbid conditions (including drug and alcohol use), and significant external personal relationships such as family and peer influences.
>
> No one method of treatment should be prescribed for problem gambling counselling across services. Clients of problem gambling counselling services should have access to a range of different therapeutic techniques. Ideally, treatment strategies should be multimodal.

With regard to the link between gambling and suicide, the general consensus in the literature is that there is a link that should be acknowledged and is worthy of further research. Many of the studies to date have used such small sample sizes that it is difficult to be confident about the extent or nature of the causality. The New Zealand DIA (2003) states that problem gambling is a significant contributor to depression and suicide. Ghezzi, Lyons and Dixon (2000) observe a "disproportionately high suicide rate" among gamblers.

In reality, gambling regulators including the TGC tend to adopt a combination of any one, two or all of the three main approaches – that of the economist, sociologist and psychologist. There are crossovers between all three, and the psychologist approach is normally included to some degree, with governments looking at ways to minimise harm from gambling.

2.6 Key issues arising from the literature

This section takes a closer look at the key issues discussed and highlighted in the literature around the social impacts from gambling. Some of the issues are predominantly relevant to one of the three frameworks, such as the discussion about private versus social impacts, which is a distinction drawn by economists, but not generally by non-economists.

Definition of social impacts

A review of the literature brought us to the conclusion that there is a great deal of debate, but no consensus regarding a definition and consequently a method of measurement of social impacts from gambling. Walker and Barnett (1999) observe that no one in the literature provides an exact definition of social impact. Writers tend to list these impacts by 'common sense' and then attempt to measure them. "Instead of starting with objective criteria for what constitutes a social impact, most authors have adopted an ad hoc approach—asserting that some activities constitute costs to society and then quantifying the impact of those activities" (p.183).

Collins and Lapsley (2000) consider private and social impacts to be the two components of total impacts on a community. A key point of difference in the literature, particularly among economists, is with respect to which costs or benefits should be counted as private and what should be classified as social.

This may be partly explained by the fact that this is a relatively new area of research and application. The contributors to the debate come from a wide range of disciplines, including economists, psychologists, sociologists and criminologists. Furthermore, significant bias and/or subjectivity can impact on the work, according to which party has commissioned it and who is producing it. Such parties can include governments (from local to Commonwealth level), academics from various disciplines, industry stakeholders, gambling regulators, consultants and planners.

Private versus social impacts

The distinction between private and social impacts is an important one, since it has implications for public policy. Economists assume that individuals take private costs (and benefits) into account when making the consumption decision. For example, in cost-benefit analysis (CBA), it is usually the case that social costs and benefits are included while private costs and benefits are explicitly excluded. It is a distinction drawn by economists, who argue that government intervention is only justified in the case of significant identified social impacts, whereas private impacts are the result of the individual's choice or free will, and he/she makes the consumption decision with full awareness of the impacts on himself/herself and on others. If there were no externalities (i.e. impacts on a third party) resulting from the individual's actions, "economists generally would prefer to assign sovereignty to consumer preferences" (Collins and Lapsley, 2000). Since individuals are assumed to act rationally and with adequate information, they act in their own best interests, and welfare is maximised. Therefore, there is no argument for the government to intervene. This is not the approach taken by sociologists or psychologists who do not tend to separate out private and social costs.

Another distinction made by classical economists is the exclusion of transfers from the calculation of social impacts, such as bad debts, theft and social welfare payments, since there is no net change to the value of society's resources (Tullock, 1967). By contrast, sociologists include transfers and impacts such as theft and bankruptcy, and tend to emphasise the impact of psychic costs.

Some economists argue that some types of transfers should be included as social impacts. Walker and Barnett (1999) say that voluntary wealth transfers generally do not result in social impacts, as redistributions of wealth, even bad debts, do not in themselves constitute a social impact. However, they say that there are social impacts from theft, resulting from the psychic

impacts on the victim and changed behaviour and consumption patterns as society takes action to prevent further thefts. It is not the theft (or monetary value of the transfer) itself that causes social impacts.

It should be made clear at this point that it is the *awareness* of the individual of the impacts associated with the consumption decision that determines the delineation between private versus social impacts. A rational person will consume while private benefits are at least as much as private costs, thus giving a net benefit or consumer surplus. The consumer surplus concept is central to economic theory and may be defined as the difference between what consumers would be willing to pay less the amount they actually do pay. Consumer surplus is treated as a private benefit.

Rationality of the decision-maker and perfect information

Central to welfare economic theory is the assumption of rationality of consumption/ expenditure choices made by the individual. Rationality is a necessary but not sufficient requirement for impacts to be counted as private rather than social impacts. Rational choices are assumed to be made based on perfect information about the product or service being purchased.

With specific reference to expenditure on gambling, many contributors question the validity of this assumption. Doughney (2001) says that expectations can change during a gambling session, and expectations from the expenditure decision do not necessarily equal outcomes. If those gamblers who experienced harm in playing the machines had known this beforehand they would have been much less likely to have still spent that money.

Even given this moving target of utility maximisation, a lack of perfect information about the gambling 'product' means that gamblers are basing their consumption decisions on incorrect or misguided assumptions and or limited data. For example, the Productivity Commission (1999) found in its national survey of gamblers that 59 per cent of respondents gamble because they 'dream of winning'. Also, as Doughney (2001) observes, gamblers cannot have perfect information in their consumption decisions, i.e. they cannot know beforehand whether they will win or lose.

Relevant to problem gambling and the rationality of the decision maker is the notion of the "gamblers fallacy". A study produced in 2005 for the Victorian government, entitled "Changes in Wagering Within the Racing Industry" (SACES et al, 2005), presents the 'gambler's fallacy' whereby gamblers believe that the probability of winning is influenced by previous plays. With particular reference to EGMs, gamblers may believe that a machine is 'due' to pay out after a certain period of not doing so, and they may also believe that a machine that has just paid out will not do so again for a while. However, in reality the odds are no different for a win or loss with each spin. The fallacy is also evident with lottery products, where people may believe that some numbers are luckier than others, based on the frequency in which they have featured in past draws, whereas each event is entirely random. The gambler's behaviour is affected by this flawed set of expectations, as follows:

> The 'gambler's fallacy' gives rise to behaviour such as chasing losses or people with a gambling problem frequently exhibiting overconfidence in their ability to win. The problem gambler continues to gamble so as not to miss out on a big win, or to 'chase' their money.

A further factor impacting upon the rationality of a person's decision to gamble, is the onset of addictive behaviour. Walker and Barnett (1999) argue that before addiction, the decision to gamble may be a rational choice, and with rational choice, voluntary actions that do not adversely affect other people cannot reduce social welfare. As a person develops an addiction to gambling, their gambling decisions will be affected by this addiction, and therefore cannot be treated as entirely rational. This is close to the experience of problem gamblers as reported to Gambler Help service providers.

Therefore, it might be argued that some of the impacts from gambling experienced by problem gamblers should be classed as social impacts, to the extent that the impacts were unintentional and the result of addictive behaviour.

Causality/co-morbidity

In estimating the social impacts arising purely from gambling, it is necessary to make assumptions about the causality of gambling with regard to any impact. However, gambling problems are often accompanied by stress, depression, drug or alcohol abuse, or other behavioural issues, and therefore these impacts may not be easily separated out for analysis. If a person who has problems with gambling has depression as a primary disorder and this results in suicide, then the impacts associated with the suicide should be attributed mainly (or in total) to the primary disorder. In this example, it may be appropriate to attribute a proportion of the impacts to the gambling problem as a secondary disorder.

In the accompanying volume to this report (SACES, 2008), the researchers cite results from the 2005 Tasmanian prevalence study[15] to demonstrate that the "proportion of regular gamblers who reported heavy drinking was significantly higher than in the rest of the sample". Also "regular gamblers were significantly more likely to smoke than the rest of the sample".

As stated above, the key question for researchers to address with co-morbid conditions is to establish whether gambling is the primary or secondary disorder before allocating impacts. Problem gamblers often experience legal, medical and financial problems, but this does not imply causality. The portion of an outcome that is not attributable to gambling should not be counted as a cost from gambling. In Tasmania, the Tasmanian Gambling Support Program explicitly addresses the co-morbidity of problem gambling with smoking, drinking and poor diet in their education and community awareness publications.

Another link discussed in the literature is the link between gambling and crime. Even if a link is observed, it may not be feasible to quantify this causality or to estimate the amount of crime that is attributable (rather than just associated with) to gambling. The relationship between crime and gaming expenditure is taken up in Chapter 13.

It is interesting to note that the Productivity Commission explicitly deals with this issue of causality by applying a 'causality adjustment'. It assumes that 20 per cent of problem gamblers would have had the same outcome/cost, such as divorce or job loss, without their gambling problem and adjusts for this in its estimates by reducing its estimate of the number of problem gamblers who were affected by 20 per cent. The choice of 20 per cent is based on the Productivity Commission's professional judgment which was informed by discussions with academics and researchers.

[15] Roy Morgan Research (2005).

Tangible versus intangible impacts

Economists make a distinction between tangible and intangible costs (and benefits). Tangible costs have a market value and if these costs were reduced, these resources would be freed up to be used elsewhere in the economy. Intangible costs have no definite market value because they are not tradable. If these costs were reduced, resources would not free up to be used elsewhere. Many of the impacts from gambling are intangible so they cannot be readily measured and many of these impacts are difficult to attribute only to gambling, as discussed in the previous point. Examples include psychological and emotional suffering, impacts on quality of life, environmental impacts, social cohesion and suicide. Economists sometimes exclude intangible effects from their analyses, which by default assigns them a value of zero.

While intangible impacts are the most difficult to measure, they can be significant and may outweigh the tangible impacts. Thus, the overall social impact estimates can be swayed by the magnitude of intangible impacts, as shown by the Productivity Commission (1999) report, which estimates that total net impacts in Australia from all gambling for 1997/98 lie within the range of a $1.2 billion net loss (or net social cost) and a $4.3 billion net benefit. The difference between these two extremes is primarily accounted for by the range surrounding estimates of 'distress of family and parents', 'break-up, divorce and separation' and 'depression and suicide'. The Productivity Commission noted that there were "significant differences by gambling mode, however, with lotteries showing a clear net benefit whereas gaming machines and wagering include the possibility of a net loss."[16]

In this report, the analysis in Chapters 15 and 16 has taken the estimates of intangible social costs per problem gambler arrived at in the Productivity Commission report and factored them up to be expressed in 2007 dollars, in order to arrive at estimates of the net impacts of gambling on Tasmania.

The regressivity of gambling

The nature of gambling is that on average, the return to players is designed to be less than 100 per cent, therefore gambling necessarily involves a transfer of income from gamblers to gambling providers and to governments. In the literature, it is generally agreed that these financial flows are regressive, with people on lower incomes spending proportionately more of their income on gambling. As Smith (2000) states: "A tax is regressive if it falls as a percentage of income as income rises, and is progressive if it rises."

Economists traditionally look at income distribution effects with analysis such as cost-benefit analysis, since such effects offset each other, so there is no net gain or loss to society as a whole.[17] However, costs and benefits are not shared equally and those who are harmed are a different group to those who benefit. This issue was specifically raised with the researchers in written submissions and interviews with various stakeholders in the course of this study.

A related issue is that those who benefit from the expansion of the gambling industry may be based outside the state of Tasmania while the costs are borne within Tasmania.

[16] Productivity Commission (1999) Final Report: Summary p. 32.

[17] The Whistler Symposium (2000) recognised "the need to assess the redistribution effects of gambling in terms of money flows (government revenues, charitable donations, etc.), resources (e.g. labour), and time-use impacts of gambling" (p.27).

Referring to gambling in Australia, Smith (2000) highlights that regressivity varies between gambling modes, with EGMs being more regressive than other modes:

> the shift in consumer demand towards more regressive forms of gambling, notably gaming machines, and increased accessibility of gambling for lower income groups suggests that gambling taxation is becoming even more regressive.

In Australia, the Socio-Economic Index for Areas (SEIFA) is used to assess the relative level of social and economic advantage and disadvantage of communities. Using the SEIFA, low values indicate areas of disadvantage, and high values indicate areas of advantage. In Tasmania, the state is divided into 29 Local Government Areas, each assigned a SEIFA value for 2006, the most recent year available. Of these 29, only two had a SEIFA index above 1,000, indicating above average welfare, and the other 27 had an index below 1,000. Thus, the regressivity of gambling, and particularly EGMs, is of particular concern in Tasmania and is examined later in this report.

Public opinion

Public opinion towards gambling is an important consideration for governments as it impacts upon the acceptability, or otherwise, of gambling-related policy. A number of studies have shown that the majority of people surveyed consider gambling to have serious negative impacts which more than outweigh any positive impacts, and would like to see harm minimisation measures in place to protect people from the harms. EGMs are particularly unpopular.

For Tasmania, the 2007 Prevalence Survey found that only 17 per cent of people sampled "said that Tasmania had benefited socially from the introduction of EGMs". Also, "most people felt that gambling was too widely accessible in Tasmania (76.6 per cent), that EGMs were a serious social problem (87.1 per cent), and that the number of machines should be reduced (75 per cent)". Delfabbro summarises the views of Tasmanians sampled, saying "In general, Tasmanians had more negative views about their gambling in their community than Victorians", (McMillen et al, 2004). That report collated opinions of 8,500 residents and found "a substantial majority of Victorians (85 per cent) agreed or strongly agreed that 'gambling is a serious social problem in Victoria'". Also, 76 per cent agreed that "gambling is too widely accessible in Victoria" and 74 per cent wanted the number of EGMs to be reduced.

In South Australia, a survey carried out in 2004,[18] which was ten years after EGMs had been introduced into the state, found that: "An overwhelming 73 per cent of respondents believed that the decision to introduce EGMs was a 'bad' one." Seventy two per cent felt that the government was placing "too little" emphasis on dealing with problem gambling, and 56 per cent considered problem gambling to be an "extremely serious" issue. The most popular measure to deal with problem gambling, favoured by 81 per cent of respondents, was to limit withdrawals from ATMs in gambling venues. Two of the other preferred measures were "further reductions in machine numbers, and a ban on credit card advances from ATMs in venues".

[18] As reported in the *Sunday Mail*, Adelaide, 8 August 2004.

2.7 Concluding remarks

This chapter has provided a framework in order to facilitate analysis and discussion of research and policy approaches with regard to the social impacts from gambling, applying an economist, psychologist and sociologist approach. The framework is designed purely for this purpose and does not imply that any given policy approach or research work must fit neatly under just one heading. On the contrary, there are likely to be crossovers for most if not all research and policy, but we have highlighted where they may be a stronger influence of one approach over others. It is also important to reiterate that the framework has not been applied to help and support programs, since these are by their nature aimed at public health issues.

This review of the approaches taken in the literature around social impacts from gambling has brought us to conclude that there is a lack of consensus on definitions and measurement, which is partly due to the relative immaturity of the research, and partly due to the wide range of disciplines of researchers. There is also significant uncertainty around causality of impacts resulting from gambling, which is important in assigning costs and benefits specifically to gambling. Nevertheless, there is a consensus in the literature that there are substantial negative and positive social impacts from gambling which can outweigh economic impacts, and also that these social impacts **should** be assessed.

One major area of contention was the cut-off point where impacts should be included as 'social' impacts, and a related issue was whether some identified impacts can be attributed specifically to gambling (the causality/co-morbidity debate). Other major issues addressed include concerns about the regressivity of gambling, particularly EGMs; shortcomings and gaps in data; the disparity between government policy and public opinion about gambling.

The literature also addresses the issue of regressivity, since gambling in general, and EGMs in particular, have been shown to be associated with proportionately greater expenditure from lower income groups. This is an issue particularly pertinent to Tasmania especially since Tasmanians fall mostly within the lower socio-economic rankings relative to the rest of Australia (see Chapter 14).

One of the issues raised in the literature is with regard to the lack and inconsistency of gambling-related data, particularly the social impacts on gamblers and the people around them. The literature points to the need for improved data and monitoring of the gambling sector, and to take a community-wide standpoint, rather than focusing purely on the effects on just one group. A policy to ensure ongoing consistent and comprehensive data collection would improve the availability and quality of information about the Tasmanian gambling sector and its impacts for the government, industry, human services sector, researchers and the public. It would also enable the meaningful monitoring of costs and benefits of the industry over time.

Within the Tasmanian legislation social impacts from gambling are not defined. There is also no proxy in the form of a social impact assessment or community impact statement required when applying for a gambling licence. As we will discuss, a number of written submissions and discussions with the researcher during this study sought to encourage the Tasmanian government to adopt a much wider focus than on the problem gambler and to establish a much wider assessment of the economic and social impact of gambling on families and community.

3. Gambling in Tasmania: History and Structure

In this Chapter we examine the evolution of gambling in Tasmania and comparatively with Australia where this is relevant. The evolution of the gambling environment has been relatively gradual throughout Australia's history, with all forms of racing and wagering, state run lotteries and minor gaming the principal modes of gambling. The Productivity Commission (1999, p. 7) noted in their summary report that in more recent times (from the mid 1980s onwards) "the rapid transformation ... has been the result of legislation (or liberalisation) and technological developments". The impact of technology is far reaching bringing to the market new products and new ways of gambling, including *inter alia*, via the internet, telephone and digital television. Tasmania has often been at the forefront of liberalisation of the gambling industry.

A summary of the gambling environment is also included here. The gambling market, regulatory arrangements that institutionalise and shape the gambling environment (e.g. gambling opportunities, licensing requirements) and the products on offer influence outcomes for all participants, but in different ways; the gambling environment is also the "field of contest" regarding the outcomes of gambling including the social cost of problem gambling, harm minimisation, consumer protection, risk and product safety.

3.1 Introduction

Major developments in respect of Tasmania's gambling industry are indicated in Box 3.1 for racing and wagering and lotteries (the long established forms of gambling) and in Box 3.2 for the more recent expansion of gambling and gaming products.

Legalised gambling has expanded dramatically since the late 1960s in Australia, initially with state legislation permitting the expansion of lotteries and then off-course wagering through TAB betting. The 1970s saw the commencement of the second wave of regulatory relaxation towards gambling, with an expansion of lottery products and the establishment of the first casino in Australia at Wrest Point (Hobart).

In the mid-1980s most states and territories followed Tasmania and allowed for the establishment of a casino(s) and then, in the early 1990s a third wave of regulatory relaxation allowed for the introduction of electronic gaming machines into hotels and clubs.

Regulatory Authorities

In each jurisdiction following the liberalisation of gambling, new or expanded regulatory authorities have been established. The state's gambling regulators are the TGC and the Director of Racing, who heads Racing Services Tasmania (RST). Racing Services Tasmania is an administrative unit of the Department of Infrastructure, Energy and Resources.

The TGC is responsible for the regulation of gaming in Tasmania and is independent of the Tasmanian Government and the gaming industry. The Commission is supported in its role by the Liquor and Gaming Branch of the Revenue, Gaming and Licensing Division of the Department of Treasury and Finance.

Box 3.1
Tasmanian Gambling History – Timeline of Major Events
Racing, Wagering and Lotteries

Racing and Wagering	
1814	First official horse race in New Town
1871	Tasmanian Turf Club (TTC) formed
1874	Tasmanian Racing Club (TRC) formed in Hobart
1875	Hobart Cup
1880	Totalisator introduced
1896	Tattersall's licensed in Tasmania
1910	Trotting clubs established in Launceston and Hobart
1932	Off-course betting shops legalised
1974	Off-course TAB betting introduced
1978	Off-course bookmakers phased out
1990	Formation of the Tasmanian Racing Authority
1998	Tasmanian Racing Authority reconstituted as Racing Tasmania
1999	Racing Tasmania abolished with administrative and financial responsibilities assigned to Tasmanian TAB, and regulatory functions assigned to the Director of Racing, Racing Services Tasmania.
2001	Tasmanian TAB dissolved, responsibilities transferred to TOTE Tasmania
2005	Restructure of racing industry (i.e. regulatory panels established)
Lotteries	
1975-76	Pools introduced
1976	Tattslotto introduced
1978	Instant scratchies introduced
1981	Lotteries re-introduced (Tatts instant lottery introduced)
1983	Midweek Tattslotto introduced
1990	Keno introduced
1991-92	Tattslotto Extra introduced
1994	Keno introduced in hotels and clubs

Box 3.2
Tasmanian Gambling History – Timeline of Major Events
Casino, EGMs and Other Gaming and Wagering

Casino	
1973	First casino in Australia – Wrest Point Casino – opens in Hobart
1982	Country Club Casino opened in Launceston
1986	Casino-style gaming machines introduced to casinos
1993	Modern (i.e. hotel) style gaming machines introduced to casinos
Electronic Gaming Machines (EGMs)	
1993	Gaming Control Act, First Deed of Arrangements*
1993	EGMs introduced on Bass Strait ferry
1997	EGMs introduced in hotels and clubs
2003	Statewide cap introduced, Second Deed of Arrangements
Other Gaming and Wagering	
1974	Calcutta sweepstakes and minor bingo permitted
1994-95	Sports betting introduced
2000	Federal Hotels Group launched interactive gaming site (later prohibited under Interactive Gaming Act 2001 (Commonwealth))
2001	Tattersall's commence internet casino, sports betting for overseas customers only. Closed 2003.
2006	Betfair Licensed in February

Note: * Refers to Agreements between The Crown and Federal Hotels Group.

The TGC operates according to the following legislation (and subsequent amendments):

- *Gaming Control Act 1993*
- *TT-Line Gaming Act 1993*

The roles and powers of the TGC are established under the *Gaming Control Act 1993* and the *TT-Line Gaming Act 1993*. The TGC regulates gaming machines, keno, casinos and wagering conducted by way of a telecommunication device and, since 1 July 2001, minor gaming. It is also responsible for the licensing and regulation of gaming on board the two Spirit of Tasmania ships, and any other ship operated by a state shipping company, the licence for which is currently held by TT-Line Company Pty Ltd (TT-Line). Only keno, gaming machines and the Racetrax game are permitted on board the two Spirit of Tasmania ships.

The functions of the TGC are specified under section 125 of the *Gaming Control Act 1993*. As part of its integrity functions, the TGC approves internal controls, administrative and accounting procedures, rules and conditions that apply in relation to gaming activities, and determines disciplinary matters. Applications for gaming licences must be submitted through the TGC. The TGC also has an oversight role in relation to the CSL which includes making recommendations to the Treasurer on the allocation of funds to appropriate projects and services.

Racing Services Tasmania operates according to the following legislation:

- *Racing and Gaming Act 1952*
- *Racing Regulation Act 2004*
- *TOTE Tasmania Act 2000*

Racing Services Tasmania (RST) has responsibility for administering aspects of the *Racing Regulation Act 2004*. The Director of Racing is responsible for administering the *Racing Regulation Act 2004*. From a practical viewpoint, these responsibilities are administered by staff of RST, of which the Director of Racing is the General Manager. The functions are specified under section 6 of the *Racing Regulation Act 2004*.

The *Racing Regulation Act 2004* also specifies the roles and responsibilities of the three racing regulatory panels. The Director of Racing is a member of the Harness, Greyhound and Thoroughbred Regulatory Panels. The Harness and Greyhound Regulatory Panels are responsible for: determining the Rules of Racing; approving registrations and granting licences under the Rules of Racing; and making recommendations on the appointment of stewards for their respective codes. The Thoroughbred Regulatory Panel is responsible for approving registrations and granting licences under the Rules of Racing (where these functions are delegated from the Tasmanian Thoroughbred Racing Council), and making recommendations on the appointment of stipendiary stewards (*Racing Regulation Act 2004*, ss.21).

The commercial aspects of racing and breeding are the responsibility of TOTE Tasmania. TOTE Tasmania's roles and responsibilities are established under the *TOTE Tasmania Act 2000.*

Recent Liberalisation

In Tasmania, 1994 saw the introduction of keno into hotels and clubs and in 1997 electronic gaming machines were introduced. This period completed a significant change in the gaming environment, with the co-location in particularly hotels, of wagering (largely on horse racing) and gaming facilities (EGMs and keno). More recent developments have followed but they are not dependent on any physical site such as a hotel or club. Specifically, *enabling technology platforms* such as the internet and mobile telephone have facilitated cashless, credit-based transactions. An example of these new arrangements is the betting exchange Betfair which established in Hobart in 2006.

Tasmania was the first state to have a casino and the last state to allow for the introduction of EGMs into hotels and clubs, noting that Western Australia does not allow EGMs into hotels and clubs.

A combination of the liberalisation of gambling supported by technological developments has contributed to greater community accessibility to all forms of gambling. Accompanying these developments has been decisions by governments to support the "privatisation of the traditional government-run gambling forms."[19] Notwithstanding these developments which have taken place in the last 15 to 20 years, the evolution of gambling and gambling policy remains a highly contested field. This has historically always been the case. Sauer (2001) summarises the different perspectives present in the gambling debate:

> "Gambling is viewed by some people as a benign form of entertainment. Whether legal or not, many people gamble in various forms, and suppliers seek profits by offering them gambling opportunities."
>
> "Equally deep rooted is opposition to gambling, most notably in organised religion. Gambling is opposed on the grounds that it is a non-productive and inherently harmful activity, financially ruinous to individuals, and corrosive to communities." (Sauer, 2001: p. 5).

A third participant in changes to gambling and gambling policy (and a participant in the ensuing debate) is obviously government, with responsibility for gambling policy, gambling regulation and as the recipient of gambling taxation. Gambling taxes have historically been a long-established source of revenue for all state governments principally through taxes on lotteries, racing, casino taxes and various licence fees, including gaming fees.

For example, the Committee for the Review of States Taxes and Charges[20] was provided an additional terms of reference (number 6):

> "To consider the issue of the extension of gaming machines into hotels and licensed clubs, in regard to the other matters to be considered by the Review, including the impact on taxes, charges and the Tasmanian economy generally, and in doing so to accept written submissions from relevant interest groups."

The Committee clearly expressed the connection between state government finance requirements and gaming machines in stating:

> "The introduction of gaming machines, on balance, is considered desirable, and necessary to contribute to meeting the State's revenue needs."[21]

[19] Productivity Commission, *Australian Gambling Industries,* Vol. 1, p. 8.
[20] "Tax Reform in Tasmania Towards 2000: Today's Problem – Tomorrow's Opportunity", (1993).
[21] *ibid*, p. (x).

The Committee further noted that taxation of gaming machines is considered to be "an attractive form of taxation in that by not taxing business inputs it does not affect the competitiveness of Tasmanian producers and unlike most forms of taxation on households, it is elective in the sense that participation in gambling by the individual is optional."[22]

The Committee did not ignore potential social impacts that may arise from electronic gaming machines. They outlined the following:

- gaming machines are acknowledged to be the most addictive form of gambling;
- up to about 1 per cent of the Tasmanian adult population may be susceptible to problem gambling;
- a significant proportion of pathological gamblers is likely to resort to criminal means to finance their addiction;
- although video gaming machines already are available to potential gamblers at casinos, their greatly increased accessibility is likely to increase the incidence of problem gambling;
- full regard should be had for the concerns of problem gambling in arriving at a decision on extending gaming machine outlets; and
- government should accept that the receipt of gaming machine revenue carries with it an obligation to provide funding for necessary programs to alleviate the effects of problem gambling.

What is clear ─ and this is certainly not unique to Tasmania ─ is that with the need for increased government revenue, increases in government spending, and the requirement to reduce government debt (net financing requirement), that a motive force behind the expansion of gambling is the "increased size of government in the economy." (Sauer, 2001: p. 14). Enabling technologies have also played a key role as noted earlier.

A final note is relevant here. From an economic perspective, the tax revenue from EGMs, keno and the casinos is not a net benefit, but rather represents a transfer from individual taxpayers (who choose to gamble) to government. And further, where expenditure on EGMs came from switching expenditure away from pre-existing gambling expenditure (such as lotteries) then this is not "new expenditure", and was taxed previously.

In a very important way, it is the distributional and re-distributional impacts of the gaming industry which are important to consider.

3.2 Racing and wagering: A brief overview

Horse and dog racing are two of the oldest sports in the world. They were popular during the 18 and 19 centuries, and soon appeared in the Australian colonies. The first organised race meeting in Australia was held in Sydney in 1810 at Hyde Park.

The first official horse race in Tasmania was held at New Town in 1814. The Tasmanian Turf Club (TTC) was the first racing club to be established in Tasmania in 1826. However, this venture was short-lived, collapsing after only two years as the approach of the club – which involved holding annual race meetings halfway between Hobart and Launceston at the town of Ross – proved to be unsuitable (AIGR, 1999).

[22] Report into the Extension of Gaming Machines into Hotels and Licensed Clubs, p. 3.

With the concentration of the Tasmanian population into two large populations at Hobart and Launceston, two clubs eventually emerged to service these two areas separately. The Tasmanian Turf Club (TTC) was established in 1871 in Launceston, while the Tasmanian Racing Club (TRC) was formed three years later in Hobart.

Racing faced a period of transformation with the invention of the totalisator (tote) in the 1870s. The totalisator was designed to facilitate the concept of pari-mutuel betting developed by Frenchman Pierre Oller in 1872. This system involves pooling all amounts wagered, from which taxes and the house's share are deducted, with the remainder then divided out among the winning shares. Under this system, the payout odds are calculated based on the amount wagered (on the various horses and in total), rather than on the more arbitrary odds offered by bookmakers. The practicality of pari-mutuel betting was enhanced with the introduction of the totalisator – a hand operated calculating machine – in New Zealand in 1878 (O'Hara, 1988).

There was significant resistance to the introduction of the totalisator in the colonies, particularly in New South Wales and Victoria where a relatively larger protestant middle class were vocally opposed to gambling. Supporters of the tote argued that it provided fairer odds and would remove bookmakers who were accused of unsavoury practices, such as bribery and taking bets on credit. Racing clubs were also in favour of the totalisator as it would allow them to remove bookmakers and thus monopolise racecourse betting, with the profits then being used to increase prize money (O'Hara, 1988). Bookmakers were naturally opposed to the totalisator. Other opponents – primarily the Protestant churches – argued that official sanctioning of the totalisator would only encourage the "vice" of betting.

The introduction of the totalisator was protracted in New South Wales and Victoria owing to vocal opposition. The first bill to legalise the totalisator was submitted to the New South Wales parliament in 1879, but opposition resulted in the totalisator not being officially introduced until 1917. Victoria had to wait even longer, with an off-course totalisator (TAB) not being introduced until 1960, some 80 years after the first bill was introduced in 1880. In the smaller states the totalisator was introduced in the face of less vocal opposition. The on-course totalisator was introduced to South Australia and Queensland in 1879, with Tasmania following suit in 1880, and Western Australia in 1882.[23]

Bookmakers were banned from racecourses and off-course in Tasmania from 1897 as part of the *Suppression of Public Betting and Gaming Act*. This move was part of a wider trend in the colonies towards suppression and control of gambling:

> "Although the Tasmanian Act permitted the operation of sweep stakes under licence from the government, the aim of all colonial legislatures were similar. They wanted to remove gaming and betting from the public eye, to permit them only in prescribed places such as racecourses, where they could be controlled and regulated. The aim was based on the assumptions that the gentry were able to control their gambling to within their personal limits and offended no one, but that other gamblers did offend and required careful supervision. The aims were in fact a compromise between the views of those who wanted to see all forms of gaming and betting abolished and those legislators who saw no evil in the practices pursued as members of racing and gentlemen's clubs." (O'Hara, 1988, p.115-116).

[23] The totalisator and bookmakers were subsequently banned in South Australia in 1883 after it became apparent to opponents that gambling had increased rather than decreased under the totalisator. However, the ban had a devastating effect on the South Australian racing industry and the local economy. As a result, the totalisator was re-introduced in 1888.

By the 1890s, the Tasmanian Turf Club and Tasmanian Racing Club had significantly improved their facilities such that they both possessed impressive grandstands (O'Hara, 1988). By this stage, the TTC held race meetings three times per year at Mowbray, while the TRC raced four times per year at Elwick (AIGR, 1999).

Trotting clubs were first established in Launceston and Hobart in 1910, but struggled to perform until administrative reorganisation in 1917 and 1918 led to a period of rapid expansion. Subsequent growth in harness racing up to the 1920s presented increased competition to thoroughbred racing, resulting in a decline in tote turnover. The latter led to calls for the reintroduction of bookmakers, which were reinforced by growth in illegal off-course bookmaking during the early 1930s. As a result, on-course bookmakers were reintroduced in Tasmania in 1933, while licensed off-course betting shops were also permitted, albeit subject to tight controls on when and where they could open.

Like other states, the Tasmanian racing industry was not seriously impaired by the 1930s depression. However, it struggled through the Second World War and during the post war period in the face of interstate competition. Tasmania's relatively small population meant that it did not have the economies of scale to compete with interstate markets which were able to offer greater prize money. The Tasmanian racing industry's ability to compete was further eroded by the advent of off-course totalisators in other states during the 1960s.

The continued existence of illegal off-course betting in other states indicated that there was strong demand for betting among the public. The Victorian *Royal Commission into Off-Course Betting*, which sought to examine and find a solution to this issue, set a precent that would be followed in other states. The commissioner, F.R.B Martin, concluded that an off-course totalisator system was the best mechanism for managing off-course betting. As a result, the Totalisator Agency Board was introduced in Victoria in June 1960. With the success of the Victorian TAB, New South Wales and South Australia followed suit in 1964 and 1967 respectively.

Tasmania was slow to implement an off-course totalisator. The existing system of off-course bookmakers which had operated since 1933 suggested there was less need for further off-course betting, while the relatively small population of the State raised concerns about the sustainability of rolling out a network of totalisator agencies. Nonetheless, pressure from the racing clubs eventually resulted in an off-course totalisator being implemented in 1974. However, off-course bookmakers continued to operate up until May 1978 while the State network was slowly rolled out.

Another factor which increased the competitive pressures faced by the Tasmanian racing industry in the 1970s was the opening of the Wrest Point Casino in Hobart in 1973 – Australia's first casino. The novelty of casino gambling resulted in a decline in totalisator turnover (KPMG, 2000).

The Tasmanian racing industry has endured a number of organisational and structural changes in recent years. From 1 December 1999, Racing Tasmania was abolished with its assets and liabilities, and responsibilities for providing administrative and financial support to the racing codes transferred to the Tasmanian Totalizator Agency Board (AOT, 2006). Racing Tasmania's regulatory functions from this date were reassigned to the Director of Racing, Racing Services Tasmania – an administrative unit of the Department of Infrastructure, Energy and Resources (DIER).

From 5 March 2001, the Tasmanian TAB was dissolved with the newly formed TOTE Tasmania taking over responsibility for provision of wagering and gaming services and administrative and financial support to the racing industry.

The racing industry underwent a further restructure in 2004-05. The restructure was achieved through the implementation of the *Racing Regulation Act 2004*, *TOTE Tasmania (Racing Regulation) Act 2004* and *Racing Regulation (Transitional and Consequential Provisions) Act 2004*, which were enacted on 1 January 2005. The legislation also had the effect of fulfilling Tasmania's obligations under National Competition Policy guidelines.

The principle aim of the restructure was to improve the integrity of the racing industry by clearly separating regulatory and commercial functions. A number of operational functions previously performed by the code councils were transferred to Racing Services Tasmania. The functions transferred include "handicapping, grading field selections, barrier draws, box draws, nominations and acceptances for both the harness and greyhound codes, together with responsibility for all stewarding matters" (DIER, 2005, p. 54). Racing Services Tasmania's responsibilities in relation to stewards was also extended.

Another major feature of the new racing structure was the establishment of a regulatory panel for each code. The panels established include:

- Thoroughbred Racing Regulatory Panel;
- Harness Racing Regulatory Panel; and
- Greyhound Racing Regulatory Panel.

Wagering and gaming services and administrative and financial support to the racing industry are provided by TOTE Tasmania, which is a registered company, incorporated by the Government of Tasmania. By way of clarification, Betfair is not a product administered by TOTE Tasmania but a separate private business licensed under the Gaming Control Act. In addition to funding from TOTE's operation, funding is also provided to the racing industry from Betfair's betting exchange operation licensed under the Gaming Control Act (see section 10.6). Betfair matches bets on racing (as noted earlier) as well as many other non-racing events.

3.3 Lotteries

The first large-scale lotteries in Australia were sweepstakes held at the Tattersall's Hotel in Sydney. In response to demand from customers, the proprietor of the hotel, George Adams, held the hotels first public sweep on the Sydney Cup in 1881 (O'Hara, 1988, p.99). Tattersall's business subsequently boomed, in part due to his promotional flair and reputation for honesty and respectability. By allowing gamblers to purchase tickets through the post, Tattersall's made sweepstakes gambling available to residents in other States. However, Adams soon attracted criticism from the same Protestant middle class opposition that delayed the introduction of the totalisator in New South Wales and Victoria. Tattersall's was effectively shut down when the New South Wales government legislated to ban 'the delivery of letters containing sweep money', and Adams subsequently moved his business to Queensland (O'Hara, 1988, p100). However, Adams business once again attracted criticism, and the Queensland government moved to outlaw his operation in 1895.

Recognising his predicament, Adams had already started negotiating with the Tasmanian government to secure legislative sanction for his business. The Braddon government agreed, and despite strong opposition, particularly from the Protestant churches, introduced the *Suppression of Public Betting and Gaming Act* in 1896. As the name implies, the purpose of the legislation was to suppress other gambling entrepreneurs while establishing State control over lottery sales. This arrangement would also have been favoured for its capacity to improve state revenues. The Act came into force in January 1897, although Tattersall's did not hold its first official horse racing sweep until mid year (O'Hara, 1988). Tasmania had created history by being the first jurisdiction in Australia to sanction a private sector gaming operator.

Recognising the level of public demand for lotteries, New South Wales and Queensland set up State lotteries in the early decades of the 20 Century. The effect of the State lotteries was to reduce Tattersall's interstate business leaving Victoria to account for a major share of its sales. With the success of official interstate lotteries, Victoria reconsidered the idea of a State lottery in the early 1950s and successfully persuaded Tattersall's to relocate to Victoria in 1954 by offering favourable trading conditions. The decision to relocate was assisted by the actions of the Cosgrove labour government in Tasmania which "was attempting to find ways of increasing the state's share of Tattersall's profits" (O'Hara, 1988, p.174).

With the relocation of Tattersall's, Tasmania rejected the Victorian offer of a pro-rata share of lottery revenue and instead licensed another private lottery operator. However, due to Tasmania's relatively small population and gamblers' loyalty to Tattersall's product's, this venture failed (the licence was surrendered in 1960), and Tasmania was forced into a minority partnership with Victoria (KPMG, 2000). This arrangement has continued to this day.

Tattersall's has consistently introduced new forms of lottery games. In 1972 it introduced Tattslotto, a televised drawn numbers game that was adapted from Europe. In 1981, Victoria (and by implication Tasmania) joined with South Australia and Western Australia (and later Queensland then New South Wales) to form the Australian Lotto Bloc, which allowed tickets to be sold nationally and prize money to be pooled. Tattersall's, which is based and licensed in Victoria, has a Foreign Games Permit under the Gaming Control Act that enables it to sell tickets in Tasmania. The Footy Consortium (Tipstar) also had a Foreign Games Permit to sell tickets in Tasmania.

With regard to lottery products, Tasmania is unusual in not having a state-owned or locally-based major lottery provider. Rather, all lottery products in Tasmania are provided by Tattersall's. Tattersall's does not have a monopoly to sell lottery products in Tasmania. There is no restriction to the number of lottery operators that can sell tickets in Tasmania under a Foreign Games Permit issued by the TGC. From 1 July 2008, Tattersall's will no longer be licensed to sell non-bloc lotteries and scratchies. The TGC has had approaches from both Golden Casket (a wholly owned subsidiary of Tattersall's) and Intralot (a Greek company that was recently licensed in Victoria) for a permit to sell in Tasmania..

3.4 Casinos

Casinos in the modern form have existed since the mid-nineteenth century, but it was to be over a century before the first Australian casino was established in Tasmania in 1973.

The relatively late introduction of casino gaming in Australia partly reflects that there was less demand for casino gambling. The trend towards liberalisation of gambling activities from around the First World War onwards meant that the most popular forms of gambling – e.g. off-course betting and lotteries – had been made available to the public in most States and Territories.

The reluctance to introduce casinos was also reinforced by continued general religious and moral opposition together with specific concerns about casinos, such as the potential for organised crime and corruption. In this sense it is not surprising that casino gambling did not appear in all States until after the legalisation of bookmakers, TABs, and lotteries.

It was other social and economic factors rather than strong public demand for casino gambling which facilitated the introduction of casinos in Australia. These factors included:

- increased public acceptance of legal gambling from the 1960s onwards;
- the rapid post-war expansion of tourism;
- pressures experienced by regional economies during economic difficulties during the 1970s and 1980s; and
- efforts by state governments to maintain a stable revenue base (AIGR, 1999, p.120).

In Tasmania, diversifying the economy by stimulating the tourism sector and firming up the State's finances were key factors behind the decision to establish a casino. The relatively small Tasmanian economy was particularly vulnerable to the global recession of the 1970s and a casino was seen as one method of diversifying the State economy, particularly in light of growth in the international tourism and leisure industries after the Second World War. This thinking lies behind the decision to proceed with an entertainment centre rather than a number of small 'members only' gaming clubs which was the other alternative option available at the time (O'Hara, p. 202).

Tasmania's acceptance of private sector involvement in gambling – as demonstrated by the sanctioning of Tattersall's private lottery – was also conducive towards establishing a casino. The first move to create a casino in Tasmania was considered by Federal Hotels Ltd in 1959 but was abandoned due to the political climate being "unreceptive" (VCGA, 1999, p.122). Federal Hotels Group made a more substantive attempt in 1967 when it sought approval from the Reece Labor government to establish casino facilities at its Wrest Point Hotel. This submission was approved by cabinet but a public outcry and energetic debate subsequently followed when the relevant legislation was introduced to parliament in October 1968.

Public debate became more structured with the formation of a Casino Inquiry Committee and Casino Advisory Committee. During this time the Federal Hotels Group maintained direct involvement in the drafting of legislation and project management.

With growing pressure for a referendum, both houses of parliament subsequently passed the *Wrest Point Casino Licence and Development (Referendum) Act* in November 1968. In the subsequent state-wide referendum held on 22 November 1968, a slight majority of Tasmanians (53 per cent of the formal vote) approved the casino in the face of a strong anti-casino campaign from church and welfare groups (KPMG, 2000). The *Wrest Point Casino Licence and Development Act of 1968* was soon passed, providing a casino licence to Australian National Hotels Limited – a subsidiary of the Federal Hotels Group. Following a construction phase the Wrest Point hotel-casino commenced operation in 1973.

Reflecting the parochial nature of Tasmanian politics, lobbying from businesses in Launceston as part of the public debate surrounding the Wrest Point casino proposal secured an agreement that a second casino would be established in Launceston. With the passage of the *Northern Casino Act 1972,* a casino licence was subsequently issued to the Four Seasons company. However, Four Seasons never proceeded with the casino due to commercial reasons. With fiscal pressure building in the late 1970s, a second attempt was made at establishing as casino in Launceston with a licence being issued to Tasmanian Country Clubs, a consortium of the Federal Hotels Group, Australian National Hotels, and Examiner Northern Tasmania TV (ENT) Ltd. A re-financing followed with construction firm Jennings Industries Ltd being incorporated into the consortium. The Launceston Country Club Casino finally commenced operation on 10 May 1982. The Federal Hotels Group subsequently bought out ENTs share in 1984.

3.5 Gaming machines

Gaming machines were illegal throughout Australia until 1956, when they were legalised in New South Wales within registered clubs. The ACT followed suit in 1976, but a ban remained in place in other States until the 1990s.

The relatively late introduction of gaming machines was partly due to strong moral opposition which was reinforced by the view that gaming machines were a more addictive form of gambling. There were also concerns about the potential for criminal activity – several Royal Commissions and other public inquiries found evidence of criminal activity linked to gaming machines in New South Wales.[24]

The change in government attitudes towards gaming machines was largely driven by economic considerations. The potential for increasing taxation revenue, improving the performance of hotels and non-profit organisations, and stimulating international and domestic tourism were all economic factors put forward in favour of gaming machines. In terms of tourism, the leakage of spending from residents travelling to New South Wales to play gaming machines was a significant factor in the debate in Queensland, the Australian Capital Territory and Victoria. Strong lobbying from the hotels and clubs industries, which had been adversely affected by tougher drink-driving laws, also played an important role. Economic considerations assumed greater significance as state and regional economies experienced a downturn (e.g. Victoria in late 1980s, South Australia in the mid 1990s). Finally, technological developments such as remote monitoring of gaming machines also helped to alleviate concerns about the potential for crime.

In Tasmania, the state government had received proposals for the introduction of gaming machines from organisations such as the Registered Clubs of Tasmania Cooperative Society and the Australian Hotels Association (AHA). In 1992, the TGC prepared a report for the Minister for Racing and Gaming to assist the government with the decision of whether or not to introduce gaming machines. Following consideration of the matter by Cabinet, a decision was made to issue the then Committee for the Review of State Taxes and Charges with an additional terms of reference to "consider the issue of the extension of gaming machines into hotels and licensed clubs, in regard to the other matters to be considered by the Review, including the impact on taxes, charges and the Tasmanian economy generally…" (CRSTC, 1992, p.7).

[24] For instance, see *Wilcox Report*, (1983).

The report prepared by the committee made some preliminary findings in relation to the potential economic and social impact of gaming machines. The report concluded that there was limited growth potential for gaming machines in Tasmania:

> "The existing high market penetration by video gaming machines at the two Tasmanian casinos suggests that there is restricted growth potential for the gaming machines market compared with growth currently being experienced in Victoria and Queensland". (CRSTC, 1992, p.39)

It was also felt that lower per capita income and savings levels in Tasmania would limit the potential for revenue growth. The report is interesting in that is was sceptical of the magnitude of some of the benefits made in favour of gaming machines. For example, the benefits in terms of improved hotel and licensed club facilities were considered to be overstated:

> "Claims of substantial economic benefits through the development of expanded facilities in hotels and clubs may be overstated. It is generally acknowledged that Tasmania is over-supplied with licensed premises. In this situation, revenue from machine gaming in many instances would be applied to debt reduction or hoteliers' profits rather than improved facilities, and may do little more than prolong an inevitable rationalisation." *(*CRSTC, 1992, p.59)

There were also significant doubt about whether there would be much benefit in terms of tourism:

> "Claims that the greater availability of gaming machines would directly benefit the tourism industry in the main are unfounded. Given the wide availability of gaming machines in other States of Australia, their potential as a tourist drawcard is extremely questionable, and benefits should not be overstated. Indirect benefits may occur to the extent that upgrading of premises and facilities takes place" (CRSTC, 1992, p.68).

Gaming machines were progressively introduced to Tasmanian clubs and hotels from 1 January 1997 – relatively late compared to other states and territories.[25] The legislative framework for the licensing and regulation of gaming machines is provided under the *Gaming Control Act 1993*.

Hotels and clubs rent gaming machines from the gaming operator, Network Gaming, [26] which also provides training and marketing services to the venues (TGC, 2006). Clubs are permitted to operate a maximum of 40 machines while hotels are limited to 30 machines. Gaming machines are required to return a minimum of 85 per cent of turnover to players. The machines are monitored by a centralised monitoring system operated by the gaming operator.

A state-wide cap of 3,680 gaming machines covering hotels, licensed clubs and the states two casinos was established as part of a 2003 Deed of Agreement between the Crown and Federal Hotels Pty Ltd. The cap was reached in early 2006 (TGC, 2006).

Gaming activities are also provided on the two Spirit of Tasmania vessels that operate across Bass Strait between Devonport and Melbourne and are run by TT-Line Company Pty Ltd. The franchise for the management of gaming on both vessels is held by Admirals Casino Pty Ltd.

[25] Western Australian is the only State or Territory that has not permitted gaming machines in hotels and clubs.
[26] Network Gaming is part of the Federal Hotels Group of companies.

3.6 Tasmanian gaming licences

The most recent innovation in racing and wagering was the decision by the Tasmanian government to licence Betfair which is now established in Hobart. Betfair (UK) is licensed as a bookmaker in the United Kingdom having commenced operations in that country in June 2000. Betfair is a betting exchange which is described as operating in a similar way to a stock exchange. Those placing a wager (or bet) effectively bet against each other on markets that are set up and administered by Betfair. Betfair provides a betting exchange for racing and other sporting and cultural events. Betfair generates revenue through charging a commission of between 2 and 5 per cent on a punter's net winning result on a particular event.

Betfair (Australia) is a joint venture between Betfair (UK) and the Australian company Publishing and Broadcasting Limited (PBL). Betfair (Australia) was granted a Tasmanian Gaming Licence by the TGC in February 2006. Betfair is governed by the *Gaming Control Act 1993* (Tas)[27] and the TGC is the supervisory and regulatory authority.

In March 2008 Betfair succeeded in a High Court Challenge, which if upheld in favour of the plaintiff (the Western Australian Government) could have effectively banned the organisation from offering internet and telephone betting services Australia-wide. The High Court ruling was in respect of Western Australian legislation which made it illegal for a person in Western Australia to place a bet with a betting exchange and made it illegal for a business to publish details of a Western Australian race field without approval. Effectively the legislation sought to block Betfair's access to the Western Australian market and also its capacity to advertise in Western Australia.

The full bench of the High Court of Australia noted that both amendments to the Western Australia Betting Control Act were contrary to Section 92 of the Constitution and therefore invalid. Section 92 guarantees free trade between the states. The High Court decision means no other state can attempt to stop Betfair from operating or advertising in that state.

3.7 Other forms of gambling

Churches, community groups, and charitable organisations have long operated various kinds of minor gambling to raise funds for their activities. These have included lotteries, raffles, art unions, lucky envelopes, chocolate wheels and so on.

Probably the most significant of these activities has been bingo. Charitable bingo in church and community halls emerged as a popular activity in most states and territories (including Tasmania) during the early 1900s despite being technically illegal in most jurisdictions. Bingo boomed during and after the Second World War as an avenue for wartime and charitable fundraising.[28] It is now conducted in large licensed centres by professional organisers.

The revenue from all forms of minor gambling has undoubtedly been severely impacted by the introduction of EGMs, but it is difficult to quantify precisely the effect. The available statistics for minor gambling are incomplete and unreliable. The Australian Institute for Gambling Research (2002) points out that minor gaming in its various forms has been rarely the subject of research.

[27] The *Gaming Control Act 1993* (Tas) was amended by the Gaming Control Amendment (Betting Exchange) Act 2005 to allow for betting exchanges in Tasmania.

[28] AIGR (2002).

An English coin game, pitch and toss, was widely popular among early settlers and convicts. By the mid 19 century it had adapted into the Australian game two-up. Gambling promoters organised famous two-up schools, some in the major cities, others travelling throughout rural areas. It was played extensively by soldiers during the World Wars, and became associated with Anzac Day functions. It was legalised in Australia for the first time in 1973 when the Tasmanian government permitted the game in Federal Hotel's Wrest Point casino – the nation's first legalised casino.[29] The game continues to be available in some Australian casinos and is legalised outside casinos in some regions (e.g. Kalgoorlie, Broken Hill).

Trade promotions (for example, coupon competitions, 1900 telephone competitions, scratchit tickets) are permitted in every Australian state and territory for the purpose of promoting a product or service.

Keno, while not discussed separately here, was introduced into Tasmania in 1994/95 and is located in the two casinos, hotels and clubs (see section 3.9).

3.8 Industry structure and companies

The structure of the gambling industry is different in each state in numerous ways. Victoria has a regulated duopoly. There are venue, regional and statewide caps for electronic gaming machines in Victoria and a cap on the number of machines at the Crown Casino (e.g. 2,500). Tabcorp and Tattersall's are the two gaming operators until the end of the current licence in 2012.[30] The Victorian *Gambling Regulation Act 2003* provides for restrictions on the two gaming operators from purchasing and owning gaming venues. Specifically the *Act* has the following provisions:

> Section 3.4.9 – A gaming operator must not be granted, and must not hold, a venue operator's licence.
>
> Section 3.4.37M – A holder of a gaming operator licence and its associates, subsidiaries or a related body corporate, must not hold a venue operator's licence.
>
> In the Victorian jurisdiction, gaming machines can only be owned by the two gaming operators (Tattersall's and Tabcorp) and the Casino Operator (Crown). All gaming machines owned by Tattersall's and Tabcorp are installed in clubs and hotels. All clubs and hotels must individually hold a venue operator's licence to operate the gaming machines at their respective venues.

The Victorian Government recently announced changes to the existing duopoly arrangement to come into effect in 2012. Victoria is to opt for a "venue based model" whereby hotels and clubs will be licensed to own and operate EGMs. No single venue based owner will be permitted to own more than 35 per cent of machines in hotels. Effectively the decision of the Victorian Government will end the current duopoly arrangement.

Tasmania's gaming sector works effectively as a monopoly-like structure, with the principal operator being the Federal Hotels Group of Companies. The gaming operator Network Gaming, is part of the Federal Hotels Group and leases the state's gaming machines and keno equipment to hotels and clubs. This arrangement operates according to a Deed of Agreement between the Crown and Federal Hotels Pty Ltd, which provides "exclusive rights for the Federal Hotels Group to operate table gaming, gaming machines and keno throughout the state until 30 June 2018",[31] after which the licence converts to a rolling five year licence

[29] *op. cit*.
[30] The Victorian Government has recently announced that it will not renew the duopoly arrangement when it expires in 2012.
[31] Tasmanian Gaming Commission (2006), p.17.

renewable annually. As in other states there are venue caps and a statewide cap. The statewide cap includes EGMs in the two casinos.

The situation in Tasmania allows the gaming operator (the Federal Hotels Group) to purchase hotels and it has done so. There are no restrictions on the number of hotels that the Federal Hotels Group (or indeed any other group) can purchase. The Federal Hotels Group provides a monitoring role through Network Gaming, it is the single gaming operator and it is a licensed venue operator through the Vantage Hotel Group, which is part of the Federal Hotels Group. Network Gaming also makes the ultimate commercial decision as to whether a licensed venue operator[32] is provided with EGMs. One restriction that is imposed by the TGC is that the Federal Hotels Group should not own 25 per cent or more of non-casino, non-club EGMs (i.e. hotels only).

In contrast, South Australia has an owner-operator model for electronic gaming machines, whereby licensed hotels and clubs can individually apply to the Liquor and Gaming Commissioner for a gaming machine licence. There are venue and statewide caps, and provisions for trading machines (since July 2005) to progressively remove machines to achieve the statewide cap of approximately 12,000 machines.

3.9 Industry size and characteristics

Table 3.1 provides information on the quantitative characteristics of the gambling environment in Tasmania.

In accordance with the 2003 Deed of Agreement between the Crown and the Federal Hotels Group, there is a state-wide cap on the total number of EGMs allowed in hotels, clubs and casinos of 3,680.[33] Within this, a limit on the number of gaming machines allowed in hotels and clubs was set at 2,500 machines. The state-wide cap was reached in early 2006. As at 11 October 2007, according to the TGC website, there were 1,280 machines in the casinos (745 at Wrest Point Hotel Casino and 535 at Country Club Casino) and a total of 38 table games. There were 188 EGMs in clubs and 2,208 in hotels, making a state-wide total of 2,396 non-casino EGMs.

There are venue-specific limits on the numbers of EGMs in operation, which are set at 40 machines for clubs and 30 machines for hotels. The two Spirit of Tasmania vessels that cross the Bass Strait between Devonport and Melbourne both operate gaming activities including 46 EGMs – 23 on each vessel.

In 2004/05, Tasmania had 83 lottery outlets. The sole provider of major lotteries is Tattersall's Limited – a publicly listed company whose corporate headquarters are in Melbourne, Victoria. Tattersall's provides a range of lottery products to Tasmanians, including Tattslotto, Super66, Ozlotto, instant scratchies and keno.

Keno is available in 164 locations in Tasmania. There are 93 hotels with both EGMs and keno and 40 hotels with only keno. Each of the ten clubs with EGMs also have keno and 19 clubs have only keno. The two casinos also provide keno.

[32] The Tasmanian Gaming Commission licenses venue operators; the Federal Hotels Group makes a commercial decision as to whether a particular venue will be provided with gaming machines.

[33] Excludes EGMs on Spirit of Tasmania vessels shown as 46 in Table 3.1.

Table 3.1
Gambling products and outlets in Tasmania

	Venues/Outlets	Number
Lottery outlets[a]	83	
Casino: table games[b]	2	
Wrest Point Hotel Casino		23
Country Club Casino		15
Total		38
Electronic gaming machines[c]		
Casinos	2	1,280
Clubs	10	188
Hotels	94	2,208
Spirit of Tasmania vessels	2	46
Total		3,722
Keno	164	
Casinos	2	
Clubs	29	
Hotels	133	
TAB outlets[a]	129	
Bookmakers[d]	15	
Betting Exchange[e]	1	
Minor gaming		
Permits issued during 2005/06		594

Notes: [a] 2004/05 figures from Australia Gaming Council Report 2006/07. TAB is known as TOTE Tasmania.
[b] As at 8 August 2007.
[c] As at 30 June 2006
[d] Includes one partnership.
[e] Refers to Betfair.

Source: TGC (2006, 2007), Department of Infrastructure, Energy and Resources (2005), Australia Gaming Council Annual Report 2006/07.

There are 129 TOTE outlets and 15 bookmakers. Minor gaming covers a variety of games including bingo, raffles, lucky envelopes, Calcutta sweeps, dancing dollars and Tassie's best punter. A total of 594 permits for minor gaming were issued in 2005/06.

Location of EGMs in Tasmania by venue

In 2005/06 there were 3,680 EGMs in Tasmania. Of the non-casino EGMs, the vast majority (92.4 per cent) were in the State's 94 hotels, as shown in Table 3.2, which gives an average per hotel of 23.5 machines per venue. There were just 188 EGMs shared between the ten clubs in the state, giving a venue average of around 19 machines. This compares to an Australia-wide average of around 21 EGMs in hotels and 49 in clubs.

The important distinction between hotels and clubs is that hotels are privately owned and have the objective of making profits, while clubs are community-owned and are expected to return profits to the members through facilities provided for the community and funding to other community-based activities. Almost all clubs with EGMs and keno facilities are RSL and Ex-Services Clubs. Hotels also provide the opportunity for consolidation of ownership. In Tasmania, ten operator groups including Woolworths and ALH Group and also the Federal Hotels Group-owned Vantage Hotels, together operate 62.2 per cent of all EGMs in hotels in the state. The remainder are operated by smaller businesses. Combining the number of

EGMs in two casinos and the hotels owned by the Federal Hotels Group, then they operate 42.1 per cent of EGMs throughout Tasmania.

Table 3.2
Location of EGMs by venue

	Number of venues	Number of EGMs (total)	Average number of EGMs per venue
Tasmania			
Hotels	94	2,208	23.5
Clubs	10	188	18.8
Australia			
Hotels	3,455	71,055	20.6
Clubs	2,416	117,344	48.6

Source: Australian Gambling Statistics (2007), Australia Gaming Council Annual Report 2006/07; TGC website.

Table 3.3
Location of EGMs by venue type (per 1,000 persons)

	Casinos	Hotels	Clubs	Total
EGMs in Tasmania				
Number of EGMs	1,280	2,208	188	3,676
Per 1,000 persons	2.62	4.52	0.38	7.52
EGMs in Australia				
Number of EGMs	12,451	117,344	71,055	200,850
Per 1,000 persons	0.6	5.69	3.45	9.75
EGMs in Australia, less Western Australia				
Number of EGMs	10,951	117,344	71,055	199,350
Per 1,000 persons	0.59	6.32	3.83	10.74

Source: Australian EGM numbers from Australian Gaming Council Annual Report 2006/07 for year 2005/06. Tasmanian EGM numbers from TGC for 30 June 2006. Population numbers for all persons from ABS website for 30 June 2006

Table 3.3 illustrates one aspect of the different gambling environment in Tasmania relative to Australia. Tasmania has more than four times the number of EGMs in casinos compared to the rest of Australia on a per 1,000 person basis. It has fewer EGMs in hotels and far fewer in clubs. Overall, Tasmania has fewer EGMs on a per person basis than the rest of Australia. This pattern of distribution has both positive and negative consequences and given the ownership structure across the industry, it has income distributional impacts as well.

The Productivity Commission (1999) reported the distribution of electronic gaming machines across clubs, hotels and casinos by state. Based on 1998 data and excluding EGMs located in casinos, clubs in Tasmania had 16 per cent of EGMs compared to the national average of 65 per cent at the time of the Productivity Commission report. The distribution between clubs and hotels in each state and territory was shown as (clubs : hotels):

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

At that time Tasmania and South Australia possessed an industry structure quite different from that for the rest of Australia.

As illustrated in Table 3.3 clubs in Tasmania have 188 of the non-casino EGMs or 7.8 per cent (188/2,396).[34] That is, their market share has fallen from 16 per cent to 7.8 per cent in the last ten years. Queensland clubs/hotel mix has changed since the Productivity Commission report to be relatively equal at 53:47.

In the conduct of this study we were not able to find any studies, nor were we presented with submissions or evidence to the effect that clubs have been negatively impacted financially by competition from hotels. Expenditure data for machines in clubs, hotels and casinos is presented in Chapter 4. Also, tax rates on gambling revenue tend to vary widely between clubs and hotels and therefore have a significant impact on the comparable viability of EGMs in clubs versus hotels (see Chapter 10).

Financial stress for clubs could potentially transfer financial stress to local councils, where for example, many sporting and community clubs operate under a right of lease or an agreement with the local council. This issue has been raised in other states but was not raised with the researchers in any forum.

3.10 Conclusion

The last three decades have been characterised by a steady liberalisation of gambling activities associated with an increasing community acceptance of gambling. As a consequence, the range of gambling activities that are available to the public has increased greatly over this period. Tasmanians now have available every major type of gambling played in Australia.

Table 3.4
Forms of Gambling Currently Undertaken by State/Territory

	Tasmania	South Australia	New South Wales	Victoria	Queensland	Western Australia	ACT	Northern Territory
Racing	✓	✓	✓	✓	✓	✓	✓	✓
Sports Betting	✓	✓	✓	✓	✓	✓	✓	✓
Lotteries	✓	✓	✓	✓	✓	✓	✓	✓
EGM	✓	✓	✓	✓	✓	×	✓	✓
Casino	✓	✓	✓	✓	✓	✓	✓	✓
Keno	✓	✓	✓	✓	✓	×	✓	✓
Football Pools	✓	✓	✓	✓	✓	✓	✓	✓
Minor Gaming	✓	✓	✓	✓	✓	✓	✓	✓
Interactive	×	×	×	×	×	×	×	×
Betting Exchange	✓	×	×	×	×	×	×	×

Source: Office of Economic and Statistical Research, Queensland Treasury, *Australian Gambling Statistics 2005,* p. 11, and SACES.

Table 3.4 illustrates the legal availability of gambling within the States/Territories, with interactive (internet casino) gambling not permitted to be made available to Australian citizens. That is to say, gambling operators can establish interactive sites which are able to be accessed by citizens from other nations but they cannot be accessed by Australian citizens. This prohibition also applies to other rapid forms of interactive gambling such as "electronic

[34] Clubs have five per cent of EGMs including the casino 188/3,680.

scratchies" or "betting on the run". This form of gambling is banned by the Commonwealth under the *Interactive Gambling Act 2001*. The *Act* does not prevent wagering off-course through the use of telephone, television (as recently proposed in Victoria), or the internet. Western Australia remains steadfast in its opposition to the introduction of EGMs in hotels and clubs and also the playing of keno.

Tasmania has generally had a more liberal approach to gambling compared to other states and territories. As a consequence, it has played an important role in the development of particular gambling products, being the first jurisdiction in Australia to sanction a private sector gaming operator (Tattersall's in 1897), the first to establish a casino (in 1973) and the first to licence a betting exchange (Betfair 2006).

The small size of the Tasmanian economy has presented challenges to development of some local gambling industries. A lack of economies of scale has meant that the racing industry has struggled to compete against interstate markets which are able to offer greater prize money and attract stronger competition. Furthermore, Tasmania has been unable to maintain a locally based lottery provider, due in part to its relatively small population.

4. Changes and Trends in Gambling Behaviour and Participation

The majority of the adult population in Tasmania and across the nation gamble at least once a year. The results of the 2007 Prevalence Survey reveal that 71.7 per cent of the sample had gambled at least once in the previous year. This figure is similar to gambling participation rates found in other states: South Australia 69.5 per cent (2005), Victoria 75.3 per cent (2003), and the Australian Capital Territory 75 per cent (2001). Gambling participation rates are high because they include all forms of gambling such as the purchase of a lottery or "scratchie" ticket or a "once a year" wager on the Melbourne Cup. This chapter explores the trends in gambling behaviour and participation in each major form of gambling.

All per capita estimates in this section refer to the population aged 18 years and over.

4.1 Total gambling

4.1.1 Expenditure

Total spending on gambling activities has grown strongly in Australia over the last quarter century with the liberalisation of gambling activities. Player expenditure – defined as the total amount gambled less the total amount won by players – in real terms rose by 260 per cent from $4.9 billion in 1980/81 to $17.6 billion in 2005/06 (see Table 4.1). In comparison, the national adult population rose by 51 per cent over this period, which is well below the proportionate increase in expenditure.

Table 4.1
Gambling Industry – Total Nominal and Real Expenditure ($ million)

	Australia		Tasmania	
	Nominal	Real[a]	Nominal	Real[a]
1980/81	1,593	4,886	40	123
1985/86	2,673	5,514	69	142
1990/91	5,016	7,226	109	158
1995/96	9,529	12,172	148	189
2000/01	14,356	16,471	232	266
2005/06	17,575	17,575	287	287

Note: [a] Base year is 2005/06.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Total gambling expenditure in Tasmania rose from $123 million in 1980/81 to $287 million in 2005/06, or in real terms by 133 per cent, while Tasmania's adult population increased by 27 per cent over the same period.

Table 4.2 shows average annual growth rates in total gambling expenditure for various states over the 25 years to 2005/06. It should be noted that real (i.e. inflation-adjusted) figures are appropriate for making comparisons over time.

Total gambling expenditure has grown more slowly in Tasmania compared to the nation as a whole and all other states over the past 25 years. Total real gambling expenditure for Tasmania grew at an average rate of 3.4 per cent per year between 1980/81 and 2005/06 compared to 5.3 per cent per year for Australia. The slower rate of growth for Tasmania partly reflects differences in the timing of when major gambling activities were introduced across Australia. For instance, stronger growth in national expenditure during the 1980s

followed the establishment of casinos in the various states and territories during this period whereas Tasmania introduced its first casino much earlier in 1973. Gaming machines introduced into hotels and clubs – which are associated with large increases in gambling expenditure – were also introduced relatively late to Tasmania (1997) compared to other States and Territories.

Table 4.2
Average Annualised Growth in Real Gambling Expenditure (per cent)[a]

Period	Tasmania	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
1980/81 to 1985/86	2.9	-0.7	2.9	13.5	8.2	9.9	2.4
1985/86 to 1990/91	2.1	4.6	2.0	10.2	6.0	14.1	5.6
1990/91 to 1995/96	3.7	6.3	21.4	13.0	10.4	9.3	11.0
1995/96 to 2000/01	7.0	7.0	8.0	6.1	5.1	-4.8	6.2
2000/01 to 2005/06	1.6	0.9	-1.0	4.6	2.7	2.4	1.3
1980/81 to 2005/06	3.4	3.6	6.4	9.4	6.4	6.0	5.3

Note: [a] Base year is 2005/06.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007. Calculations by SACES.

A more subdued pace of growth in total gambling expenditure for Tasmania is also explained by the tendency for the Tasmanian economy to grow more slowly than the national economy over the long term. For example, Tasmanian household final consumption expenditure in real terms grew at an average rate of 2.4 per cent per year between 1985/86 and 2005/06 compared to an average rate of 3.3 per cent per year for Australia as a whole.

The period of strongest growth in gambling expenditure for Tasmania occurred during the late 1990s which is the period in which gaming machines were introduced to hotels and clubs across the state (see Table 4.2). Like Australia as a whole, growth in Tasmanian gambling expenditure has slowed over recent years as the gambling industry has matured. Policy decisions, in particular the introduction of smoking bans in hotels and clubs, have also had an effect in terms of curbing expenditure (see below).

Table 4.3 shows that Tasmania has a relatively lower level of total gambling expenditure compared to the nation as a whole. Tasmanian's spent an average of $774 per adult on gambling in 2005/06 compared to a national average of $1,122 per adult. Only Western Australia had a lower average spend on gambling ($551 per adult) which reflects that gaming machines are not permitted outside the Burswood Casino in Western Australia.

Tasmania's relatively lower gambling expenditure per adult as shown in Table 4.3 is explained in part by average incomes being lower in Tasmania.[35] Average total household income per capita was $35,195 in 2006/07 – well below the national average of $42,319 per capita. However, even expressed as a proportion of household disposable income Tasmania has for some time, and continues to have a relatively lower level of gambling expenditure compared to all other states and territories except Western Australia and the Australian Capital Territory. Tasmania was also the first state to introduce smoking bans which had the effect of reducing patronage and therefore expenditure on gaming machines. Limited smoking bans in casino, hotel and club gaming areas were introduced from 1 January 2005, while a complete prohibition on smoking in licensed premises came into effect from 1 January 2006.

[35] Lower average wages for Tasmania are the result of structural and long-term economic factors, such as relatively weaker productivity growth over the long term.

Table 4.3
Relative Gambling Expenditure in 2005/06

	Expenditure ($m)	Expenditure per adult ($)[a]	Expenditure as proportion of HDI (%)
New South Wales	7,072	1,365	3.4
Victoria	4,559	1,165	3.0
Queensland	3,121	1,024	2.9
South Australia	1,109	916	2.6
Western Australia	850	551	1.4
Tasmania	287	774	2.4
Australian Capital Territory	257	1,004	1.7
Northern Territory[b]	319	2,162	5.1
Australia	17,575	1,122	2.9

Note: HDI = Household disposable income.
[a] Persons aged 18 years and over. Adult population for the year is an average of the adult population at 30 June at the start and end of the relevant financial year.
[b] Gambling expenditure in the Northern Territory (per capita, relative, total) is inflated by spending by overseas and interstate participants with the numerous internet and online operators licensed in the Territory.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

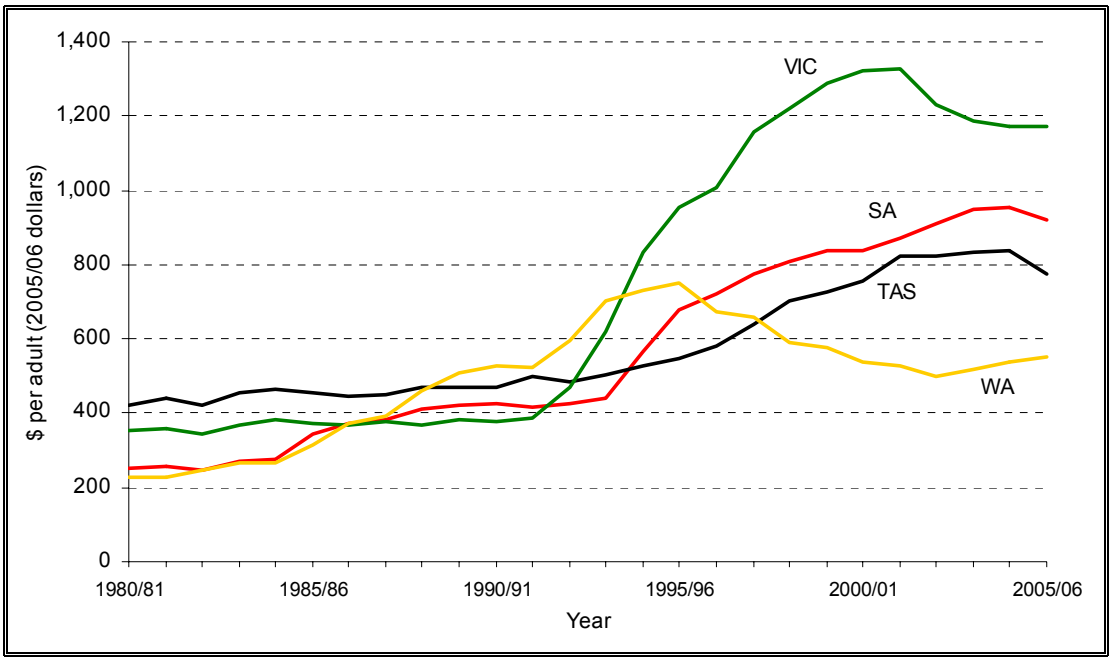
Tasmania has not always had a relatively low level of gambling expenditure. Figure 4.1 shows that Tasmania had a higher per adult total gambling spend compared to Victoria, South Australia and Western Australia until the late 1980s and early 1990s. As the analysis below shows, the primary reason for this is that Tasmania had a greater range of available gambling activities during this period given the operation of two casinos in the state. Relative gambling expenditure in Victoria and South Australia overtook Tasmania's relative expenditure following the introduction of gaming machines in the former states, while total per capita gambling expenditure for Western Australia overtook Tasmania several years after the Burswood casino opened in late 1985. However, total relative gambling expenditure for Tasmania overtook Western Australia once gaming machines were introduced in 1997.

Tasmania's relatively high total expenditure on gambling during the 1980s would also reflect additional spending associated with interstate and international visitors. Since Tasmania was the first state to legalise casino gambling, and one of the few states to permit casino gambling until at least the mid 1980s, casino gambling represented a unique attraction to interstate and overseas visitors. However, this advantage was steadily eroded and eventually neutralised with the introduction of casinos into all other states and territories.

Figure 4.2 illustrates how expenditure on the various forms of gambling have evolved in Tasmania over the last 25 years. Total gambling expenditure grew slowly through the 1980s and early 1990s. Growth during this period was driven primarily by casino expenditure with the state's second casino (the Country Club casino) opening at Launceston in 1982. Racing and lotteries expenditure tended to grow slowly during this period.

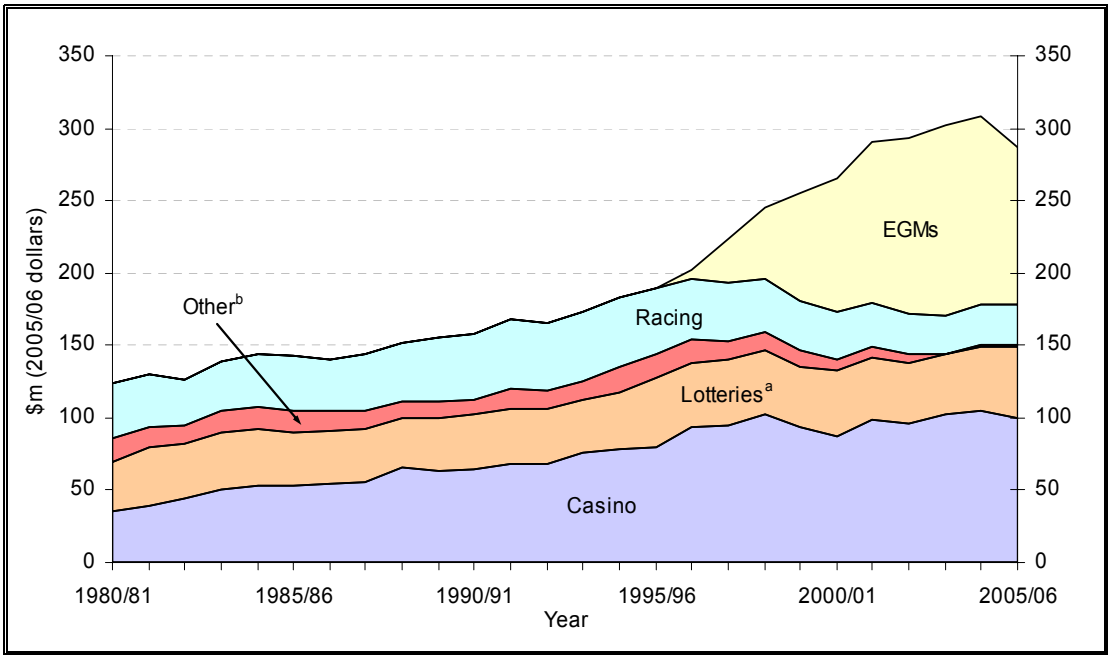
Total gambling expenditure started to rise strongly from 1996/97 with the introduction of gaming machines to hotels and clubs. Gaming machines in hotels and clubs overtook casinos in 2000/01 (i.e. within 5 years) to be Tasmania's largest gambling activity in terms of expenditure. EGM expenditure continued to grow until 2005/06 when the introduction of smoking bans had an adverse effect on patronage and therefore expenditure.

Figure 4.1
Real Per Capita Gambling Expenditure



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Figure 4.2
Gambling Industries – Tasmania – Real Expenditure
1980/81 to 2005/06



Note: [a] Composed of lotteries, Lotto, Tattslotto, instant lotto, Soccer Pools and Keno.
[b] Includes minor gaming (i.e. bingo, raffles, lucky envelopes etc), internet and interactive gambling (now banned).

Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

It is clear from Figure 4.2 that the introduction of gaming machines had a significant adverse impact on racing industry expenditure and other forms of minor gaming. The long-term upward trend in casino expenditure also ceased a couple years following the introduction of gaming machines. The opening of the Crown Casino in Victoria in 1994 and its move to

expanded facilities in 1997 is also likely to have contributed to the slow down in casino gambling in Tasmania. However, the introduction of gaming machines was probably a more important factor given that gaming machines were the most significant form of gambling available in the casino (see section 4.4) while the installation of EGMs in hotels and clubs greatly increased the accessibility of this form of gambling.

Table 4.4
Gambling Industries – Tasmania – 2005/06 Expenditure

Gambling Type	Expenditure ($ million)	Per cent of total expenditure
Casino[a]	99.8	34.7
Lotteries[b]	49.5	17.2
Electronic Gaming Machines[c]	109.4	38.1
Racing and wagering	27.7	9.7
Other[d]	0.8	0.3
Total	287.2	100.0

Note: [a] Includes EGMs in the two casinos.
[b] Lotteries include lotteries, Lotto and Tattslotto, instant lotto, Soccer Pools and Keno.
[c] In hotels, clubs only.
[d] minor gaming (i.e. bingo, raffles, lucky envelopes etc), internet and interactive gambling (now banned).
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

By 2005/06 – i.e. the latest year for which Australian Gambling Statistics data are available – gaming machines outside of the two casinos accounted for 38 per cent of all gambling expenditure in Tasmania (see Table 4.4). Casino's were the second largest form of gambling (accounting for 35 per cent of expenditure), followed by lotteries (17.2 per cent), racing and wagering (9.7 per cent) and other minor forms of gambling (0.3 per cent).

However, these estimates understate the relative popularity of gaming machines since they do not identify casino expenditure that is attributable to gaming machines. This is important since gaming machines appear to play a relatively greater role in casino gambling in Tasmania compared to other states and territories. Information on the relative importance of casino based gaming machine gambling is presented in Section 4.5.1, while estimates of per capita expenditure on all forms of gaming machine gambling are presented in Section 4.5.4.

4.1.2 Participation

The 2007 Prevalence Survey conducted as part of this study found that 71.7 per cent of the sample population had gambled at least once in the previous year. The most popular gambling activities were lotteries (52.3 per cent), scratch tickets (31.8 per cent), gaming machines (28.5 per cent), and keno (25.9 per cent).

Participation in racing was found to be low, with only 16.8 per cent of the sample population having gambled on horse racing in the previous year. Casino tables games (7.0 per cent), sports-betting (3.9 per cent) and bingo (1.8 per cent) had very low participation.

An interesting dimension of gaming machine gambling is that a similar proportion of the sample population had played gaming machines that were located in a casino (21.4 per cent) as in a club or hotel (20.7 per cent). Participation in club or hotel gaming machine gambling is typically higher in other states and territories. For instance, the Productivity Commission found that participation in gaming machine gambling was significantly higher for gaming machines based in clubs or hotels than in casinos for all states and territories except

Tasmania, the Northern Territory, and Western Australia.[36] The South Australian prevalence study (2005) found that hotels were the most popular venues for gambling on EGMs (79.6 per cent) followed by the casino (10.1 per cent) and clubs (8.9 per cent). Further evidence is presented later (see Table 4.23) showing the number of EGMs in hotels and clubs compared to the casino, showing that the availability of EGMs in Tasmania is more evenly spread between hotels/clubs and casinos compared to other jurisdictions. That Tasmanians were equally likely to gamble on EGMs at a casino or hotel/club suggests that geography plays an important role in EGM gambling participation, and that Tasmanians are more likely to gamble at 'destination locations' rather than convenience locations (see Prevalence Study: SACES, 2008).

Further information on participation in specific gambling activities is presented below, while detailed information on participation as revealed by the Prevalence Study is presented in *Volume Two* of the *Social and Economic Impact Study into Gambling in Tasmania*.

4.2 Racing and wagering

4.2.1 Activities

Table 4.5 provides a range of comparative data that summarises the state of the thoroughbred racing industry in each State and Territory as of 2005/06.

There were 4 racing clubs operating in Tasmania during the 2006/07 season. These clubs held a total of 77 race meetings across 5 racing tracks, comprising 625 races with total prize money of $9.1 million. Tasmania was one of only a few states including Victoria and South Australia that conducted jumping events during 2006/07.

Tasmania's share of total national race meetings (2.9 per cent) and total races (3.2 per cent) in 2006/07 was slightly above its share of the adult population (2.3 per cent). However, thoroughbred racing in Tasmania tends to be of a lower standard compared to the mainland product. Table 4.5 shows that Tasmania did not hold any group 1 or 2 races in 2006/07. On the other hand, its share of national group 3 races (2.6 per cent) and listed races (4.7 per cent) was above its share of the national population.

Tasmania's higher share of thoroughbred races is also illustrated by Figure 4.3, which shows the number of thoroughbred races per 10,000 adults for each State and Territory. In 2006/07, Tasmania had the second highest prevalence of races behind only the Northern Territory. The high prevalence of thoroughbred racing may reflect that smaller states and territories must operate a critical number of races in order to maintain a viable racing industry.

There has been a decline in the prevalence of thoroughbred racing in all States since 1998/99 (see Figure 4.3), though the decline in Tasmania has been small. The total number of thoroughbred race meetings in Tasmania fell by 2.5 per cent between 1998/99 and 2006/07, from 79 to 77 meetings (see Table 4.7). In comparison, the number of race meetings nation-wide fell by 14 per cent over this period, from 3,110 to 2,682 meetings. The national decline has been driven by falls in all States and Territories with the exception of Victoria and Western Australia.

[36] See Productivity Commission (1999), Table B.1, Participation in gambling by state and location, all gamblers.

Table 4.5
The Australian Thoroughbred Racing Industry by State, 2006/07 Season

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Australian Total
Clubs	120	69	135	25	37	4	6	1	397
Tracks	112	69	117	25	38	5	6	2	374
Race meetings	748	560	723	180	303	77	78	13	2,691
Flat races	5,420	4,363	4,835	1,389	2,242	619	407	107	19,382
Jumping	0	134	0	23	0	6	0	0	163
Total races	**5,420**	**4,497**	**4,835**	**1,412**	**2,242**	**625**	**407**	**107**	**19,545**
Flat horses	10,753	8,953	8,314	3,157	3,540	1,074	587	B	30,907
Jumping horses	0	382	0	111	0	19	0	B	512
Total horses[a]	**10,753**	**9,335**	**8,314**	**3,268**	**3,540**	**1,093**	**587**	**B**	**31,419**
Flat starters	54,220	44,365	47,024	14,368	21,932	6,255	3,171	1,143	192,478
Jumping starters	0	1,265	0	216	0	47	0	0	1,528
Total starters	**54,220**	**45,630**	**47,024**	**14,584**	**21,932**	**6,302**	**3,171**	**1,143**	**194,006**
Prize money ($m)	104,297,791	120,236,595	70,596,889	20,465,785	44,810,360	9,126,068	4,011,150	1,967,941	375,512,579
Incentive scheme payouts	5,781,978	5,037,650	3,476,660	1,339,425	2,171,875	185,590	190,500	0	18,183,678
Other returns to owners	16,993,705	15,902,386	16,395,683	2,289,790	4,926,660	1,257,511	823,495	163,150	58,752,380
Subtotal returns to owners	127,073,474	141,176,631	90,469,232	24,095,000	51,908,895	10,569,169	5,025,145	2,131,091	452,448,637
Fees paid by owners	4,469,742	9,168,924	6,256,000	1,958,332	1,384,380	583,395	269,565	28,882	24,119,220
Total returns to owners	**122,603,732**	**132,007,707**	**84,213,232**	**22,136,668**	**50,524,515**	**9,985,774**	**4,755,580**	**2,102,209**	**428,329,417**
Bookmakers	220	181	112	33	48	15	8	21	638
Trainers	1,080	1,173	1,181	196	685	103	39	21	4,478
Owner/Trainers	157	408	183	152	64	15	5	1	985
Total trainers	**1,237**	**1,581**	**1,364**	**348**	**749**	**118**	**44**	**22**	**5,463**
Jockeys	154	211	192	32	78	26	21	4	718
Apprentice jockeys	69	38	56	14	41	11	3	3	235
Amateur jockeys	42	36	21	0	0	0	0	2	101
Total riders	**265**	**285**	**269**	**269**	**119**	**37**	**24**	**9**	**1,054**

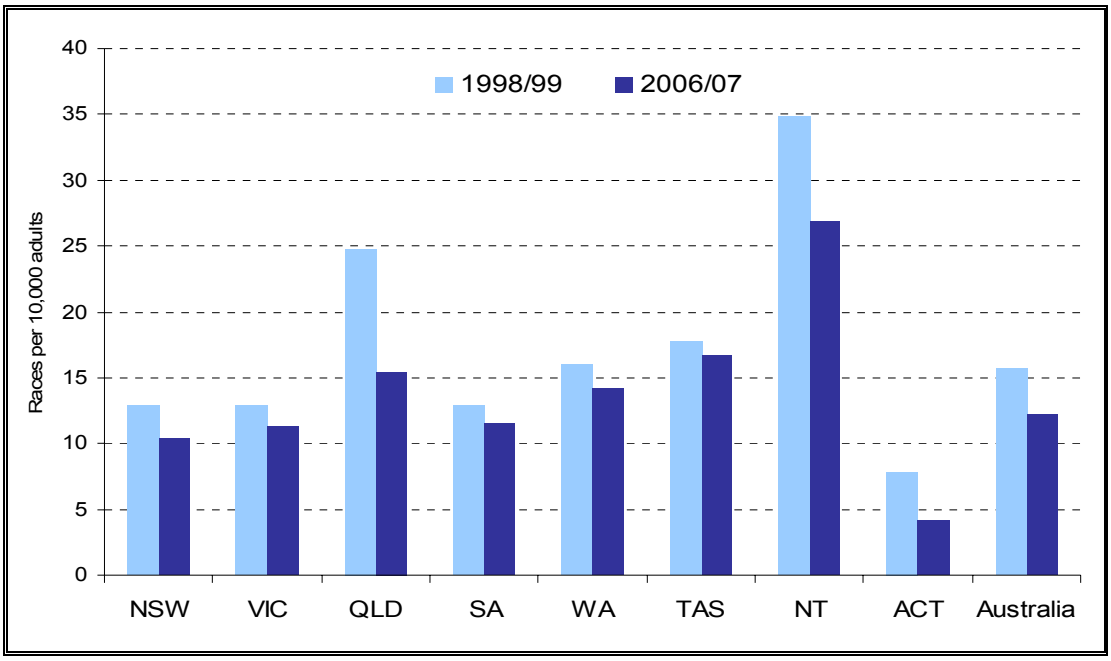
Note: [a] Total Australian horses figure does not include the 5,423 horses that started in more than one state.
[b] Australian Capital Territory figures included in the New South Wales figure.
Source: Australian Racing Board (2007), Australian Racing Fact Book 2006/07.

Table 4.6
Australian Thoroughbred Group and Listed Statistics by State, 2006/07 Season

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australian Capital Territory	Australia
Number of Races								
Group 1	25	27	8	4	3	0	0	67
Group 2	30	31	8	3	6	0	0	78
Group 3	33	41	14	10	13	3	0	114
Listed	62	69	48	38	49	13	0	279
Total	150	168	78	55	71	16	0	538
Total Prize Money								
Group 1	20,407,620	25,880,000	4,499,400	1,184,900	1,679,000	0	0	53,650,920
Group 2	5,198,150	7,741,500	1,814,000	754,600	1,794,100	0	0	17,302,350
Group 3	4,999,750	6,289,750	2,048,900	1,072,470	1,710,500	908,250	0	17,029,620
Listed	5,647,950	8,140,620	5,351,500	2,238,125	3,422,460	1,069,150	0	25,869,805
Total	36,253,470	48,051,870	13,713,800	5,250,095	8,606,060	1,977,400	0	113,852,695

Source: Australian Racing Board (2007), Australian Racing Fact Book 2006/07.

Figure 4.3
Number of Thoroughbred Races per 10,000 adults by State – 1998/99 and 2006/07



Source: ARB, Australian Racing Fact Book 2006/07 and ABS, Statistics, Population Trends and Estimates.

4.2.2 Expenditure

A total of $15.7 billion was wagered by Australians on thoroughbred, harness and greyhound races in 2005/06 while total player losses were almost $2.2 billion (i.e. 14 per cent of total wagered). In comparison, Tasmanian's wagered approximately $319 million losing almost $28 million (i.e. 8.8 per cent of total wagered).

Table 4.8 shows nominal and real estimates of racing industry expenditure for Tasmania and Australia while Table 4.9 shows growth rates in real racing expenditure for select periods. The Tasmanian racing industry has experienced declining expenditure over the last decade with real expenditure falling by 38 per cent between 1995/96 and 2005/06. National racing expenditure rose by only 3 per cent over this period, indicating that while the racing industry has struggled to grow at the national level, the Tasmanian racing industry has nonetheless performed quite poorly. In fact, Tasmanian racing expenditure has even fallen in nominal terms over the past decade (by 21 per cent).

While the introduction of gaming machines in Tasmania in 1997 certainly contributed to the decline in racing expenditure, Figure 4.4 shows that the downward trend commenced several years before the introduction of gaming machines. A combination of factors would explain the decline, including:

- Continued innovation in other gambling products, particularly gaming products, which increased competition for the gambling dollar. For instance, keno was introduced to Tasmania in 1994 while there have been persistent innovations with respect to lotteries.

Table 4.7
Number of Thoroughbred Meetings and Races by State – 1998/99 to 2005/06

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Australia
Number of Meetings									
1998/99	864	572	989	192	297	79	92	25	3,110
1999/00	877	578	927	189	299	77	78	25	3,050
2000/01	845	581	909	184	286	79	80	25	2,989
2001/02	847	578	906	186	297	75	79	22	2,990
2002/03	814	577	853	191	292	75	81	24	2,907
2003/04	813	572	738	186	293	76	77	22	2,777
2004/05	782	572	741	181	297	77	75	20	2,745
2005/06	798	578	719	183	302	76	76	20	2,752
2006/07	748	560	723	180	303	77	78	13	2,682
Number of Races									
1998/99	6,190	4,567	6,369	1,464	2,169	618	460	181	22,018
1999/00	6,161	4,626	6,147	1,437	2,198	590	429	176	21,764
2000/01	5,705	4,694	6,056	1,415	2,084	606	430	200	21,190
2001/02	5,855	4,655	5,946	1,447	2,194	597	418	202	21,314
2002/03	5,592	4,677	5,609	1,485	2,130	605	424	180	20,702
2003/04	5,682	4,623	4,950	1,471	2,151	608	414	173	20,072
2004/05	5,566	4,646	4,939	1,434	2,189	618	416	160	19,968
2005/06	5,674	4,686	4,737	1,439	2,235	619	409	164	19,963
2006/07	5,420	4,497	4,835	1,412	2,242	625	407	107	19,545

Source: Australian Racing Board (2007), Australian Racing Fact Book 2006/07.

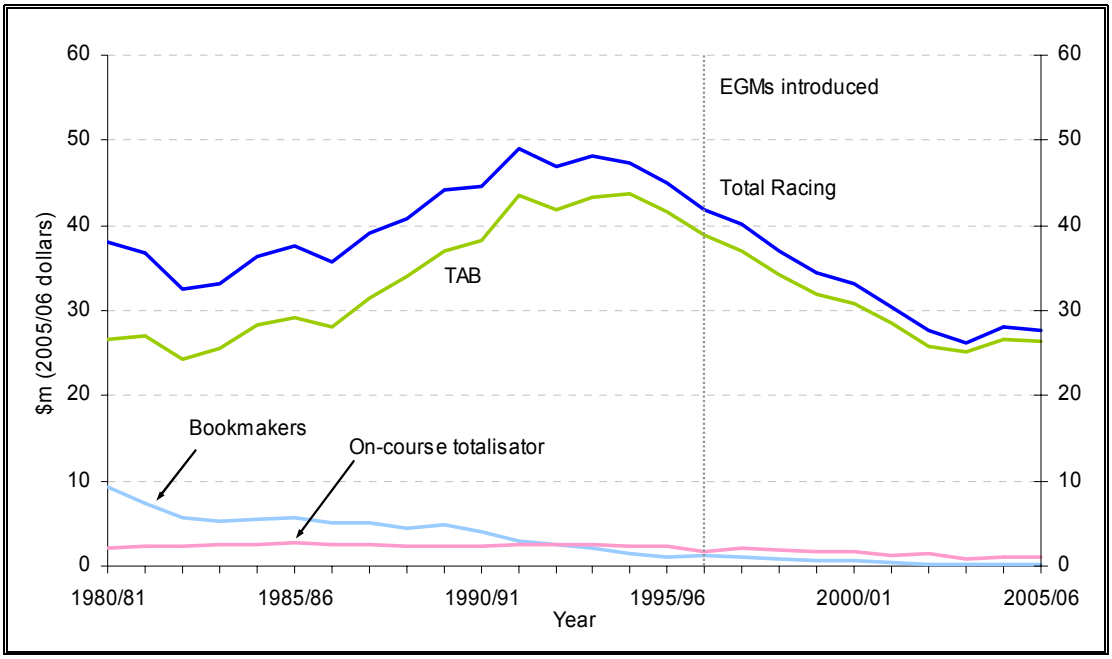
- Thoroughbred, harness and greyhound wagering are established forms of betting across all States and Territories, meaning that growth in these forms of betting are more dependent on underlying fundamentals such as population and wages growth. Relatively slower economic and population growth in Tasmania associated with relatively lower wages have therefore been dampening influences on racing expenditure.
- The Tasmania racing product may be less appealing given the absence of any Group 1 and 2 races in the state. This is partly a consequence of the small size of the Tasmanian market.

Table 4.8
Racing Industry – Total Nominal and Real Gambling Expenditure ($ million)

	Australia		Tasmania	
	Nominal	Real[a]	Nominal	Real[a]
1980/81	587.5	1,802.5	12.4	38.0
1985/86	991.5	2,045.7	18.3	37.7
1990/91	1,533.6	2,209.1	31.0	44.6
1995/96	1,636.1	2,089.8	35.2	45.0
2000/01	1,795.9	2,060.5	28.9	33.2
2005/06	2,155.4	2,155.4	27.7	27.7

Note: [a] Base year is 2005/06.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Figure 4.4
Real Racing Gambling Expenditure
Tasmania – $ million (2005/06 dollars)



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Table 4.9
Average Annualised Growth in Real Racing Gambling Expenditure (Per cent)[a]

	Australian Capital Territory	New South Wales	Northern Territory	Queensland	South Australia	Tasmania	Victoria	Western Australia	Australia
1980/81 to 1985/86	4.9	2.2	0.2	4.7	3.5	-0.2	2.7	-0.2	2.6
1985/86 to 1990/91	0.3	2.8	12.2	0.7	3.6	3.5	0.2	-1.3	1.5
1990/91 to 1995/96	0.1	-2.6	5.2	1.0	-3.7	0.2	-0.9	3.4	-1.1
1995/96 to 2000/01	2.8	-0.8	7.3	-3.5	1.9	-5.9	1.1	1.5	-0.3
2000/01 to 2005/06	0.3	-1.3	26.3	1.9	-3.4	-3.5	1.1	4.7	0.9
1980/81 to 2005/06	1.7	0.0	9.9	0.9	0.3	-1.2	0.8	1.6	0.7

Note: [a] Base year is 2005/06.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007. Calculations by SACES.

Table 4.10
Relative Racing Gambling Expenditure in 2005/06

	Expenditure ($m)	Expenditure per adult ($)	Expenditure as proportion of HDI (%)
New South Wales	747.8	144	0.4
Victoria	610.2	157	0.4
Queensland	308.9	102	0.3
South Australia	105.9	88	0.3
Western Australia	236.4	153	0.4
Tasmania	27.7	75	0.2
Australian Capital Territory	27.0	107	0.2
Northern Territory	91.4	629	1.5
Australia	2,155.4	138	0.4

Note: HDI = Household disposable income.
[a] Persons aged 18 years and over. Adult population for the year is an average of the adult population at 30 June at the start and end of the relevant financial year.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Relative expenditure on racing in Tasmania is quite low, which is not surprising given the historical pattern of weak growth. Tasmania had an average racing expenditure of $75 per adult in 2005/06 – well below the national average of $138 per adult and lower than any other state or territory. Tasmania's average racing expenditure was also low as a proportion of household income (see Table 4.10).

Unfortunately Australian Gambling Statistics does not provide a breakdown of racing expenditure by the various forms of racing. We must rely on estimates of turnover (i.e. the amount wagered) published in the Australia Racing Factbook to gain insight into trends in spending on the various forms of racing. An advantage with this data is that it is available up to the 2006/07 racing season.

Thoroughbred racing remains the most popular form of racing activity accounting for almost three quarters of all wagering on racing events in Tasmania and the nation as a whole in 2006/07. A total of $280 million was wagered on thoroughbred racing in Tasmania in 2006/07. This represents 2.2 per cent of total national wagering on thoroughbred racing, which is just below Tasmania's share of the national adult population (2.4 per cent).

The composition of thoroughbred wagering by form of wagering is quite different for Tasmania compared to other States and Territories. The vast majority of thoroughbred wagering in Tasmania is carried out through off-course TAB channels[37] (97 per cent), particularly TOTE Tasmania (82 per cent), but also phone (8.3 per cent) and internet betting (6.1 per cent). In comparison, off-course TAB wagering accounts for a significantly lower – but still dominant – share of national wagering on thoroughbred racing (67 per cent). The higher share for Tasmania largely reflects that bookmakers play a relatively smaller role in Tasmania. Bookmakers accounted for just 0.7 per cent of thoroughbred wagering turnover in Tasmania in 2006/07 compared with 27 per cent for the nation as a whole.[38]

[37] The name of the TAB agency in Tasmania is TOTE Tasmania. In Table 4.11 data for TOTE Tasmania is shown as a "TAB agency".

[38] Bookmakers share of state/territory thoroughbred wagering is particularly high in the Northern Territory (95 per cent in 2006-07), which tends to inflate the national average. The Northern Territory is the national base for internet and telephone oriented bookmakers and figures for the Northern Territory would include wagering with agencies such as Centrebet using the internet and telephone.

Table 4.11
Thoroughbred Wagering Turnover by State, 2006/07 ($ million)

Wagering form	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australian Capital Territory	Northern Territory	Total
Thoroughbred									
TOTE - On course	277.44	204.30	113.01	25.84	61.03	6.22	4.27	11.12	703.23
TAB – Agency*	2,347.57	1,733.52	1,099.70	368.20	663.34	230.51	102.71	65.10	6,610.65
- Phone	274.43	394.07	237.80	51.70	56.54	23.38	17.82	7.80	1,063.54
- Internet	341.54	228.23	105.40	58.60	80.06	17.19	33.52	20.00	884.54
- Fixed odds	17.51	26.11	20.90	4.89	7.24	1.17	0.60	1.93	80.35
Total TAB off course	2,981.05	2,381.93	1,463.80	483.39	807.18	272.25	154.65	94.83	8,639.08
Total pari-mutuel	3,258.49	2,586.23	1,576.81	509.23	868.21	278.47	158.92	105.95	9,342.31
Bookmakers - On course	517.89	224.55	129.50	40.05	66.42	1.97	9.23	14.28	1,003.89
Bookmakers - Phone	2.11	292.82	79.26	40.40	14.06	0.00	30.54	1,418.00	1,877.19
- Internet	3.55	2.80	0.00	0.00	4.20	0.00	8.23	607.76	626.54
Total bookmakers - Off course	5.66	295.62	79.26	40.40	18.26	0.00	38.77	2,025.76	2,503.73
Total bookmakers	523.55	520.17	208.76	80.45	84.68	1.97	48.00	2,040.04	3,507.62
Total thoroughbred	3,782.04	3,106.40	1,785.57	589.68	952.89	280.44	206.92	2,145.99	12,849.93
Harness & Greyhound									
TAB*	1,368.98	1,160.89	485.33	221.82	601.27	101.01	39.02	35.47	4,013.79
Bookmakers	74.16	8.30	20.92	4.16	7.12	2.24	7.82	680.00	730.56
Total Harness & greyhound	1,368.98	1,169.19	506.25	225.98	608.39	103.25	46.84	715.47	4,744.35
Total Racing	5,151.02	4,275.59	2,291.82	815.66	1,561.28	383.69	253.76	2,861.46	17,594.28

Note: * TOTE Tasmania is referred to as TAB agency or TAB off-course in Tables 4.11 and 4.12.
Source: Australian Racing Board (2007) Australian Racing Fact Book.

The role of bookmakers in the Tasmanian thoroughbred racing industry has declined steadily over recent years. Turnover for bookmakers has fallen from $7.4 million in 2000/01 to $1.97 million in 2006/07 (see Table 4.12). The decline has been driven partly by technical innovations, particularly phone and internet betting, which have increased the accessibility of gambling.

A total of $103 million was wagered on harness and greyhound racing in Tasmania in 2005/06 (see Table 4.11). The majority of this was conducted through TOTE Tasmania (98 per cent).

Table 4.12
Thoroughbred Wagering Turnover
Tasmania, 2000/01 to 2006/07 ($ million)

Wagering form	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
TOTE – On course	2.3	2.98	3.33	5.39	5.9	5.7	6.22
TAB - Agency*	133.1	143.58	168.94	170.45	177.78	192.35	230.51
- Phone	26.4	28.04	26.41	24.04	24.61	22.34	23.38
- Internet			1.19	2.22	3.63	7.57	17.19
- Fixed odds				3.9	4.16	0.88	1.17
Total TAB off course	159.5	171.62	196.54	200.61	210.18	223.14	272.25
Total pari-mutuel	161.8	174.6	199.87	206	216.08	228.84	278.47
Bookmakers – On course	5.6	3.07	2.27	2.19	2.29	2.03	1.97
Bookmakers – Phone	1.8	0.54	0.04	0.02	0	0	0.00
- Internet			0	0	0	0	0.00
Total bookmakers – Off course	1.8	0.54	0.04	0.02	0	0	0.00
Total bookmakers	7.4	3.61	2.31	2.21	2.29	2.03	1.97
Total wagering	169.2	178.21	202.18	208.21	218.37	230.87	280.44

Note: * TOTE Tasmania.
Source: Australian Racing Board (2007) Australian Racing Fact Book.

4.2.3 Operations of Betfair (Australia)

Betfair (Australia) provided in their submission that Tasmanians, like most Australians, "were slow to start using Betfair until 2006". At the time of the submission there were 724 Tasmanian registered accounts which had completed Know Your Customer (KYC) requirements and funded their account. Know Your Customer procedures involve Betfair customers having to complete an online application, agreeing to abide by Betfair's terms and conditions and then being able to open an account (i.e. transfer funds into the account). KYC procedures involve providing Betfair with "100" points of identifying information; failure to complete KYC procedures within three months of the first transfer of funds into an Australian account will result in the account (or wallet) being frozen. Failure to complete KYC procedures within 13 months will result in the full suspension or closure of the account.

As noted above, there were 724 Tasmanians registered accounts but only 488 Tasmanian registered customers had placed a bet. This is in comparison to 9,634 Australian, non-Tasmanian registered customers and 42,741 overseas registered customers. Clearly, Tasmania based customers occupy a very small fraction of Betfair's business.

Analysis of Betfair customers, participation rates in wagering, deposits and bets by active users is summarised here:

- for active customers, the number of deposits made and bets placed by each user varies with events on at the time;
- on average, when Tasmanian customers are in periods of active account use they deposit 1.58 times per month;
- the average amount deposited per user during times of activity is $568 over a month;
- on average, during periods of activity Tasmanian customers place around 213 bets per month;
- on average for Tasmanian customers, the overall loss per month while an account is open is $137;
- of the Tasmanian registered customers, 248 have selected a Deposit Limit as shown in Table 4.13.

Table 4.13
Deposit Limit by Account

	Daily	Weekly	Monthly
$10.00	5	4	3
$50.00	15	22	20
$100.00	23	26	20
$200.00	15	16	11
$500.00	9	13	3
$1,000.00	7	18	3
$10,000.00	6	6	3

Source: Betfair, submission to study.

Betfair provides a self-exclusion program for a minimum period of 6 months and once activated, the period of self-exclusion cannot be revoked. In effect, the account is frozen and this is clearly identified to all Betfair customer liaison staff. Self-exclusion provisions are enforceable simply because player activity tracking is possible through the on-line, credit-based system.

Only three Tasmanian registered customers have self excluded since Betfair's licence came into operation and 187 customers have stipulated a pre-commitment loss limit as shown in Table 4.14. The majority of users selected weekly as the relevant time period.

Table 4.14
Loss Limit by Amount

	Users
$10.00	7
$50.00	43
$100.00	48
$200.00	30
$500.00	25
$1,000.00	31
$10,000.00	3

Source: Betfair, submission to study.

There are three very important aspects to note regarding the operations of Betfair in regard to player protection:

- you must be a registered player to participate in wagering;
- the ability to set both pre-commitment deposit and loss limits; and
- that player activity tracking is possible through the credit based, on-line system.

These features of Betfair's operations (and other on-line, credit-based systems) provide more sophisticated consumer protections combined with the ability to track player activity. For example, the external regulator, the TGC, can instruct Betfair to freeze some or all wagering funds of a particular customer for such a period as the TGC determines.

4.2.4 Participation: Horse Racing and Harness Racing

Unlike most other States and Territories, there has been a decline in attendance at horse race meetings in Tasmania over the past decade (see Table 4.15). The proportion of Tasmanians aged 15 years and over that attended a horse racing event at least once over the past year fell from 12.0 per cent in 1995 to 9.3 per cent in 2005/06. In comparison, the national attendance rate remained steady over this period, rising slightly from 12.3 per cent to 12.8 per cent.

South Australia and the Australian Capital Territory were the only other State/Territory that exhibited a decline in horse race attendance over the decade to 2005/06. A contributing factor to the decline in attendance is that runners have been attracted to race meetings in the more populous eastern states due to the larger prize money on offer, thus reducing the number of meetings run in the smaller states/territories.

Not surprisingly, attendance at harness racing has been consistently lower relative to horse racing in all states and territories over the past decade (refer Table 4.16). In 2005/06, 4.5 per cent of Tasmanians aged 15 years and over attended a harness race at least once over the past year whereas 9.3 per cent attended horse racing.

Tasmania had a higher rate of harness racing attendance than Australia as a whole in 2005/06 (4.5 per cent c.f. 2.8 per cent). A further point of difference is that the attendance rate for harness racing in Tasmania appears to have remained fairly stable between 1995 and 2005/06 (at between 4 and 5 per cent), whereas it has declined at the national level, from 4.2 per cent to 2.8 per cent.

Table 4.15
Persons Attending Horse Racing by State and Territory
1995, 1999, 2002 and 2005/06

	Persons ('000)				Attendance Rate (Per cent)			
	1995	1999	2002	2005/06	1995	1999	2002	2005/06
Tasmania	**41.3**	**39.1**	**31.4**	**33.8**	**12.0**	**11.4**	**9.1**	**9.3**
New South Wales	528.5	571.0	594.1	672.1	11.7	12.6	12.1	13.2
Victoria	443.8	482.0	577.7	524.0	13.2	14.3	15.8	13.6
Queensland	307.5	300.2	359.4	402.4	12.9	12.6	13.3	13.8
South Australia	121.4	113.1	98.9	91.1	11.0	10.2	8.7	7.8
Western Australia	142.8	152.0	163.8	188.0	11.4	12.1	11.5	12.7
ACT	28.9	23.8	22.6	20.4	13.5	11.1	9.8	8.5
Australia[a]	1,632.2	1,698.8	1,865.2	1949.8	12.3	12.8	12.9	12.8

Note: [a] Includes Northern Territory.
Source: ABS, *Sports Attendance,* 2002 and 2005/06 (Cat. No. 4174.0).

Table 4.16
Persons Attending Harness Racing by State and Territory
1995, 1999, 2002 and 2005/06

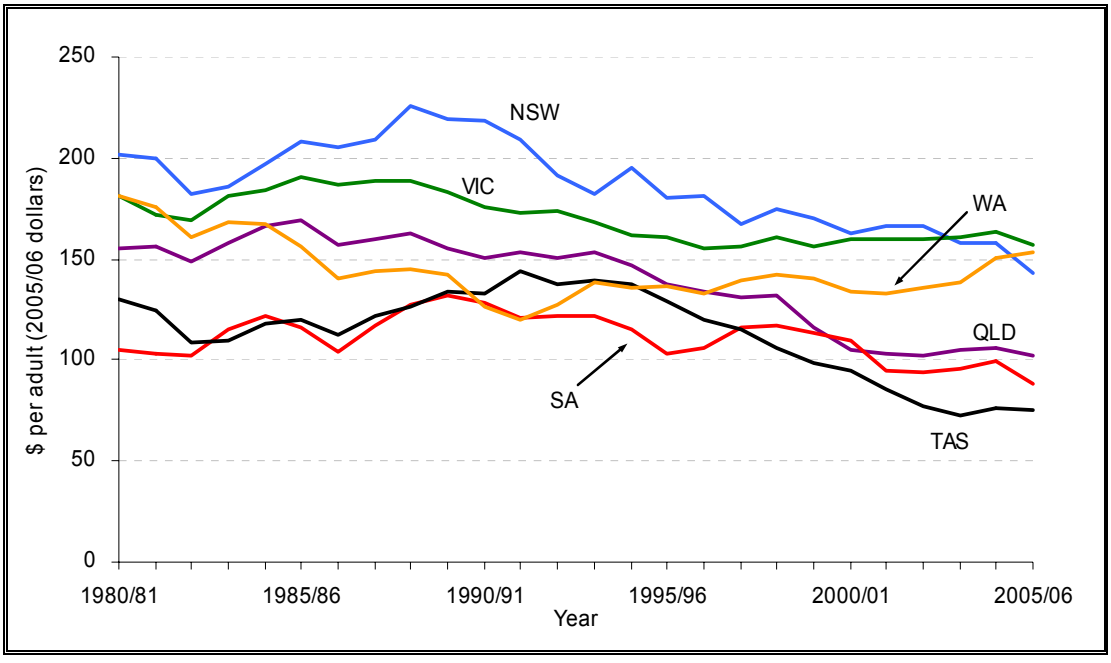
	Persons ('000)				Attendance Rate (Per cent)			
	1995	1999	2002	2005/06	1995	1999	2002	2005/06
Tasmania	**16.8**	**18.3**	**10.0**	**16.4**	**4.9**	**5.3**	**2.9**	**4.5**
New South Wales	137.3	144.3	162.6	139.1	3.0	3.0	3.3	2.7
Victoria	164.7	157.0	155.8	104.5	4.9	4.4	4.3	2.7
Queensland	61.0	42.1	36.1	58.8	2.6	1.6	1.3	2.0
South Australia	59.3	40.0	48.1	37.2	5.4	3.5	4.2	3.2
Western Australia	106.7	102.2	90.0	71.7	8.5	7.5	6.3	4.9
ACT	5.2	3.3	4.6	3.0	2.4	1.5	2.0	1.3
Australia[a]	553.3	508.4	508.3	431.5	4.2	3.6	3.5	2.8

Note: [a] Includes Northern Territory and Australian Capital Territory.
Source: ABS, *Sports Attendance,* 2002 and 2005/06 (Cat. No. 4174.0).

Estimates of real per capita expenditure also provide insight into participation in gambling activities. We have already seen that Tasmania had a low average per capita racing expenditure in 2005/06, and this is consistent with the relatively lower attendance at horse racing as indicated by the ABS data.

Figure 4.5 shows the historical pattern of real per capita racing expenditure for the states. Average per capita real racing expenditure actually rose in Tasmania up until the early 1990s to a point where it exceeded average expenditure in Western Australia and South Australia. However, average racing expenditure then fell steadily in Tasmania with spending only stabilising in the last two years. Most other states have also experienced a decline in average racing expenditure over the past decade with the main exception being Western Australia which has seen a modest increase over recent years, while per capita expenditure in Victoria has remained fairly stable since the late 1990s.

Figure 4.5
Real Per-capita Total Racing Expenditure ($ per capita, 2005/06 dollars)



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

4.3 Lotteries

4.3.1 Activities

A lottery is defined as 'a game of chance in which tickets are sold, one or more of which may later qualify the holder for a prize. It is an activity or endeavour the success of which is regarded as a matter of fate or luck.'[39] Lotteries are games of pure chance. There are a wide variety of lottery products available in Australia. Examples of common lottery products include lotteries, lotto (i.e. Tattslotto, Gold Lotto, Lotto, X-Lotto, PowerBall, etc.), instant lotto (i.e. 'scratchies'), soccer pools and keno.

4.3.2 Expenditure

Australian's lost a total of $1,894 million on lottery products in 2005/06, up from $971 million in 1980/81 (see Table 4.17). The amount lost by Tasmanians on lottery products rose from $33 million to almost $50 million over this period.

Table 4.18 summarises average annual growth rates in real lottery expenditure by state for select periods from 1980/81 to 2005/06. Real expenditure on lottery products in Tasmania grew at an average rate of 6.3 per cent per annum over the 25 years to 2005/06. This was only a little slower compared to growth in national lottery expenditure over this period (7.4 per cent).

Real expenditure on lottery products in Tasmania has generally grown steadily over the past 25 years with the main exception being the late 1990s when expenditure declined dramatically and grew by only 0.5 per cent per annum. This period coincided with the introduction of gaming machines to hotels and clubs and is one indication of the switching of expenditure from other gambling products to EGMs. Other states also experienced quite weak growth in lottery expenditure during those periods in which gaming machines were introduced to licensed venues (i.e. 1990/91 to 1995/96 in respect of Victoria, Queensland and South Australia). There is no doubt that gaming machines have had a negative impact on lotteries expenditure, at least during the initial phase following the introduction of gaming machines. It is notable that Western Australia – the only state that does not permit gaming machines in hotels and clubs – experienced stronger growth in real expenditure on lottery products than any other state over the past 25 years (12.3 per cent per annum c.f. 7.4 per cent for Australia as a whole).

Table 4.17
Lottery Products – Total Nominal and Real Expenditure ($ million)[a]

	Australia		Tasmania	
	Nominal	Real[b]	Nominal	Real[b]
1980/81	316.6	971.4	10.8	33.2
1985/86	631.4	1,302.8	17.6	36.2
1990/91	1,028.7	1,481.9	26.6	38.3
1995/96	1,302.8	1,664.1	37.8	48.3
2000/01	1,603.8	1,840.1	38.8	44.5
2005/06	1,893.6	1,893.6	49.5	49.5

Note: [a] Lottery products are defined as being composed of lotteries, Lotto and Tattslotto, instant lotto, Soccer Pools and Keno.
[b] Base year is 2005/06.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

[39] Collins Dictionary of the English Language, 1979, p. 870.

Table 4.18
Average Annualised Growth in Real Lottery Expenditure (per cent)[a]

Period	Tasmania	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
1980/81 to 1985/86	10.1	13.6	9.6	30.2	17.0	26.4	14.8
1985/86 to 1990/91	8.6	2.7	9.9	15.1	16.9	22.5	10.3
1990/91 to 1995/96	7.3	12.1	0.3	2.6	-2.0	6.2	4.8
1995/96 to 2000/01	0.5	4.6	0.8	9.1	4.1	3.5	4.2
2000/01 to 2005/06	5.0	2.5	3.1	4.3	1.8	5.1	3.4
1980/81 to 2005/06	6.3	7.0	4.7	11.8	7.3	12.3	7.4

Note: [a] Base year is 2005/06. Lottery products are defined as being composed of lotteries, Lotto and Tattslotto, instant lotto, Soccer Pools and Keno.
Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

There are distributional effects (e.g. taxation receipts) from the switching of expenditure amongst gambling products, where for example, returns to the Department of Treasury and Finance decline as expenditure on lottery products falls and returns to private organisations (casinos, hotels, clubs) rise as expenditure on EGMs increases. This in itself justifies high tax rates on EGMs.

4.3.3 Participation

Unlike most other forms of gambling, Tasmania has a relatively high average expenditure on lottery products. Tasmanian's spent an average of $134 per person on lottery products in 2005/06, which was 11 per cent higher than the national average of $121 per person. This difference is explained entirely by the much higher expenditure on keno ($55 per person compared to $13.5 nationally). Spending on all other forms of lottery products was lower in Tasmania (see Table 4.19).

Table 4.19
Lottery Products – Per Capita Expenditure ($) – 2005/06

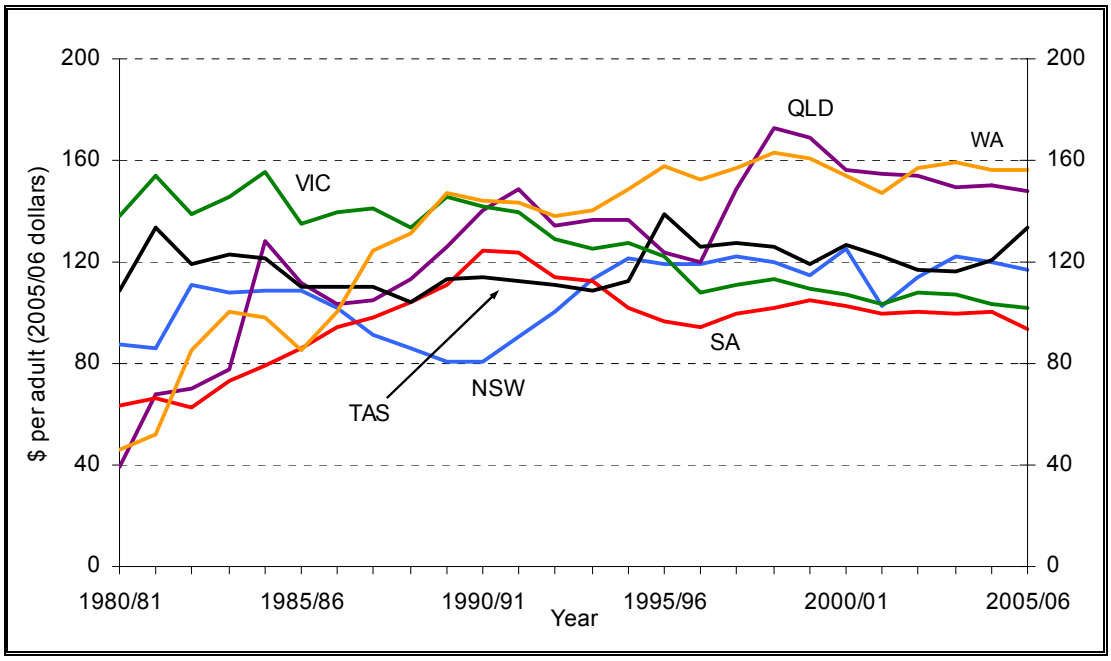
Period	Tasmania	New South Wales	Victoria	Queensland	South Australia	Western Australia	Australia
Lotto	69.6	87.5	93.9	89.8	72.0	134.5	92.3
Instant Lotto	9.0	12.9	5.9	29.3	10.4	21.6	14.8
Keno	55.0	16.1	1.6	28.4	11.2	-	13.5
Soccer Pools	0.2	0.7	0.2	0.5	0.2	0.4	0.4
Total	133.8	117.1	101.6	147.9	93.8	156.6	121.0

Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Western Australia had the highest per capita total expenditure on lottery products of any state in 2005/06 ($157 per capita – refer Table 4.19). This is despite keno not being available in Western Australia. Given that the main difference in the gambling environment between Western Australia and the other states is the absence of gaming machines beyond the casino in the former, this pattern suggests that lottery products and gaming machines are at least partial substitutes for one another.

Despite solid economic and/or population growth in most states, growth in lotteries expenditure has been stagnant over the past decade with real per capita expenditure on lottery products remaining stable in almost all states over this period (see Figure 4.6).

Figure 4.6
Real Per Capita Expenditure on Lottery Products



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

The lack of growth would be explained by the mature nature of the lotteries industry and the introduction of new gambling products ─ especially gaming machines, but also sports betting and casinos ─ which have increased competition for the gambling dollar. The maturation of the lotteries sector may be an important factor given that even Western Australia has experienced a flat trend in real per capita lotteries expenditure over the past decade, despite robust economic growth and an absence of gaming machines in hotels and clubs during this period.

Keno is very widely available in hotels and clubs in Tasmania as previously noted. There are 93 hotels with EGMs and keno and 40 hotels with only keno; there are 10 clubs with both facilities to continuously gamble and 19 with only keno; and keno is available in the two casinos. This represents a statewide average of 4.4 keno agents per 10,000 adults, which is exactly the same as found in South Australia.[40]

However, South Australia with three times the adult population of Tasmania has only one-fifth of the expenditure on keno as is found in Tasmania. What are the likely explanations for the observed differences?

First, keno was noted as the fourth most popular gambling activity in the 2007 Prevalence Survey at 26 per cent participation, behind lotteries (52 per cent), scratch ticket (32 per cent) and gaming machines (28.5 per cent). Demographic analysis revealed that young people and aboriginal people were more likely to have played in the last 12 months, whereas older and retired people were less likely to play. This is a very similar profile to those more likely to gamble on gaming machines. However, the association with those demographic characteristics only explains relative differences within the population, but not the overall expenditure. Older people might actually spend more than young people in absolute terms

[40] SACES (2006), "South Australian Gambling Industry", p. 31.

because there are more of them. The associations are likely to overlap with hotel visitation ─ younger people are more likely to go to hotels in general where keno is located.

Second, the 2007 Prevalence Survey found that 1.7 per cent of individuals gamble on keno at "least once a week or more" compared to 1.5 per cent who gambling on gambling machines on a weekly basis.

The third contributing factor is likely to be the greater accessibility of keno in the casino, hotels and clubs, unlike in other states where keno is available at the point of sale of other lottery products or not available in hotels in New South Wales. These venues (e.g. newsagents in South Australia, point of sale for lottery products) are more open to the public, they serve a more mobile population and generally do not provide seating facilities. Moreover, if people travel further to gamble at clubs/hotels, then they may stay a bit longer and play a greater variety of activities. The number of EGMs per venue is quite low in Tasmania, so it is possible that people do not always get to spend as long playing EGMs because the machines are taken.

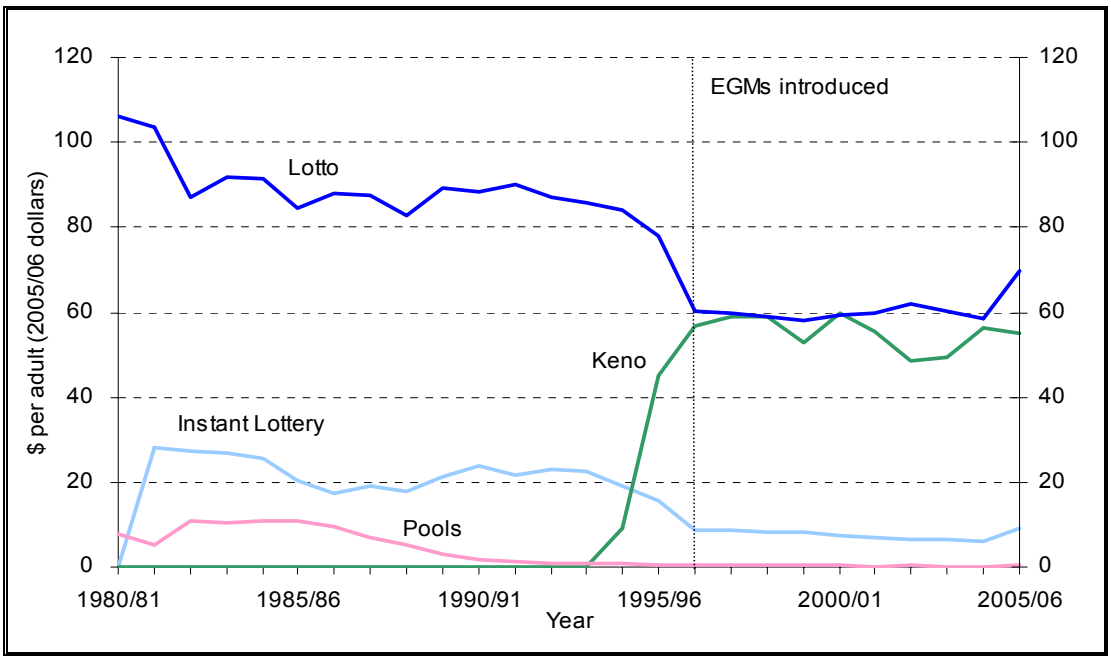
The demographic profile of problem gamblers described in the Prevalence Study (SACES, 2008) was the following:

> "males, young people and people living in the Greater Hobart area were significantly more likely to be in the moderate risk and problem gambling group." (Vol. 2, p. 59).

The gambling preferences of regular gamblers ─ the higher risk group ─ was that they were

> "significantly more likely to play keno and buy scratch tickets ..." (Vol. 2 p. 60).

Figure 4.7
Real Per Capita Expenditure on Lottery Products
Tasmania - $ per adult (2005/06 dollars)



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

The evolution in real per capita expenditure on the various forms of lottery products in Tasmania is illustrated in Figure 4.7. The most notable development with respect to lottery products has been the rapid increase in expenditure on keno following its introduction in 1994/95. Relative lotto expenditure fell sharply in 1996/97. It appears that the introduction of keno contributed to the decline in lottery expenditure and that expenditure on both keno and lotteries was further impacted with the introduction of gaming machines. The strong rise in keno expenditure actually ceased in the year gaming machines were introduced.

Instant lotteries and the Pools are relatively minor forms of lottery gambling products. Relative expenditure on both has declined over the past 10 to 15 years (see Figure 4.7).

4.4 Casinos

4.4.1 Activities

Tasmania is one of only three jurisdictions in Australia (together with Queensland and the Northern Territory) that has more than one casino. Wrest Point Hotel casino is located in southern Hobart and serves the south of Tasmania, while Country Club Casino is located in Launceston and serves the northern part of the state.

Table 4.20 summarises the range of gambling activities that were available at the two casinos as at 22 March 2007. Both casinos provide a range of table games together with gaming machines, keno and the TOTE. The most prevalent table games are the traditional casino games of blackjack (14 tables in total) and roulette (7 tables).

Table 4.20
Gambling Activities Available at the Casinos – as at 8 August 2007

	Wrest Point Hotel Casino	Country Club Casino	Total
Type			
Table games			
Blackjack	8	6	14
Caribbean Stud	0	0	0
Midi Baccarat	1	0	1
Mini Baccarat	1	2	3
Money Wheel	1	0	1
Pontoon	4	1	5
Rapid Roulette	1	1	2
Roulette	4	3	7
Texas Hold-em Poker	3	2	5
Total	23	15	38
Electronic Gaming Machines	745	535	1,280
Keno	Yes	Yes	na
Tote	Yes	Yes	na

Source: TGC, 2007, *Details of Licensed Casinos* [Online]. Available: http://www.treasury.tas.gov.au [2008, February 18].

The most significant form of gambling activity at both casinos is gaming machines. Wrest Point Hotel Casino had a total of 745 gaming machines in early August 2007 while Country Club Casino had 535 gaming machines. The two casinos account for approximately 35 per cent of all gaming machines in Tasmania given the number of gaming machines in hotels and clubs at the end of June 2007. This is in contrast to the rest of Australia where all casinos combined account for 6.2 per cent of all gaming machines.

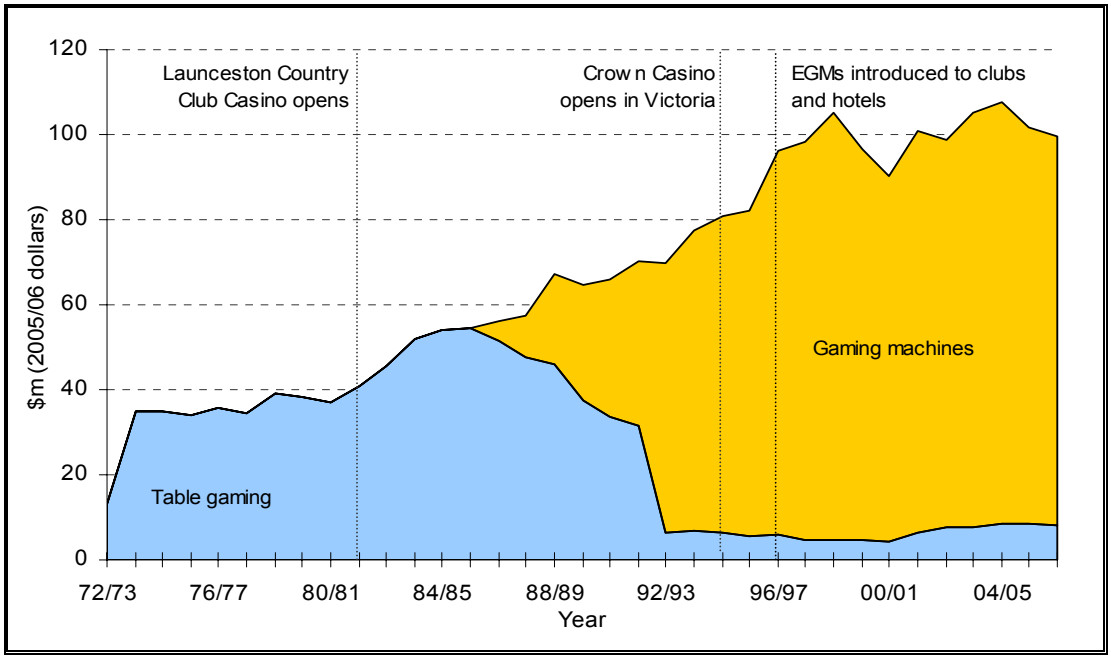
4.4.2 Expenditure

Figure 4.8 illustrates real casino expenditure in Tasmania from 1972/73 to 2006/07. The graph is based on data provided by the Department of Treasury and Finance and it is more up to date compared to the data published in Australian Gambling Statistics.

Real casino expenditure in Tasmania rose steadily through the 1970s following the establishment of the Wrest Point Hotel casino in 1973. Expenditure was principally based on table gaming. More robust growth in expenditure emerged in the early 1980s with the opening of the Launceston Country Club Casino. This was sustained by the introduction of gaming machines into casinos in 1986/87. Gaming machines introduced to casinos initially emulated table games; modern style gaming machines were introduced in 1993.[41] The latter certainly encouraged a further increase in casino expenditure since modern style gaming machines tend to be more popular compared to casino-style gaming machines, the average per machine day revenue is approximately 17 per cent more than the older machines and there are more of them.

Growth in real casino expenditure abated with the introduction of gaming machines in clubs and hotels in 1996/97, and has fluctuated around the $100 million mark since 1996/97. Total casino expenditure grew at an annual average rate of just 0.3 per cent over the decade to 2006/07. This compares with an average growth rate of 5.5 per cent per year between 1982/83 and 1996/97 – the period in which the Launceston casino was launched and EGMs were introduced to the casinos.

Figure 4.8
Real Casino Expenditure
Tasmania – 1972/73 to 2006/07



Source: Department of Treasury and Finance, unpublished data.

As Figure 4.8 shows, there has been a dramatic shift in expenditure from table games to gaming machines with the introduction of the latter from 1986/87. The share of total casino expenditure accounted for by gaming machines rose from 8 per cent in 1986/87 to 92 per cent

[41] Farrell, G. (2008), personal correspondence of 22 February 2008 and letter to M. O'Neil, 12th March 2008.

in 2006/07. Interestingly, the share of taxation revenue derived from gaming machines is even greater with gaming machines accounting for 99.7 per cent of casino taxation revenue in 2006/07, up from 7.0 per cent in 1986/87 (see Table 4.21). This reflects both a reduction in table gaming expenditure since 1986/87 in real terms (see Table 4.21) and a reduction in table gaming tax rates relative to EGMs which took place in 2003. The tax rate on table games was 15 per cent of turnover and was changed to 0.88 per cent of gross profit and the tax rate on EGMs was set at 20.88 per cent on gross profit of less than $35 million rising to 25.88 per cent on gross profit in excess of $35 million in a financial year.

Table 4.21
Casino – Real Expenditure and Taxation Revenue ($ million)

	Table gaming		Gaming Machines		Total	
	Expenditure	Tax	Expenditure	Tax	Expenditure	Tax
1981/82	39.5	9.2	na	na	39.5	9.2
1986/87	50.2	8.6	4.4	0.7	54.6	9.3
1991/92	30.7	12.6	37.3	7.0	68.0	19.6
1996/97	5.9	2.1	87.7	29.3	93.6	31.3
2001/02	6.2	0.9	91.8	19.7	98.0	20.6
2006/07	8.0	0.1	88.7	21.5	96.8	21.5

Source: Data provided by the Tasmanian Department of Treasury and Finance.

4.4.3 Participation

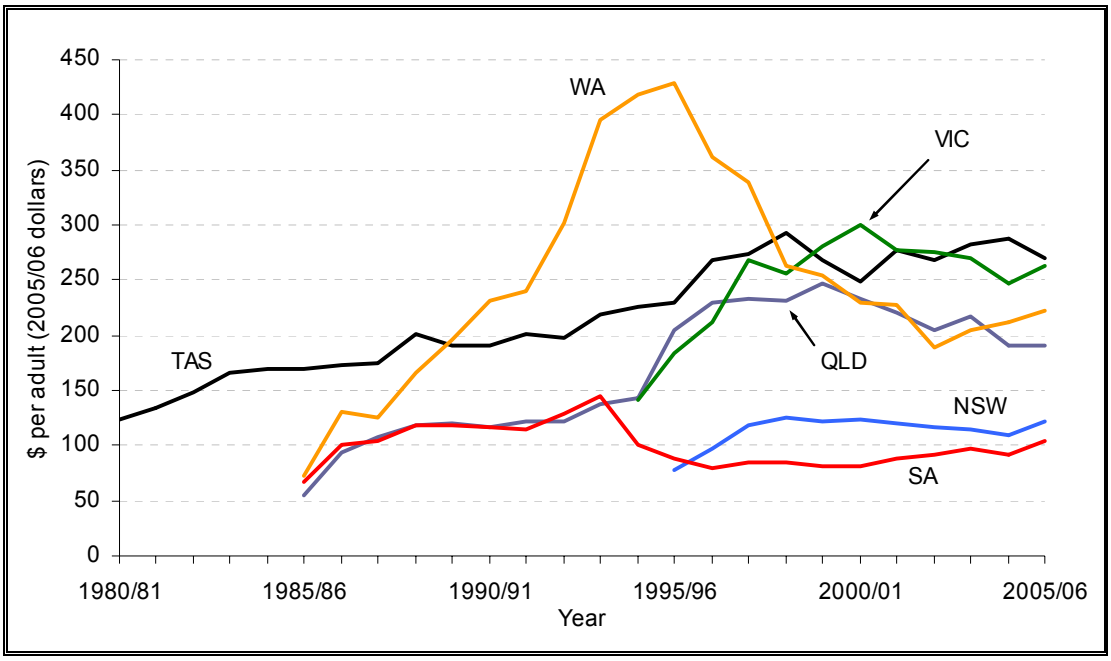
To the extent that per capita expenditure estimates provide reliable information on relative participation, then Tasmania appears to have relatively high participation in casino gambling. Tasmania's average per capita casino expenditure in 2005/06 was $270 – well above the national average of $187. In fact, only the Northern Territory had higher relative casino expenditure in 2005/06 ($678 per capita).

Figure 4.9 shows that Tasmania has generally had a high per capita casino expenditure compared to the other mainland states over the past 25 years. Relative casino expenditure has at times been higher in Western Australia and Victoria. Victoria is the only state that currently has a comparable level of per capita expenditure on casino gambling compared to Tasmania.

Tasmania's high per capita casino expenditure is due to the fact that a relatively high proportion of the state's gaming machines are located in the two casinos. Figure 4.10 shows that 35 per cent of Tasmania's gaming machines were located in the casinos in 2006 – this is well above the proportion of total machines located in casinos in New South Wales (1.5 per cent), Victoria (8.4 per cent), Queensland (8.5 per cent), and South Australia (7.2 per cent). The Northern Territory also has a large proportion of machines concentrated in the casino which is one explanation for the Territory's high per capita casino expenditure.

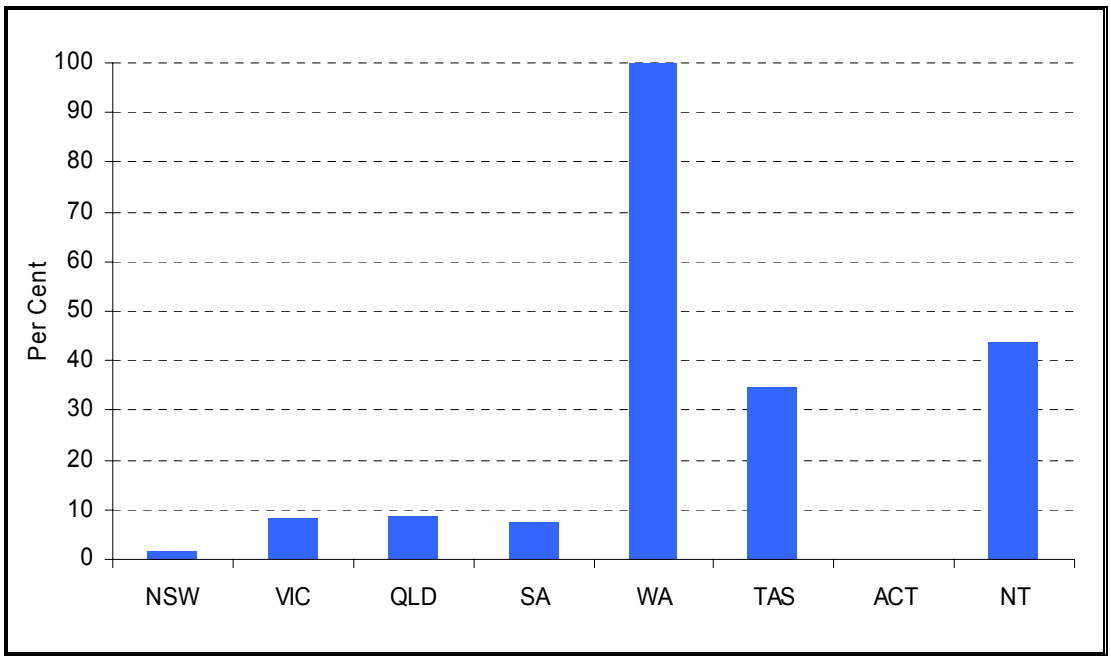
On the face of it, Western Australia contradicts the above interpretation since all gaming machines in the state are located in the casino yet the state has a lower per capita casino expenditure compared to both Tasmania and the Northern Territory. This contradiction is of course explained by the fact that the casino in Western Australia is only permitted to operate gaming machines that emulate casino games. These machines tend not to be as popular as the gaming machines typically found in other states which simulate physical reels and calculate pay outs based on the pattern of symbols displayed once the reels stop spinning.

Figure 4.9
Real per-capita Casino Expenditure ($ per capita, 2005/06 dollars)



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

Figure 4.10
Proportion of Gaming Machines Located in Casino – 30 June 2006



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007. Calculations by SACES.

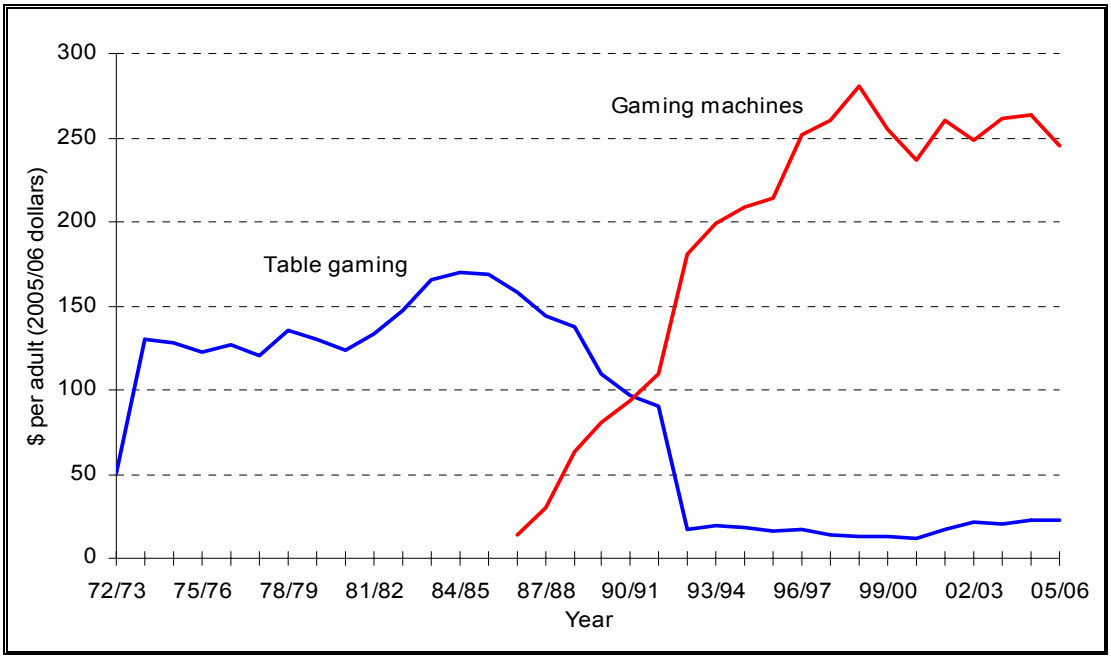
An argument often advanced in support of casinos (typically in industry commissioned research) is that economic benefits will remain in a state or region, both because tourists will be attracted to the casino (export base theory of economic growth) and spending by the local population will be retained in the region (import substitution). Walker (2007, p. 26) considers the fit of theory to casino gambling to conclude that the gambling export growth theory "is not so straightforward". If there are economic benefits from gambling tourism they would be expected to decline as casinos become more available and the benefits should be more

pronounced in those states with a high volume of international tourists relative to those state with lower tourism numbers (see further discussion in Tourism: Chapter 9).

It is interesting to note that both Queensland and New South Wales have significantly lower per capita casino expenditure relative to Tasmania. Given that these two states have significant tourism industries compared to Tasmania, this suggests that international and interstate tourism plays a minimal role in terms of driving gambling expenditure.

As observed in the previous section, there has been a significant shift from table gaming to EGM gambling in Tasmanian casinos with the introduction of EGMs. Figure 4.11 shows that real per capita expenditure on table games fell sharply with the introduction of EGMs from 1986/87 while spending on the latter rose strongly, indicating a shift in preferences from table gaming to EGM gambling. Real per capita expenditure on table games fell from a high of $175 per adult in 1984/85 to a low of $13 per adult in 2000/01. Meanwhile, real per capita expenditure on EGMs rose from $14 per adult in 1986/87 to a high of $288 per adult in 1998/99.

Figure 4.11
Real Per Capita Casino Expenditure
Tasmania – 1972/73 to 2005/06



Source: Department of Treasury and Finance, unpublished data.

With the introduction of gaming machines in clubs and hotels from 1986/87, real per capita expenditure on casino EGMs ceased to grow, and has stabilised in the range of $250 to $275 per capita. There has been a modest improvement in per capita expenditure on table games since 2000/01. However, average expenditure on table games remains well below its peak reached during the mid 1980s.

Surveys of participation in gambling support the view that higher per capita casino expenditure in Tasmania reflects greater participation in gaming machine gambling at the casinos (see Table 4.22). The Productivity Commission's National Gambling Survey conducted in 1999 showed that Tasmania and the Northern Territory had the highest rates of participation in casino based gaming machine gambling (27 per cent of adults respectively

Table 4.22
Participation in Casino and Gaming Machine Gambling
Proportion of Adults (Per cent)

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australian Capital Territory	Northern Territory	Australia
Productivity Commission (1999)									
Played poker or gaming machines	39	45	41	41	16	36	37	33	39
at a club	35	34	36	19	5	18	37	12	30
at a hotel/pub	14	23	17	37	3	25	3	10	18
at a casino	12	22	20	18	15	27	5	27	17
Played tables games at a casino	10	14	7	7	9	9	8	12	10
State and Territory Surveys (see reference year for applicable dates)									
EGMs:									
- club/hotel	na	na	na	26.7	na	22.7	na	na	na
- casino	na	na	na	3.1	na	21.4	na	na	na
- total	31	30	32.2	30.2	na	28.5	na	27	na
Casino table games	5	na	5.6	5.7	na	7.0	10	10	na
Reference year	*2006*	*1999*	*2003/04*	*2005*	*na*	*2007*	*2001*	*2005*	na

Source: Productivity Commission (1999); SACES and the School of Psychology (University of Adelaide), School for Social and Policy Research (2006), Northern Territory Gambling Prevalence Study 2005; NSW Office of Liquor, Gaming and Racing, and Department of the Arts, Sport and Recreation (2007), Prevalence of Gambling and Problem Gambling in NSW – A Community Survey 2006; Queensland Government (2006), Queensland Household Gambling Survey 2003/04; Australian Institute for Gambling Research, University of Western Sydney (2001), Survey of the Nature and Extent of Gambling and Problem Gambling in the ACT; Office for Problem Gambling, Department for Families and Communities (2006), Gambling Prevalence in South Australia; and Victorian Casino Gambling Authority (2000), Seventh Survey of Community Gambling Patterns and Perceptions.

compared to a national average of 17 per cent). More recent data on participation in casino based gaming machine gambling continues to support the view of relatively high participation in Tasmania. The Tasmanian Gambling Prevalence Study (SACES, 2008) found that 22 per cent of adults in the state played gaming machines in a casino during the 12 months prior to the survey. In comparison, a prevalence study for South Australia in 2005 found that only 3 per cent of adults played gaming machines at a casino in the previous year. Unfortunately surveys in other states and territories have not identified participation in casino based gaming machine gambling, preferring instead to identify gaming machine participation as a whole.

The 2007 Prevalence Survey found that 7.0 per cent of the state's adult population played table games at the casino in the previous year. This is in line with the level of participation in casino table game gambling revealed by recent surveys in other states (see Table 4.22). Recent state and territory surveys also tend to indicate that participation in casino table game gambling has declined since 1999.

4.5 Gaming machines

4.5.1 Activities

In this section we examine the situation concerning gaming machines in hotels and clubs. Gaming machines in casinos are also an important part of the overall picture and were covered in the previous section.

The gaming machine environment naturally differs across jurisdictions. Table 4.23 shows most recent information on the number of gaming machines in selected States and details of legislative restrictions on the number permitted.

In terms of the allocation of gaming machines between clubs and hotels, Tasmania's environment is most similar to South Australia's. A majority of non-casino gaming machines in both States are located in hotels (92 per cent Tasmania, 80 per cent South Australia). In contrast, the majority of gaming machines in New South Wales are located in clubs (76 per cent), while there is a relatively even split between hotels and clubs in Victoria and Queensland. The concentration of machines in clubs in New South Wales reflects that clubs have been allowed to operate gaming machines since 1956 whereas hotels were only granted permission to install video technology gaming machines in 1984, and club style machines in 1997.[42] The clubs industry is consequently much more developed in New South Wales (including the ACT) compared to other States and Territories.

An important characteristic of Tasmania's hotel and club gaming machine environment is that it has a lower prevalence of machines in clubs and hotels relative to other States. There was an average of 6.4 gaming machines per 1,000 adults in Tasmania in 2005/06, which is significantly lower compared to the prevalence of machines in New South Wales (18.9 machines per 1,000 adults), Queensland (13.5) and, to a lesser degree, South Australia (10.3 machines). Victoria has a similar level of prevalence in hotels and clubs to Tasmania. Data on gaming machines in hotels and club paint a somewhat misleading picture of the extent of gaming machine gambling in Tasmania as they exclude similar gambling undertaken in casinos, which is a significant activity in Tasmania. As Table 4.23 shows, approximately 35 per cent of gaming machines are located in casinos in Tasmania, whereas less than 10 per

[42] IPART (2004).

Table 4.23
Summary of Gaming Machine Environment by State

	Tasmania	New South Wales	Victoria	Queensland	South Australia	Western Australia
Number of gaming machines operating as at 30 June 2006						
Clubs	183	74,280	13,490	22,024	1,595	-
Hotels	2,217	24,254	13,657	19,496	11,003	-
Sub-total	***2,400***	***98,534***	***27,147***	***41,520***	***12,598***	**-**
Casinos	1,280	1,500	2,500	3,876	983	1,500
Total	**3,680**	**100,034**	**29,647**	**45,396**	**13,581**	**1,500**
Share of total gaming machines (per cent)						
Clubs	5.0	74.3	45.5	48.5	11.7	0.0
Hotels	60.2	24.2	46.1	42.9	81.0	0.0
Sub-total	***65.2***	***98.5***	***91.6***	***91.5***	***92.8***	***0.0***
Casinos	34.8	1.5	8.4	8.5	7.2	100.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Machines per 1,000 adults						
Total in hotels & clubs	6.4	18.9	6.9	13.5	10.3	0.0
Total (including casino)	9.9	19.2	7.5	14.7	11.1	1.0
Machines per 1,000 sq. km						
Total in hotels & clubs	35.2	122.8	117.8	23.9	12.8	-
Total (including casino)	53.9	124.7	128.6	26.1	13.8	0.6
Gaming machine expenditure in hotels and clubs in 2005/06 as a proportion of:						
Total gambling expenditure (per cent)	38.1	71.0	54.2	56.9	67.7	0.0
Household Disposable Income (per cent)[a]	0.9	2.4	1.6	1.7	1.8	0.0
Caps on gaming machines						
Hotels	na	25,980	13,750	18,843 rising to 20,000[c]	na	na
Clubs	na	78,020	13,750	na	na	na
Hotels and clubs	2,500	104,000	27,500	na	12,086	na
Casino	na[a]	1,500	2,500	na	?	1,500
Total	3,680	105,500[b]	30,000	na	?	1,500[b]
Maximum number of machines permitted per venue						
- number per club	40	450	105	280	40	0
- number per hotel	30	30	105	40	40	0

Note: [a] The Deed of Agreement between the Crown and the Federal Hotels Pty Ltd sets a limit on the number of gaming machines permitted in hotels and clubs of 2,500 machines, and a total state wide limit of 3,680 machines (excludes machines operated on vessels operated by the TT-Line). This implies an effective casino limit of 1,180 gaming machines when the cap on gaming machines in hotels and clubs is in effect. [b] Represents an effective cap given specific caps on gaming machines permitted in hotels, clubs and casino(s). [c] The cap on gaming machines in hotels is being progressively raised from 18,843 in 2005-06 to 20,000 over the next 5 financial years.

Source: OESR, *Australian Gambling Statistics 2007*. ABS, *Statistics*, Population trends and estimates, Cat. No. 3201.0. The Crown Solicitor of Tasmania. NSW Office of Liquor, Gaming and Racing, *Frequently asked questions – FAQs* [Online]. NSW Casino Control Authority, *Annual Report 2006/07* [Online]. Queensland Office of Gaming Regulation, *Gaming Newsletter*, December 2006, Vol. 9, Issue 3 [Online]. *Gaming Machines Regulations 2005* (South Australia).

cent of gaming machines are located in casinos in those states which permit gaming machines in hotels and clubs. If one takes account of gaming machines in casinos, then Tasmania actually has a higher incidence of gaming machines relative to Victoria (9.9 machines per 1,000 persons c.f. 7.5 machines).

Legislative sanction for the operation of gaming machines in hotels and clubs in Tasmania was established with the passage of the *Gaming Control Act 1993*. Gaming machines were first introduced to clubs and hotels in 1997 and became quickly established in a range of venues. The *Act* provided for the phased introduction of gaming machines through progressive increase in machine numbers in venues. Up until June 2000 machine number caps were hotels 15 and clubs 25. From June 2000 to June 2003 the machine number caps in venues was increased to reach by June 2003, 30 in hotels and 40 in clubs. Table 4.24 shows that the number of hotels with gaming machines reached an effective peak of 95 venues by 2000/01, while the number of clubs reached a peak of 16 venues as soon as 1997/98.

There have been divergent trends for hotels and clubs in terms of machine numbers. The number of machines located in hotels rose steadily up to 2005/06 whereas the number held by clubs has fallen since peaking in 1997/98. Between 1996/97 and 2006/07, the number of gaming machines in hotels rose by 165 per cent, while the number located in clubs fell by 21 per cent. Hotels have therefore been much more successful in terms of growing their gaming machine activity despite having a lower cap per venue relative to clubs (30 per venue versus 40 per venue for clubs).

Table 4.24
Electronic Gaming Machines – Tasmania – Venues and Numbers

	Venue Numbers		Machine Numbers	
	Hotels	Clubs	Hotels	Clubs
1996/97	66	14	833	233
1997/98	77	16	1,007	249
1998/99	82	15	1,110	221
1999/00	86	14	1,182	220
2000/01	95	13	1,606	231
2001/02	94	12	1,842	193
2002/03	95	10	2,075	173
2003/04	95	10	2,114	173
2004/05	94	10	2,116	173
2005/06	94	10	2,217	183
2006/07	93	10	2,202	183

Source: Department of Treasury and Finance, Liquor and Gaming Branch.

The superior performance by hotels probably reflects that hotels were in a better financial position relative to clubs to begin with, which meant they had greater capacity to operate gaming machines and/or modify their venues to accommodate machines. Data from an ABS survey in respect of the 1994/95 financial year indicates that pubs, taverns and bars had an average income per business of $1.7 million – more than double the average total income per club organisation of $0.7 million.[43]

[43] ABS (1996), "Clubs, Pubs, Taverns and Bars, Australia, 1994-95", Cat. No. 8687.0.

Table 4.25
Change in Number of Gaming Machines and Venues
Tasmania – 1996/97 to 2006/07

	Hotels	Clubs
Number of gaming venues		
Change (per cent)	41	-29
AAGR (per cent)	3.5	-3.3
Number of gaming machines		
Changes (per cent)	164	-21
AAGR (per cent)	10.2	-2.4

Source: SACES calculations, data supplied by Department of Treasury and Finance, Liquor and Gaming Branch. AAGR = Average Annual Growth Rate.

4.5.2 Expenditure

Nominal and real estimates of expenditure on gaming machines in hotels and clubs are presented in Table 4.26. Like other states and territories that have introduced gaming machines, expenditure on gaming machines surged in Tasmania following their introduction from 1 January 1997. Total expenditure in real terms rose from $29.8 million in 1997/98 – i.e. their first full year of operation – to a peak of $129.7 million in 2004/05. This equates to an average growth rate of 23 per cent per annum over this period. In comparison, total real gross household income for Tasmania rose by an average of 2.9 per cent per annum between 1997/98 and 2004/05.

Table 4.26
Tasmania: Gaming Machines in Hotels and Clubs – Total Nominal and Real Expenditure
($ million, 2005/06 dollars)

Year	Nominal	Real
1996/97	5.5	7.0
1997/98	23.7	29.8
1998/99	39.3	48.9
1999/00	60.8	73.9
2000/01	81.0	92.9
2001/02	98.8	110.2
2002/03	111.5	120.6
2003/04	121.5	128.5
2004/05	125.7	129.7
2005/06	109.4	109.4
2006/07	112.2	109.0

Source: Department of Treasury and Finance, Liquor and Gaming Branch.

Real expenditure on gaming machines has fallen over consecutive years since 2004/05, though it rose in nominal terms in 2006/07. Real expenditure in 2006/07 was 16 per cent below its peak level achieved in 2004/05. This decline is attributed to a combination of bans on smoking in licensed venues and, to a lesser degree, a cessation of growth in the number of gaming machines with the state-wide cap on gaming machines being reached in early 2006.

Limited smoking bans were introduced in hotel and club gaming areas from 1 January 2005, with a total ban on smoking in licensed premises taking effect from 1 January 2006. These smoking bans had an immediate effect of reducing attendance at licensed venues and

consequently gambling activity. For instance, the TGC's 2005/06 Annual Report (p.14) observed that:

> "One effect of the Government's smoking bans has been a reduction in patronage generally in some licensed premises and this has had a flow-on effect to the overall level of gaming activity in licensed premises. When combined with the impact of the state-wide cap on gaming machine numbers, meaning that the market size has reached maturity, it is evident that there will be less scope for any significant growth or expansion of activity in hotel and club gaming industry particularly."

Similar experiences have occurred in other states and territories where smoking bans have been introduced. For example, total real expenditure on gaming machines in Victorian hotels and clubs fell by 12 per cent in 2002/03 and then a further 4.1 per cent in 2003/04 following the introduction of smoking restrictions in licensed venues from 1 September 2002. Expenditure has recovered somewhat in recent years which suggest there may be some resumption of growth in gaming machine expenditure in Tasmania in the next couple of years. Tasmanian Treasury advise that immediate reductions in revenue were observed following the limited ban and a subsequent fall after the total ban with "growth resuming at the original growth rates" thereafter.

It is more likely that the introduction of smoking bans contributed most to the decline in total real expenditure. It is well documented (and confirmed in the Prevalence Study[44]) that higher risk gamblers are significantly more likely to smoke than other regular gamblers, while the imposition of regional and statewide caps has been shown to have little if any influence on turnover or NGR per machine.[45]

4.5.3 Participation – Hotel and Club Gaming Machines

Figure 4.12 illustrates the evolution of real per capita expenditure on gaming machines in hotels and clubs for all states excluding Western Australia. All states have generally shown an upward trend in per capita expenditure as gaming machines are a relatively new form of gambling in all states excluding New South Wales, meaning growth has been mainly driven by an expansion in the availability of gaming machines. Growth in the industry has also been supported by favourable economic conditions with the national economy enjoying a record 16 years of continued economic expansion in 2006/07.

There has a been decline in per capita gaming machine expenditure in some states over recent years due to the impact of smoking bans on venue patronage, changes to betting limits and hours of opening in which to gamble. Bans on smoking in licensed venues have been introduced in Victoria (limited ban in 2002 with complete ban from 1 July 2007), South Australia (limited ban from 6 December 2004 with complete ban from 1 November 2007), Tasmania (limited ban from 1 January 2005 with complete ban from 1 January 2006), Queensland (limited ban from 1 January 2005 with complete ban from 1 July 2006) and New South Wales (limited ban from 1 July 2005 with complete ban from 1 July 2007). The nature of these bans has varied by state, meaning that the subsequent effects of expenditure have been varied. Furthermore, complete bans on smoking in licensed venues have only been introduced in most states within the last two years, meaning that the effects of these bans on expenditure and participation are not captured by the somewhat dated Australian Gambling Statistics data.

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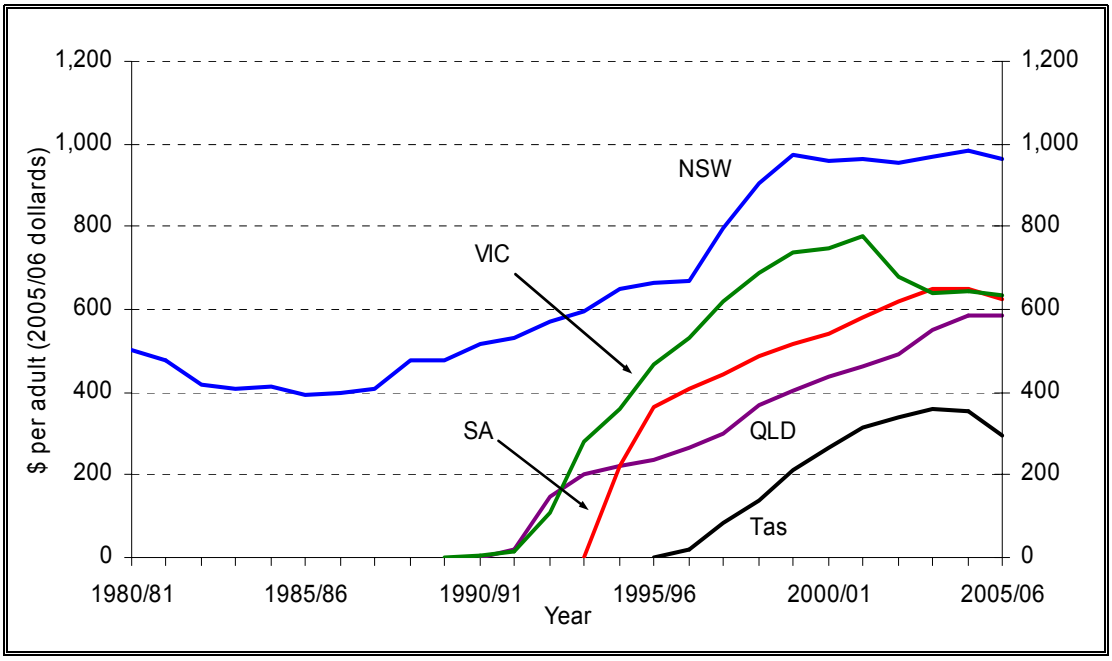
[44] Prevalence Study(SACES 2008), Section 6.2 Prevalence of Cigarette Smoking.

[45] SACES (2005), "Study of the Impact of Caps on Electronic Gaming Machines", report commissioned by the Gambling Research Panel, Victoria.

Figure 4.12
Real Per Capita Gaming Machine Expenditure: Hotels and Clubs
$ per adult (18 years and over) – 2005/06 dollars



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

New South Wales had the highest per capita expenditure on gaming machines in hotels and clubs in 2005/06 ($964 per person), while Tasmania had the lowest ($295). In fact, Tasmania had the lowest average per capita expenditure over the entire period shown. However, these figures do not include expenditure on casino based gaming machines which tends to be relatively high in Tasmania. A comparison of relative expenditure of all gaming machines located in Tasmania is presented in the following section.

4.5.4 Participation – All Gaming Machines

Tasmania has a relatively low expenditure on gaming machines in hotels and clubs, which appears to be offset to some extent by higher expenditure on gaming machines based in the casinos. To better understand Tasmania's relative overall participation in gaming machine gambling, we need to consider both forms of gaming machine gambling.

Unfortunately there is only limited data available on expenditure on gaming machines in casinos. Australian Gambling Statistics does not present casino expenditure broken down into its various forms, while state casino regulatory authorities do not tend to publish estimates of casino expenditure by form of gambling. The only data that was readily available for this study was Tasmanian data up to 2006/07 and South Australian data up to 2004/05.

Table 4.27 presents per capita estimates of expenditure on gaming machines in hotels and clubs, casinos and the state as a whole for Tasmania and South Australia in 2004/05. South Australia's average per capita expenditure on gaming machines in hotels and clubs in 2004/05 was $626 per capita, which was $284 higher than Tasmania's average per capita expenditure of $342. Taking into account expenditure on gaming machines in casinos, then the difference in per capita gaming machine expenditure drops to $72. Data on hotel and club gaming

machine expenditure therefore significantly underestimates Tasmania's relative participation in gaming machine gambling.

Table 4.27
Measures of Relative Expenditure on All Gaming Machines
Tasmania and South Australia – 2004/05

	Tasmania	South Australia
Per capita expenditure on gaming machines ($ per adult)		
Hotels and Clubs	342	626
Casino	254	43
Total	597	668
Expenditure on gaming machines as a proportion of household disposable income (per cent)		
Hotels and Clubs	1.12	1.87
Casino	0.83	0.13
Total	1.95	2.00

Source: Department of Treasury and Finance, Liquor and Gaming Branch, Office of the Liquor and Gambling Commissioner, and ABS, *Statistics*, National Accounts. Calculations by SACES.

Per capita estimates of total gaming machine expenditure do not tell the whole story of participation since they do not take account of differences in income levels. Higher per capita gaming machine expenditure for South Australia would partly reflect that average incomes are higher in the state. Total expenditure on gaming machines in licensed venues and casinos as a proportion of total household disposable income was in fact only slightly higher for South Australia than Tasmania in 2004/05 (2.0 per cent c.f. 1.9 per cent – refer Table 4.27). Taking into account expenditure on gaming machines in casinos and differences in income levels indicates that relative expenditure on gaming machines in Tasmania is not significantly lower as the data on hotel and club gaming machine expenditure suggests.

Disaggregating expenditure by venue type as in Table 4.28 reveals considerable disparity in NGR across clubs, hotels and the casinos. Clubs, which have 5 per cent of the total number of machines, also have a lower per machine level of expenditure. At $19,000 it is less than half the level achieved by hotels. This means that Clubs share of NGR is only 2.2 per cent. The two casinos fare considerably better, with 45 per cent of total revenue from 35 per cent of machines. This gives the casinos an average return per machine of $71,000, one and a half times that of hotels and almost four times that of clubs.

Table 4.28
Distribution of Electronic Gaming Machines and Revenue by Type of Venue, 2005/06

	Electronic Gaming Machines		Net Gaming Revenue		Expenditure/Machine
	Number	Per cent of total	$ million	Per cent of total	($)
Clubs	183	5.0	4.4	2.2	19,248
Hotels	2,217	60.2	104.6	52.4	48,152
Casino	1,280	34.8	90.7	45.4	70,827
Total	3,680		199.6		54,248

Source: Department of Treasury and Finance, Liquor and Gaming Branch.

4.6 Other forms of gambling

4.6.1 Sports Betting

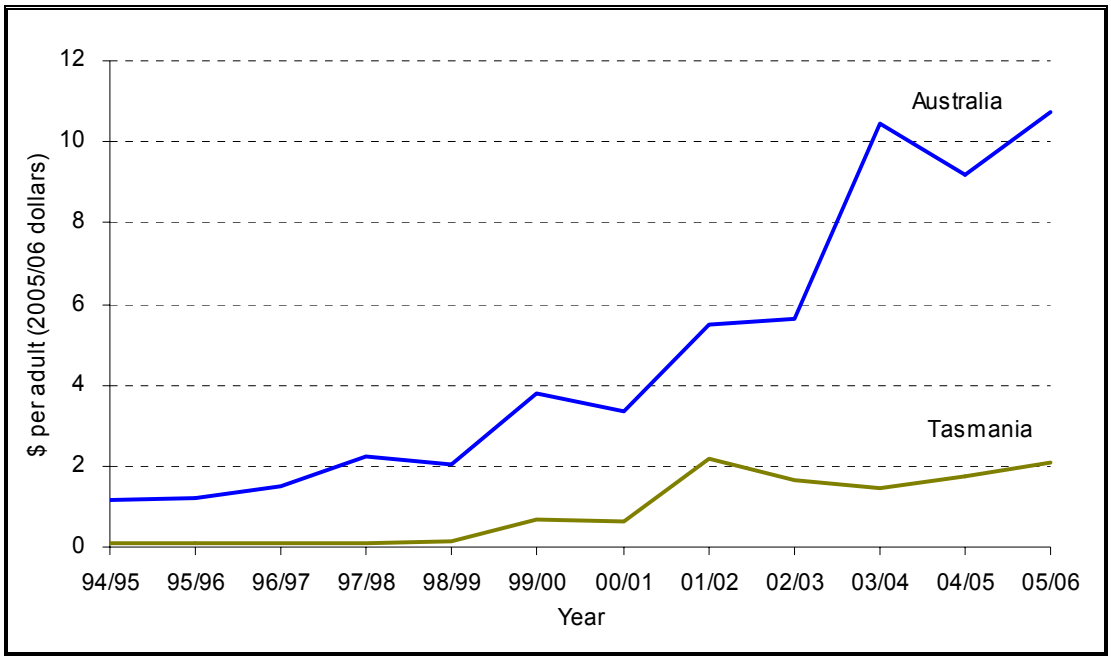
Sports betting is a relatively new form of wagering. Expenditure on sports betting in Tasmania has grown at an annual average rate of 33 per cent since its inception in 1994/95, and by an average of 28 per cent per annum since 2000/01. While such growth appears strong, sports betting remains a relatively minor form of betting, accounting for just 0.3 per cent of total gambling expenditure in Tasmania in 2005/06. Aggregate expenditure on sports betting was $0.8 million.

Sports betting is not as popular in Tasmania compared to other States and Territories.

Tasmanian's lost an average of just $2.10 per adult on sports betting in 2005/06 compared to a national average of $10.70 per adult. By way of comparison, Tasmanian's lost an average of $295 per adult on gaming machines, $75 per adult on racing, and $70 per adult on lotto in 2005/06.

Figure 4.13 illustrates the pattern in real per capita expenditure on sports betting for Tasmania and Australia since 1994/95. Relative expenditure on sports betting has been consistently lower for Tasmania than the nation as a whole since this form of gambling was introduced in 1994/95. There has also been a much stronger upward trend in relative expenditure on sports betting for the nation as a whole. However, expenditure data on sports betting needs to be treated with some caution since Tasmanian's may place bets through interstate based sports betting agencies, and these forms of spending are not captured by the estimates of sports betting expenditure for Tasmania published in Australian Gambling Statistics (they are attributed to the state or territory in which the bets were made).

Figure 4.13
Real Per Capita Sports Betting Expenditure
$ per adult (2005/06 dollars)



Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

A significant proportion of the nation's sports betting expenditure is actually channelled through the Northern Territory. This outcome has been brought about by the Northern Territories relatively liberal attitude towards sports betting, which has encouraged the development of a significant local sports betting industry that services the nation. For instance, the Northern Territory approved Australia's first sports bookmaker – Centrebet – in December 1992, which went on to launch the nation's first internet based wagering service in August 1996. As a consequence of interstate gambling "exports", average expenditure on sporting betting is relatively high in the Northern Territory with the Territory accounting for 25 per cent of national sports betting expenditure in 2005/06, which is well above its share of the national adult population (0.9 per cent).

The location of Betfair in Hobart and that company's recent victory in the High Court will provide a stimulus to internet based wagering services offered by Betfair. Specifically, the restriction that has been removed related to Betfair's inability to access race field information in some states and on advertising in other states. The High Court found the restrictions imposed by some jurisdictions were contrary to Section 92 of the Constitution. It is anticipated that these restrictions will ultimately have to be lifted thereby enabling Betfair to grow at a faster rate than if the restrictions remained. The more sophisticated and professional wagering syndicates (rather than the inexperienced punter) are the significant users of the services of Betfair. For these reasons real per capita sports betting expenditure will most likely increase in the years to come. Employment outcomes will also follow.

4.6.2 Other forms of gambling

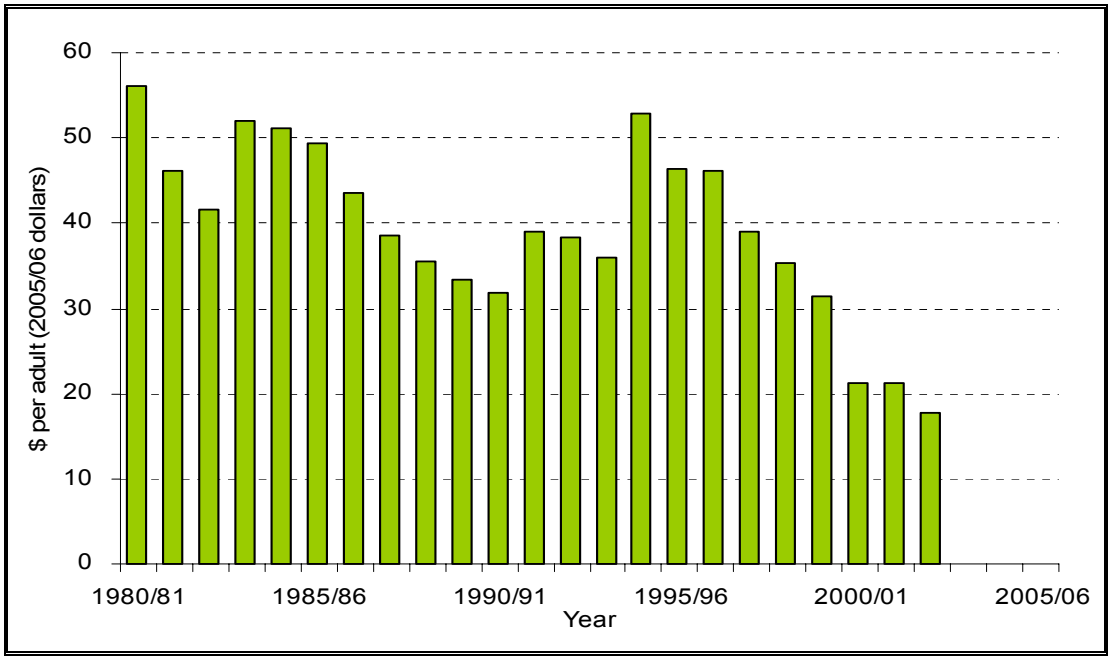
A number of other minor gaming activities such as bingo, raffles etc., continue to operate on a small scale in all Australian states and territories. Authorised minor gaming activities in Tasmania include bingo, raffles, lucky envelopes and Tassie's best punter. The proceeds from these forms of gaming must be used for charitable purposes or the benefit of not for profit organisations.

Figure 4.14 illustrates estimates of real per capita expenditure on minor gaming for Tasmania as published in *Australian Gambling Statistics*. Per capita expenditure on minor gaming fell steadily during the late 1980s. The exact cause of this decline is not known for certain, but it was probably heavily influenced by the launch of the Country Club Casino in Launceston in 1982, and the introduction of gaming machines to the casinos in 1986.

There was a recovery in expenditure on minor gaming during the early to mid 1990s. However, per capita expenditure fell sharply again with the introduction of gaming machines in hotels and clubs in 1997. Real per capita expenditure fell from $46 in 1996/97 to an estimated $18 in 2002/03.

Unfortunately there is no data available on minor gaming expenditure in Tasmania beyond 2002/03 as the required data is no longer collected. Comparisons with other states and territories are also generally not possible due to a lack of data.

Figure 4.14
Real Per Capita Minor Gaming Expenditure
Tasmania – $ per adult (2005/06 dollars)[a]



Note: [a] Expenditure figures for 2001/02 and 2002/03 are estimates based on the return to player conditions for the conduct of minor gaming activities. Information on minor gaming turnover was no longer collected from 2003/04, meaning estimates of expenditure can no longer be made.

Source: OESR, Queensland Treasury, Australian Gambling Statistics 2007.

5. Submissions Received for this Report

The Treasurer in announcing this study called for written submissions. Advertisements were placed in daily newspapers (Appendix B) the terms of reference were widely circulated including by the researchers. The list of submissions is shown in Appendix C and a further list of consultations is shown at Appendix D. In addition the Centre received numerous telephone calls to discuss the study including individuals who wished to relate a "personal experience or experience of another" with a gambling problem. The Break Even Network of Services for Problem Gamblers assisted the researchers in gathering taped and then typed case studies of individuals who experienced problems with gambling.

The researchers consulted as widely as possible, meeting and interviewing industry stakeholders, human service and gambling service providers, members of parliament, members of local government, the industry regulator and individual citizens of Tasmania.

The researchers were also provided with a number of excellent background reports, studies into gambling, departmental reviews of programs and services and the parliamentary inquiry into the "Impacts of Gaming Machines" (2002).

It is important to acknowledge that the written submissions provided to this study, principally by industry stakeholders and a variety of organisations and individuals who are concerned with the impact of gambling, should not be taken as representative of the views of the overall Tasmanian population. Notwithstanding, the advocacy positions of all stakeholders, their views, opinions and concerns derive from considerable experience with the gambling industry and carry considerable weight because of this.

Perhaps more representative are the views of individual citizens (some 4,000+) who responded to a series of attitudinal questions relating to their views of gambling in Tasmania in the Prevalence Study (SACES, 2008).

The following summarises the responses to attitudinal questions posed to participants in the Prevalence Study (SACES, 2008):

- 81.6 per cent of respondents did not believe the Tasmanian community had benefited from EGMs (8.3 per cent believed the community had benefited);
- 55 per cent did not believe EGMs had yielded financial benefits (33 per cent agreed they had); and
- 75 per cent of respondents did not believe EGMs had yielded social benefits to Tasmania (17 per cent thought they had).

Tasmanian's also believe that gambling is too accessible (84 per cent), is a serious social problem (82 percent), and the number of machines should be reduced (84 per cent), while only 1 in 5 believed gambling had contributed to employment growth. Similar community attitude surveys conducted in other states report relatively similar results so Tasmania is little different in this regard.

Box 5.1
Procedural Notes

Meetings, interviews, discussions and the receipt of submissions were finalised before the results of the prevalence study were available. Almost all of the above activities (i.e., interviews, discussions, etc) were undertaken by the researchers prior to the gathering and analysis of data, the conduct of statistical analysis and comparative assessment of Tasmania with other states or the "national average."

Our approach has been to allow and indeed encourage all participants to voice their concerns, to provide their own information, data, description of their or the organisations services and programs.

In what follows we report the issues and views raised with the researchers and with the earlier parliamentary inquiry (2002).

The researchers "listened to the voices" of survey respondents, industry stakeholders, government agencies and human service agencies and gambling help services providers. The analysis of economic and social impacts later in this report has been significantly influenced by the contribution of each considered in this Chapter.

5.1 Introduction

The social and economic impacts of gambling in Tasmania, and in particular, the impacts of gaming machines, have been of concern to many organisations, especially since their rollout into hotels and clubs from January 1997. There was increasing media coverage in 2001, reporting on the concerns of the Tasmanian public about how video gaming machines (VGMs), also known as electronic gaming machines or EGMs, were impacting upon society, both in economic and social terms. There was also concern about the government's reliance on revenue from gaming. This prompted the Tasmanian government to conduct a parliamentary inquiry, which was completed in 2002.

This chapter looks first at the main themes arising from the parliamentary inquiry, which resulted in a number of recommendations. Given this background and reference points, we then present the submissions received for this report (a list of these submissions is provided in Appendix C). These submissions may be classified into three groups: the industry stakeholders; gambling help service providers, peak welfare agencies and the churches; and 'other', which includes independent submissions. Topics addressed in the submissions are sorted under 12 headings, and all views of contributors are presented objectively. Rather than imposing our interpretations of citations we have provided exact quotes where appropriate.

The main themes relate to Tasmania's economic and social benefits and costs from gambling; Tasmania's relatively low rates of problem gambling and gambling expenditure; harm minimisation measures; the state-wide dominance of EGMs; and the industry structure, including the organisational arrangements.

5.2 Tasmanian parliamentary inquiry, 2002

The Tasmanian parliamentary inquiry into the "Impacts of Gaming Machines" was carried out by a Select Committee comprising three members of the Legislative Council. The inquiry was completed in December 2002. The terms of reference for the inquiry and the process followed are given in Appendix E, along with the conclusions and recommendations of the Committee. The requirements were essentially to inquire into the social and economic impacts upon the community of the expanded operation of gaming machines in hotels and

clubs; the role of the TGC; the role and application of the CSL; and compliance with gambling legislation.

5.2.1 Summary of submissions to parliamentary inquiry

Submissions were provided by a range of organisations and individuals to inform and extend the debate about the social and economic impacts of gambling in Tasmania. These submissions have been classified and summarised under seven headings, as follows.

(1) Research and data

Five main points were made by contributors about data and research into the social and economic impacts of the gambling sector, particularly EGMs:

- There is a lack of clear and consistent data.
- Studies to date have been subject to methodological flaws and deficiencies and inconsistency between studies.
- Research should be independent from industry and separate from the government.
- Separating social and economic impacts is difficult since the two are inextricably linked.
- There should be a full inquiry into the effects of gambling and specifically EGMs in Tasmania.

(2) Problem gambling

Key points arising were as follows:

- There is general acknowledgement that there are problems arising from gambling and that gambling problems are concentrated with EGM use. The Committee states:

  > This leads us to conclude that there is an adverse social and economic impact upon some members of the Tasmanian community because of gambling related issues.

- The numbers of people affected for every problem gambler are estimated at between five and ten other people (cited from the Productivity Commission 1999 report). Contributors, including the Salvation Army, TasCOSS and church groups, provided case study examples of people experiencing problems and how their lives were directly affected.
- There are a relatively small number of problem gamblers compared to other Australian jurisdictions (as a percentage of the population), but this still translates into a large number of people. Dr Michael Walker of the University of Sydney states:

  > Problem gambling means 1 per cent or 2 per cent whose lives are basically wrecked by the money they've lost. And that to my way of thinking is a serious social problem. Prior to introducing helmets for cyclists in New South Wales we had 20 deaths on the roads in one year because we didn't have people wearing helmets. Twenty deaths was enough for us to say 'This is a serious problem, all cyclists must wear helmets'.

(3) Problem gamblers

Focusing in on problem gamblers themselves, the following points were made:

- Gambling and particularly EGMs have a proportionately larger impact on lower income families.

- EGMs are tending to be located in lower socioeconomic areas.
- Problem gamblers tend to hide their problems due to the stigma attached to problem gambling.
- People need help before they get to the stage of being a problem gambler. Gambling becomes a problem before this stage and needs to be dealt with sooner.

(4) Effects on the economy

Benefits and costs to the economy from gaming were cited by contributors:

- The industry emphasised benefits from gaming and claimed that there was a net benefit to Tasmania.
- Gambling help service providers, welfare agencies and individuals raised issues about the gambler spending their money on gambling instead of other areas of expenditure, such as basic living costs and recreation.
- Local government expressed concern about this money leaving the community.
- There were submissions about the effect on the overall economy and local economies, including viability and employment in other businesses which may be losing funds to the gambling sector.

(5) Independence of the TGC

Views were expressed by academics, industry, the concerned sector and individuals about the role and operation of the TGC. The key points made were:

- The perceived independence of the TGC from industry and government is important for it to function and to be publicly accountable.
- At the time of the inquiry, the Secretary of the Department of Treasury also chaired the TGC, and the TGC sat within the Department of Treasury, so it was not perceived as independent.
- Recommendations were made for a review of the current structure and membership of the TGC, in order to ensure its independence and autonomy.

(6) The Deed of Arrangement

The Deed of Arrangement between the Federal Hotels Group and the Crown was due to expire in 2008, and the Committee stated: "there is a need for a full public consultation process to take place prior to the formulation of any future arrangement".

(7) Harm minimisation: Self-exclusion scheme and Community Support Levy

An individual submission to the parliamentary inquiry highlighted aspects of how the self-exclusion scheme in Tasmania operated at that time, saying that it was lengthy, costly, and administratively cumbersome, largely because it was not possible to self-exclude from all venues in one go, but each exclusion had to be registered separately with a separate visit and separate form and photo each time. [The researchers note here: since that time there has been a detailed review of exclusion schemes (see later discussion on harm minimisation) and it is possible to exclude from all Tasmanian EGM venues.]

With regard to the CSL, which gaming operators must pay to the Treasury, several submissions cited the lack of transparency of the funding process. There were suggestions to return to the previous set-up, whereby the CSL was distributed by a Community Development Board to increase transparency and to independently identify and respond to community need.

5.2.2 Recommendations

Recommendations from the inquiry included the following:

1. The state government immediately commission a study to determine the social and economic impacts on the Tasmanian community, since the expanded operation of gaming machines in hotels and clubs.
2. The social impacts be considered separately from the economic impacts.
3. The study be conducted on a regular (bi-annual) basis to carefully monitor changes, using the same terms of reference, criteria and guidelines.
4. This research be more extensive and independent of government.
5. The issue of harm minimisation practices be re-addressed.

The researchers note that the Parliamentary Inquiry (2002) was very helpful and informative, providing many insights into the issues of concern and a context for issues raised again in 2007. A number of points raised within that Inquiry including the location of EGMs, the role of self-exclusion, the impact of the gambling industry on other industry sectors and the concern expressed regarding the perceived lack of independence of the TGC provided helpful direction for this study.

5.3 Submissions for this report

The submissions received for this report came from a range of organisations, as listed in Appendix C. The main points raised in the submissions to this study were consistent with those raised in the 2002 parliamentary inquiry. The contributors are again able to be classified into the same three groups as in section 5.1. The industry group included the Federal Hotel Group, AHA (Tasmania Branch), Betfair and the Tasmanian Gambling Industry Group (GIG). The second group included Salvation Army, Anglicare Tasmania Inc., TasCOSS, Relationships Australia and church groups. The "others" included individual members of the public who have made submissions, political parties and anyone else with an interest not covered by the first two groups.

The focus of issues raised by the second group tended to be more on the details of real-life examples of the impacts of gambling, focusing mainly on social costs as opposed to economic costs, and talking about the full extent of impacts and how large numbers of people are affected in a wide range of ways. The submissions were supported by case presentations gathered for this study by the Break Even Network of Services for Problem Gamblers. The focus of industry submissions tended to be on the economic benefits arising from the gambling sector, and highlighted the relatively low level of problem gambling in Tasmania.

The main topics focused on in the submissions may be classified as relating to the economic and social benefits from gambling; the economic and social costs; the relatively low rate of gambling expenditure in Tasmania compared to the rest of Australia; the gambling industry structure; discussion of Tasmania's low rate of problem gambling; harm minimisation measures; the focus of concerns on EGMs; independence of the TGC; the Deed of Arrangement between the Crown and the Federal Hotel Group; attitudes towards gambling; case study observations of problem gamblers; and recommendations for the future.

Each of the above are considered in turn below.

5.3.1 Economic and social benefits

The AHA highlighted the economic and social benefits from gambling in Tasmania:

> the responsible nature of gambling within Tasmania and the revenue that is created has been shown to clearly increase the social and economic benefit of many community organisations and groups that would not otherwise have funds available to benefit many Tasmanians.

The Federal Hotels Group Tasmania made similar claims:

> It is the Federal Hotels Group's submission that the Tasmanian gaming industry is a well-managed, responsible, vibrant and highly sophisticated twenty-first century industry that delivers many positive social and economic benefits for the citizens and State of Tasmania.
>
> The Federal Hotels Group submits that the Tasmanian gaming industry has positively contributed to the social and economic wellbeing of Tasmania.

There is a considered view within the industry that Tasmania has handled the growth of the gambling industry competently, maximising benefits and minimising harm, partly because it has learned from the problems and issues evident in other parts of Australia, particularly with regard to the introduction of EGMs into non-casino venues from 1 January 1997. The managed approach to introducing EGMs is discussed below. The Federal Hotels Group says:

> Tasmania was in a unique position to learn from the experiences of other Australian jurisdictions in the development of problem gambling services and strategies. In short, Tasmania was able to 'cherry-pick' the very best policies and strategies to maximise the benefits from legal gambling while minimising the impacts of any negative social consequences.

5.3.2 Specific economic benefits and costs

The economic benefits from gambling referred to by industry stakeholders include effects on tourism earnings, employment and improved facilities in the community paid for by gambling revenue and levies.

The AHA said of the gambling venues:

> Overall it [the submission] demonstrates that Tasmanian venues are committed in providing an overall entertainment experience that is further enhanced by the continuance of gambling facilities.

The Federal Hotels Group highlighted the fact that it promotes tourism for Tasmania, under the brand name Pure Tasmania launched in November 2005, of which gambling is one part:

> The Federal Hotels Group is proudly the largest private marketer of Tasmania

The Federal Hotels Group is a wholly owned subsidiary of Mulawa Holdings Pty Ltd, which is a private company. The group's portfolio includes the Wrest Point and Country Club casinos, Country Club Villas, The Vantage Hotel Group, Network Gaming, Strahan Village, Cradle Mountain Chateau, Gordon River Cruises, the West Coast Wilderness Railway, Freycinet Lodge, and other projects in the pipeline. The Vantage Hotel Group, which is wholly owned by the Federal Hotels Group, was set up to purchase hotels. It was stated that the group entered into discussions with industry regarding the purchase of hotels and made a commitment that a hotel must already have gaming machines if it is going to operate them in the future, and if machines were not there when the Vantage Hotel Group buys them, then

they will not be put in. Through the Vantage Hotel Group, the Federal Hotels Group currently owns ten hotels, nine of which have the gaming option.

In terms of the economic benefits relating to the Federal Hotels Group's role as employer, purchaser of goods and services, investor and payer of taxes, it stated:

> The introduction of gaming machines into hotels and clubs in 1997, was the catalyst for stimulating growth throughout the economy, primarily through increased employment and increased capital investment.
>
> There is also a strong link between gaming expenditure and increased expenditure on other recreational industries such as restaurants and take-away meals, and entertainment. Providers of gaming services tend to stimulate the demand for other recreational services.

The Federal Hotels Group submission provided a table of taxes paid which include for 2004/05 gaming taxes of $78 million. In 2006/07, taxes paid included: $4.9m payroll tax; $2.3m rates; $600,000 land tax; $1.3m stamp duty; $12.8m income tax; and net GST payments $23.2m.

The AHA made the link between gaming venues and the entertainment facilities provided:

> The introduction of gaming to the Tasmanian hospitality industry has seen the demographic of venues change and improve in a positive way. Through the added entertainment component of gaming, venues are now able to offer a number of experiences for a greater number of demographic groups.

Anglicare and the Tasmanian Inter-church Gambling Taskforce (henceforth referred to as the Taskforce) both raised concerns about the economic effects on communities. Anglicare said that rather than job creation, the expansion of the gambling industry has cost the Tasmanian economy in terms of employment:

> National research shows that EGMs costs jobs. Only about 3.2 jobs are generated per $1 million of gambling income compared with 6.5 jobs per $1 million of income in retail and 20.2 jobs per $1 million of income from food and meals (SACES 2005).

Anglicare also made the point that Tasmania has a decentralised economy and is the most dependent of all Australian states on small businesses. It cites the SACES (2005) study which says that Tasmania is "the only state where the number of businesses per 10,000 people is greater than the number of jobs per 1,000 people". With this kind of industry structure, taking money from a small economy can be especially harmful. Anglicare quoted Mr Schulze of the 1993 Legislative Council inquiry (and recorded in Hansard 1993): "in terms of the effects on a small town I do not believe that much money can be drawn from a small town... without doing immense harm".

The Tasmanian Inter-Church Gambling Taskforce highlighted the dichotomy between the government's approach and public opinion:

> The government's supportive attitude towards gambling, especially on EGMs, is in marked contrast to the general community concerns about it.

The Taskforce raised the question of the government playing up the benefits and playing down the costs from gambling.

> While the government has consistently played up the benefits of their gambling policy, and played down the adverse consequences, the general public holds a different view, particularly in relation to EGMs. The number who think that Tasmania has not benefited from EGMs in clubs and pubs had risen to 82 per cent in the 2005 prevalence

> survey. Although gambling is promoted as an enjoyable pastime, only 11 per cent said that gambling made life more enjoyable for them whereas 57 per cent said it made no difference and 3 per cent said it made their lives less enjoyable. It is hard to imagine any other product that would stay on the market in the face of such figures. It seems that it is only the addictive nature of gambling or the false hope of a big win, not its entertainment value, that entices many people to continue with it.

An individual contributor writes:

> most importantly in terms of your [SACES] work, I look forward to you demonstrating the net economic disbenefit to Tasmania from gambling, particularly from EGMs. The income to government from taxation is readily calculated, but the financial costs are equally obvious to people working in the human services in this state.
>
> For every social impact there is a direct and often quantifiable financial cost.

This submission went on to list these identifiable costs to government and the 'social consequences' related to gambling, as homelessness, crime (to finance the addiction), family breakdown, alcohol and drug use, family violence, mental health problems and negative labour market effects, such as decreased productivity and loss of skilled staff.

5.3.3 Tasmanian gambling sector compared to the rest of Australia

The AHA referred to the policies and structure of the gambling sector in Tasmania:

> The nature of the Tasmanian gaming industry is indicative of a system where all stakeholders act in a proactive manner to ensure that any potential gambling-related harm is minimised. Upon the introduction of gaming machines in 1993, Tasmania has seen gradual changes to the benefit of the industry, requiring minimal regulation through well thought out relationships and procedural policies.

The Federal Hotels Group referred to the managed approach to introducing EGMs into the non-casino sector from 1 January 1997, whereby numbers were limited to 20 in hotels and 30 in clubs, which was later raised to the current limits of 30 and 40, respectively. Referred to in its submission as the single operator model, it wrote:

> Due to Tasmania's small population (485,300) a unique operating model was established in order to better control the introduction of gaming machines into the State. This model involved a single operator working closely with government, the industry and the community.
>
> This model is in stark contrast with other jurisdictions that 'flooded' the market as soon as gaming machine legislation was introduced.
>
> It is our submission that this approach has proven to be very successful as evidenced by the per capita gaming machine expenditure being the lowest in the country.

The Federal Hotels Group presents the results from Australian Gambling Statistics for the year 2004/05, which show Tasmania having the lowest per capita expenditure on EGMs outside casinos (besides Western Australia where it is zero) of $343, compared to the Australian average of $655.

The Tasmanian GIG also cited these gaming expenditure figures, and using the same data source for 2004/05, both the Tasmanian Gambling Consultative Group (TGCG) and GIG cite the average per capita expenditure on gambling overall for all Australian states and territories. This shows that Tasmania had the second lowest per capita expenditure after Western Australia, at $739, compared to the Australian average of $949. GIG also presented a table of

the AGS data from 2004/05 showing the share of HDI spent on gaming. At 2.44 in Tasmania, this compared to 2.63 across Australia and a high of 3.14 in New South Wales. Only the Australian Capital Territory and Western Australia had lower shares.

Several submissions asserted that Tasmania is different to the rest of Australia for different reasons. Anglicare says that Tasmania is a special case in terms of income levels compared to the rest of Australia:

> Tasmania's lower household incomes mean that the opportunity cost of poker machine expenditure is exaggerated in Tasmania. The fact that Tasmanians' mean weekly income is 17 per cent below the national average means that a higher proportion of Tasmanian poker machine losses would otherwise be spent in other Tasmanian businesses with much greater associated multiplier effects, especially in struggling regional areas, than is the case nationally.

5.3.4 Industry structure

The Federal Hotels Group says that the structure of the gambling industry is appropriate for Tasmania's relatively small population:

> In our opinion, considering the size and population of Tasmania, greater levels of competition between operators would have led to higher levels of adverse marketing and promotional campaigns and to greater competition between venues and operators.

Anglicare's observation of the industry structure is with regard to where the money goes, with the monopolistic structure providing Mulawa Holdings, which owns the Federal Hotels Group, taking the lion's share of income from EGMs:

> Tasmania and Victoria are the only states where the ownership and operation of EGMs are separated, and Tasmania is the only state where there is a monopoly provider. Anglicare's analysis of the publicly available figures suggests that from each dollar lost by a Tasmanian poker machine gambler, over 60 cents goes to Mulawa Holdings, just under 27 cents to the government in taxation revenue and only about 12 cents to hotels and clubs not owned by Mulawa Holdings.

TasCOSS also addressed the issue of the distribution of gaming expenditure. Of the total expenditure on EGMs in 2005/06 in Tasmania of $108m, an estimated $36.2m came from problem gamblers but less than $1m spent on support services to assist problem gamblers and their families.

> According to the TGC's Annual Report 2005/06, we know that Glenorchy, Launceston and Devonport had the highest gaming machine turnover in 2005, but how these communities are affected, the impact this has had on community services, needs to be better reported and understood.

TasCOSS also made reference to the way that many small communities are grouped together in the statistics. For example, ten municipalities (Break O'Day, Brighton, Derwent Valley, Southern Midlands, Circular Head, Latrobe, Kentish, King Island, Meander Valley and Northern Midlands) were reported as a combined turnover statistic because each had less than three venues so the figures were considered to be of a 'highly sensitive commercial nature', but TasCOSS says this lack of transparency is an issue because we want to know specifically where gambling is a major issue.

> TasCOSS agrees with Anglicare Tasmania's statement that: responsibility for reducing gambling problems lies with the state government, who are responsible for policy, regulation and research, including establishing requirements for harm minimisation; the gambling industry, who self-regulate a number of 'harm minimisation' measures; and the individual who gambles.

5.3.5 Tasmania's 'low' rate of problem gambling

The AHA quoted figures from the Tasmanian Gambling Prevalence Study, 2005, which found that:

> In Tasmania only 1.41 per cent of the adult population is classified as either problem gamblers or at risk of becoming a problem gambler.

The AHA praised the structure and cooperation of the state's gambling industry with respect to the low rate of problem gambling by Australian standards:

> The AHA believes that the successes of the Tasmanian gambling industry and its continued low rates of problem gambling is a result of all parties working together and resolving any issues in a proactive and positive manner as they arise.

The Taskforce says of problem gamblers:

> it is generally recognised that problem gamblers are very clever at hiding their problem.

From a 2005 telephone survey by Roy Morgan Research, 6.1 per cent of people identified a family member as having a problem.

> This is probably a more reliable indicator of the real level of problem gambling than the self-reporting data. It represents around 30,000 Tasmanians directly affected by problem gambling in their families.

The Taskforce summarised that under-reporting of problem gambling in Tasmania is largely due to:

- Telephone surveys – these will miss some problem gamblers out because they are necessarily selective; problem gamblers are notoriously reluctant to be honest about their gambling habits, even with themselves; many problem gamblers will not have a telephone.
- Sample sizes are often small, making it difficult to generalise trends and to assess trends over time.
- SOGS – in order to be classed "at risk", the person needs to answer yes to five questions. The Taskforce says that answering yes to just one or two questions would signal a problem to many in the general public.

The Salvation Army highlighted the fact that many problem gamblers will hide their problem because of the shame associated with it:

> very few people impacted by gambling are prepared to 'go public'. Harm from gambling is still regarded as shameful and remains hidden. People go to great lengths to disguise the fact that their problems are gambling related. Consequently, the community is not fully aware of the extent of the harmful impacts of EGMs.

TasCOSS talked about the stigma, denial or lack of awareness which all impact on whether people will seek help.

Anglicare referred to the small proportion of problem gamblers who will seek help:

> It is also the case that only a small proportion of problem gamblers seek help from services: the Productivity Commission (1999) found that only one in five people with severe gambling problems wanted help, and that less than half of those who wanted help had actively sought it.

TasCOSS quoted the Productivity Commission findings that as well as the problem gamblers themselves, there are five to ten additional people who are directly affected by that person's gambling:

> Gambling also impacts on community services that do not provide specialist gambling support services but whose clients nonetheless suffer from the adverse effects of problem gambling, for example, poor psychological and physical health, financial hardship, homelessness, alcohol and drug dependency, and relationship and family breakdown.

TasCOSS cited the Gambling Support Program (2007) which says that the number of people accessing Break Even services has been steady over the last six years at about 900 per year for support or counselling services:

> it is concerning that there are a large number of 'at risk' and problem gamblers who do not access these services

TasCOSS raised the question of wide-ranging costs to the state from problem gambling:

> We also need a better understanding of how much the impact of problem gambling costs the state in its justice systems and prisons, in health and housing systems, in mental health and family support (including child protection) and in the provision of financial and material aid through the community sector's emergency relief programs.

Anglicare rejected industry claims that Tasmania has a relatively low rate of problem gambling, referring to the 2001 and 2005 Tasmanian prevalence studies carried out by Roy Morgan Research:

> the analysis contained in the two prevalence studies conducted in 2000 and 2005 is flawed. The data shows that problem gambling prevalence in Tasmania is neither low, in absolute or comparable terms, nor stable. In reality, the number of people experiencing gambling problems is increasing rapidly, and may now rank among the highest of any state or territory in the nation.

Anglicare says that the 2005 Tasmanian gambling prevalence study underestimates problem gambling using SOGS and says also that the most important findings from the research are not included in the Executive Summary, which is what has been subsequently quoted by government, the TGC and industry.

5.3.6 Harm minimisation

Many of the industry bodies highlighted the contributions and measures taken to protect consumers and to help and treat problem gamblers. Anglicare pointed to the focus on problem gamblers:

> Their [the Tasmanian government] focus is currently targeted at people who have already developed a problem with their gambling and who are willing to seek help.

The Tasmanian GIG says:

> Since its inception, the GIG has been directly responsible for the implementation of many of the responsible gaming initiatives. The GIG continually monitors the impact of gambling and, where required, responds appropriately.
>
> Senior representatives from all codes of the industry agreed to meet regularly to take the initiative of developing cooperative strategies and codes of practice to enhance efforts in responsible advertising and patron care.
>
> The GIG firmly believes that, alongside an appropriate regulatory environment developed by Government, the most effective measure in the prevention and management of problem gambling behaviours is an active industry response.

Examples of measures to minimise harm, as provided by the GIG were: establishing the G-line telephone problem gambling counselling and referral service; and developing and implementing the Gambling Code of Practice and Advertising Code of Conduct. The GIG also says of the AHA's contributions in this arena, with regard to the Tasmanian self-exclusion program:

> The AHA also administers and fully funds Tasmania's self-exclusion program. Self-exclusion is a tool used by patrons, venues and regulators to ensure that the chances of problem gamblers accessing gambling products are minimised. The GIG submits that this is one of the most effective and well-organised systems in the country and, due to the strong commitment of industry, is the most effective manner in which to address problem gambling in Tasmania.

The AHA outlined the self-exclusion program in its submission:

> The AHA administers and fully funds the self-exclusion program within Tasmania.
>
> The self-exclusion program is flexible as to the type of exclusion the person can implement and the date due to expire is also variable (although most patrons choose the three year expiry).
>
> A patron may exclude themselves from:
>
> - the whole of the premises
> - gaming area
> - specific games (keno, table games, gaming machines)
> - TOTE (separate paperwork is required)

The GIG submission referred to the high level of compliance by industry with regard to responsible gaming practices.

> This submission has highlighted the many initiatives driven by the GIG to ensure responsible gaming continues to be a sustainable and long-term form of entertainment that provides many benefits for the community as a whole.

The GIG stated that Tasmania is the national example in its approach to responsible gaming:

> The work undertaken by industry and its commitment to achieving real and measurable outcomes has resulted in Tasmania being widely recognised as leading the nation in gambling harm minimisation strategies.

The Taskforce said of the gambling industry Code of Practice:

> While there is a Code of Practice in place for gaming venues, this is a voluntary one initiated by the operators and is therefore naturally subject to their desire to minimise any loss of revenue rather than giving patron care their first priority.

There is also "no apparent means of systematic checking for compliance or enforcement".

The GIG makes reference to the Network Development Program, which was established by Network Gaming a decade ago. This is an annual ten-month program, operating from 1 September to 30 June, whereby Oasis gaming venues are regularly assessed against a number of criteria by mystery shoppers who visit venues once a month. There are rewards for 'achievements'. Areas assessed are:

- Gambling Helpline Tasmania card must be in good condition and clearly displayed in the rest room.
- Gambling Helpline Tasmania brochures must be clearly displayed in the bar, cashier, between EGMs or around the gaming room.
- A Gambling Helpline Tasmania sticker must be in a readable condition on all EGMs.
- Staff must wear a clear name badge and licence number.
- There must be a framed notice to patrons poster on a wall in or around the gaming room or TASkeno terminal.
- A clearly visible and correct clock must be in the gaming room.

Betfair's submission concentrated on its good practice towards consumer protection and evidence that betting exchanges do not contribute to problem gambling.

> The main focus of the Federal Government's statutory review of the Interactive Gambling Act 2001, which finished in July 2004, was on the social consequences of interactive gambling. This review concluded categorically that betting exchanges did not present any additional problem gambling issues.

The following citation refers to the various account limits that gamblers can impose on themselves and the self-exclusion program available provided by Betfair. (KYC stands for 'know your customer' and is a set of data that must be provided about each customer including address and date of birth.)

> Betfair customers have the option of implementing certain restrictions on their Betfair account. This has been introduced by Betfair as part of its responsible service of gaming. The three main restrictions are deposit limits, loss limits and self-exclusion.
>
> Deposit limits allow a customer to choose a maximum limit that they can deposit into their Betfair account. Customers can select daily, weekly or monthly time periods and can select $10, $50, $100, $200, $500, $1,000 or $10,000 as their limit.
>
> Loss limits allow a customer to set a weekly, monthly or yearly limit on the amount they are permitted to lose wagering with Betfair. The loss limits that can be selected are $10, $50, $100, $200, $500, $1,000 or $10,000.
>
> Self-exclusion allows a customer to inform Betfair that they want their account to remain closed for a minimum period of six months.
>
> There has (*sic*) been 724 Tasmanian registered accounts which have completed the KYC requirements and funded their account.

Betfair's Responsible Gaming Policy includes the following:

> In order to assist our players in gambling responsibly we have provided the following features on our site.
>
> - Customer driven deposit and loss limits
> - Game session timers
> - Self-exclusion tools
> - Links to GamCare and other help organisations
> - Self help and awareness information
> - Information and tools to protect underage access

- Player protection area within account profile

Betfair UK was the first (and is still one of only a few) wagering operators in the United Kingdom to have its customer-facing staff (i.e. telephone betting operators and help desk staff) trained by GamCare, the United Kingdom's leading problem gambling organisation.

5.3.7 Focus on EGMs

The Federal Hotels Group told us that there has been a shift in demand for electronic gaming as opposed to table gaming in its casinos:

> The trend that we have experienced in Tasmania are not dissimilar to the trends experienced by other casino operators in locations that do not have a large population which has a long term cultural background in table gaming, such as populations from an Asian origin. Our reading of this trend is that there has been a clear demand shift towards electronic gaming in areas where the population is predominantly Anglo Saxon and as Tasmania is in this category, it has experienced the same shift in demand.

The Taskforce and Anglicare raised issues about the costs to communities arising from the proliferation of gambling venues and the spread of EGMs in hotels and clubs. As the Taskforce stated in its submission, the "main motivating factor was the observation of growing personal and community problems arising from the spread of EGMs throughout the community in pubs and clubs".

The Taskforce raised concerns about the location of EGMs, and the effects on vulnerable communities and individuals:

> The venues have been unevenly distributed and there is some evidence that, as has happened elsewhere, EGMs are disproportionately frequent in low income areas. While the industry generally argues that it is only meeting a demand for gambling facilities, there is a strong case to be made that it is opportunistically seizing the chance to create a demand within vulnerable communities.
>
> EGMs, particularly in clubs and pubs, have been our primary concern. Regrettably, the government has always excused its failure to constrain the growth of EGMs by claiming that it is unable to do anything that conflicts with the terms of the deed it has signed with the Federal Hotels for fear of incurring severe penalties. In effect, it has hidden behind and agreement originally signed, and later renewed, with a private company, instead of giving precedence to its responsibility to parliament and the Tasmanian people.

In its submission, the Taskforce called for a reduction in EGM numbers, better research into social and economic impacts of EGMs; stronger regulation by a more independent body; and the government to take greater responsibility to protect the public interest "rather than using the deed it had entered to with Federal Hotels as an excuse for inaction", which leads the discussion into the next point.

Anglicare stated that this study "must focus on EGMs", explaining its reasons as follows:

> To give serious consideration to questions around lottery tickets and minor gambling would not represent balance but bias, given that the Productivity Commission's inquiry into gambling in Australia has quantified how few people have any problems with this form of gambling expenditure. Table gaming and horse betting ... have both been in relative decline in recent years.
>
> Community concern relates overwhelmingly to EGMs and with good reason. They are more addictive than any other form of gambling and ... are associated with far more social pain and much less employment or economic gain.

With regard to EGMs in casinos, Anglicare said:

> Nearly half of Tasmania's poker machine turnover occurs in the state's two casinos, which are now, to a far greater extent than in any other state, predominantly poker machine venues, with casino table gaming contributing to just 5 per cent of casino gambling turnover.
>
> Tasmania's two casinos have become super-sized poker machine barns that very effectively target the local market for almost all their gambling revenue. They account for nearly half (about 48 per cent) of total poker machine expenditure in the state.

Anglicare went on to say that this 48 per cent comes from about one third of the state's total machines – 1,280 out of 3,680 of the state's EGMs are in the two casinos. The operation of EGMs in casinos is subject to fewer restrictions in terms of access to cash, loyalty schemes, bet limits, and so on. However, these machines are taxed at a lower rate because the CSL does not apply:

> The issue of EGMs in casinos also requires specific attention not only because the social costs are high, but because the economic benefits are even more limited. These machines are taxed at a lower rate, because the CSL does not apply, unit costs are lower due to the large concentration of machines, employment opportunities are lower and none of the gross profits are distributed to hotels or clubs.

Anglicare argued that the main concern with regard to EGMs should not be about the number of machines but the level of expenditure on them. It recommends measures that control the turnover of machines:

> Anglicare urges this inquiry to recommend the establishment of a turnover target that lies at that point where the social and economic costs of EGMs cancel out the social and economic benefits. To achieve this, a number of measures may be necessary, including steps to ensure the TGC is able to operate as truly independent from government, an end to industry self-regulation, stronger measures around consumer protection and the funding of a comprehensive program of gambling research.

TasCOSS presented a number of case studies prepared for this study describing how support and services have been provided to people with gambling-related problems, but not funded by the CSL. It talked about the consequent impact on community services:

> As the case studies presented in this submission demonstrate, the adverse effects of gambling impact not only on individuals and their families but on the wider Tasmanian community and the community and health services they access. The extent of the impact on community services has not yet been measured or evaluated in any systematic or consistent fashion and this is something that needs to be done.

It went on to say how intrusive EGMs are, citing the experience of one patron:

> Lack of choice was a serious issue for consumers who participated in the [Anglicare Tasmania] study. One participant said "They should cut out the EGMs because they are everywhere. The advertising is also everywhere. You can't even go out for a meal without being near the machines."

5.3.8 Independence of the Tasmanian Gaming Commission

The TGC is the body responsible for the regulation of gaming in Tasmania, and was established under the *Gaming Control Act 1993*. There are three members, and the TGC is supported by staff of the Liquor and Gaming Branch of the Department of Treasury and Finance. Submissions considered the location of the TGC within the government raising questions about its perceived independence, as discussed below.

According to the TGC Annual Report 2006-07, the role and responsibilities of the TGC are described as follows:

> The Operating Statement provides a clear public declaration of the Commission's responsibilities and strategic priorities where in the past there had been confusion over the role, responsibilities and independence of the Commission.
>
> The Commission's key role is to be the regulator of gaming in Tasmania and in exercising its functions, the Commission is not performing its functions independently of the State, rather it is a vehicle through which the State operates to control and regulate gaming.

In its submission to this report, Anglicare Tasmania provided us with its 2003 report entitled, *The Emperor's New Clothes*, which cites from Hansard 7 December 1993, when Mr Lennon, the Shadow Minister for Racing and Gaming, said about the new TGC that it would need "to be seen to be at arm's length from Government, as well as being so". Mr Cornish, Minister assisting the Treasurer, 7 December 1993, said that extra staff would be needed "so that it can carry out its functions in a proper manner and be independent from Treasury".

However, submissions refer to the appointment of Mr Don Challen, the Secretary of the Department of Treasury and Finance to the position of Commissioner for Gaming. Mr Lennon said at the time (17 November 1993) that "the Secretary of Treasury is now the Gaming Commissioner. In effect that means the position of Gaming Commissioner in this state is no longer independent from government, because the Secretary of the Treasury is answerable to the Treasurer, who in turn is a member of Cabinet".

Mr McKay, the Leader for the Government in the Legislative Council said on 2 December 1993 that Mr Challen was to "carry out the functions of the commission for the first 12 months, but he will cease to do so as the new commission is appointed". This was the arrangement so that there would be "time for the appointment of the commissioners, and to ensure a smooth transition from the current arrangements".

However as Anglicare pointed out, at the time of the Anglicare report, the TGC still sat within the Department of Treasury and Finance. Mr Challen was Secretary of the Department of Treasury and Finance, which required him to report to the government about government gambling policy and to provide advice to the TGC. At the same time he was also Chair of the TGC, which has as part of its role the provision of independent gambling policy advice to government. As Anglicare states: "In both of the roles Mr Challen is directly responsible to the Treasurer."

An inquiry conducted by the Legislative Council Select Committee in 2002 found that, "The public perceives the TGC as being not independent of Government. It relies heavily on the Department of Treasury and Finance, not only for its advice and administrative resources, but also for the chairmanship." It recommended that "the Tasmanian Gaming Commission be restructured to ensure total separation from Government".

Anglicare listed a number of what it calls failures of the TGC, which include not having done the following:

- provide independent monitoring of existing patron care policies and procedures
- recommend that the Commission be moved out of Treasury and be provided with staff and a Chair independent of Treasury.
- review the effects of the continuous roll-out of EGMs

- provide the Government with recommendations based on the 1999 Productivity Commission inquiry into Australia's gambling industries
- assess the combined cost of Government and NGO gambling services, gambling-related crime and other social and economic costs that result from gambling.

SACES Note: The researchers have reported the background and concerns raised in several submissions relating to this issue. We have done so without comment. However, the point should be made here, that the Tasmanian Government accepted there was a perception in the community regarding the independence of the TGC in 2003. In response to the perception, in 2004 the Government amended the Gaming Control Act so that a Government employee could not be the chair of the TGC and a maximum of only one Government employee could be a member of the TGC. Since then there has been no Government employees on the TGC. The TGC has very clearly explained its roles and responsibilities in the TGC Annual Report 2006/07 cited earlier. The current chair of the TGC is Mr Peter Hoult.

5.3.9 Extension of the agreement between the Crown and Federal Hotels Group

Related to the concerns cited over the lack of independence of the TGC, the Taskforce referred in its submission to the extension of the deed between the Crown and Federal Hotels Group which was due to expire after 15 years in 2008. Instead it was renegotiated and signed in 2003 for a further 15 years out to 2018 without a government announcement or government consultation with the community sector or other stakeholders or the public. The Taskforce stated that the government considered that since the 15 year extension included setting 'venue limits at existing levels, there was now no need for a review'.

Subsequently, the Taskforce joined a community lobby group called CAPiT (Community Action on Pokies in Tasmania) which called for the rejection or modification of the legislation. The legislation was passed, and it set a cap on EGM numbers higher than the existing number which the Taskforce considers 'excessive' and has since been reached.

5.3.10 Not a prohibitionist attitude towards gambling

Submissions from welfare agencies and help service providers all call for greater transparency and tighter constraints on the gambling industry, but all of the submissions share the view that they are not standing in judgment of whether people should or should not gamble *per se*.

> The Taskforce does not adopt a prohibitionist attitude to gambling but is concerned about any form or level of gambling that has harmful consequences, especially if it is targeted at vulnerable people.

The Salvation Army stated that while it "accepts for itself and its members a total non-gambling position, we do not seek to impose this upon wider society".

> The Salvation Army does not stand in judgment of people exercising their human right to experience recreational activities associated with gambling.

Quoting Blaszczynski (2002), Anglicare stated:

> The primary objective of patron care should "to reduce the harmful consequences associated with, or arising from, gambling rather than the total prohibition or complete avoidance of gambling".

5.3.11 Continuation of harm

Case studies were cited by TasCOSS, the Salvation Army, Anglicare and the Taskforce, and individuals also provided examples of issues they have encountered and continue to face. All wrote in their submissions about ongoing harms that they observe that result from gambling problems.

The Salvation Army noted that current harm minimisation measures are not working early enough in the gambling continuum:

> Too frequently, we are finding that the harm minimisation approach to gambling in our state is not catching people before they have lost everything, their finances, family and emotional resources.

With regard to the complexity of causality of gambling in particular, the Salvation Army said:

> Our workers are reporting an increasing complexity of issues that people are presenting with when seeking assistance. This complexity of people's lives impacts the Salvation Army's ability to address their issues in a holistic manner, makes it difficult to identify gambling as an issue in the first place and hides the impact of gambling in the statistics that are collected.

According to the Salvation Army, gambling affects all kinds of people across all walks of life:

> those who are affected by addiction, including gambling, are 'normal' people. They include teachers, professionals, sportspeople, business owners, public servants and retirees. Many people who are addicted to gambling have led otherwise healthy lives, have offered significant contributions to the community, and have never previously been in any serious 'trouble'.

With regard to specific measures, the Taskforce criticised the Federal Rewards Club. While the Advertising Code of Ethics requires that advertising should not encourage excessive participation in gambling, the Federal Rewards Club, a customer loyalty scheme, upgrades patrons to higher levels as they earn more points, partly by gambling more. Rewards such as giveaways and discounts escalate as a gambler moves up the five levels. The Taskforce also raises the issue of promoting games to minors, saying that often children's play areas in gambling venues are near EGMs, and have machines for children which are similar to EGMs.

Relationships Australia provided a summary of what they call 'personal and family dimensions of the gambling toll' that they have evidenced in their work with individuals and families who experienced problems due to gambling:

- marital and family breakdown
- family violence
- child neglect and abuse
- children's futures jeopardised
- loss of family reputation
- social isolation
- loss of employment
- loss of work productivity
- accidents, including road accidents
- criminal acts (theft, robbery, financial crime)
- court appearance, jail
- suicide (attempted, completed)
- homicide
- financial stress
- debt
- bankruptcy
- loss of family assets
- early release of superannuation funds
- loan default
- homelessness
- mental health problems (anxiety, depression, suicidality)
- increased alcohol, tobacco, and other drug consumption
- poor general health

It also listed what it called the 'social and community dimensions of the gambling toll':

> Erosion of cultural resources (cultural and social activities including social club participation, church attendance).
>
> Impact on community fund-raising activity.
>
> Loss of wealth from communities.
>
> Breakdown of community solidarity.
>
> Loss of human capital via out-migration, unemployment, and imprisonment of family victims.
>
> Increased demand for health, welfare, legal, policing, and court services.
>
> Increased financial burden on taxpayers to meet the expanded costs of maintaining state-funded services.

5.3.12 Future

Those who are concerned about the negative impacts of gambling called for a number of measures and policy approaches to be taken in the future. The Taskforce, Anglicare and TasCOSS all highlighted a public health approach to gambling and in response called for measures to educate and to protect the public:

TasCOSS stated:

> Problem gambling is a serious public health issue.

Anglicare says in its 2004 paper, that:

> like any other consumer product that poses risks to its users, the Government needs to move away from a narrow focus on referral and treatment of the 'problem gambler' to a broader mandate focused on ensuring, promoting and providing 'safe gambling' for all customers. Strategies to protect the gambling consumer may be termed 'patron care'.

Anglicare recommended a public health approach:

> An integrated public health approach is therefore recommended. This blends individual therapeutic strategies and social policies with regulatory policy. The main thrust of patron care must be to protect patrons from exploitation while giving them the power to regulate their own gambling.
>
> Informed choice would require patrons to have information about likely rates of loss/gain from playing different machines, ability for self-exclusion and technology such as smart cards so they can set a limit on losses and frequency of play. Restricting advertising would also be helpful.

The Taskforce called for educating the public:

> A significant effort has been made by the government in educating the community on the dangers of gambling and there is now a fairly good understanding of these issues among the broader community, but continuing efforts are needed in this area.

The Taskforce is a proponent of smart cards indicating that since Tasmania has a single operator of EGMs controlled by a central computer system, this is a feasible step. This would allow gamblers to regulate their spending, timing, duration of session, frequency, losses per week, size of bet, and so on. Such a system would also make it easier to identify problem gamblers.

The Taskforce also called for a more independent gambling authority than the TGC to monitor effects of gambling on society, initiate research, establish and enforce gambler protection measures, receive input from the public and recommend legislative action to the government. Plus:

> It should be required to produce an independent public report to the government outlining the social and economic impacts of any new gambling development before legislation is introduced.

The Salvation Army set out what it considered needed to be done in Tasmania:

1. review and improve principles of good government and consumer protection
2. a safer product
3. independent regulatory body
4. government to maximise the tax it collects from the industry
5. CSL to be reviewed

With regard to each of these points, key citations are:

1. Today's electronic society demands higher levels of corporate accountability and more stringent enforcements around business responsibility. Companies and governments must provide paramount attention to these responsibilities. They must take all reasonable steps not to cause harm to communities and constituents.

   Governments have a duty of care to stop the exploitation of vulnerable members of the community. Government financial health should not be dependent on some people suffering harm.

   Harm arising from poker machine play cannot be solely attributed to individual pathology. TSA [the Salvation Army] believes that a significant proportion of harm is attributable to the nature of the poker machine product and the environments where they are placed.

   TSA is concerned by the power of transformation from casual to serious player of EGMs. This is difficult for family members, friends and venue staff to identify.

2. It is our proposition that EGMs are a gambling product that is essentially different from other gambling products, because playing them results in harm to some 20 per cent of regular players. The issue to be addressed by policy makers is the poker machine product and environment, not 'the problem gambler'.

   Any product offered for sale at a supermarket or pharmacy that resulted in significant harm to 20 per cent of regular users would cause a public outcry and the product would be taken off the shelves. (20 per cent quote from Harnett, J. (2005), The Application of Gambling Research to Policy Decisions, Paper presented to NAGS Conference, Alice Springs.)

3. The government, as a major beneficiary of poker machine taxes has a clear conflict of interest as policy maker and regulator of the poker machine industry.

4. A reduction in problem gambling would impact on government revenues. In order to offset revenue losses:

   TSA believes that the state government should maximise taxation profits that are collected through EGMs.

5. The CSL should be used:

   to increase resources for early prevention programs, patron care initiatives, emergency relief and counselling programs. The Community Support Levy Community Grants should also be expanded to consider applications for programs that require ongoing or recurrent funding.

The Salvation Army concluded:

> The Salvation Army continues to witness first hand, the devastating impact that problem gambling has upon people's lives. TSA assists these individuals through its wide network of social programs, especially its front line emergency relief, community and support housing programs.
>
> The government's gambling policy principles need to be interpreted in the light of broader principles of good government, including consumer protection. Product safety is a matter that should be referred to an independent regulatory body established by the government to ensure that the industry is provided in a way that furthers public interest and ensures an acceptable level of public safety.
>
> Current levels of harm are unacceptable.

5.4 Conclusions

This chapter reports and summarises the written submissions provided to this study. The researchers have reported statements and issues raised in the submissions, providing exact quotes where appropriate. We have not imposed our interpretation on statements; we do not always agree with the emphasis placed on some issues, the argument presented, the positions held or the presentation and interpretation of data. Because many of the submissions are of an advocacy nature, sometimes statements are made and data is presented without qualification or without supportive evidence. However, one of the many benefits of the submissions is that we were able to identify areas of concern; we were then able to write back to the author and request clarification and/or additional data, etc; and the submissions identified questions to be posed in interviews with the many stakeholders.

The objective of this chapter was to present the views of others, *because* they contributed to our understanding of the debate, issues of concern and ultimately our approach to analysing the economic, financial and social impacts of gambling in Tasmania. To those, we now turn.

Section B

Assessment of Economic Impacts

In this section – consisting of four chapters – the researchers set out the framework in Chapter 6 by which to examine the economic benefits and costs of gambling. In Chapter 7 the researchers analyse the impact of gambling on other forms of non-gambling expenditure using a range of data sources. The researchers objective here is to consider the impact of gambling on expenditure patterns. The final two Chapters investigate the employment impacts of the gambling industry and the possible economic benefits associated with gambling and tourism.

6. Economic Benefits and Costs

6.1 Our approach to assessment of impacts

There are a number of ways, positive and negative, in which gambling could potentially impact on a community. In examining these impacts we have divided the discussion into three broad categories of impact: Economic, Financial, and Social. The assignment of impacts to these categories is somewhat arbitrary as they overlap to a considerable degree. Under Economic Impacts we consider those impacts which occur within a market which can transparently allocate a price to them, particularly consumer spending and employment. Under Financial Impacts, we cover the impact on the Tasmanian government of gambling industries including revenue and administration costs. Finally, our discussion of Social Impacts covers those forms of impact for which there is no direct market in which a value can be established, such as consumer satisfaction on the positive side, and problem gambling, bankruptcy crime and depression on the negative side.

The following discussion will consider each type of impact in turn. We have used a range of economic and statistical techniques to quantify impacts. The discussion outlines and explains the approach(es) used for each form of economic impact, and reasons why each approach was selected. The societal and private costs of gambling (including the cost of treatment of problem gamblers, preventative spending, and costs associated with distress to family members, depression, suicide, etc.) are discussed in Section D, Social Impacts.

Like most industries or activities, gambling has an array of economic and other impacts. The ***economic*** impacts could include:

- a net increase in economic output, including a net increase in consumption spending;
- a shift in expenditure between sectors (a gross not a net impact);
- investment spending within the gambling industries and in other industries;
- transfer payments from the industry to the community (gambling taxes, licence payments, and voluntary community contributions);
- employment within the gambling industries and in other industries; and
- consumer surplus.

It is important here to contrast gross economic impact with net economic impacts. An economic impact only implies that some shift has occurred in the pattern of economic activity. Such a shift *could* represent a real increase or decrease in regional income or consumer welfare; however it could equally simply be a shift between forms of expenditure.

In their report on Australia's gambling industries, the Productivity Commission issued a similar caution, pointing out that:

> "…measures of an industry's size (denoted by such things as investment, turnover, employment, etc.) are not measures of the net contribution of an industry to the wellbeing of the community or the economy."[46]

Economists treat any shift between sectors as irrelevant in terms of net economic impact. From the point of view of the welfare of the population as a whole, it doesn't matter whether expenditure occurs in one sector (or on one good/service) rather than another, provided that

[46] Productivity Commission (1999), Vol 1, p. 5.27.

this spread of expenditures represents the rational choices of the consumer rather than a response to compulsion (whether legal, illegal, or through addiction).

In contrast, net economic benefits examine the extent to which there has been a ***net*** increase in individual welfare (e.g. increased real income, increased enjoyment of recreation etc.) as a result of the change, relative to the next most favourable alternative (this is called the opportunity cost).

6.2 Consumer spending

An activity can only have a net economic impact if it leads to a higher level of expenditure than would otherwise have been the case, either through attracting export income such as through increasing international tourism, or through increasing the share of income consumers choose to spend, or if there is some externality that increases the efficiency of the economy. In this case, as a significant share of EGM expenditure comes from problem gamblers (the Productivity Commission estimated 41 per cent) it cannot necessarily be said to represent a rational choice, and therefore there are two potential sources of externality:

- the induced expenditure; and
- the social harms caused by problem gambling.

Hence, it is legitimate to seek to discover whether this involuntary expenditure has come from expenditure switching from other sectors, reduced growth in expenditures in other sectors, or from reduced savings.

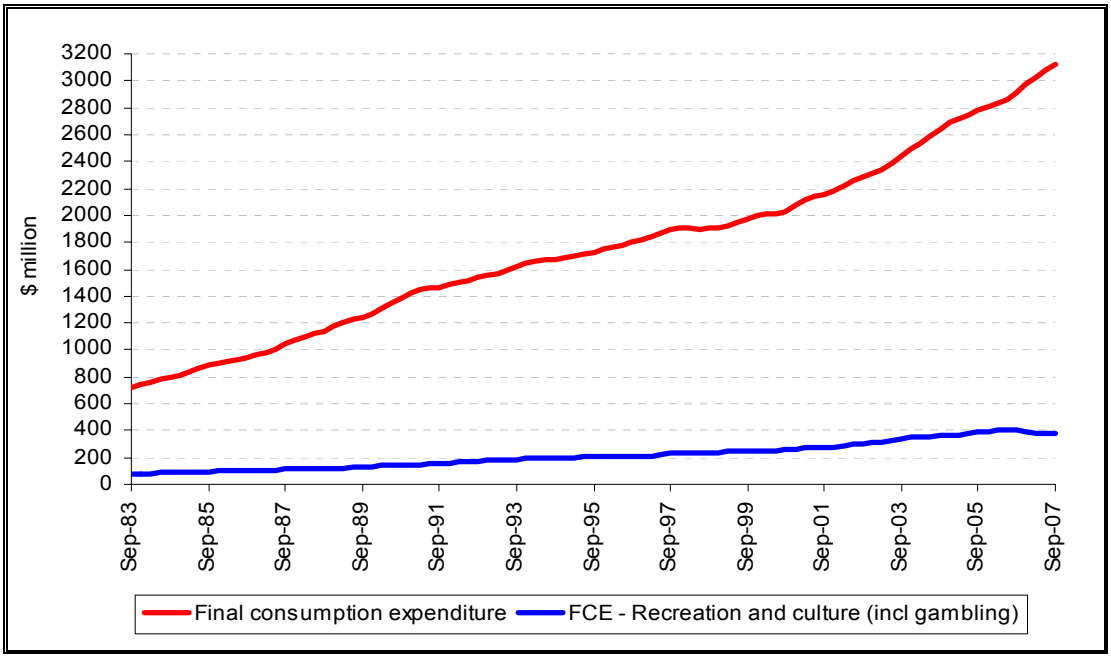
If $1 in spending shifts within the economy then the net effect on the state economy is likely to be **0**, even if one of the sectors is more profitable than the other (as these higher profits have to come from somewhere, e.g. from either lower total wage expenditure, lower returns to the owners of capital, or lower expenditure on intermediate inputs to production). However, if the consumer whose expenditure has shifted gets a Consumer Surplus of $2.5 from this new product then that is a net gain to the economy (this latter effect is discussed in Section 6.6).

An increase in profits for an industry sector (also described as producer surplus in economic analyses) can only be a net gain for the economy if the productive capacity of the economy has increased; e.g. if using capital and labour to produce the new good increases the total level of output.[47] However, if a government restriction was lifted and the shift in production was between two types of good or service which Tasmania was equally well suited to producing, then there would be no net economic benefit in terms of output (although there would be a benefit from the increased satisfaction of consumers who can now purchase a previously banned good they enjoy). If the restriction on electronic gaming machines had diverted resources to a less productive use then we would expect to see increases in total consumption in the economy as gambling expenditure increased.

[47] Imagine a world where Tasmania could only produce apples or aircraft, but was much more efficient at producing apples. If the government were to ban the production of apples then the productive resources would shift to aircraft production, but much of the capital and labour in Tasmania (orchards, farmers, tractors etc.) would be poorly suited to aircraft production. If the restriction on apple production were lifted then Tasmania' output would increase significantly, as resources could be used where they were most productive.

The overall level of net consumer expenditure on gambling (e.g. losses minus winnings) in Tasmania was $287 million in 2005/06. However, this only represents a small share of total consumer spending; 2.4 per cent of household disposable income. This suggests that it is unlikely to have a significant impact on overall consumer spending, although it is possible it may have an impact on categories of spending. The quarterly levels of expenditure on 'Final Consumption' and 'Recreation and Culture' (the expenditure category which includes gambling) are shown in Figure 6.1.

Figure 6.1
Household Final Consumption Expenditure and Expenditure on Recreation and Culture, Tasmania
$ million current prices



Source: ABS Cat No. 5206, Table 27.

In order to test the impact of gambling expenditures on consumption expenditure — both in the aggregate and for individual categories — we have followed two approaches. The first is to use regression analysis to model the trend of each category of expenditure and to test whether the level of gambling expenditure has a statistically significant impact on it. That is, if we hold other factors constant, does a change in gambling expenditure change the expenditure on some other category in a consistent fashion? The second approach used is to undertake regression analysis at the household level to identify if (holding other factors constant) there is any link between a household's expenditures on gambling and that on other forms of expenditure.

Box 6.1
Regression Analysis

Regression analysis is a powerful analytical tool which allows researchers to simultaneously measure the impact of a range of explanatory variables on the item of interest. So, for example, rather than being restricted to looking at the way in which gambling expenditure by individuals varies based on their income, with regression analysis we can calculate the specific impacts of income, location, age, family structure, level of education, whether or not they are from a non-English speaking background etc. on an individual's level of gambling expenditure. This has the advantage that the unique effect of each of the characteristics is identified, having taken other factors into account.

The estimated impact of individual explanatory variables on the item of interest is measured by 'coefficients'. So, for example, if factors which influence weekly earnings were being modelled, and years of education had a coefficient of +100, then this would suggest that, holding all other factors constant, for each extra year of education an individual has undertaken their estimated weekly income would be $100 higher.

6.3 Investment

It is very likely that there has been significant investment associated with the gambling industries over the last few decades. This would include casino facilities; the upgrading of racetracks; the purchase and installation of electronic gaming machines; upgrading hotels and clubs to create gaming rooms; and the installation of lottery terminals in newsagents. There may also have been significant investment indirectly linked to gambling, for example a hotel using the revenue stream from EGMs to upgrade other facilities in the venue such as bars or dining rooms. However some of this investment spending would flow outside of Tasmania, such as the purchase of electronic gaming machines.

The Federal Hotels Group in its submission to this study identified its investment in the development of tourism facilities in Tasmania as a significant contribution to the State. However, this investment is quite small compared to the overall level of private investment in Tasmania. In 2006/07 private investment in 'non-dwelling construction' was $765 million, and total private investment was $1,986 million.[48] In this context the Federal Hotels Group's planned investment of $16 million per annum over the next five years is very small (2 per cent of investment in non-residential buildings) and there is *no reason* to believe that it represents investment which would not be undertaken by some other business were the Federal Hotels Group not in existence (or indeed that the Federal Hotels Group would not invest in its tourism operations even if it did not earn revenue from providing gambling activities).

On face value, capital investment would seem to be one of the most obvious economic impact of the gambling industry. From the economist's point of view, however, there are two problems with focussing on investment spending. Reliable data on investment related to gambling does not exist; the ABS' data series on investment do not provide figures for investment spending broken down by detailed industry and State. More detailed industry level collections such as '8684 – Gambling Services' do not include data on investment. It is unlikely, however, that any investment related to gaming machines would be a ***net*** increase; economic theory predicts that there will be a substantial switching effect in any change to investment spending. For example, the pool of resources available for construction in

[48] ABS, 5206.0 Australian National Accounts: National Income, Expenditure and Product, Table 27. State Final Demand, Detailed Components: Tasmania

Tasmania is finite. A hotel owner who invests a million dollars for an EGM facility upgrade is likely to be diverting some or all of that construction activity from other projects, or at least increasing the price of other investment.

Also, to the extent that increased consumption spending in the gambling sector is as a result of falls in other forms of expenditure those sectors may experience a fall in investment. And if gambling expenditure is funded by reductions in saving then this will increase the cost of investment, and potentially reduce individuals' ability to borrow funds to invest as they have fewer assets. The net effect is likely to be that capital investment spending has switched sectors in response to the economic incentives (and disincentives) created by changes in gambling behaviour.

6.4 Transfer payments

Transfer payments from gambling, particularly taxation revenues have an important impact on Tasmania. Total gambling taxation raised by the Tasmanian Government was $84.3 million in 2006/07, 11.5 per cent of total tax receipts with revenue from CSL amounting to a further $4.5 million.[49] There are also transfers from the gaming operator to the community including investment by the Federal Hotels Group in the development of the Tasmanian tourism sector, and donations from hotels and clubs to local community organisations and to charity. Transfer payments are discussed in more detail in 'Section C: Financial Impacts'.

6.5 Employment

The most significant employment effects arising from gambling are likely to be in the industries themselves. Chapter 8 draws on a range of data sources to assess employment directly related to the types of gambling, the way in which this has changed over time, and how gambling related employment in Tasmania compares with the rest of Australia. The key sources for data on gambling related employment were the 2006 Census of Population and Housing; the ABS' Labour Force Survey; and administrative data held by Tasmanian Government departments on employees licensed to work in the gambling industry (Department of Treasury and Finance for gaming machines and casinos, and Department of Infrastructure, Energy and Resources for racing). ABS data is also used to examine the labour intensity of various aspects of hotel and club operations.

6.6 Consumer surplus

Consumer surplus is one of the more important potential impacts from gambling, and is a measure of the utility (satisfaction) consumers derive from the consumption of a good or service. It is the difference between the amount which the consumer pays for a good or service, and the maximum amount which the consumer would have been prepared to pay. If you buy an apple for $1.00, but you would in fact have been willing to pay up to $1.50 for it, you have just received a consumer surplus benefit of 50¢. At the aggregate level, total consumer surplus within the market for a good or service is calculated as the value of expenditure divided by two times the price elasticity of demand (see Box 6.2).

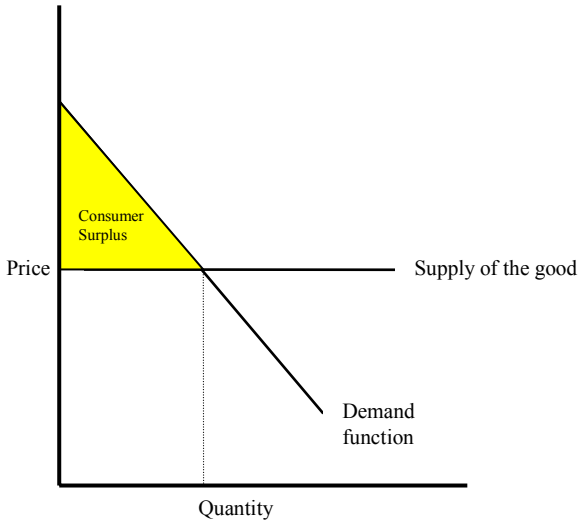
[49] Tasmanian Department of Treasury and Finance (2007), '2007-08 Budget: Budget Paper Number 1', p. 5.6. Note that this refers to gambling taxation only and not licence fees. The latter are not a direct benefit to government as they are set to cover the cost of regulation.

It is common in the economic analysis of policy interventions to use the change in producer and consumer surplus arising from a policy as a measure of welfare impacts.

In the case where the supply of a good or service is perfectly elastic (or where the distortion does not decrease GDP), there will be no producer surplus, and in that case it is therefore meaningful to concentrate on consumer surplus alone. For example, when the economy-wide costs of an import quota or tariff are considered, the impact would often be measured by considering the associated change in consumer surplus (see for example Krugman and Obstfeld 1994 pp. 203-11).

The standard treatment is to explain consumer surplus with reference to a so-called Marshallian demand curve. The Marshallian demand curve is depicted in quantity-price space and shows the quantities of a good that a consumer would choose at different prices, while holding her income and other nominal prices constant. Consumer surplus is then the area under the demand curve and above the price line, as shown in Figure 6.2.

Figure 6.2
Consumer Surplus



Consumer Surplus is a net measure because the Marshallian demand function for a particular good (in this case gambling) implicitly includes the opportunity cost of the other goods and services (including savings) in the price elasticity of demand as it includes both income and substitution effects.

More advanced treatments acknowledge that this treatment is not strictly accurate, and that consumer surplus should be measured as the area under a "compensated" demand curve. This is because the Marshallian demand curve will reflect quantity adjustments both in response to pure price effects and in response to income effects arising from price changes, whereas the compensated demand curve abstracts from the income effects and considers only the pure price effects. The distinction is in fact of limited practical significance; it becomes relevant only when we consider the demand for goods which account for a substantial share of the budget (and in this case gambling only accounts for just over 2 per cent to household final consumption expenditure). In most cases the measurement errors that arise from ignoring income effects are likely to be overshadowed by errors in empirical estimates of the demand

function (Willig 1976). It is also the case that compensated demand functions are more difficult to estimate accurately at an economy wide level than Marshallian demand functions.

In the analysis of most consumption goods the calculation of consumer surplus is relatively straightforward, however in the case of gambling there are two significant difficulties. The first is that it is very difficult to estimate the price elasticity of demand for gambling, and there is no consensus on its level. This is because the standard techniques for measuring price elasticity rely on being able to observe the way in which prices and quantities change over time. In the case of gambling the price (the proportionate loss of players) rarely changes as it is heavily regulated. Thus, as the late Anne Hawke noted, there is no conclusive evidence either in Australia, or in other parts of the world, on the appropriate ranges for elasticity measures.[50] The Productivity Commission (1999) prepared a table summarising empirical research on the price elasticity of gambling: the estimates ranged widely from very elastic (up to 3.05) to very inelastic (0.03).

Box 6.2
Elasticity of Demand

Elasticity is an economic concept that refers to how demand for a product or service responds to a change in price for the product or service. The price elasticity of demand (ε_p) for a product is calculated as:

$$\varepsilon_p = \frac{\Delta Q / \Delta P}{Q / P}$$

where Q is the quantity demanded and P is the market price.

Where the quantity of a good consumed is very sensitive to a change in price (e.g. the quantity demanded increases by 10 per cent following a 5 per cent decrease in price) it is said to be elastic; the elasticity is greater than one. Demand is described as inelastic (i.e. less than 1) when the proportional change in quantity demanded is less than the proportional change in price (e.g. quantity demanded increases by 2 per cent following a 5 per cent decrease in price). Unitary elasticity (i.e. equals 1) applies when the proportional change in quantity demanded is equal to the proportional change in price (e.g. quantity demanded increases by 5 per cent following a 5 per cent decrease in price).

The price elasticity of demand for a good cannot be observed directly, but instead must be calculated using statistical technique from data on the changes in the consumption of a good which result from changes in price after the impact of other factors such as changes in other prices and real income have been factored out.

The second problem relates to the issue of problem gamblers and how to treat their expenditures. Should spending which is in some sense involuntary be considered as a benefit of gambling? This is an area of widespread dispute in economic analysis, with similar debates occurring with respect to other potentially addictive products such as tobacco.

In its landmark report, *Australia's Gambling Industries,* the Productivity Commission (1999) used an innovative consumer surplus approach to quantify the total benefit (and loss) generated by gambling. The Commission calculated the consumer surplus for recreational gamblers using the standard economic methodology, as if gambling were just like any other product in the marketplace. It then calculated consumer surplus for problem gamblers in a two-stage process. Firstly, it broke down problem gambler spending into:

[50] Hawke, A. (2000), p. 4.

(a) the amount they might spend in the absence of their compulsion; and
(b) the *'excess'* amount caused by their compulsion.

Consumer surplus for (a) was calculated as per recreational gamblers. For (b), the excess expenditure was treated as a net cost to the consumer. This loss dramatically outweighed the benefit from (a), producing a large overall loss for problem gamblers estimated at $2.7 billion, of which $2.2 billion derived from EGMs (Productivity Commission, Vol. 1, p. 5.27).

6.7 Tourism

The gambling industry often cites earnings from tourism as one of the positives to the economy, which raises incomes for businesses and government and translates into increased wages and employment levels. Tourists can originate from overseas, interstate and from within the state, and this has implications for revenue flows. In the case of Tasmania, a good deal of the argument in support of the establishment of the Wrest Point Casino was that it would attract interstate and overseas tourists. The attraction for government was the potential increase in tax revenue. It appears, that with the establishment of casinos in other states, that any "first mover advantage" which Tasmania enjoyed with the first casino may have been eroded. In relation to the availability of EGMs, claims that tourists are attracted to venues/ regions/areas and thus benefit the tourism industry are not able to be substantiated.

Chapter 9 will examine the impact of tourism on the Tasmanian economy and its relationship to gambling.

6.8 Conclusion

This section has set out the methodological framework adopted by the researchers to quantify the economic impacts of gambling. Chapter 7 details the analysis relating to net economic activity; shifts in consumption expenditure between sectors; net changes in investment; and consumer surplus. The impact of gambling on employment is discussed in Chapter 8, and Chapter 9 sets out the assessment of the relationship between gambling and tourism.

Whilst the researchers have exercised care in both choosing the approaches used and in undertaking the analysis, it is important to note that all of the impacts detailed are ***estimates*** only. The choice of different assumptions could lead to a different balance of costs and benefits. Similarly, analysis can only be as good as the information on which it is based, and there are several areas, such as industry level investment, where the data is not available, or limited.

7. Quantifying the Economic Impact of Gambling

7.1 Introduction

A potentially important area of economic impact from gambling is on other forms of expenditure. Where such an expenditure represents a shift between categories in total expenditure then the overall impact on national income is likely to be neutral, however if gambling revenue comes from a reduction in household savings, then the short term effect may be an increase in GDP at the expense of long term household wealth.

One form of gambling in particular, Electronic Gaming Machines whether in casinos, hotels or clubs, has often been linked with a fall in other household spending, which impacts on retail trade, and particularly harms small business. In a submission to the Productivity Commission inquiry into gambling, the Australian Retailers Association warned:

> "Spending on gambling continues to impact negatively on traditional areas of retailing expenditure and continues to place great strain on the viability of many once profitable businesses."[51]

On the other side of the ledger the gambling industry asserts the contribution the industry makes to economic growth on the national (GDP) and state level (GSP). For example, the Federal Hotels Group in their written submission stated:

> "Gaming has been the main mechanism for stimulating growth in a variety of industries throughout the Tasmanian economy, primarily through increased employment and increased capital investment."

In this Chapter we consider these competing claims by examining the impact of gambling expenditure on other expenditures.

7.2 Analysis of net economic impact

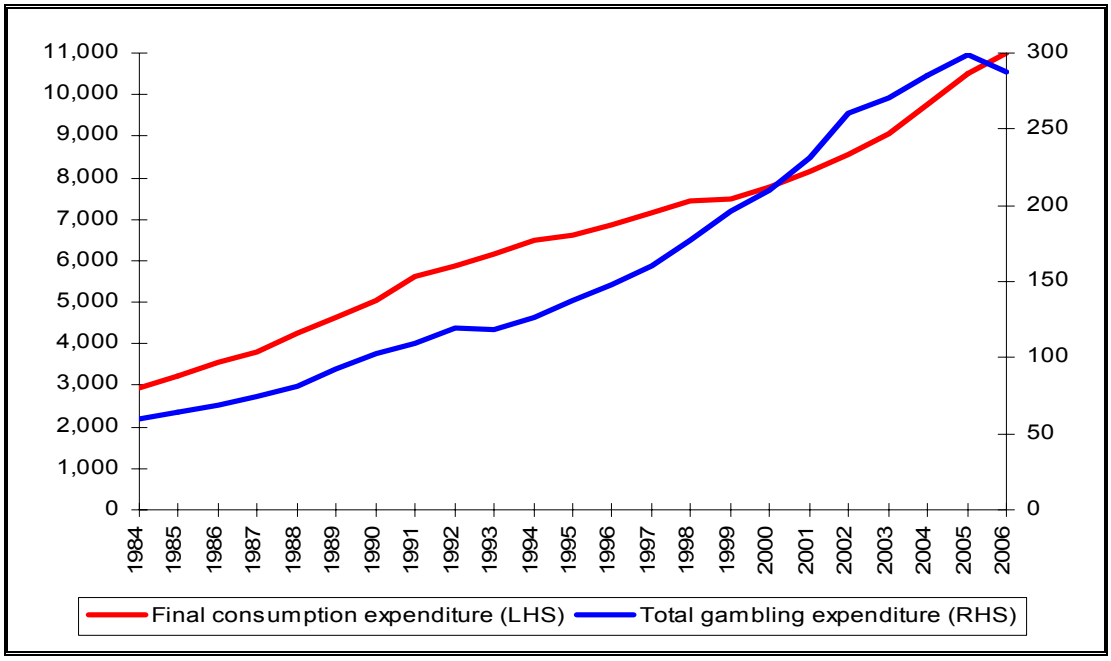
If gambling has a significant effect on household spending, it should be noticeable in the national accounts prepared by the ABS. In particular, it should show up in the figures for Household Final Consumption Expenditure (HFCE), which measures current expenditure by households and non-profit institutions serving households. As discussed previously, although the expenditure on gambling in Tasmania (and other states) is substantial ($287 million in 2005/06) it only represents a small share of total consumer spending; 2.4 per cent of household disposable income.

Figure 7.1 charts the levels of total consumption expenditure and real NGR for Tasmania from 1984/85. This does not appear to support the hypothesis that the level of gambling expenditure influences the level of overall expenditure. When the rate of growth in gambling expenditure increased from 1996 there is no shift in the rate of growth of total consumption expenditure.

Graphing the annual rates of change in the two series paints a similar picture. Of the ten years in which the rate of growth of gambling expenditure was above average, total consumption grew at an above average rate in five of those years, and below average in five.

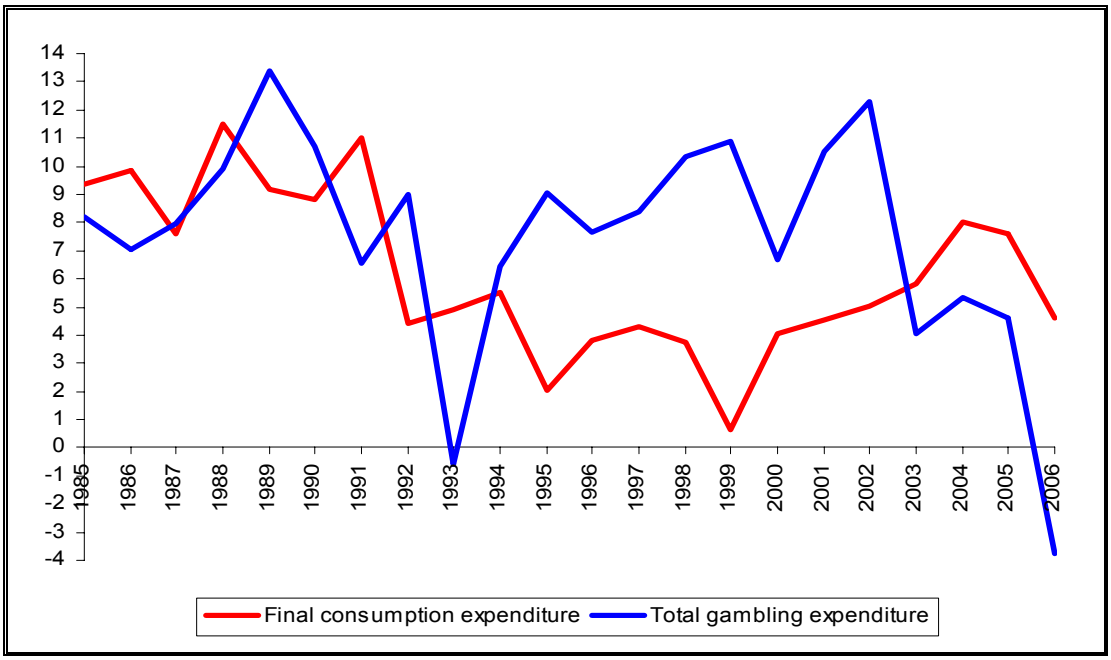
[51] Australian Retailers Association, *Submission to Productivity Commission Australia's Gambling Industries Inquiry* (November 1998), available at http://www.pc.gov.au/inquiry/gambling

Figure 7.1
Household Final Consumption Expenditure and Net Gambling Expenditure, Tasmania
$ million, Current Prices



Source: ABS Cat No. 5206, Table 27 and AGS, calculations SACES.

Figure 7.2
Annual Change in Household Final Consumption Expenditure and Net Gambling Expenditure, Tasmania, per cent, current prices



Source: ABS Cat No. 5206, Table 27 and AGS, calculations SACES.

It is, of course, possible that this visual inspection of the time trend in expenditure data is misleading, and that the level of gambling expenditure does indeed influence other expenditure. In order to test this we estimated a time series model of the level of consumption spending. The model structure used was a Vector Error Correction Model (VECM), which is often used in modelling the trends over time of economic variables. A key advantage of the

VECM structure is that it incorporates past values of the explanatory variables, which is necessary for modelling consumption as research consistently shows that past levels of consumption are important in explaining current consumption.

VEC models analyse the evolution of data series over time, and their relationship with one another. The results of a VEC model provide two sets of parameters, short-run adjustment coefficients, and long-run coefficients. The short run adjustment coefficients model how the variables adjust back to their long-run relationship in response to a shock. So if you were modelling consumption as a function of income, the short-run coefficients would tell you the rate at which consumption would adjust in response to a one-off increase in income. So if for example a major mineral discovery increased Tasmania's state income by 20 per cent, the short-run coefficients would tell you the speed with which consumption spending would increase in response to this increased income as it returned to its long-run share of income. The second set of parameters identifies the nature of the long-run relationship between the variables. In many cases (such as modelling of consumption or income) the long-run parameters are of limited interest as the nature of the relationship between the variables is well understood. Instead it is adjustment coefficients which are of most interest as they shed light on how the economy will behave in the short run in response to shocks.

The approach taken was to model current (non-gambling) consumption as a function of current and past levels of income; past values of (non-gambling) consumption; and current and past values of gambling expenditure. The data used was ABS *5206.0 Australian National Accounts: National Income, Expenditure and Product* (Table 27, Tasmania) for consumption, and *Australian Gambling Statistics 2005*, produced by the Office of Economic and Statistical Research, Queensland Treasury for gambling expenditure. The data is in current price terms (e.g. not adjusted for inflation) and covers the period from 1983/84 to 2005/06.

Data on income was more problematic as 'Household Disposable Income' (the preferred measure) was only available from 1990. As an alternative we used Total Compensation of Employees. This is not a perfect substitute for household income as it only captures the wage and bonus elements of household income, however it has very similar patterns to household disposable income over time, with a correlation of 0.9945.

Theory does not give any indication of the appropriate lag structure (the range of past values) to use in the model, so this was tested using a range of measures[52]. For this model a structure including 4 lags was identified as the best approach by all of the tests. However in subsequent testing the 4-lag model was found to be unstable[53] so the final specification used included 2 lags.

The results of this analysis (in Table 7.1) suggests that the level of gambling expenditure **does not effect** the level of non-gambling final consumption expenditure with neither the long-run coefficient, nor the short run adjustment coefficient being significantly different from zero.

[52] Tests: Likelihood ratio; final prediction error (FPE), Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC), and the Hannan and Quinn information criterion (HQIC).

[53] More precisely, the cointegrating equations were not stationary, and there were unit roots.

Table 7.1
Adjustment Coefficients: Final Consumption Expenditure in Tasmania
Dependent Variable is the Change in Log Consumption

Variable	Coefficient	Std Error	z statistic	Prob.
Short-run				
Change in Final consumption expenditure	-0.168	0.139	-1.21	0.228
Lagged change in Final consumption expenditure	0.291	0.232	1.25	0.211
Change in log Wages	0.117	0.182	0.64	0.520
Change in log Gambling Expenditure	0.061	0.160	0.38	0.702
Constant	0.017	0.016	1.06	0.287
Long-run				
Log Wages*	-1.268	0.124	-10.23	0.000
Log Gambling Expenditure	0.085	0.071	1.21	0.228
Constant	1.437			

Note: * Significant at the 1 per cent level.
Source: ABS Cat No. 5206, Table 27 and AGS, analysis SACES.

This implies that the introduction of gambling has not systematically increased the overall level of consumption in Tasmania, suggesting that there has not been a net impact on the output of the economy due to gambling. If this is the case, then the impact of gambling has simply been to transfer resources rather than increase total income.

It is possible that there is a net economic impact of gambling in Tasmania which does not show up in the consumption data, so two alternative specifications were tested, the impact on State Final Demand and on the Total Compensation of Employees (effectively wages and bonuses).

In the model for State Final Demand, testing suggested that a structure with four lags was the most appropriate specification. However this specification had unit roots, therefore a 2 lag structure was used instead (see Box 7.1). The results of the modelling suggest that gambling expenditure does not have a statistically significant impact on State Final Demand.

Table 7.2
Adjustment Coefficients: State Final Demand in Tasmania
Dependent Variable is the Change in Log State Final Demand

Variable	Coefficient	Std Error	z statistic	Prob.
Short-run				
Change in State Final Demand	0.052	0.151	0.34	0.733
Lagged change in State Final Demand	0.504	0.189	2.66	0.008
Change in log non-gambling Consumption	-0.087	0.2774	-0.32	0.752
Change in log Gambling Expenditure	-0.060	0.176	-0.34	0.732
Constant	0.026	0.019	1.36	0.174
Long-run				
Log non-gambling Consumption*	-1.170	0.164	-7.13	0.000
Log Gambling Expenditure	0.100	0.107	0.94	0.348
Constant	0.617			

Note: * Significant at the 1 per cent level.
Source: ABS Cat No. 5206, Table 27 and AGS, Analysis SACES.

As was the case with SFD, testing of the specification for the model of the 'Total compensation of employees' suggested the use of a four lag structure, however this structure proved to be unstable in practice and a two lag structure was adopted.

Box 7.1

In modelling the behaviour of a variable it needs to be 'stationary' (that is, having a consistent mean) for the estimates to be reliable. Take the case of someone trying to model both rain fall and the amount of water in a rainwater tank (assuming that no water is taken from the tank). Once seasonal conditions have been included in a model the amount of rain that fell yesterday is unlikely to be a good predictor of the amount of rain that will fall today (e.g. a day of heavy rain could be followed by another day of heavy rain, but it could equally be followed by a day of light or no rain). The concept of an average level of rainfall for a particular month is meaningful. This is an example of a stationary series. However, in the case of the stock of water in a tank, the amount of water in the tank yesterday will be the most important factor in determining the amount in the tank today; and there is no consistent average level of water in the tank. This is an example of a non-stationary series.

Time series economic data is generally non-stationary (even after deterministic trends have been removed). As a result of this non-stationarity, conventional econometric techniques such as ordinary least squares regression should not be used with time series data. A **unit root** refers to the case where the coefficient of past values of the dependent variable is one, indicating that the current level of the variable is driven by its previous values, and is therefore non-stationary. Take the simplest form of a non-stationary series, a random walk where the current value of the variable is based on yesterday's value plus or minus a random shock. This could be expressed mathematically as $y_t = \alpha y_{t-1} + \varepsilon_t$, where y is the variable of interest, the subscript t refers to the time period and ε is the random shock. In this case if $|\alpha|<1$ then the series is stationary. If, however, $\alpha=1$ then the series is non-stationary and the value of α being one is referred to as a **unit root**. Testing for the existence of unit roots is the simplest way to test whether a series is stationary.

One way of making a non-stationary series stationary is to undertake the analysis on differenced series (e.g. today's value minus yesterday's value). However, this runs the risk of missing important data. Returning to the example of the stock of water in a tank, modelling it solely as a function of past values of the stock of water whilst having a good level of predictive power would miss the important role of rainfall.

An alternative approach is a vector error correction (VEC) model, such as the models used in this section, which address non-stationarity by differencing the model; that is, modelling the behaviour of the levels of change rather than the original data, but which also include the impact of other explanatory variables. This assumes that there is some underlying relationship of the form: $y_t = \beta_0 + \beta_1 x_t + \beta_2 x_{t-1} + \beta_3 y_{t-1} + \varepsilon_t$. In the rainwater tank example y_t is today's stock of water, x_t is today's rainfall, x_{t-1} is yesterday's rainfall, y_{t-1} is the stock of water in the tank yesterday, and ε_t is a random factor (e.g. leaks, the amount of rain that actually reached the tank because of differences in the condition of gutters etc.). However, because the data series are non-stationary, this cannot be modelled directly, instead the relationship is rearranged and the following model is estimated: $\Delta y_t = \beta_1 \Delta x_t + (\beta_3 - 1)(y_{t-1} - \phi - \theta x_{t-1}) + \varepsilon_t$, where x represents a vector of explanatory variables. The first set of coefficients, β_1 in this specification) are called the short-run adjustment coefficients and describe the way in which the dependent variable adjusts in response to a shock to the explanatory variables. The second set of coefficients describe the long-run relationships underpinning the model (so (β_3-1) describes the long run relationship between current changes in the dependent variable and its past values ($-\beta_3\phi+\phi$) gives the long-term deterministic trend over time; and ($-\beta_3\theta+\theta$) describes the long-term relationship between the explanatory and dependent variables.

There is no single lag structure which should be used in a VEC model, so before estimating it statistical tests need to be run to identify the most appropriate structure. Once a potential lag structure has been identified, the model needs to be tested to ensure that it does not have any unit roots (e.g. that it is stationary). In the case of the model for state final demand, the existence of a unit root when the 4-lag model was run means that the transformation suggested by the specification testing had not resulted in a stationary variable, and therefore the model results could be spurious. When a two-lag model structure was run no unit roots were detected in the characteristic equation suggesting that the data was stationary, and thus the 2-lag structure was used.

The results of the modelling suggest that gambling expenditure does not have a statistically significant impact on Total Compensation of Employees. However, the coefficient for the long-run relationship between compensation of employees and gambling expenditure only narrowly falls outside the bounds of statistical significance, however this relationship is negative, e.g. it implies that increases in gambling expenditure lead in the long-run to lower wages in Tasmania.

Table 7.3
Adjustment Coefficients: Total Compensation of Employees, Tasmania
Dependent Variable is the Change in Log Compensation of Employees

Variable	Coefficient	Std Error	z statistic	Prob.
Short-run				
Change in log compensation of employees	-0.731	0.202	-3.62	0.000
Lagged change in log compensation of employees	0.865	0.207	4.17	0.000
Change in log non-gambling consumption	0.778	0.259	3.01	0.003
Change in log Gambling Expenditure	0.120	0.183	0.66	0.509
Constant	-0.008	0.019	-0.43	0.667
Long-run				
Log non-gambling consumption*	-0.767	0.080	-9.54	0.000
Log Gambling Expenditure	-0.088	0.054	-1.64	0.102
Constant	-1.242			

Note: * Significant at the 1 per cent level.
Source: ABS Cat No. 5206, Table 27 and AGS, Analysis SACES.

Together these analyses suggest that there has been no impact on aggregate economic activity in Tasmania as a result of gambling expenditure. This suggests that it is best characterised as representing a transfer of activity between sectors of the economy rather than an increase in total output.

7.3 Impact on types of expenditure

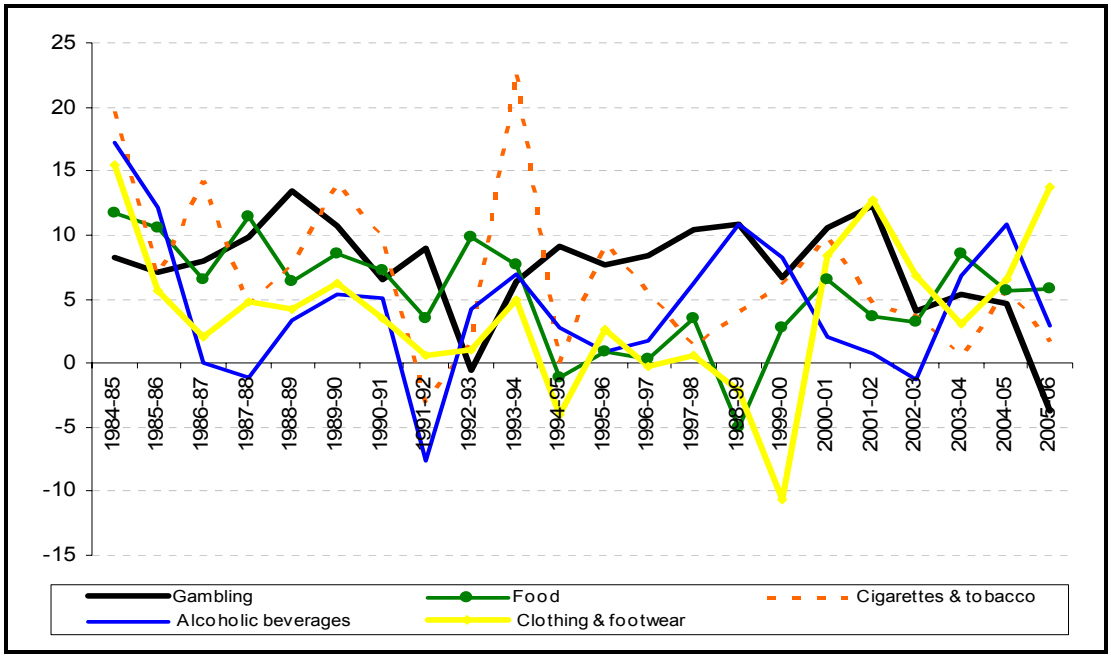
7.3.1 National accounts data

It is not too surprising that gambling does not impact on aggregate expenditure as it is such a small share of the total; however it could still have an effect on specific categories of expenditure. Consumption data are available for each State and Territory broken down into 16 categories.[54] The category 'Recreation and Culture' includes gambling expenditure, so a new series has been created which is recreation expenditure minus gambling expenditure. The data used was ABS *5206.0 Australian National Accounts: National Income, Expenditure and Product* (Table 27, Tasmania) for consumption, and *Australian Gambling Statistics 2005*, produced by the Office of Economic and Statistical Research, Queensland Treasury for gambling expenditure. The data is in current price terms (e.g. not adjusted for inflation) and covers the period from 1983/84 to 2005/06.

[54] The categories are: 01 Food and non-alcoholic beverages; 02 Alcoholic beverages, tobacco and narcotics; 03 Clothing and footwear; 04 Rent and other dwelling services; 05 Electricity, gas and other fuels; 06 Furnishings, household equipment and routine maintenance of the house; 07 Health; 08 Purchase of Vehicles; 09 Operation of vehicles; 10 Transport services (for our analysis we have combined Operation of vehicles and Transport services); 11Communications; 12 Recreation and culture; 13 Education; 14 Hotels, cafes and restaurants; 15 Insurance and other financial services; 16 Other goods and services

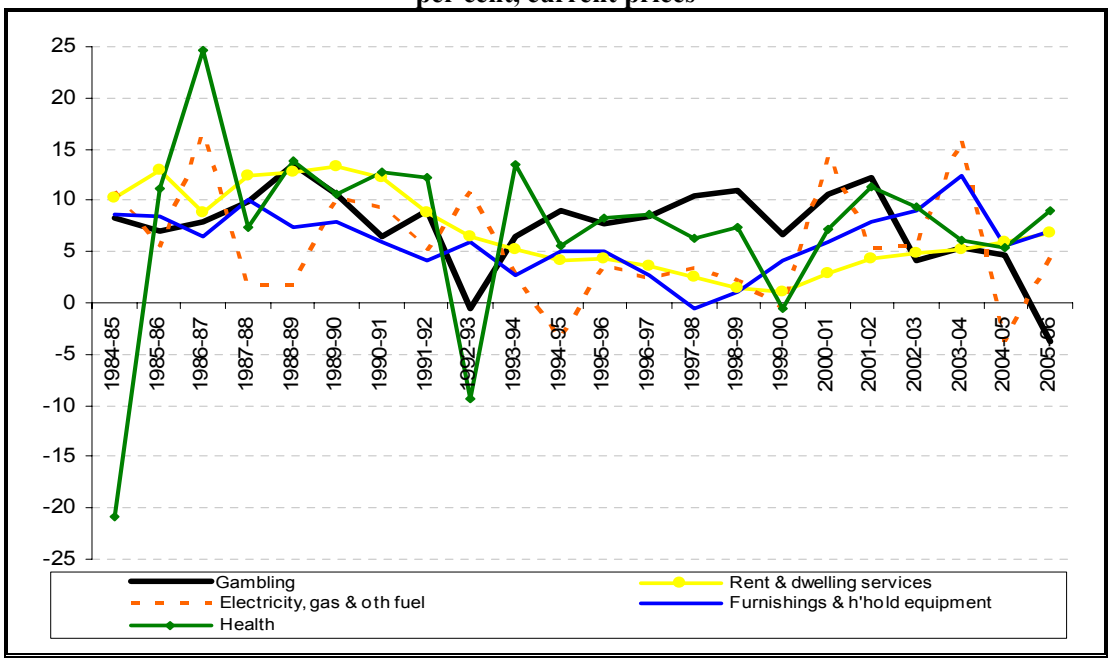
Graphing the rates of growth in categories of retail sales expenditure allows us to form initial views as to the existence or otherwise of any impact from the introduction of EGMs. As there is such a substantial list of expenditure categories they have been split into four groups shown in Figures 7.3 to 7.6, for the purposes of this graphing.

Figure 7.3
Annual Change in Categories of Expenditure and Net Gambling Expenditure, Tasmania
per cent, current prices



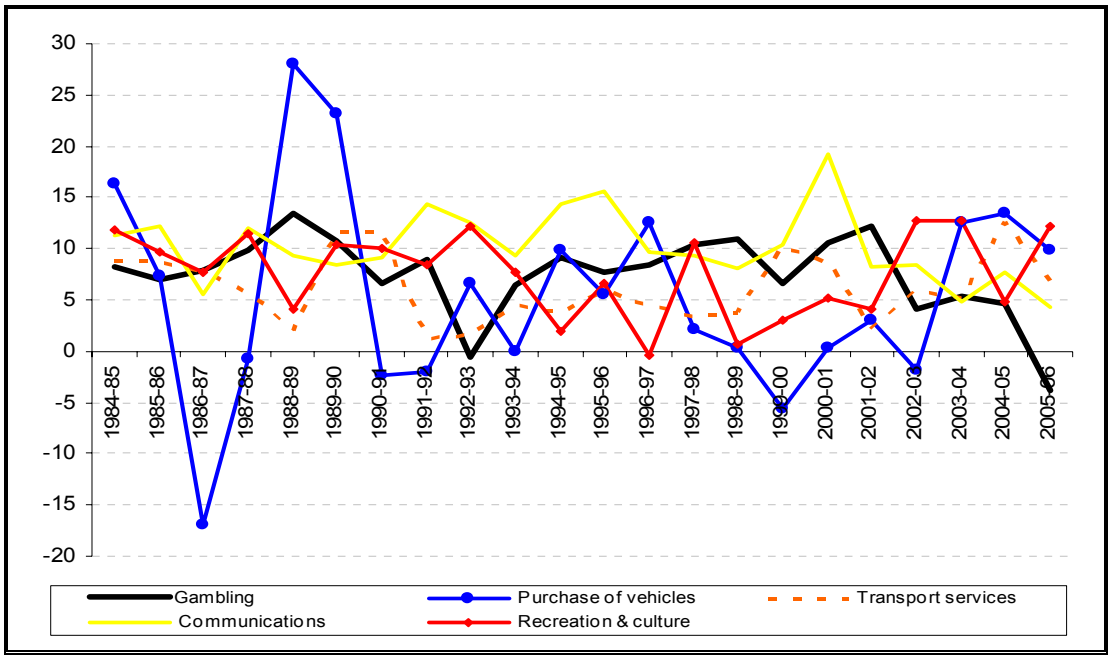
Source: ABS Cat No. 5206, Table 27 and AGS, Calculations SACES.

Figure 7.4
Annual Change in Categories of Expenditure and Net Gambling Expenditure, Tasmania
per cent, current prices



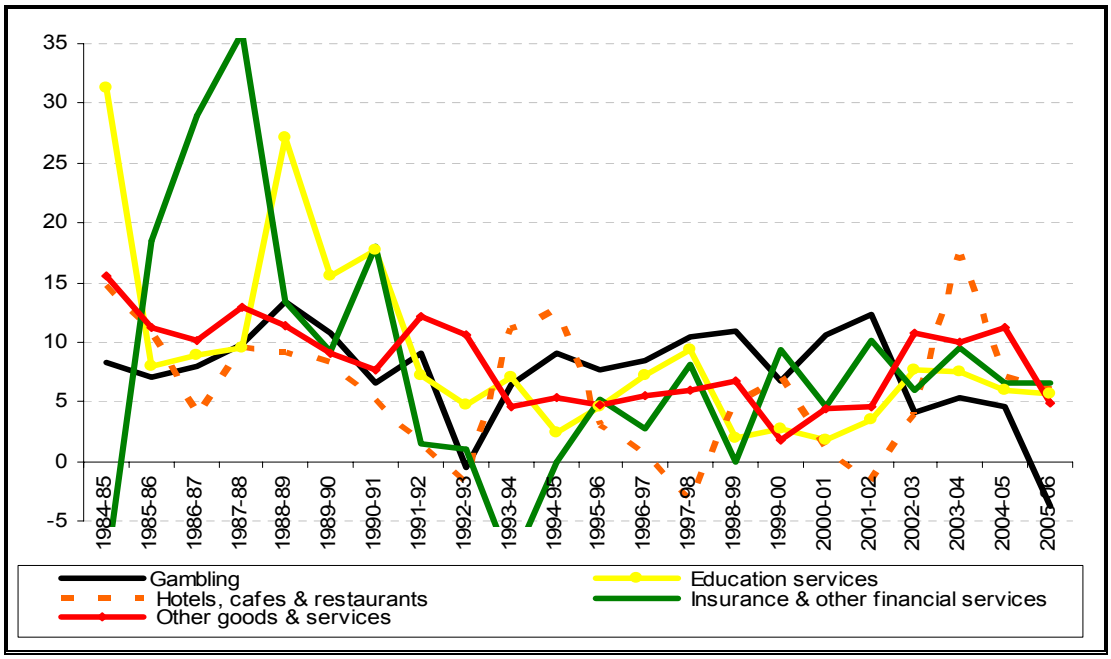
Source: ABS Cat No. 5206, Table 27 and AGS, Calculations SACES.

Figure 7.5
Annual Change in Categories of Expenditure and Net Gambling Expenditure, Tasmania
per cent, current prices



Source: ABS Cat No. 5206, Table 27 and AGS, Calculations SACES.

Figure 7.6
Annual Change in Categories of Expenditure and Net Gambling Expenditure, Tasmania
per cent, current prices



Source: ABS Cat No. 5206, Table 27 and AGS, Calculations SACES.

There were no relationships between gambling and the rate of change of some other variable which was obvious in a visual scan of the graphs, however that does not mean that such a relationship does not exist. In order to test this more formally we undertook regression analysis on each expenditure category. The model structure used for the expenditure categories was the same as for the total expenditure regression, with expenditure in each

category modelled as a function of its own past levels, current and past levels of income, and current and past levels of expenditure on gambling. As this is a relatively generic structure it will generally not produce the best model possible missing out category specific events such as tax or excise changes, but should be a good approximation. This confidence in the general model structure was borne out by the explanatory power of the estimated models. In each case the χ^2-test[55] indicated that the included variables were jointly highly significant in estimating the behaviour of the expenditure category.

In the interests of brevity, the full results of the models for each of the sixteen categories of expenditure are not presented here. Instead, Table 7.4 provides the short run adjustment coefficients for the impact of changes of gambling expenditure on spending in each of the expenditure categories. The first column is the adjustment coefficient, and the following three columns are information on its statistical significance.

Recreation and culture is the only category on which the level of gambling has an unambiguous impact. In the short run, the analysis indicates that an increase in gambling expenditure of 1 per cent above its trend rate leads to a reduction in expenditure on recreation and culture (relative to its trend) of 0.65 per cent. There are two other forms of expenditure for which it is ambiguous as to whether there is a statistically significant impact, 'Electricity, gas & other fuels' and 'Education'. In each case the probability that the coefficient is actually zero is over ten per cent which is outside the conventional level of significance, but is still relatively low.

Table 7.4
Impact of Gambling on Categories Non-Gambling Final Consumption Expenditure in Tasmania
Dependent Variable is the Change in Log Non-Gambling Consumption

	Significance of gambling variable (short run)			
	Coefficient	**Std Error**	**Probability**	**Different from 0?**
Food & non-alcoholic beverages	-0.381	0.260	0.142	×
Tobacco	-0.686	0.486	0.158	×
Alcoholic beverages	-0.138	0.297	0.641	×
Clothing & footwear	-0.418	0.376	0.265	×
Rent & other dwelling services	0.038	0.120	0.752	×
Electricity, gas & other fuels	-0.614	0.376	0.102	?
Furnishings, household equipment & routine maintenance	0.111	0.209	0.594	×
Health	0.356	0.603	0.555	×
Purchase of Vehicles	0.130	0.534	0.808	×
Transport services (incl. Operation of vehicles)	-0.243	0.206	0.238	×
Communications	0.142	0.260	0.584	×
Recreation & culture (excl. gambling)*	-0.677	0.279	0.015	✓
Education	0.609	0.375	0.104	?
Hotels, cafes & restaurants	-0.344	0.444	0.438	×
Insurance & other financial services	0.412	0.368	0.263	×
Other goods & services	-0.001	0.186	0.997	×

Note: * Significant at the 10 per cent level.
Source: ABS Cat No. 5206, Table 27 and AGS, analysis SACES.

Of course a statistically significant adjustment coefficient does not necessarily mean that gambling expenditure causes an increase or reduction in another form of expenditure; correlation does not imply causation. The apparent relationship could be simply the result of

[55] Chi squared test.

chance, or the changes in both forms of expenditure could be jointly driven by some other factor which has not been included in the model. And even if the relationship is genuine, the direction of causation could be in the other direction with changes to fuel or education expenditure causing changes in gambling expenditure.

7.3.2 Household expenditure survey

The alternative approach that can be taken to assessing the impact of gambling on expenditure patterns is to examine household level data.

The ABS collects Household Expenditure Survey (HES) data every five years from a sample of Australian households. As well as providing information on levels and patterns of expenditure on goods and services, it includes a range of demographic and socio-economic data. Data are available at the household level, at the individual level, and at a detailed level of expenditure.

In 2002/03 (the most recent available data) data was collected on 6,957 Australian households surveyed (covering 17,557 persons), including 555 Tasmanian households. The survey was conducted from July 2002 to June 2003, and each household that participated had to complete diaries over a two weeks period recording all of their expenditure. Expenditure that is less frequent such as health services, electricity, telephone and consumer durables, were either recorded on a 3-month basis or a 12-month basis (for items such as education and vehicle expenses).

The HES records expenditure against 625 goods and services, including nine categories gambling expenditure. Gambling expenditure is split between;

- Gambling (nfd: not fully defined; includes syndicate fees);
- Lottery tickets;
- Lotto type games and instant lottery (scratch cards);
- TAB, on course betting and related;
- EGMs and ticket machines;
- Blackjack, roulette and other casino-type games;
- TAB – betting (excluding animal racing);
- Club and casino broadcast gaming;
- Gambling (nec: not elsewhere classified; includes bingo, raffle tickets, etc.).[56]

The HES also records data on the household structure, income levels and a range of other factors.

As the HES collects detailed data on household expenditure patterns, it could, in theory be used to gain insight into the impact gambling has on expenditure patterns, by undertaking statistical analysis on the panel of households included in the Confidentialised Unit Record File. Unfortunately the HES is unreliable when it comes to analysing gambling expenditure as it severely underestimates average gambling expenditure. Under reporting basically arises from the self-reporting nature of the HES.

[56] Gambling nec groups many small gambling activities such as sweepstakes, bingo, gambling privately on cards, raffles, housie, etc.).

Table 7.5
Comparison Between Gambling Expenditure Recorded in HES and Actual Expenditure
$'000 per week 2002/03

	Derived from HES		Actual	
	Tasmania	Australia	Tasmania	Australia
Gambling nfd	67.9	1,917.2		
Lottery tickets	34.4	2,491.4	123.0	1,730.3
Lotto type games & instant lottery	471.1	27,259.2	428.8	29,516.0
TAB, on course betting and related	101.5	686.1	478.0	38,986.4
EGMs and ticket machines	113.6	5,845.0	2,378.2	183,602.5
Blackjack, roulette & other casino-type games	-32.7	-1,107.3	1,853.6[a]	51,891.0
TAB – betting (excluding animal racing)	-11.5	240.2	9.7	2,884.9
Club and casino broadcast gaming	92.5	511.7	325.6	2,704.9
Gambling nec	216.1	4,575.6	1.3	426.5
Total	1,053.0	42,419.1	5,485.2	311,742.6

Note: [a] Note that AGS data on gambling includes gambling on electronic gaming machines that are located in a casino as casino gambling, whereas in the HES expenditure is recorded by the type of gambling.
Source: SACES calculations, derived from HES data.

As Table 7.5 shows, the HES suggests that average total weekly expenditure on gambling in Tasmania was $1 million in 2003/04, whereas administrative data indicates that total gambling expenditure was in fact $5.5 million. Other anomalies in the Tasmanian data include that households reported that they actually had negative expenditure (i.e. they won money) in relation to Blackjack, roulette & other casino-type games ($33,000 per week) and TAB betting other than animal racing ($11,500 per week) in 2003/04.

One cause of these discrepancies may be sampling variability. As the data in the Household Expenditure Survey is derived from a survey of a randomly selected sample of the population the estimates may differ from those that would have been obtained had the whole population been surveyed. One measure of sampling variability is the standard error of estimates, which indicates how close the survey estimate is likely to be to the value for the population as a whole. The relative standard error (RSE) for expenditures on individual types of gambling are high — the estimates have a RSE of over 50 per cent, meaning that we can only be confident that the actual number lies somewhere between plus or minus fifty per cent of the recorded expenditure — and the results should therefore be used with caution, or not used at all.

However, if the errors in the recording of expenditure on gambling were primarily due to sampling variability then the errors should be randomly distributed between over- and under-estimating the level of expenditure. As the discrepancies between the HES and actual levels of gambling expenditure are all undercounts of expenditure in the HES it is likely that the cause of the discrepancy is non-sampling error. There are three potential causes of non-sampling error with respect to gambling expenditure. Gamblers may have decided not to gamble or gamble less often during the two-week period in which the survey was conducted. Alternatively they may have deliberately underreported their gambling expenditure. The latter may be a particular issue for heavy or problem gamblers who may seek to hide their spending from family members, and account for a large share of gambling expenditure (the Productivity Commission estimated that problem gamblers account for about 42 per cent of all gaming machine expenditure). Finally, there is also evidence of recall bias with respect to gambling; people tend to be better at recollecting their winnings rather than their losses, which would further explain the discrepancy between HES and administrative data.

Despite the significant underestimation of expenditure levels it may be possible to learn something from analysis of the data. Two approaches to modelling were taken. The first takes advantage of the fact that the Household Expenditure Survey collects data on the extent to which households experienced financial stress in the year of the survey, using a range of measures. A new variable was also created by the researchers to identify those households which reported that their standard of living was lower than it was two years previously. A logistic regression was undertaken modelling the probability that a household experienced each of the indicators of financial stress, as a function of a range of demographic variables such as the tenure type, income and wealth of the household, with the household's expenditure on gambling also included. The level of gambling expenditure was not statistically significant for any of the regressions, providing no evidence that it was a factor (see Table 7.6).

As a sensitivity test, in case heavy gamblers are systematically underreporting their expenditure on gambling (but still reporting a non-zero level), an alternative specification was tested where the gambling variable was whether or not the household reported a non-zero level of expenditure on gambling. The coefficients for gambling participation in this alternative specification were also not statistically significantly different from zero.

The second approach taken to exploring the data was to model expenditures on the seventeen broad categories expenditure recorded in the HES. Gambling expenditure is included in the category 'Recreation', so a new series has been created which is recreation expenditure minus gambling expenditure. Expenditure was modelled as a function of a range of demographic and financial variables, together with the household's recorded total expenditure on gambling. The expenditure category 'Household weekly expenditure on income tax' was not included in the analysis as it was not regarded as an expenditure which was in the direct control of the household. The same regression approach was also used to test whether the level of gambling had any impact on household savings, calculated as the difference between Household Disposable Income and Total household expenditure (including selected other payments).

Table 7.6
Impact of Expenditure on Gambling on Probability of Financial Stress, Tasmania
Dependent Variable is the Whether the Household Responded Yes

	Significance of gambling variable (short run)			
	Coefficient	**Std Error**	**Probability**	**Different from 0?**
Assistance sought from welfare/ community organisations due to shortage of money	0.013	0.012	0.300	×
Pawned or sold something due to shortage of money	-0.019	0.023	0.421	×
Sought financial help from friends/family due to a shortage of money	-0.018	0.012	0.145	×
Unable to heat home due to shortage of money	-0.002	0.019	0.912	×
Went without meals due to shortage of money	-0.011	0.017	0.505	×
Could not pay gas/electricity/telephone bill on time due to shortage of money	0.004	0.007	0.536	×
Could not pay registration/insurance on time due to shortage of money	-0.015	0.011	0.190	×
Household's Standard of Living is Lower than it was two years ago	0.005	0.005	0.352	×

Source: ABS Household Expenditure Survey Confidentialised Unit Record File, Analysis SACES.

Table 7.7
Impact of Gambling on Categories Non-Gambling Expenditure in the HES, Tasmania
Dependent Variable is the Level of Non-Gambling Consumption

Household weekly expenditure on:	Significance of gambling variable			
	Coefficient	Std Error	Probability	Different from 0?
Current housing costs	0.081	0.145	0.576	×
Domestic fuel and power	0.027	0.025	0.282	×
Food and non-alcoholic beverages	0.269	0.132	0.042	✓
Alcoholic beverages	0.457	0.087	0.000	✓
Tobacco products	0.049	0.055	0.369	×
Clothing and footwear	-0.083	0.145	0.568	×
Household furnishings and equipment	-0.236	0.277	0.395	×
Household services and operation	0.080	0.088	0.364	×
Medical care and health expenses	0.010	0.079	0.899	×
Transport	0.117	0.358	0.744	×
Recreation (excl. gambling)	-0.279	0.261	0.286	×
Personal care	-0.017	0.038	0.647	×
Miscellaneous goods and services	-0.068	0.217	0.754	×
Mortgage repayments – principal components	-0.015	0.088	0.862	×
Other capital housing costs	-0.135	0.738	0.855	×
Superannuation and life insurance	-0.109	0.166	0.512	×
Saving	-1.020	1.219	0.403	×

Source: ABS Household Expenditure Survey Confidentialised Unit Record File, Analysis SACES.

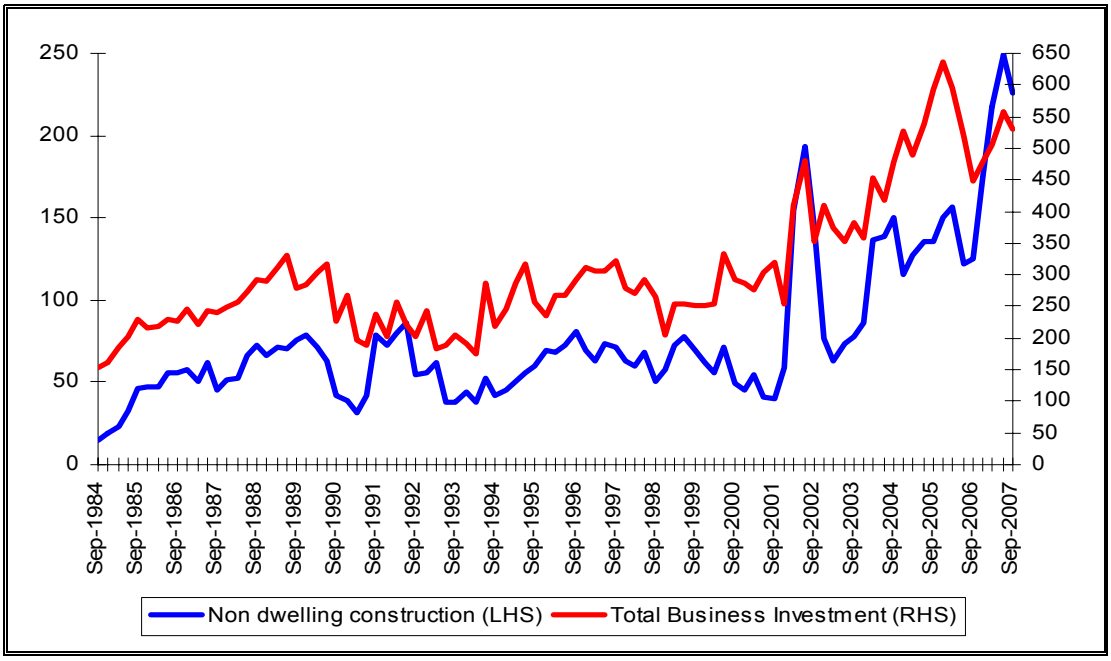
Table 7.7 displays the results of the expenditure regressions. In most cases the level of gambling expenditure did not have a statistically significant impact on the expenditure. The two categories where there is a statistically significant impact are 'Food and non-alcoholic beverages' and 'Alcoholic beverages'. While it is not possible to identify the nature of the relationship, one possible explanation is that these two forms of expenditure are complements of gambling expenditure and that individuals who are gambling purchase food and alcohol at the same time. Alternatively it could be that both expenditure on gambling and higher than expected expenditure on food, non-alcoholic drinks and alcohol are jointly caused by individuals having an above average propensity to socialise outside the home in hotels, casinos and restaurants.

7.4 Impact on investment

As discussed in Section 6.2, there are good reasons to expect that the increases in net gambling expenditure will not have had a ***net*** impact on total investment in Tasmania. This assumption is further reinforced by the results of the analysis of consumption expenditure which found no evidence of a consistent impact of gambling expenditure on expenditure for any other good, or on wages.

Figure 7.7 charts investment expenditure (both total investment and investment in non-residential construction) in Tasmania from 1984 to 2007. Were gambling a significant factor in net investment we would expect to see a change in the trend or level around the point where hotels and clubs were licensed for EGMs, but no such shift is apparent.

Figure 7.7
Private Investment Spending (Gross Fixed Capital Formation), Tasmania
$ million, current prices seasonally adjusted



Source: ABS Cat No. 5206, Table 27.

As a check on this, a Vector Error Correction model was estimated for the impact of gambling expenditure on private sector investment; both Total Business Investment, and a subset of the total, 'Non-dwelling Construction'. The later subset of investment was included as, if gaming expenditures had any positive impact on investment levels in Tasmania, it would be most likely to impact on construction related to gaming venues.

The specification testing for the model of 'total business investment' to identify the best lag structure produced ambiguous results: the Likelihood ratio; Akaike's information criterion; the Hannan and Quinn information criterion; and Schwarz's Bayesian information criterion (SBIC) tests all suggested a four lag structure, however the final prediction error test supported a three lag structure. The model was initially run using the four lags structure, however both this specification, and the three lag structure, proved to be unstable. In order to address this a two lag structure was adopted for the final model.

The short-run adjustment coefficients suggest that there is not a statistically significant short-run relationship between gambling expenditure and business investment (e.g. if gambling expenditure increases above its trend rate there is no consistent process whereby investment increases or decreases to return to their long-run relationship). There is however a long-run statistically significant ***negative*** relationship between gambling and business investment. That is, all other things being equal, an increase in gambling expenditure appears to decrease business investment. This is somewhat surprising, and the result should be treated with caution as there is no clear transmission mechanism which could explain the relationship.

The specification testing for the model of private non-dwelling construction produced similar results to that for total business investment, with most tests supporting a four lag structure but the final prediction error test supporting a three lag structure. As with the previous investment model, the four and three lag structures proved to be unstable, so a two lag structure was used.

Table 7.8
Adjustment Coefficients: Total business investment, Tasmania
Dependent Variable is the Change in Log Total business investment

Variable	Coefficient	Std Error	z statistic	Prob.
Short-run				
Change in log business investment	0.078	0.049	1.60	0.109
Lagged change in log business investment	-0.023	0.276	-0.08	0.934
Change in log private final demand	-12.616	8.717	-1.45	0.148
Change in log government final demand	-7.964	5.392	-1.48	0.140
Change in log government investment	4.391	3.176	1.38	0.167
Change in log gambling expenditure	-1.682	1.402	-1.20	0.230
Constant	0.008	0.148	0.06	0.955
Long-run				
Log private final demand	59.637	8.453	7.06	0.000
Log government final demand	37.683	22.242	1.69	0.090
Log government investment	-32.890	6.293	-5.23	0.000
Log gambling expenditure	-13.170	2.590	-5.09	0.000
Constant	-568.399			

Note: * Significant at the 1 per cent level.
Source: ABS Cat No. 5206, Table 27 and AGS, Analysis SACES.

Table 7.8
Adjustment Coefficients: Private non-dwelling construction, Tasmania
Dependent Variable is the Change in Log Private non-dwelling construction

Variable	Coefficient	Std Error	z statistic	Prob.
Short-run				
Change in log business investment	0.005	0.008	0.68	0.498
Lagged change in log business investment	-0.712	0.273	-2.61	0.009
Change in log private final demand	-26.763	18.317	-1.46	0.144
Change in log government final demand	-12.239	12.348	-0.99	0.322
Change in log government investment	10.579	6.873	1.54	0.124
Change in log gambling expenditure	0.981	3.512	0.28	0.780
Constant	0.020	0.310	0.06	0.949
Long-run				
Log private final demand	316.837	97.790	3.24	0.001
Log government final demand	-292.522	246.502	-1.19	0.235
Log government investment	-223.310	69.508	-3.21	0.001
Log gambling expenditure	-49.129	29.198	-1.68	0.092
Constant	316.837	97.790	3.24	0.001

Note: * Significant at the 1 per cent level.
Source: ABS Cat No. 5206, Table 27 and AGS, Analysis SACES.

The results for private non-dwelling construction match those for overall business investment, with no statistically significant short-run relationship between gambling and investment, but a ***negative*** statistically significant long-run relationship.

Theory suggests that the level of gambling expenditure is unlikely to have an impact on investment in Tasmania, and visual inspection of the investment data supports this view. However, statistical analysis of the data for Tasmania suggests that gambling has a negative statistically significant effect on business investment. This result should be viewed with some caution, as national accounts data is of lower quality when broken down to the State level, and there is no obvious mechanism through which gambling expenditure would reduce investment. Perhaps the safest conclusion to draw is that there is, at best, **no evidence** that the

increase in gambling expenditure has led to an increase in the level of private sector investment.

7.5 Consumer surplus

As discussed in Chapter 6, the consumer surplus derived by Tasmanians from being able to enjoy access to gambling is likely to be the most significant form of economic benefit related to gambling, with the consumer surplus related to gambling representing a net economic impact.

We have followed the Productivity Commission's approach in treating only that portion of problem gamblers expenditure which they would make in the absence of a problem as a source of consumer surplus, classifying expenditure by problem gamblers above the level for non-problem gamblers as 'excess spend' (1999, pp. 5.12-5.16). This is based on an assessment that some of the expenditure of problem gamblers is induced by the problem, rather than being a rational choice, and therefore

Four pieces of information are needed in order to calculate the consumer surplus from gambling:

- the total expenditure;
- the estimated shares from problem and non-problem gamblers;
- the estimated level of expenditure which problem gamblers would make if their consumption decision were fully rational[57] (e.g. if they were not problem gamblers); and
- the price elasticity of demand for gambling.

Table 7.10 sets out the data which form the basis of our consumer surplus calculation. Based on the Productivity Commission's survey we have assumed that the problem gambler share of expenditure is 42 per cent for electronic gaming machines (whether in hotels, clubs or casinos), 10.2 per cent for lotteries, 25 per cent for keno, 33.1 per cent for wagering and 10.7 per cent for table games. The estimates for participation in types of gambling for non-problem and problem gamblers are drawn from the 2007 Tasmanian prevalence survey.

Table 7.10
Components of Consumer Surplus Calculation

	Problem gambler expenditure share	Non-problem gambler participation rate	Problem gambler participation rate	Estimated Average expenditure non-problem gamblers ($)
Gaming machines (in hotels, clubs and casinos)	42.0	28.5	87.3	1,151
Lotteries	10.2	52.3	70.1	141
Keno	25.0	25.9	80.0	186
Wagering	33.1	11.8	61.8	109
Table games	10.7	7.0	9.9	286

Source: Productivity Commission, SACES (2008), AGS, Calculations SACES

[57] To calculate the rational level of expenditure of problem gamblers it was assumed that in the absence of their gambling problem their expenditure on average would match that of non-problem gamblers,

Table 7.11 sets out the relevant expenditure estimates. Data on total expenditure are drawn from the Australian Gambling Statistics, and relate to the 2005/06 financial year.

Table 7.11
Actual Expenditure by Type of Gambling, and its Estimated Distribution ($)

	Actual Total Expenditure	Estimated expenditure non-problem gambler	Estimated expenditure problem gambler	Estimated rational expenditure problem gambler
Gaming machines (in hotels, clubs and casinos)	203,493,000	118,025,940	85,467,060	5,288,231
Lotteries	30,396,000	27,295,608	3,100,392	521,992
Keno	23,085,000	17,313,750	5,771,250	782,542
Wagering	9,650,000	6,552,350	3,194,150	355,768
Table games	8,283,000	7,396,719	886,281	137,116

Source: AGS, Calculations SACES.

Following Hawke (2000, p. 4)[58] we use a price elasticity of demand of 0.8 for non-problem gamblers and 0.36 for problem gamblers in our low elasticity scenario and 1.3 and 1.0 respectively in our high elasticity scenario.[59] Consumer surplus was calculated for the total estimated expenditure of non-problem gamblers, but only calculated over the 'rational' level of expenditure for problem gamblers. The excess losses of problem gamblers were calculated as the difference between their estimated actual expenditure and their 'rational' level of expenditure. This gives the following levels of consumer surplus related benefit, and excess costs by mode of gambling.

Table 7.12
Consumer Surplus and Excess Loss by Mode of Gambling, 2006/07

	Consumer Surplus		Excess losses of Problem Gamblers ($)
	low elasticity ($)	high elasticity ($)	
Gaming machines hotels, clubs & casinos	81,090,632	48,038,708	80,178,829
Lotteries	17,782,736	10,759,307	2,578,400
Keno	11,904,947	7,050,406	4,988,708
Wagering[a]	4,587,972	2,698,019	2,838,382
Table games	4,812,860	2,913,450	749,165
Total	**120,179,148**	**71,459,889**	**91,333,484**

Note: [a] Wagering data relates to 2005/06 as this is the most recent published data.
Source: Tasmanian Department of Treasury and Finance, AGS, Calculations SACES.

This suggests that there is a **net benefit of $71 to $120 million** from consumers' enjoyment of gambling, although this is largely off-set by excess losses of problem gamblers of $91 million.

[58] The rationale for taking this approach is that prior to developing a gambling problem most problem gamblers are regular gamblers deriving a higher level of satisfaction than the population as a whole.

[59] This calculation assumes that the price elasticity of demand is constant, and thus that the demand curve is linear to the axis. This may not be the case at very extreme points (e.g. where there are only one or two units of the good in the world), but in practice the approximation of a linear function will only lead to a small error.

7.6 Conclusion

Overall, the evidence from analysis on National Accounts and Household Expenditure Survey data suggests that gambling does not appear to have a systematic impact on other forms of expenditure. At this aggregate level, gambling is not a statistically significant variable in the equation modelling household final consumption expenditure, nor does it have a statistically significant impact on either State final demand or total compensation of employees.

There is some evidence from the *National Accounts* data that gambling may act as a substitute for other forms of 'recreation and culture' expenditure, and the rate of growth of recreation expenditure is negatively correlated with the rate of growth in gambling expenditure.

There is some evidence from the *Household Expenditure Survey* that suggests that households which participate in gambling have higher than expected expenditure on food, non-alcoholic drinks and alcohol.

On balance the claims of the gambling industry that it has significantly contributed to economic growth in the aggregate economy is not substantiated, while equally the claims that spending on gambling has impacted on traditional areas of spending (i.e. retail) is equally not able to be substantiated.

This is *not to* conclude that some businesses in some localities may not have been adversely affected, or that for individuals and families, and particularly those who experience the effects of problem gambling, that the impacts have not been severe.

There is no evidence from the analysis of investment data that increases in gambling expenditure have had a positive net impact on investment in Tasmania as a whole. Indeed the statistical analysis suggested that the long-run relationship between gambling expenditure and business investment was negative, although as discussed in Section 7.4 these results should be treated with caution.

The one form of economic impact from gambling whose effect was unambiguously positive was the consumer surplus (a measure of satisfaction or utility) which Tasmanians derived from gambling activities. This analysis identifies a **net benefit** of between $71 to $120 million from consumers' enjoyment of gambling; although this is largely off-set by excess losses of problem gamblers of $91 million.

8. Employment in the Gambling Industry

8.1 Introduction

Different views were presented to the researchers on the issue of employment impacts of the gaming industry. The Prevalence Study (SACES, 2008) found that Tasmanians were much less likely to believe that gambling had contributed to employment growth in local communities (agree 19 per cent, disagree 52 per cent) compared to their Victorian counterparts (agree 42 per cent, disagree 44 per cent) when the latter were surveyed in 2003.[60] The academic literature is replete with debate on the effects of gambling on local labour markets.

This chapter presents data on employment in Tasmania's gambling industries. Data from a variety of sources are examined to gain insight into the current level of employment by industry sector and changes in employment over time.

8.2 Overview of employment (Census)

Of the available data sources, the Census of Population and Housing provides the best overview of employment in gambling industries. However, it is impossible to obtain a complete picture of employment in gambling industries using census data on employment by industry and occupation since these broad categories include employment that is related to both gambling and non-gambling activities. For instance, a large proportion of employment in hotels and clubs are associated with non-gambling activities such as food preparation, dining, alcohol service, while some occupations potentially involve gambling and/or non-gambling activities (e.g. bar attendant). Another limitation of the Census data is that it does not provide an indication of the employment that arises from the gambling industries purchases of goods and services from other industry sectors (i.e. suppliers).

While Census data does not provide a definitive estimate of employment generated directly by the gambling industry, it has the in principle advantage of covering all sectors of the gambling industry – though it is difficult to identify all relevant sectors and the gambling related employment within them – and providing an estimate of employment at a single point in time for industry sectors using a standardised methodology. Others sources of information on employment such as data on licensed employees are composed using different methodologies and have their own disadvantages. For instance, data on licensed employees may not provide an accurate indication of actual employment since there may be a number of redundant or underutilised licences (i.e. persons that are technically licensed but do not carry out any or a significant amount of work in relation to their licensed activity). This means they cannot be reliably combined with estimates from the Census to generate an estimate of employment for the Tasmanian gambling industry as a whole.[61] Nonetheless, data on licensed employees for relevant industry sectors is considered in this chapter in order to enrich the analysis.

Table 8.1 presents 2006 Census data on employment in various gambling and related industry sectors for Tasmania and Australia. Information on individuals' employment details relate to the week prior to the Census (i.e. the first week of August 2006).

[60] See Prevalence Study (SACES, 2008), pp. 52-53.

[61] To estimate employment for the gambling industry as a whole we would need to conduct an exhaustive survey of the various gambling industries, which is beyond the scope of this study.

A total of approximately 2,500 persons were employed in pubs, taverns, bars and clubs at the time of the 2006 Census. A large number of these people would not be directly employed in relation to gambling activities. For instance, the Census data indicates that only a dozen people employed in the pubs and clubs sector of Tasmania in 2006 were employed specifically as "gaming workers". Furthermore, an ABS survey of the hotel and club sectors in respect of 2000/01 indicates that approximately 15 per cent of all persons employed in these industry sectors nationally were employed as "gaming staff and cashiers".[62] Applying this proportion to the 2,509 persons employed in the pubs, taverns, bars and clubs sector of Tasmania in 2006 suggests that only about 390 employed persons in the industry were employed directly in relation to gambling. These results of course underestimate the level of gambling related employment in these venues since people employed as bar attendants, hotels service managers, etc would also carry out gambling related activities, while income from gambling activities supports other forms of venue activities and therefore occupations (i.e. dining services, entertainment). Nonetheless, they highlight that actual gambling related employment is much smaller than is indicated by aggregate estimates of employment for the hotels and clubs sector. The total number of persons employed in pubs, taverns, bars and clubs sector as indicated by the latest Census data represents 1.2 per cent of total employment in Tasmania, which is in line with the corresponding national figure of 1.3 per cent. One notable aspect is that a relatively higher share of employed persons in Tasmania are employed in pubs, taverns and bars compared to Australia (1.0 per cent c.f. 0.8 per cent), while a relatively smaller share are employed in clubs (0.2 per cent c.f. 0.5 per cent). This would largely reflect the impact of New South Wales unique industry structure on the national data – the clubs industry is much more developed in New South Wales due to clubs being allowed to operate gaming machines for several decades prior to hotels. As a consequence, the proportion of total employment in the clubs industry (0.8 per cent) is relatively higher in New South Wales.

Table 8.1
Employment in Gambling and Related Industries – August 2006

	Tasmania		Australia	
	Persons	**Per cent of total employment**	**Persons**	**Per cent of total employment**
Pubs, taverns and bars	*2,067*	*1.0*	*72,356*	*0.8*
Clubs (hospitality)	*442*	*0.2*	*44,079*	*0.5*
Total pubs, taverns, bars and clubs	2,509	1.2	116,435	1.3
Horse and dog racing administration and track operation	*21*	*0.0*	*2,277*	*0.0*
Other horse and dog racing activities	*113*	*0.1*	*6,131*	*0.1*
Total racing	134	0.1	8,408	0.1
Casino operation	598	0.3	12,244	0.1
Lottery operation	13	0.0	1,895	0.0
Other gambling activities	260	0.1	7,703	0.1
Total Employment	204,742	100.0	9,104,187	100.0

Source: ABS, Census of Population and Housing, unpublished data.

A total of approximately 134 persons were employed in the Tasmanian racing industry in August 2006. The racing industry accounted for 0.1 per cent of total employment in both Tasmania and Australia in 2006. The racing industry as defined here includes persons employed in dog and horse race course and track operation, racing authority and board operation, race dog and racehorse training operation, and racing kennels and racing stables operation. These employment estimates do not include some important activities that may be

[62] ABS (2002), Clubs, Pubs, Taverns and Bars, Australia, 2000-01. Cat. No. 8687.0.

strongly associated with racing such as horse breeding, stud farm operation, farriering, bookmaking etc.

The approximately 260 persons employed in 'other gambling activities' in 2006 would also have a strong association with the racing industry as this category includes persons employed in TAB operations (i.e. the TOTE including outlets), as well as betting shop operations, bookmaker operations and internet gambling operation. These forms of gambling activity would typically have a strong racing component. As at June 2008, Betfair employed 100 persons directly in its Hobart operations.

Almost 600 people identified they were directly employed in casino operations in Tasmania in the 2006 Census. The proportion of people employed in casino operations was slightly higher in Tasmania than the nation as a whole (0.3 per cent c.f. 0.1 per cent). With two casinos Tasmania has more casinos than the average state (all other states with the exceptions of Queensland and the Northern Territory have 1 casino) meaning casino employment is naturally higher in Tasmania.

Census data indicates that there were approximately 13 people employed in lottery operation in Tasmania in August 2006. While the industry definition adopted by the ABS includes persons employed in business entities whose main activity is operating lotteries or selling lottery products including keno and football pools, it does not include persons employed in business entities that sell lottery products, but whose main activity is not related to lottery operation.[63] Primary examples of the latter include newsagents in respect of lotteries and hotels and clubs in respect of keno. The Census data therefore understates the actual level of employment associated with lotteries.

8.3 Gaming machines

8.3.1 Licensed employees

The Gaming Control Act requires that persons working directly with gaming machines be licensed. Persons who work in hotels and clubs and perform gaming duties in relation to EGMs (and keno) must be licensed as a Licensed Premises Gaming License holder (i.e. special employee). Persons employed by the gaming operator must be licensed as a special employee; while those who are employed by manufacturers and the casinos to service, repair or maintain gaming equipment must be licensed as a Technician. The TGC has responsibility for approving and regulating special employee and technician licenses under the act.

Table 8.2 presents data on the number of licensed special employees and technicians in Tasmania. Not all licensed employees would be directly employed in relation to EGMs. For example, some licensed premises gaming operatives may only be licensed in respect of keno. Nonetheless, the overwhelming majority would relate to gaming machines.

At 30 June 2006 there were almost 2,700 special employees licensed in respect of Tasmanian hotels and clubs; 43 special employees licensed in respect of the gaming operator; and 189 people licensed as technicians.

[63] The ABS allocates business entities to industry sectors based on their main activity.

Table 8.2
Number of Licensed Employees and Technicians

As at 30 June	Licensed Premises Gaming Operative	Gaming Operator	Technicians
1995	514	na	43
1996	756	na	78
1997	1,196	0	135
1998	1,516	24	143
1999	1,805	39	147
2000	1,563	47	166
2001	1,939	50	169
2002	2,184	56	181
2003	2,298	57	195
2004	2,581	51	175
2005	2,595	42	171
2006	2,664	43	189
2007	na	na	na

Note: na = not available
Source: Tasmanian Department of Treasury and Finance.

The number of special employees licensed in respect of hotels and clubs rose by approximately 1,900 persons between 30 June 1996 – i.e. 6 months prior to the introduction of gaming machines in Tasmania – and 30 June 2006. This cannot be taken as an indication of the impact of gaming machines on employment in hotels and clubs over this period since the rise mostly reflects existing employees obtaining licences. To obtain an idea of the impact of gaming machines on employment in hotels and clubs, we need to consider changes in total employment for these venues following the introduction of gaming machines.

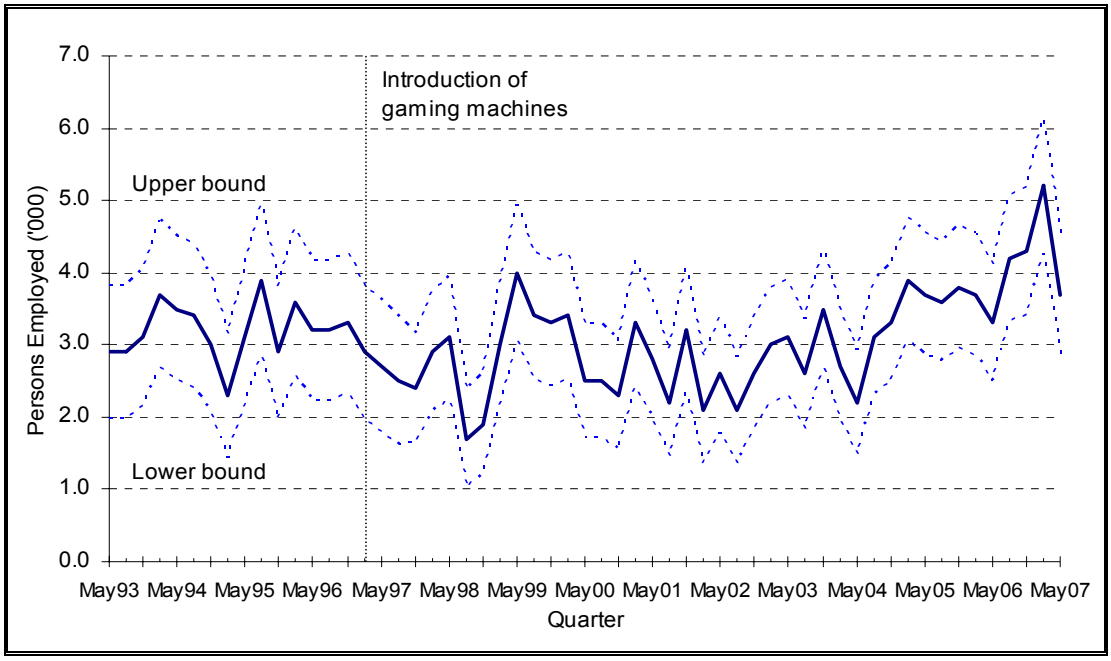
8.3.2 Employment in hotels and clubs

Figure 8.1 shows quarterly Labour Force Survey (LFS) estimates of the number of people employed in clubs, pubs, taverns and bars in Tasmania. As the data are drawn from a survey and refer to a fine level of industry detail, they suffer from a relatively high degree of sampling variability, meaning there is a relatively high chance that the sample estimates differ from the true population values. Movements from quarter to quarter therefore need to be interpreted with caution, although longer term trends should be reflective of actual changes. To illustrate the impact of sampling variability, the 95 per cent confidence interval is also presented in Figure 8.1.[64]

There is no evidence from the LFS data that the introduction of gaming machines had a positive impact on the level of employment in the clubs and hotels sector; employment in the sector fluctuated around the 3,000 person mark throughout the entire 1990s and into the early 2000s. If anything, employment in clubs and hotels actually fell in the year following the introduction of gaming machines. However, employment did rise strongly over the summer period of 1997/98, indicating that these movements may simply reflect sampling variability.

[64] The confidence interval shows the range around the survey estimate within which the true population value is likely to fall. For a 95 per cent confidence interval there is a 95 per cent chance that the true population estimate lies within two standard errors of the sample estimate (i.e. between the upper and lower bound lines illustrated in Figure 8.1).

Figure 8.1
Total Employment in Clubs, Pubs, Taverns and Bars
Tasmania, Quarterly – 95 per cent Confidence Interval



Source: ABS, Statistics, Labour Force (Cat. No. 6291.0.55.003)

Table 8.3 provides a state comparison of average employment levels in the hotels and clubs sector for select periods prior to and following the introduction of gaming machines. The average level of employment in the Tasmanian hotels and clubs sector was actually lower in the period following the introduction of gaming machines under both time period comparisons. The average level of employment for the 3 year period comparison was 14 per cent lower in the period after the introduction of machines, while the average employment level for the 5 year comparison was 10 per cent lower in the period after the introduction of gaming machines. It therefore appears that the introduction of gaming machines in Tasmania had no positive short-term impact on total employment in the clubs and hotels sector.

Table 8.3
Average Employment Levels in Clubs, Pubs, Taverns and Bars:
select period prior to and following the introduction of gaming machines

	Average employment level ('000)		Change (Per cent)
	3 years prior	3 years following	
Tasmania	3.3	2.8	-13.6
South Australia	7.3	10.7	46.2
Western Australia[a]	9.1	8.8	-4.2
Victoria	22.2	25.1	13.2
	5 years prior	**5 years following**	
Tasmania	3.1	2.8	-10.4
South Australia	7.3	11.2	53.2
Western Australia[a]	9.5	8.9	-5.8
Victoria	20.0	26.0	29.7

Note: [a] Relative to introduction of gaming machines in Tasmania.
Source: ABS, Statistics, Labour Force (Cat. No. 6291.0.55.003).

The experience in other states suggests that the decline in employment for Tasmania after gaming machines were established was atypical. Employment levels were significantly higher in the period after gaming machines were established in both Victoria and South Australia under the 3 and 5 years comparisons. While employment levels in the clubs and hotels sector in Western Australia did fall between the periods before and after the introduction of gaming machines in Tasmania, the falls were relatively smaller compared to those in Tasmania despite the absence of gaming machines in these venues in Western Australia.

Only in most recent years does it appear there has been an increase in the level of employment in the clubs and hotels sector in Tasmania. The LFS data presented in Figure 8.1 shows that employment in clubs and hotels increased from around a level of 3,000 persons in 2003/04 to around 4,000 persons in 2006/07. The most likely explanations for the growth in employment include more buoyant economic conditions in recent times coupled with employment growth due to improvements in facilities and services, particularly food and catering. Average total employment in the clubs and hotels sector in the 10 year period after gaming machines were introduced in Tasmania was 8 per cent higher relative to the corresponding period prior to the establishment of gaming machines.

The lack of any initial rise in aggregate employment in the club and hotels sector of Tasmania with the introduction of gaming machines probably reflects a combination of the manner in which gaming machines were progressively introduced to Tasmania, the role of the casinos in respect of gaming machine gambling, and the relatively less labour intensive nature of gaming machine gambling compared to other venue activities.

The phased introduction of EGMs may have limited the potential boost to venue activities provided by EGMs. The maximum number of EGMs permitted in venues was gradually increased from 25 machines per club and 15 machines per hotel in 1997, to a limit of 40 machines per club and 30 machines per hotel so that the increase in machine numbers may have only gradually facilitated growth in venue activities.

The greater role played by the two casinos in terms of gaming machine gambling may also have limited growth in gaming machine activity at hotels and clubs. Gaming machines are a more dominant form of gambling in the Tasmanian casinos compared to most other states. This factor, combined with there being two casinos in Tasmania – which itself is a relatively small state in geographical terms – means the casinos play a larger role in terms of providing local residents with gaming machine gambling opportunities compared to casinos in other states.

Another factor that may explain the lack of growth in employment in the Tasmanian clubs and hotels sector is that gaming machine gambling is less labour intensive compared to other venue activities. Gaming machine gambling naturally involves relatively low labour inputs with play being self-administered and results computed automatically. Minimal interaction between staff and customers is often further promoted by self service, whether involving coin dispenser machines, self service coffee/tea facilities, and the location of gaming machines in a separate room.

The relatively low job intensity of gambling can be demonstrated by estimating the job intensity for various venue activities using data derived from the ABS survey of pubs, taverns, bars and clubs. Estimates of venue income from particular sources have been combined with employment estimates for occupation categories that are most closely associated with these

sources of revenue to derive estimates of job intensity for specific venue activities. In this case it has been assumed that income from the sale of liquor and other beverages is associated with persons employed as bar managers and staff, gambling income with persons employed as gaming staff and cashiers, and takings from meals and food sales with catering staff.

Table 8.4 presents national data on employment by occupation, income by source and the estimated job intensity of venue activities for hotels, taverns, bars and clubs with gambling facilities and without gambling facilities in respect of 2001/02. Unfortunately state based data on employment by occupation was not published, while national data on employment by occupation was not collected as part of the most recent survey conducted in 2004/05. Nonetheless, the national results should provide a reliable indication of the job intensity of various venue activities.

The results presented in Tables 8.4 show that gambling is less labour intensive compared to other venue activities. Venues with gambling facilities employed an average of 3.2 persons for every $1 million in gambling income earned in 2000/01, compared to 8.3 persons per $1 million in income from the sale of liquor and other beverages, and 20 persons per $1 million in income from meal and food sales.

Anecdotal evidence supplied by the AHA (Tasmania)[65] to the researchers on the proportion of turnover for different sized venues with gaming in Tasmania supports the approximate breakdown discussed above. The bottle shop and bar (64 per cent) then dining (22 per cent) and last, gaming (12 per cent) were estimated to represent the majority of turnover and employment is most labour intensive in the activities of food preparation and service, sale of liquor and bottle shop.

Table 8.4
Hotels, Taverns, Bars and Clubs – Jobs per $million of Income
Australia – 2000/01

	Venues with gambling facilities	Venues without gambling facilities
Occupation of persons employed:		
Managers and admin staff	13,922	2,650
Bar managers and staff	49,064	11,865
Gaming staff and cashiers	18,866	-
Catering staff	23,125	4,486
Other	21,356	3,815
Total	126,332	22,816
Sources of income ($ million):		
Sale of liquor and other beverages	5,855	1,203
Gambling income	5,957	-
Takings from meals and food sales	1,145	227
Other	689	198
Total	13,676	1,628
Persons employed per $million of income:		
Sale of liquor and other beverages	8.3	9.9
Gambling income	3.2	-
Takings from meals and food sales	20.2	19.7

Source: ABS, Clubs, Hotels, Taverns and Bars, Australia (Cat. No. 8687.0).

[65] Email correspondence from Mr Steve Old, AHA (Tasmania) in response to letter of clarification forwarded by SACES providing estimates or approximation of turnover by venue size.

The low labour intensity of gambling suggests that the introduction of gaming machines has had little impact in terms of increasing employment in Tasmania. However, the positive impact of gaming machines on activity and employment at gambling venues would be larger than indicated by these estimates of job intensity since income from gaming machines have been used to upgrade facilities and support other services (e.g. cheaper meals). These improvements are likely to have led to an increase in patronage and therefore employment at such venues.

While gaming machines may have had a positive impact on employment at gambling venues, this does not necessarily mean they have had a positive impact on employment for the economy as a whole. From an economic perspective, an assessment of the impact of gaming machines on employment must take into account any possible decrease in employment associated with a shift in expenditure from other activities to gaming machines.[66] If the introduction of gaming machines has resulted in expenditure being diverted from other more labour intensive activities, then the overall net impact of gaming machines on employment would in fact be negative. In the aggregate economy shifts in employment and expenditure are difficult to discern, but that is not to say that some businesses in some localities may not have been adversely impacted.

From an economic perspective, that the introduction of a particular activity leads to no increase in employment, or even a decrease in employment, is not a sufficient reason for policy interventions to curb or prohibit a particular activity.[67] To the extent that such shifts in expenditure reflect the free choices of consumers they will most likely result in an overall improvement in consumer wellbeing. However, a significant proportion of expenditure on gaming machines is derived from problem gamblers who have an apparent difficulty controlling their spending. It is arguable that the employment associated with such expenditure is not a true benefit.

Finally, broader economic trends may have contributed to the lack of an immediate rise in aggregate employment for the clubs and hotels sector of Tasmania following the introduction of gaming machines.

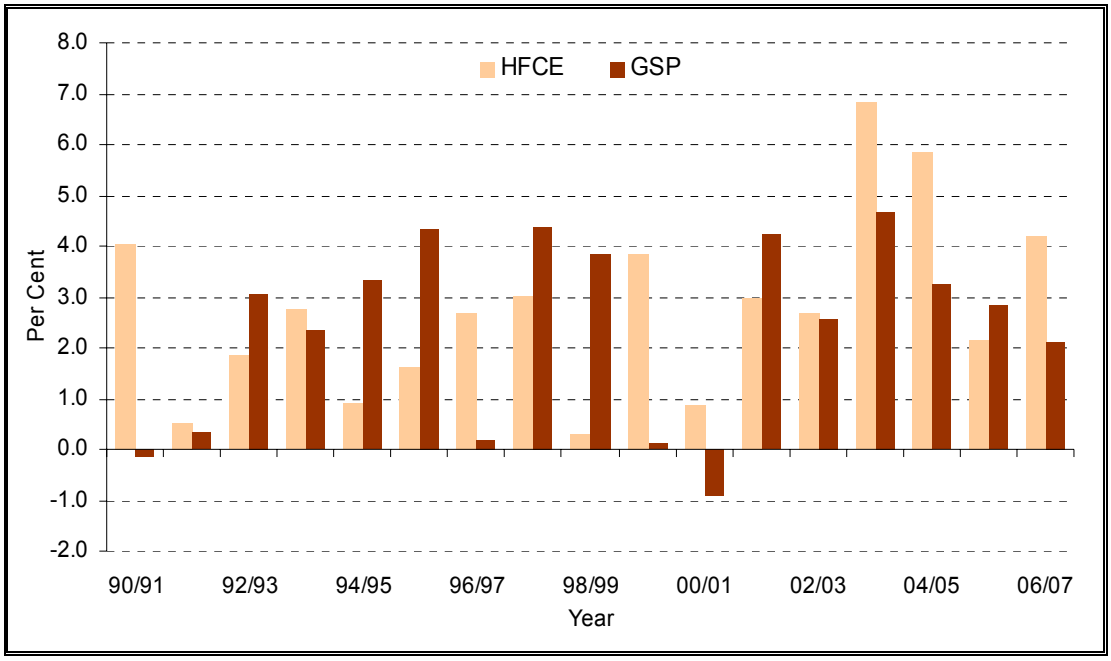
As Figure 8.2 shows, economic conditions in Tasmania were particularly weak during the period following the legalisation of gaming machines. Gross State Product (a measure of the aggregate value of economic production) actually declined in 1996/97 – the financial year in which gaming machines were introduced. Following robust growth in 1998/99, the Tasmanian economy effectively slipped into recession with virtually no growth in GSP in 1999/00 and a fall in GSP in 2000/01. The relatively weak state of the economy during this period may have deterred venues form putting on new employees and investing in their facilities.

However, net gambling expenditure on gaming machines grew solidly during this period, while household final consumption expenditure actually rose strongly during some of these years, which together suggests that hotels and clubs were generally insulated from any downturn in broader economic activity.

[66] In economics this concept is technically referred to as "opportunity cost", i.e. the benefits of an alternative opportunity that are forgone due to a particular action.

[67] In fact, economics places an emphasis on the efficient use of scare resources, which implies that a shift in labour resources from less productive to more productive occupations is beneficial.

Figure 8.2
Annual Growth in Gross State Product and Household Final Consumption Expenditure (HFCE)
Tasmania – Chain Volume Measures[(a)]



Note: [(a)] Chain Volume Measures provide a measure of change in real output, expenditure or consumption free of price change effects.
Source: ABS, Statistics, National Accounts (Cat. No. 5220.0).

8.4 Venues with gambling facilities versus those without gambling facilities

Every few years the ABS conducts a survey of businesses in the clubs, hotels, taverns and bars services sector. The latest survey was conducted in respect of 2004/05. The survey is useful in that it provides insight into the relative employment and financial performance of venues with and without gambling facilities. Unless otherwise stated, references to "hotels" in the remainder of this section refer to hotels, taverns and bars collectively.

Table 8.5 shows average employment and income per business for clubs, hotels, taverns and bars in Tasmania, Victoria, South Australia, Western Australia and the nation as a whole. Some of the survey estimates have high relative standard errors (i.e. higher chance of the survey estimate differing form the actual population estimate), which means they should be interpreted with caution. Nonetheless, they still provide useful insight into general differences between venues and States.

The results of the ABS survey show that venues with gambling facilities tend to have higher employment and total income relative to venues without gambling facilities. Clubs and hotels with gambling facilities in Tasmania had an average of 23 employees per business compared to an average of 11 employees for those without gambling facilities. Average total income was also significantly higher for Tasmanian clubs and hotels with gambling facilities compared to those without gambling facilities ($2.5 million c.f. 1.0 million).

Table 8.5
Average Employment and Total Income Per Business/Organisation:
Clubs, Pubs, Taverns and Bars
Selected States and Australia, 2004/05

	Tasmania	Victoria	South Australia	Western Australia	Australia
Employment per business (no.)					
Pubs, Taverns and Bars					
With gambling facilities	26.7	37.8[a]	31.3	24.7[a]	27.5
Without gambling facilities	13.6[a]	12.8[a]	10.9[a]	22.5	15.4
All	21.3[a]	22.9[a]	27.8	23.5	23.6
Clubs					
With gambling facilities	7.3[a]	28.9	17.3	8.2[c]	33.1
Without gambling facilities	6.6[a]	7.2[b]	8.4[b]	8.2[b]	11.8[a]
All	6.9	22.7	13.1	8.3	30.1
Clubs, Pubs, Taverns and Bars					
With gambling facilities	23.0	34.5	29.7	21.6	29.9
Without gambling facilities	11.3	12.1	10.0	18.6	14.6
All	17.7	22.8	25.3	19.8	26.1
Average total income per business ($m)					
Pubs, Taverns and Bars					
With gambling facilities	3.0	4.1[a]	4.0	3.2[a]	4.0
Without gambling facilities	1.1[b]	1.2	0.9[a]	1.9	1.4
All	2.2[a]	2.4[a]	3.5	2.5	3.2
Clubs					
With gambling facilities	0.6[a]	2.1	1.6[a]	0.5[c]	3.9
Without gambling facilities	0.7[a]	0.6[b]	0.5[b]	0.7[b]	0.9[a]
All	0.6	1.7	1.1	0.6	3.5
Clubs, Pubs, Taverns and Bars					
With gambling facilities	2.5	3.3	3.7	2.7	4.0
Without gambling facilities	1.0	1.1	0.8	1.6	1.3
All	1.8	2.2	3.1	2.0	3.3

Note: [a] Estimate has a relative standard error of 10 to less than 25 per cent and should be used with caution.
[b] Estimate has a relative standard error of 25 to 50 per cent and should be used with caution.
[c] Estimate has a relative standard error greater than 50 per cent and is considered too unreliable for general use.
Source: ABS, Clubs, Pubs, Taverns and Bars, 2004/05 (Cat. No. 8687.0).

Clubs and hotels with gambling facilities in Victoria and South Australia also had significantly higher average employment and total incomes compared to venues without gambling facilities (refer Table 8.5). While a similar difference is observed for Western Australia, the variation was much smaller. In Western Australia, clubs and hotels with gambling facilities (TAB wagering) on average had just 3 more employees compared to venues without gambling facilities. In comparison, venues with gambling facilities on average had significantly more employees relative to venues without gambling facilities in Tasmania (12 more employees on average), Victoria (22 more employees) and South Australia (20 more employees). The additional income provided by EGMs enables clubs and hotels to operate relatively larger venues. In addition to the activity associated directly with providing EGM services, income from EGMs enable venues to provide additional and/or cheaper services (i.e. cheap meals) and improve the general amenity of their premises in order to attract customers.

Western Australian Clubs, Hotels, Taverns and Bars with gaming facilities (TAB facilities only) had an average employment of 21.6 persons which was just below that for similar venues in Tasmania in 2004/05 and approximately 8 persons below the Australian average. Venues without any gambling facilities in Western Australia employed 18.6 persons, well above that for Tasmania (c.f. 11.3) and for Australia. Total income for venues without gaming facilities in Western Australia was higher for Western Australia versus other states (Table 8.5).

This pattern, together with the previous observation that venues with gambling facilities tend to have higher employment and total income compared to venues without gambling facilities in their own State, provide insight into the economic impact of gaming machines. It indicates that the introduction of gambling facilities has had a positive impact on economic activity at venues with these facilities. However, it also suggests that the increase in economic activity has come at the expense of economic activity at venues without gambling facilities. This makes it difficult to gauge the net economic impact of gambling facilities.

It is interesting to note that clubs with gambling facilities in Tasmania had relatively lower average employment compared to such clubs in Western Australia in 2004/05 (7.3 employees per business c.f. 8.2 employees per business) despite gaming machines only being available in the former.

However, the story from Table 8.5 contests the assertion offered in states and territories by industry, that clubs and hotels would not have survived and prospered following the introduction of drink driving legislation in all states in the early 1990s without access to EGMs. Western Australia in comparison as shown in Table 8.5 has a buoyant clubs/hotel sector and it also:

- introduced similar drink driving legislation;
- the state has a lower prevalence rate of problem gambling (0.70 per cent, Productivity Commission 1999); and
- it has a higher averaged annualised growth in real gambling expenditure over the past 25 years (1981-2006) at 6.0 per cent than Tasmania (3.4 per cent) and Australia (5.3 per cent), (see Table 4.2).

The difference in gambling behaviours, expenditure patterns, gambling, participation and the level of problem gambling is without doubt due to the gambling products available in other states but not in Western Australia. The two products are electronic gaming machines and keno, that are very accessible at the community level.

For instance, compare the average annualised growth in real lottery expenditure in the 25 years 1981 to 2006 in Table 4.18 ─ Western Australia 12.3 per cent, Australia 7.4 per cent, Tasmania 6.3 per cent. Per capita expenditure on lottery products was for Western Australia $134.50; double that of Tasmania at $69.60 and well above the Australian average of $92.30 per capita (Table 4.19). And expenditure per capita on keno ─ Western Australia zero, Tasmania $55 per capita, Australia $14.80 per capita (Table 4.19).

We are able to conclude that the type of gambling product influences expenditure patterns. Accessibility and availability of gambling products also influences patterns of expenditure. Relative to the products available for gambling in Western Australia, it appears that the more continuous forms of gambling ─ EGMs and keno ─ contribute to higher per capita gambling expenditure.

8.5 Racing and wagering

8.5.1 Employment (Census)

The Census data presented in Table 8.1 indicated that there were approximately 134 persons employed in the Tasmanian racing industry in August 2006. Table 8.6 provides a break down of employment in the Tasmania Racing industry by major occupation category.

Table 8.6
Employment in the Racing Industry by Major Occupation Categories – August 2006 (Persons)

	Tasmania		Australia	
	Persons	Per cent	Persons	Per cent
Total Racing Industry				
Dog Handler or Trainer	6	4.48	97	1.15
Horse Trainer	36	26.87	1,355	16.12
Dog or Horse Racing Official	7	5.22	381	4.53
Jockey	16	11.94	451	5.36
Betting Clerks	0	0.00	82	0.98
Stablehand	24	17.91	1,705	20.28
All other occupations	41	30.60	4,245	50.49
Total	134	100.00	8,408	100.00
Total All Industries				
Dog Handler or Trainer	6	0.00	573	0.01
Horse Trainer	74	0.04	2,763	0.03
Dog or Horse Racing Official	18	0.01	539	0.01
Jockey	24	0.01	647	0.01
Betting Clerks	81	0.04	3,069	0.03
Stablehand	58	0.03	3,880	0.04
All other occupations	201,451	98.39	8,927,124	98.06
Total	204,742	100.00	9,104,187	100.00

Source: ABS, Statistics, Census of Population and Housing.

Horse trainers were the most common occupation category in the Tasmanian racing industry in 2006, accounting for 27 per cent of all persons employed in the racing industry. Stablehands (18 per cent) and jockeys (12 per cent) were the next largest occupation categories. The proportion of persons employed in these three occupation categories was relatively higher for the Tasmanian than national racing industry. This is probably due to the smaller aggregate size of the Tasmanian racing industry, which means there is less scope and need to employ people in supporting occupations and related activities.

It is interesting to note that, according to the Census data, there were no persons employed as betting clerks in the Tasmanian racing industry in 2006 (unlike the national racing industry). However, data for all industries indicates that there were approximately 81 persons employed as betting clerks in Tasmania in 2006, while the share of total employed persons in Tasmania employed as betting clerks was similar to the nation as a whole.

The Census data indicates that there were a greater number of people employed as horse trainers, stablehands and jockeys across all industries in Tasmania compared to the racing industry. This additional employment would be related to other personal, recreational and competitive equine activities (e.g. showjumping, endurance, agistment etc). However, some of this additional employment may be related to the racing industry, with these persons not being allocated to the racing industry due to the nature of their employer and how businesses

are classified to particular industry sectors (i.e. based on main activity). The extent to which this is the case is unknown.

8.5.2 Licensed employees

Another source of information on employment in the racing industry is data on licensed workers. Particular workers and entities in the thoroughbred, harness and greyhound racing industries are required to be licensed (e.g. trainers, jockeys, owners, syndicates etc). Data on licensed workers therefore provides insight into the actual level of employment in respect of particular occupations and changes in these levels over time. However, administrative data on licensed workers does have some limitations. In particular, some people may be licensed in respect of more than one occupation or activity, meaning there is a degree of double counting. Data on licensed workers is probably most useful in terms of indicating changes in the level of employment over time.

Table 8.7 shows the number of licenses issued in respect of the thoroughbred racing industry from 1999/00 to 2005/06. The number of trainers, jockeys and apprentice jockeys has remained relatively stable over the past six years despite some year to year fluctuations. If anything, there has been a slight decline in the number of trainers and modest increase in the number of jockeys over this period.

Table 8.7
Licensed Workers in Thoroughbred Racing Industry
Number of Licences Issued[a]

	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Trainers (all categories)	132	144	133	143	128	123	128
Jockeys (all categories)	27	26	26	30	29	31	31
Apprentice jockeys	15	12	10	10	9	8	12
Stable Employees[a]	na	na	na	274	252	272	304
Stable Foreman	na	na	na	31	39	43	39
Stable Hands	na	na	na	130	80	90	124
Trackwork Riders	na	na	na	94	16	12	13
Stable Hands/trackwork riders	na	na	na		94	99	101
Farriers	na	na	na	19	21	28	29

Note: [a] Actual licensing period is from 1 August to 31 July (i.e. 1/8/05 to 31/7/06 in respect of 2005/06).
Source: Department of Infrastructure, Energy and Resources, *Annual Report*, (various).

The number of licensed trainers and stable hands was significantly higher than the number of persons indicated as being employed in these occupations by the Census data. These discrepancies could reflect a number of factors, including, *inter alia*:

- Census data captures employment at a particular point in time, whereas the licensed data refers to persons that were issued licenses throughout the whole year;
- Being a self-administered survey, the Census is liable to misreporting by respondents (i.e. respondents may not accurately describe their occupation, may not give a clear or sufficient description of their occupation, or may simply not provide their occupation details);
- There is a degree of undercounting in the Census due to the natural difficulties associated with obtaining the full participation of the population in the Census; and
- As mentioned above, there may be a degree of over-counting in the licensed data due to some people being licensed in respect of more than one occupation or activity.

Given these factors, it is likely that the true level of employment at any point in time lies somewhere between the Census and licensed data estimates.

Information on the number of licensed workers in the Tasmanian harness racing industry are presented in Table 8.8. There appear to have been some divergent trends in employment in the harness racing industry since 1999/00. The number of licensed trainers fell from 131 in 1999/00 to 123 in 2005/06, while the number of trainer/drivers fell from 151 to 109 persons over this period. This has been offset in recent years by a solid increase in stablehands, from 96 persons in 2002/03 to 143 persons in 2005/06. These divergent trends could reflect, in part, the reclassification of people from trainers and trainer/drivers to stablehands.

Table 8.8
Licensed Workers in Harness Racing Industry
Number of Licences Issued[a]

Harness	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Trainers	131	142	144	125	131	120	123
Drivers	36	32	40	39	37	41	35
Trainer/Drivers	151	132	119	107	108	97	109
Stablehands[a]	na	na	na	96	107	119	143

Note: [a] Actual licensing period is from 1 August to 31 July (i.e. 1/8/05 to 31/7/06 in respect of 2005/06).
Source: Department of Infrastructure, Energy and Resources, *Annual Report*, (various).

There appears to have been a decline in employment in the greyhound racing industry despite an apparent increase in owners (see Table 8.9). Between 1999/00 and 2005/06, the number of trainers fell from 268 to 225 persons, while the number of attendants fell from 86 to 67 persons. Meanwhile, the number of owners rose from 159 to 182 over this period.

Table 8.9
Licensed Workers in Greyhound Racing Industry
Number of Licences Issued[a]

Greyhound	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Trainers	268	260	264	244	235	228	225
Owners	159	146	144	157	163	184	182
Attendants	86	67	77	76	79	66	67
Catchers	48	47	53	52	56	53	42
Syndicates[a]	na	na	na	24	23	27	32

Note: [a] Actual licensing period is from 1 August to 31 July (i.e. 1/8/05 to 31/7/06 in respect of 2005/06).
Source: Department of Infrastructure, Energy and Resources, *Annual Report*, (various).

Persons engaging in bookmaking activities in relation to horse or greyhound races or "approved sports events" are required to be registered under the *Racing Regulation Act 2004*. Data on bookmaker registrations in Tasmania are presented in Table 8.10.

The number of registered individual bookmakers has remained steady over recent years although there was some decline in the number of bookmakers during the late 1990s. The absence of any growth in the number of individual bookmakers is not surprising given the long-term decline in racing expenditure on bookmakers (see Figure 4.3). This outcome is largely due to the growth in the popularity of the TOTE (or TAB) off-course betting which has proved more convenient and attractive for gamblers (i.e. allowing them to gamble on race events nation-wide).

Table 8.10
Bookmaker Registrations – Tasmania

	Individual bookmakers registered	Bookmaking operations (including partnerships)		Clerks registered[a]	Bookmaker's agents registered[a]
		Total	Telephone betting endorsements		
1998/99	18	13	4	74	-
1999/00	16	11	4	70	-
2000/01	14	9	3	94	-
2001/02	15	10	3	117	-
2002/03	15	10	3	133	-
2003/04	16	11	2	134	-
2004/05	15	11	0	36	2
2005/06	15	13	2	-	13
2006/07	15	13	2	-	14

Note: [a] This class of registration was abolished with the commencement of the Racing Regulation Act 2004 on 1 January 2005.
[b] This class of registration was introduced with the commencement of the Racing Regulation Act on 1 January 2005.
Source: Department of Infrastructure, Energy and Resources (2007), Annual Report 2006/07.

8.5.3 TOTE Tasmania

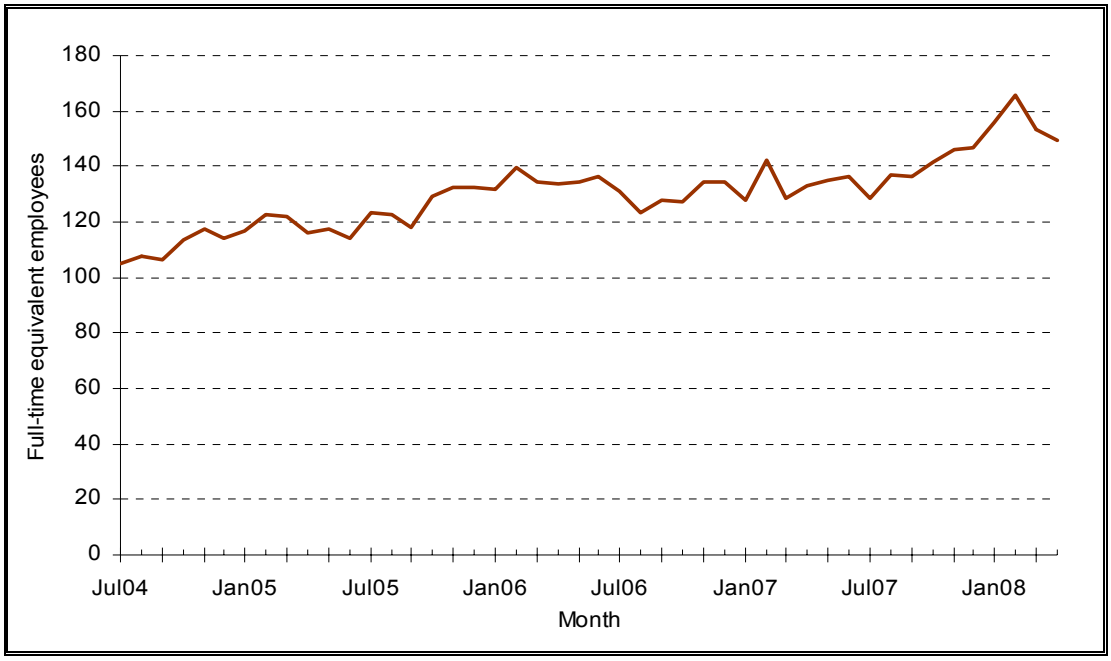
TOTE Tasmania is responsible for managing the commercial aspects of Racing and Breeding in Tasmania. In addition to operating a variety of totalisator and fixed odds wagering products, TOTE Tasmania manages racing and training facilities (it controls the Elwick Racecourse in Hobart and Tasman Park in Launceston), assists clubs with promotion activities, manages OH&S matters, and has responsibility for identifying and developing strategic opportunities for the racing and breeding industries. It consequently plays an important role in terms of generating employment within the Tasmanian racing and breeding industries.

Data from the 2006 Census of Population and Housing reported earlier showed that 134 people were employed in the 'racing' industry in Tasmania, which includes administration and track operation, while 260 people were employed in 'other gambling activities'. The latter includes TAB operation, meaning the two sectors should capture total employment directly related to TOTE Tasmania. However, given the self enumerated nature of the Census, it is possible that some employees may be allocated to other industry sectors. Unfortunately it is not possible to drill further down into the Census data to identify total employment directly related to TOTE Tasmania.

Data on the total number of persons (full-time equivalents) directly employed by TOTE Tasmania was provided by the organisation and is illustrated in Figure 8.3. These estimates include persons employed in respect of TOTE administration, the call centre, on course/track operation, sales etc., but does not include persons employed in retail outlets.

As of April 2008, TOTE Tasmania directly employed a total of 149 FTE employees. While the total level of employment has fallen from its most recent peak achieved in February 2008, employment has generally shown an upward trend over the past several years. Total employment in April 2008 was 29 per cent (33 FTEs) higher compared to the same period three years earlier.

Figure 8.3
TOTE Tasmania Direct Employment
(full-time equivalent employment)



Source: TOTE Tasmania, unpublished data.

The precise number of persons employed in retail outlets in respect of the TOTE is unknown. However, TOTE Tasmania has estimated that in the order of 68 people may have been employed in retail outlets as of mid May 2008.[68] The level of employment generated in the 89 hotels that provide TOTE Tasmania products and services is not known since there is no information available on the average amount of time that hotel staff devote to administering these services.

8.6 Lotteries

The Census data presented in section 8.2 showed that there were only approximately 13 people employed in lottery operation in Tasmania around the time of the Census in 2006. However, this does not take account of persons employed in businesses which sell lottery products but whose main activity (and therefore industry sector) is not related to lottery operation – e.g. newsagents, local supermarket. The Census data therefore does not provide a true indication of the level of employment associated with lotteries.

Other sources of data on lotteries employment are scarce. It is likely that Tasmania has relatively lower lotteries related employment compared to most other states since there is no state or locally based lotteries agency in Tasmania. Lotteries in Tasmania are largely provided by Tattersall's, which is based in Victoria. Data from the Department of Treasury and Finance indicates that Tattersall's Lotteries had 84 accredited representatives in Tasmania in 2007. The actual level of lotteries generated employment associated with these agencies is not known but is likely to be small.

[68] The estimate of 68 employees was derived based on the assumption that each of the 31 outlets employed an average of 2.2 persons. The latter was adopted on the basis that all retail outlets have at least two employees who conduct the majority of the work, and generally have an extra person to call on when required. .

8.7 Casino

Persons employed at the two mainland casinos and by Admirals Hotels, which manages gaming on board the two Spirit of Tasmania vessels, must be licensed as a casino operative, casino management or casino security. Details on casino employment can therefore be inferred from data on licensed casino employees.

Table 8.11
Number of Licensed Employees
Wrest Point Hotel Casino, Country Club Casino and Admirals Casino

As at 30 June	Persons
1995	499
1996	587
1997	646
1998	1,192
1999	577[a]
2000	499
2001	503
2002	551
2003	561
2004	556
2005	559
2006	582

Note: [a] The cause of the large rise in the number of licensed employees up to an including 1997/98 is unknown. The TGC was unable to determine the exact cause of the rise although it did advise that it could be an error or, more probably, a side effect associated with the 5-year transition to a new licensing regime. This transition may have led to an artificial rise in the number of licensed employees up to 1997/98, with the number retuning back to a normal level in 1998/99 as casino operatives who were licensed in 1994 and were due to renew their special employee licences from April 1999 (being the fifth anniversary of their licences) did not do so.

Source: TGC Annual Reports, Department of Treasury and Finance.

Table 8.11 shows annual data on the total number of licensed employees for the two mainland casinos and Admirals Casino from 1995 to 2006. There was a total of 582 licensed casino employees at 30 June 2006. This is consistent with the results of the 2006 Census which indicate that there were 598 people employed in casino operations in Tasmania in early August 2006.[69]

The number of licensed employees has gradually increased since 2000, suggesting that casino employment has grown over this period. While there were a greater number of licensed employees for various earlier years, this may not necessarily indicate a higher level of actual employment since a number of these licences may be redundant (i.e. people may remain licensed for a period after leaving the casino industry).

8.8 Conclusion

It is impossible to obtain an accurate estimate of the total level of employment associated with the gambling industry from available data sources. Data from the Census of Population and Housing indicates that there were approximately 3,500 persons employed in gambling related industries in Tasmania in 2006, including hotels and clubs, racing, TOTE operation, casinos, lotteries and other gambling activities. However, this figure is almost certainly an over

[69] Licensed employees only are one component of employment within the Federal Hotels Group of companies. The Federal Hotels Group employed 2,605 persons in 2006/07 on a full and part-time basis in 2006/07. Federal Hotels Group submission to this study.

estimate since it includes total employment for the hotels and clubs industry, a majority of whose employment is not directly related to gambling.

National data on the proportion of persons employed in the hotels and clubs industry as "gaming staff and cashiers" suggests that almost 400 of the 2,500 persons employed in the pubs, taverns, bars and clubs industry of Tasmania may be directly employed in relation to gambling activities. This suggests that the Tasmanian gambling industry may have directly employed in the order of 1,400 persons in 2006. However, this is only an approximate estimate since the actual level of employment in the pubs and clubs sector that is directly associated with gambling activities is ultimately unknown. Another disadvantage with the Census data is that it does not provide information on the level of employment that is generated in other industries by gambling activities (e.g. employment in newsagents in respect of lotto and keno products). The actual level of gambling industry employment may therefore be higher or lower depending on the relative size of these factors. To accurately estimate the level of employment generated by Tasmania's gambling industries would require an exhaustive survey of the industry, and this was beyond the resources allocated for this study.

One of the interesting features to emerge from the analysis is that there is no evidence from the Labour Force Survey that the introduction of gaming machines had a positive impact on the level of employment in the hotels and clubs sector of Tasmania. The average level of employment was actually lower in the period following the introduction of gaming machines in Tasmania, which is atypical compared to the experience of other states that have adopted gaming machines. Only in more recent years has there been an increase in the level of employment for the hotels and clubs sector.

The lack of any initial rise in employment in the pubs and clubs sector following the introduction of gaming machines in 1997 probably reflects a combination of the phased introduction of gaming machines into hotels and clubs, the relatively greater role played by the casinos in the gaming machine industry, and the relatively less labour intensive nature of gaming machine gambling compared to other venue activities.

While the introduction of gaming machines did not provide a boost to overall employment for the hotels and clubs industry, gambling activities are associated with higher levels of employment at the venue level. Tasmanian hotels and clubs with gambling facilities had significantly higher employment (23 employees per business c.f. 11 employees) and total income ($2.5 million c.f. $1.0 million) on average compared to hotels and clubs without gambling facilities. However, such differences suggest that greater employment for venues with gambling facilities may have come at the expense of employment at venues without gambling facilities. This makes it difficult to evaluate the overall net impact of gambling facilities on employment. This is exacerbated by the fact that the introduction of new gambling facilities would also divert expenditure from other forms of spending.

9. Tourism

9.1 Introduction

This chapter considers the possible economic benefits produced by gambling in terms of tourism. Assessing the tourism benefits of gambling is a difficult task given a lack of data on gambling related tourism – the available tourism data often provides little to no information on gambling related aspects of tourism, while trends in overall tourism numbers are influenced by a variety of dynamic and permanent factors that make it difficult to identify the exact influence of any one factor. Any analysis of tourism related benefits is also often complicated by confusion over what counts as actual benefits from an economic perspective. Despite these limitations, the possible tourism benefits of gambling and their scale have been considered in a qualitative sense, while the available data has been analysed to determine if any gambling related influences are discernable in the data.

9.2 The benefits

The additional spending associated with tourists attracted by gambling activities is often cited as one of the benefits provided by the gambling industry to the economy. Such additional spending may provide benefits in terms of increased employment, profits and tax revenue.

Tourists can originate from overseas, interstate and from within the state. From a state perspective, only additional spending associated with tourists from overseas and interstate may be considered an economic benefit. The rationale for this is that domestic tourists would have spent their money on something else in Tasmania in the absence of a particular gambling activity or venue (e.g. other forms of gambling, entertainment, or tourism venues). There may be some benefit of gambling activities from a local tourism perspective in terms of preventing leakage of local spending to interstate and, to a lesser degree, overseas. Unfortunately it is difficult to estimate what the extent of these benefits may be given the hypothetical nature of this scenario. However, they are likely to be small, especially when the benefits in terms of avoided problem gambling are taken account.

The benefits associated with additional spending by interstate tourists are also likely to be small or even non-existent given that the availably of similar forms of gambling across all states and territories of Australia (with the exception of Western Australia in respect of gaming machines) mean that Tasmania currently has no unique attractions in respect of gambling activities for interstate residents. This fact was highlighted by the Committee for the Review of State Taxes and Charges when it considered the possible economic impacts of extending gaming machines to hotels and clubs in Tasmania:

> "Claims that the greater availability of gaming machines would directly benefit the tourism industry in the main are unfounded. Given the wide availability of gaming machines in other States of Australia, their potential as a tourist drawcard is extremely questionable, and benefits should not be overstated. Indirect benefits may occur to the extent that upgrading of premises and facilities takes place" (CRSTC, 1992, p.68).

Tasmania has not always lacked a comparative advantage in terms of available gambling activities relative to other states and territories. Being the first state to introduce a casino in 1973, it actually enjoyed a considerable advantage in terms of attracting interstate and overseas visitors, at least until casinos opened in other states and territories. On the other hand, it was the last state to introduce gaming machines into hotels and clubs (excluding Western Australia which still does not permit them).

The issue of interstate competition nullifying potential benefits highlights the difficulty associated with identifying what part of spending by a tourist is truly "additional", in the sense that the tourist would not have made another expenditure in Tasmania in the absence of a particular gambling facility or activity. The reality is that Tasmania does not appear to have any comparative advantages in terms of available gambling activities compared to other states and territories which would attract interstate and overseas tourists. Rather, Tasmania's comparative advantages in respect of tourism appear to rest with its natural resources, colonial history and wine and food. The Federal Hotels Group (Tasmania) in their submission stated that:

> "…Tasmania's competitive advantage of Wilderness with 40 per cent of the State being World Heritage Listed or protected by National Parks combined with a fabulous collection of colonial buildings and villages dotted around the State, as well as being acknowledged for our fine produce and award-winning wine makes for an attractive destination to the discerning visitor."

That tourists would be attracted by Tasmania's natural comparative advantages suggests that gambling expenditure by tourists may not be truly additional, but rather incidental.

There are, however, reasons to believe that there may be benefits in terms of international tourism related to gambling. Australia (including Tasmania) generally has a more liberal approach towards gambling compared to most other countries, and the relatively greater availability of gambling activities may be attractive to some international tourists. For instance, in its 1999 report on gambling the Productivity Commission (p.5.35) noted that:

> "The deregulation of gambling has enabled Australia to offer new or better tourist packages for overseas visitors and, to the extent that this generates additional tourist spending, there are likely to be benefits for the economy as a whole. At the same time, the provision of gambling locally is likely to reduce the number of local residents travelling overseas to gamble, though the extent of this is unknown."

Nonetheless, the extent to which the availability of gambling activities plays a role in an international tourist's decision to visit Australia is not well understood. That gambling is usually not included or identified as a factor in surveys of international tourists' reasons for travel suggests that it is relatively unimportant. An additional issue from Tasmania's perspective here is that it also lacks comparative advantages in terms of attracting international tourists that are interested in gambling, including the "high rollers". For instance, in terms of casino gambling, larger and more elaborate casinos in Melbourne and Sydney, and the Northern Territory and Queensland's relatively closer proximity to international markets, especially Asia, provide these states and the Northern Territory with possible sources of comparative advantage.

A unique factor in respect of the Tasmanian tourism and gambling environment is that the Federal Hotels Group – which owns the two casinos, the gaming machines and is the provider of keno, plus a number of hotels and other assets – is required to play an explicit role in terms of promoting and developing Tasmania as a tourism destination as part of its Deed of Agreement with the Crown. While this arrangement (whereby the Federal Hotels Group plays a large role in providing gambling activities) may help the Federal Hotels Group fund its required promotion and investment activities, it is not clear that it provides a clear net benefit to the state in terms of tourism promotion. For instance, the Tasmanian government could simply have negotiated to take a larger share of taxation revenue in order to conduct advertising and promotion activities and invest in tourism facilities itself. Nonetheless, to the extent that these activities can be done more effectively by the private sector than the public sector, then the current arrangements may provide an overall net benefit. However, it must be

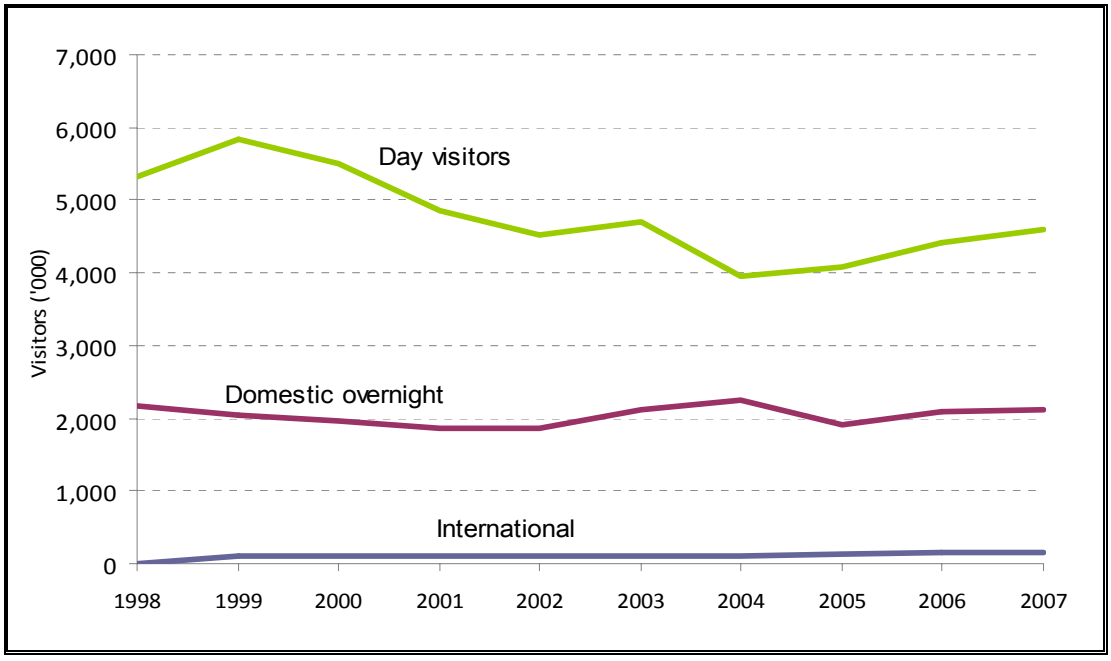
acknowledged that the current arrangements do have the potential to crowd out other forms of private sector investment in tourism related assets.

9.3 Visitors

The following section considers the available data on visitor numbers to gain insight into any possible relationships between gambling and tourism for Tasmania.

Figure 9.1 shows the pattern of international, overnight domestic (i.e. interstate and intrastate) and day visitors for Tasmania from 1998 to 2007. Unfortunately earlier data were not readily available. However, since the data commences from 1998 – i.e. the year following the introduction of gaming machines – it may provide insight into the impact of gaming machines on tourism.

Figure 9.1
Visitors to Tasmania ('000 persons)



Source: Tourism Research Australia (2004), Travel in Australian 2003: Annual results of the International and National Visitor Surveys 2003; International Visitors in Australia: Quarterly Results of the International Visitor Survey, various; and Travel by Australians: Quarterly Results of the National Visitor Survey, various.

The data shows that there has been a decline in day visitors for Tasmania since 1998 despite some recovery over recent years. There has also been a flat trend in overnight domestic visitors, and in fact the total number of overnight domestic visitors in 2007 was down 1.6 per cent from 1998, which is entirely due to a fall in intrastate travel. The number of international visitors also fell during the late 1990s and early 2000s but has risen strongly since 2003. Altogether, the data provides no evidence that gambling activities, particular gaming machines, have had a positive impact on tourism over the past decade. This is not surprising given the theoretical uncertainties of gambling having a significant impact on tourism (see previous section) and the various other factors that influence tourism trends. For instance, the September 11 terrorist attacks, the 1999 Asian financial crisis and SARS (severe acute respiratory syndrome) would all have had a negative impact on international tourism during the early years of the analysis.

Table 9.1
Visitors to Tasmania
Visitors to Australian States and Territories – 2007

	Visitors ('000)					Visitor Nights ('000)				Average duration of visits (nights)			
	Inter-national	Domestic Visitors – Overnight			Day	Inter-national	Domestic Visitors - Overnight			Inter-national	Domestic Visitors - Overnight		
		Interstate	Intrastate	Total			Interstate	Intrastate	Total		Interstate	Intrastate	Total
NSW	2,845	7,575	16,598	24,174	48,472	57,267	32,211	50,965	83,176	20.1	4.3	3.1	3.4
VIC	1,462	5,419	11,981	17,399	36,074	30,953	22,332	30,911	53,244	21.2	4.1	2.6	3.1
QLD	2,172	5,867	12,153	18,021	31,614	36,115	37,944	39,125	77,069	16.6	6.5	3.2	4.3
SA	363	2,017	3,397	5,414	10,571	6,855	9,612	9,494	19,107	18.9	4.8	2.8	3.5
WA	656	1,218	5,161	6,379	13,762	17,908	12,370	20,313	32,684	27.3	10.2	3.9	5.1
TAS	159	983	1,142	2,126	4,608	3,084	7,091	3,128	10,219	19.4	7.2	2.7	4.8
NT	347	698	406	1,104	956	3,024	5,730	1,429	7,159	8.7	8.2	3.5	6.5
ACT	165	na	na	1,965	1,680	2,596	Na	Na	5,844	15.7	Na	Na	3.0
AUST	**5,197**	**24,427**	**49,373**	**73,800**	**147,737**	**158,220**	**132,904**	**155,699**	**288,603**	**30.4**	**5.4**	**3.2**	**3.9**

Source: Tourism Research Australia, *International Visitors in Australia: December Quarter 2007, Quarterly Results of the International Visitor Survey*, and *Travel by Australians: December 2007, Quarterly Results of the National Visitor Survey*.

Table 9.2
Proportion of Visitor Types (Per cent)

	International	Domestic		
		Interstate	Intrastate	Total
New South Wales	10.5	28.0	61.4	89.5
Victoria	7.8	28.7	63.5	92.2
Queensland	10.8	29.1	60.2	89.2
South Australia	6.3	34.9	58.8	93.7
Western Australia	9.3	17.3	73.4	90.7
Tasmania	7.0	43.0	50.0	93.0
Northern Territory	23.9	48.1	28.0	76.1
ACT	7.7	na	na	92.3
Australia	**6.6**	**30.9**	**62.5**	**93.4**

Source: Tourism Research Australia, *International Visitors in Australia: December Quarter 2007, Quarterly Results of the International Visitor Survey,* and *Travel by Australians: December 2007, Quarterly Results of the National Visitor Survey.* Calculations by SACES.

Tables 9.1 and 9.2 show the visitor information for the Australian states and territories in 2007 to put the Tasmanian state flows into context.

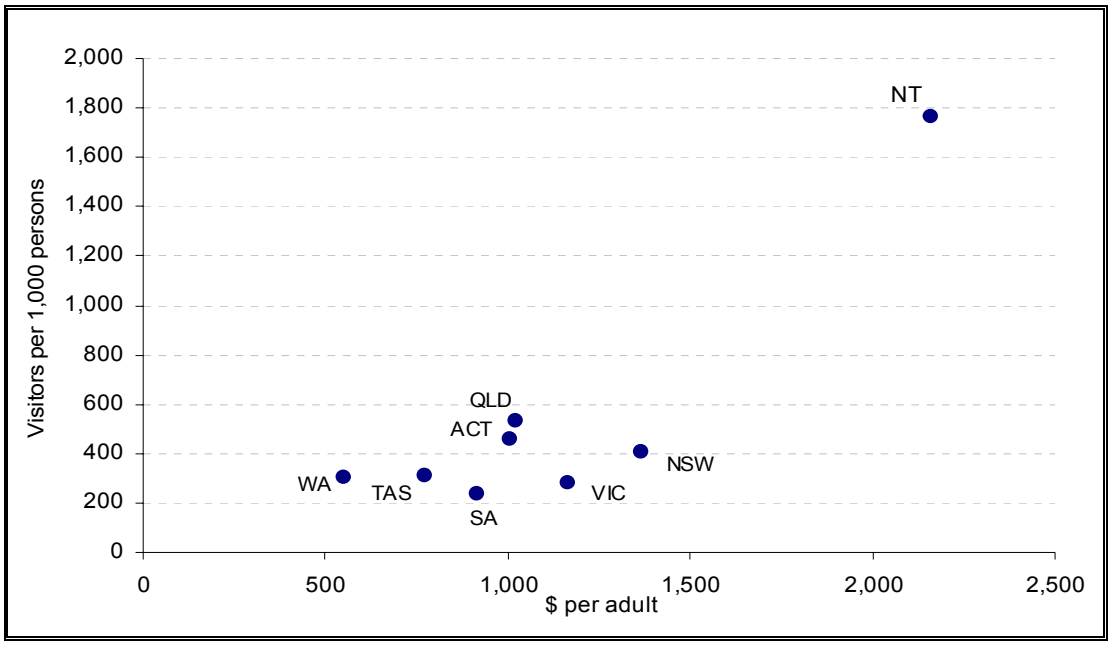
It can be seen that Tasmania attracted 159,000 international visitors in 2007, which represented 7.0 per cent of the state's total overnight visitors of 2,126,000. This is comparable to the national average of 6.6 per cent of national overnight visitors being from overseas.

Of the domestic overnight visitors, 46 per cent were from interstate, compared to the national average of 33 per cent. This means that half (50 per cent) of Tasmania's overnight visitors in 2006 were from overseas or interstate. This compares to 38 per cent for Australia overall.

In terms of the duration of the stay of overnight visitors, Tasmania's international visitors stayed an average of 19 nights, which is similar to the figure for NSW, Victoria, South Australia and Queensland. Western Australia has by far the highest average duration, which is likely to be caused more by its relative isolation rather than tourist attractions. The domestic overnight stay of 5 nights is at the upper end for the country overall, exceeded only by the Northern Territory. Thus, tourist numbers and duration of stay in Tasmania is comparable to other Australian states and territories.

It is not possible to separate out in the data which tourists are attracted by gambling facilities or who play them while in the state. However, it is interesting to consider whether there are any relationships between relative expenditure on gambling and the level of tourism by states and territories. Figure 9.2 plots the various states and territories by their total per capita expenditure on all forms of gambling in 2005/06 by the number of international visitors per 1,000 local population. There is no clear relationship between overseas visitors and gambling expenditure. The Northern Territory result is influenced by the availability of on-line and sports betting agencies located in the Territory and thus total expenditure on gambling does not truly reflect domestic per capita expenditure. It is too much of an outlier to be considered representative of the states. For instance, Queensland and the Australian Capital Territory have relatively higher overseas visitation than Sydney and Victoria yet they have lower relative gambling expenditure.

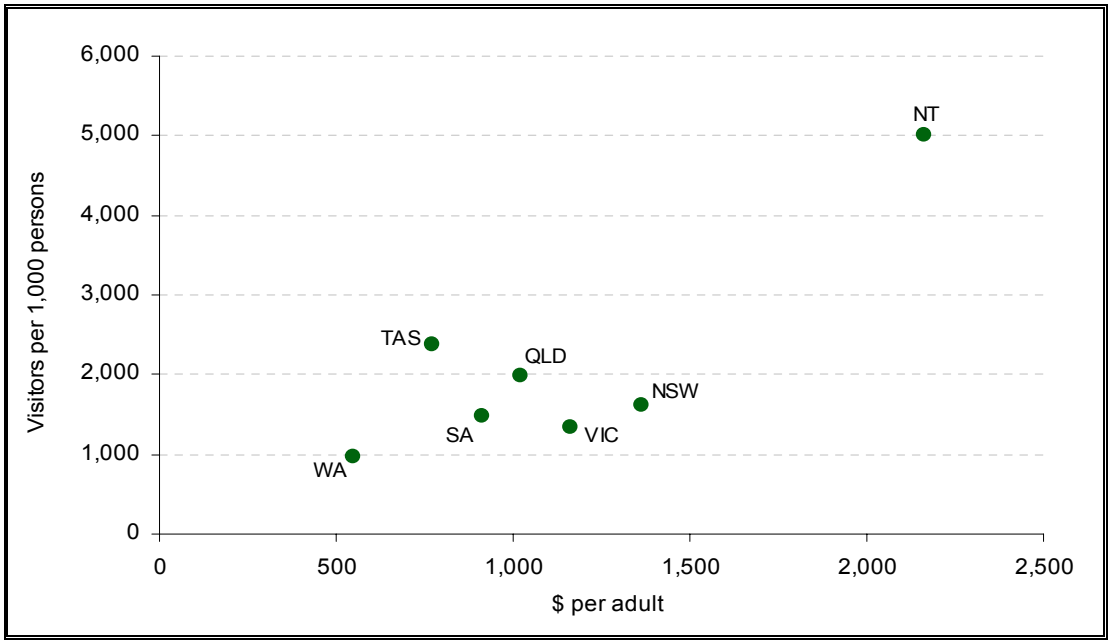
Figure 9.2
States and Territories by Total Expenditure on Gambling and Number of Overseas Visitors per 1,000 persons[a] (2005/06)



Note: [a] Gambling expenditure is for 2005/06 expressed as $ per adult. Overseas visitors are the number for 2006 where persons are the state/territory population at 30 June 2006.
Source: ABS, AGS, TRA.

Figure 9.3 plots the relationship between relative total gambling expenditure and the number of overseas and overnight *interstate visitors*. A similar pattern to that seen in Figure 9.2 emerges with there being no clear relationship between gambling expenditure and the relative number of out-of-state tourists..

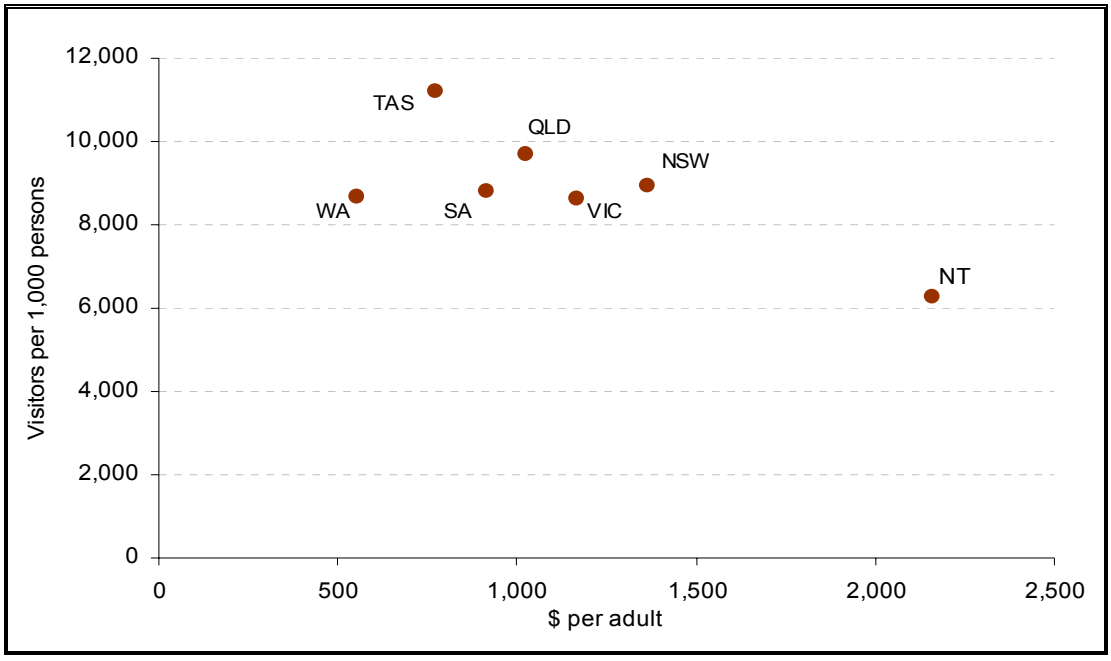
Figure 9.3
States and Territories by Total Expenditure on Gambling and Number of Overseas and Overnight Interstate Visitors per 1,000 persons[a] (2005/06)



Note: [a] Gambling expenditure is for 2005/06 expressed as $ per adult. Visitors are the number for 2006 where persons are the state/territory population at 30 June 2006.
Source: ABS, AGS, TRA.

The state and territory relationship between total gambling expenditure and the number of day and overnight *intrastate visitors* is illustrated by Figure 9.4. Given that day visitors would be largely composed of local residents this provides insight into the relationship between gambling and local tourism. It can be seen there is no clear relationship between local tourism and overall gambling expenditure. If anything, there is actually an inverse relationship between gambling expenditure and domestic tourism (i.e. higher domestic tourism is associated with lower gambling expenditure).

Figure 9.4
States and Territories by Total Expenditure on Gambling and Number of Day and Overnight Intrastate Visitors per 1,000 persons[a] (2005/06)

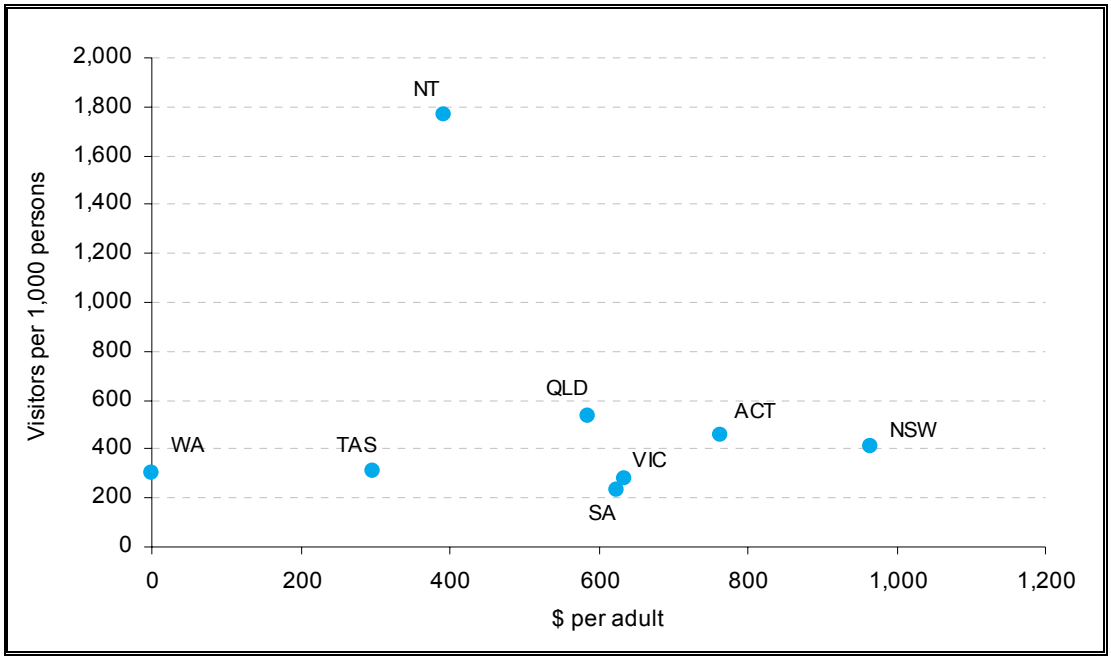


Note: [a] Gambling expenditure is for 2005/06 expressed as $ per adult. Visitors are the number for 2006 where persons are the state/territory population at 30 June 2006.
Source: ABS, AGS, TRA.

Figures 9.5 and 9.6 show the relationship between the relative number of overseas visitors and expenditure on gaming machines and casino gambling respectively, for the states and territories. There appears to be no relationship between overseas visitation and relative expenditure on either form of gambling. This is particularly the case for gaming machine gambling shown in Figure 9.5 where there are significant differences in relative expenditure between the states and territories despite similar levels of international tourism.

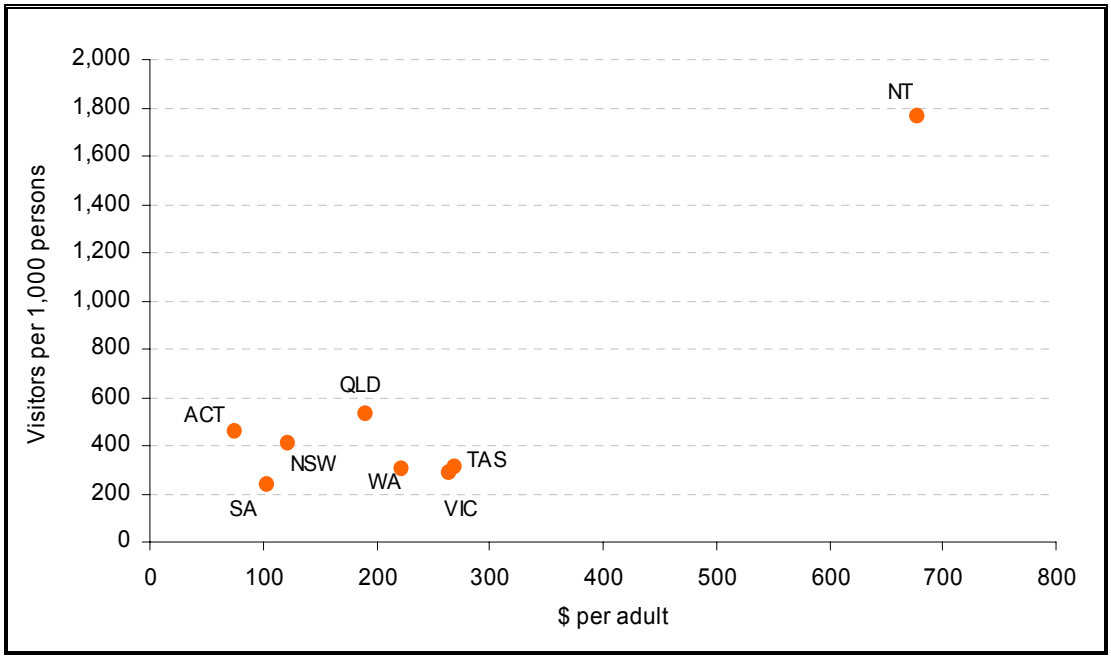
In summary, the analysis shows that there is little to no evidence of any positive or negative relationship between tourism and gambling expenditure. It needs to be recognised that this may be due in part to limitations associated with the available data and analysis. The relatively small number of observations (i.e. states and territories) means that any apparent patterns would naturally have a degree of uncertainty associated with them. Furthermore, the variety of non-gambling factors that may influence tourism makes it difficult to interpret the data with a high degree of confidence. However, on balance we find no evidence of a relationship between tourism and gambling expenditure.

Figure 9.5
States and Territories by Total Expenditure on Electronic Gaming Machines and Number of Overseas Visitors per 1,000 persons[a]



Note: [a] Gambling expenditure is for 2005/06 expressed as $ per adult. Visitors are the number for 2006 where persons are the state/territory population at 30 June 2006.
Source: ABS, AGS, TRA.

Figure 9.6
States and Territories by Total Expenditure on Casino Gambling and Number of Overseas Visitors per 1,000 persons[a]



Note: [a] Gambling expenditure is for 2005/06 expressed as $ per adult. Visitors are the number for 2006 where persons are the state/territory population at 30 June 2006.
Source: ABS, AGS, TRA.

9.4 Casino tourism

Since Australian casinos are often developed as part of large entertainment complexes that offer a variety of forms of entertainment, they potentially play a greater role in terms of attracting tourists compared to other forms of gambling. In the following section we take a closer look at the available data to determine the significance of casinos in respect of tourism.

Industry data published by the Australian Casino Association (ACA) (URS, 2007) on the number of visitors to Australian casinos by origin is presented in Table 9.3. The data shows that international visitors accounted for 5.3 per cent of total visitors to casinos in 2005/06, while interstate visitors accounted for 12.2 per cent of all patrons. The share of overseas and interstate visitors has remained steady over the past several years.

Combining the total of 2.5 million international casino visitors in 2005/06 with the estimated number of overseas short-term visitor arrivals to Australia in 2005/06 (5.5 million according to the ABS) implies that almost 46 per cent of international visitors visited a casino. However, this appears to be a considerable overestimate. Data from the International Visitors Survey indicates that approximately one-fifth of international visitors to Australia visit a casino during their stay (see Table 9.4). The differences between the two data sources would ultimately reflect differences in the methodologies used to collect the data. A possible explanation is that the ACA published data involves a degree of double counting. The advantage of the International Visitor Survey is that it is completely independent and employs a rigorous methodology. Without detailed information on the exact methodology used to produce the data published in the ACA report, we are unable to comment further on the exact causes of discrepancy between the various data sources.

Table 9.3
Australian Casino Visitors

	2002/03	2003/04	2004/05	2005/06
Persons (million)				
Local/State	35.2	35.3	37.7	38.7
Interstate	4.3	5.2	5.6	5.7
International	1.5	2.4	2.5	2.5
Total	41.0	42.9	45.8	46.9
Share of total (per cent)				
Local/State	85.9	82.3	82.3	82.5
Interstate	10.5	12.1	12.2	12.2
International	3.7	5.6	5.5	5.3
Total	100.0	100.0	100.0	100.0

Source: URS (2007), Australian Casinos Economic Report 2005/06, prepared for the Australian Casino Association.

Table 9.4
International visitors to casinos in Australia, number and per cent

	1999	2000	2001	2002	2003	2004
Visit a casino	1,073,800	1,044,600	914,700	881,700	929,200	971,300
As per cent of total visitors	26	23	20	20	21	20

Source: Tourism Research Australia, International Visitor Survey, supplied by the South Australian Tourism Commission.

While overseas visitors account for a relatively small share of total visitors to casinos (5.3 per cent), they account for an above average share of casino expenditure. The Australian Casino Association estimates that in 2005/06 approximately 6.4 per cent ($3.6 billion) of total casino revenue came from international rated and junket players alone. These figures do "not include the non-rated and non-junket international visitor revenue, which suggests that the overall contribution of international visitors to revenue exceeds that category's proportion of visitation" (URS, p.15). Data from the ABS, although somewhat dated, also indicates that overseas players accounted for a relatively large share of takings from tables games (see Table 9.5).

The experience across Australian casinos in terms of their ability to attract international visitors is unlikely to be similar. Some casinos would be expected to attract a higher share of international visitors than others due to their proximity to other countries. This is true of casinos in Queensland, the Northern Territory and Western Australia that are relatively close to Asia. Also, some casinos have far larger international marketing budgets, such as Crown Casino in Melbourne, and will attract a greater share of international visitors that way. The researchers were supplied data from the Federal Hotels Group indicating that in 2004 the proportion of inbound (international) room nights to total room nights for the two casinos was 6.1 per cent falling to 4.0 per cent in 2007.[70]

The interesting question to ask with respect to Tasmania is whether the presence of the casinos has an impact on the decisions of international visitors to choose Tasmania. This would show whether the casinos have attracted additional spending to the casino and the state overall that would otherwise have been spent elsewhere. It is difficult to answer this question as data are not collected for people who visit Tasmania with their main objective to gamble. It is also difficult to separate out trends in tourism as being due to any particular cause if the data are not sufficiently detailed. Nonetheless, given the comparative advantages enjoyed by casinos in other states and territories, it is likely that the casinos in Tasmania play only a very minor role at best in terms of attracting tourists.

Table 9.5
Sources of Revenue for Casino Table Games
Australia – 2000/01

	$m	Per cent
Overseas premium players	427.4	30.3
Other rated players from overseas	77.7	5.5
Other players	904.5	64.2
Total from gaming tables	1,409.6	100.0

Source: ABS, Statistics, Casinos, Australia. Cat. No. 8683.0.

9.5 Conclusion

As all other states/territories have casinos and EGMs (except Western Australia) and there is no supporting evidence that international tourists identify gambling as a reason for visitation, there does not appear to be any reason to conclude that gambling has any influence on tourism numbers, the duration of stay or levels of expenditure. The analysis in this chapter suggests there is little to no evidence of any positive or negative relationship between tourism and gambling expenditure.

[70] Correspondence to SACES, 12 March 2008 from the Federal Hotels Group.

However, while we have expressed reservations about the quality of the data on gambling related tourism, we also acknowledge that gambling tax revenue derived from international and interstate tourists would represent a benefit to the local Tasmanian population.

On balance, it is likely that the casinos in Tasmania play only a very minor role in terms of attracting tourists.

Section C

Assessment of Financial Impacts

In this section the financial impacts of the gambling industry including government revenue, payments and administration are discussed. The emphasis in this section is on revenue flows and not economic benefits and costs which have been examined earlier. The net benefit of gambling taxation is considered in Section D (Chapter 16).

10. Government Revenue, Payments and Administration

10.1 Introduction

This Chapter considers taxation and revenue generated from all modes of gambling in Tasmania. Gambling taxation is a significant own source of revenue for all State and Territory governments, including Tasmania. Tax arrangements and rates vary across gambling modes within Tasmania and these are compared with the rest of Australia. Adjustment to tax rates following the introduction of the GST are also considered. Taxation arrangements in the 2003 Deed of Arrangements with the Federal Hotels Group are discussed. Information on the CSL, which aims to return a share of gambling revenue to the community through support services to people with gambling problems, and through sporting and charitable organisations is considered. The arrangements with the recently-established betting exchange in Tasmania, run by UK-based company Betfair, are presented at the end of the chapter.

10.2 Share of state revenue from gambling

In 2006/07 the Tasmanian Government's own source revenue from gambling taxes and fees was $86 million.[71] This figure equated to 11.9 per cent of own source state revenue, down from a high of 13.5 per cent in 2001/02. As illustrated in Table 10.1 the absolute contribution of gambling taxes and fees to Tasmania's own source revenue increased over the period shown. However, the share of state tax revenue coming from gambling taxes and fees has been falling. This may be explained by stronger economic conditions in Tasmania during this period, which increased the tax contribution from the rest of the economy at a faster rate than the share from gambling taxes and fees.

The compound annual average growth rate (CAGR) for total gambling taxes and fees was 5.1 per cent over the period shown and 7.7 per cent for total State own source revenue.

Table 10.1
Proportion of gambling taxes and fees to Tasmania's own source revenue

	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Total gambling taxes and fees $m	67	73	78	81	79	86
Total state own source revenue $m	497	543	610	661	679	721
Share of state tax revenue from gambling taxes and fees (per cent)	13.5	13.4	12.8	12.3	11.6	11.9

Source: Treasury Consolidated Financial Statements.

Table 10.2 indicates that Tasmania's share of state revenue is well within the range of other states and territories and their corresponding ratios. In 2004/05 (the latest year for which these data are readily available), the lowest share is in Western Australia where the state government sourced 6.1 per cent of its tax revenue from gambling, which can be explained by the prohibition of EGMs outside the state's sole casino. The ACT had the highest ratio of 15.1 per cent. Tasmania's ratio equates to that of Queensland and is below that of Victoria and South Australia.

[71] Earlier in this report **(Section 6.3)** gambling taxation (not including fees which cover the cost of regulation) in 2006/07 was reported as $84.3 million or 11.5 per cent of total tax receipts. The difference is due to the inclusion of fees received as shown in Table 10.1.

Table 10.2
Proportion of revenue coming from gambling taxes, 2004/05

	Share of jurisdiction's total tax revenue (2004/05), per cent
New South Wales	9.3
Victoria	13.1
Queensland	11.5
South Australia	14.0
Western Australia	6.1
Tasmania	11.5
Northern Territory	8.1
ACT	15.1

Source: Australian Gaming Council 2006/07 annual report (2004/05 figures).

10.2.1 Impact of the GST

Following the introduction of the Goods and Services Tax (GST) and under the Intergovernmental Agreement on the Reform of Commonwealth-State Financial Relations (IGA), the states were required to adjust downwards the rate of taxation on gambling products to accommodate the GST. An example of this in the case of Tasmania, was the reduction in the keno tax on profit from 15 per cent to 5.88 per cent.

Taxation revenue (taxes and fees) raised directly by Tasmania (i.e. own source revenue) is as previously noted $86 million in 2006/07. GST on profits or player expenditure is treated in a slightly different manner.

GST on profits is collected by the Commonwealth; it effectively goes into a national pool and Tasmania's share of the pool is 4 per cent based on current population share. In 2006/07 the GST on gambling profits was $24.1 million.[72]

10.3 Deed of Arrangement 2003: Taxation arrangements

Taxation arrangements are principally (although not solely) established within the Deed of Arrangements 2003 between the Crown and the Federal Hotels Group. In granting certain rights to the companies within the group the Deed of Arrangements provided for the following:

- exclusive rights to conduct casino operations, operate gaming machines and conduct games of keno in Tasmania;
- to operate the Central Monitoring System (Network Gaming) and to meet all charges to all clubs and hotels; and
- applicable tax rates for gaming machines and table games, including licence fees.

The applicable tax rates and the maximum number of gaming machines were specified as follows:

> (f) the maximum number of gaming machines permitted: in Tasmania, will be 3,680 (excluding gaming machines operated on vessels operated by the TT-Line); in all hotels and clubs, will be 2,500 in total; in each hotel, will be 30; and in each club, will be 40.

[72] This can be calculated from Table 10.3 as 1/11 of $265.4 gambling profits = $24.1 million.

(g) the applicable tax rates from the starting date for gaming machines and casino games will be (i) for gaming machines: (A) until 30th June 2013, 20.88 per cent upon the first $35 million of gross profit and 25.88 per cent upon the rest of the gross profit; and (B) from 1 July 2013, 25.88 per cent of gross profit; (ii) for casino games, 0.88 per cent of gross profit.

(h) the annual fee for each casino licence will be $1.3496 million, indexed.

The Deed runs for 15 years from 1 July 2003, after which the licence converts to a rolling five year licence renewable annually.

The companies were also required as "fundamental terms of the Deed" to:

> undertake development of a new premium standard tourist resort near Coles Bay[73]: (i) including accommodation, convention, restaurant and recreation facilities; (ii) with infrastructure development or actual construction starting by October 2003 and the project to be completed by early 2005; and (iii) at a capital cost of at least $25 million.

The Deed effectively links the exclusive right to conduct casino operations, to operate gaming machines and to conduct games of keno with investment and construction of tourism facilities, including the obligation to "engage Tasmanian contractors and labour and to use Tasmanian materials" (Section 4.2(b)) where commercially feasible to do so.

10.4 Overview of taxes and revenue allocation

Table 10.3 shows the total player expenditure on gambling, by mode, for the state of Tasmania each year from 2002/03 to 2006/07. In 2006/07, total player expenditure was $265.4 million, and over this five year period, the average was $262.7 million, with the peak occurring in 2004/05.

Table 10.3
Player expenditure ($'000)

	2002/03	2003/04	2004/05	2005/06	2006/07
Casinos					
Table gaming	7,032	7,158	8,064	8,364	8,283
Gaming machines	81,791	89,510	93,377	90,658	91,339
Keno	1,851	1,900	2,048	2,242	2,305
Racetrax[1]	44	23	11	na	na
Total casinos	**90,719**	**98,591**	**103,500**	**101,265**	**101,927**
External gaming in hotels and clubs					
Gaming machines	111,467	121,521	125,714	109,421	112,154
Keno	16,219	16,455	19,958	20,525	20,780
Total gaming expenditure	**127,686**	**137,976**	**145,672**	**129,946**	**132,934**
Other gambling modes					
Lotteries	27,669	27,796	27,874	28,800	30,396
Soccer pools	110	99	102	90	83
Tipstar	50	59	54	55	51
Total other forms	**27,829**	**27,954**	**28,031**	**28,944**	**30,529**
Total expenditure	**246,235**	**264,520**	**277,202**	**260,155**	**265,390**

Note: [1] Racetrax ceased operation in October 2004.
Source: Tasmanian Department of Treasury and Finance.

[73] Section 4.2(b) referred to "... or any alternative development".

Approximately half of player expenditure is accounted for by gaming machines and keno in hotels and clubs. Expenditure increased by 9.2 per cent in 2003/04 following the addition of 287 machines up to the statewide cap of 3,680. In 2006/07, 42.3 per cent of total player spending was on EGMs in hotels and clubs, and an additional 34.4 per cent was spent on EGMs in the state's two casinos. The next largest mode was lotteries with 11.5 per cent; keno with 8.7 per cent and table games in the casinos, with just 3.1 per cent.

As discussed in Chapter 4, the average net expenditure per gaming machine in the ten clubs in Tasmania with EGMs was just $19,248 in 2005/06, while the figure was $48,152 for machines in the 94 hotels, and $70,827 per machine in the two casinos. The substantially lower returns to clubs contributes to a limited capital base, making it more difficult to expand and improve physical facilities than is the case for hotels and casinos.[74]

Player expenditure on continuous forms of gaming in 2002/03 was 85.8 per cent (EGMs: 78.5 per cent, keno 7.3 per cent) rising to 88.2 per cent (EGMs 79.5 per cent, keno 8.7 per cent) by 2006/07. The contribution of repetitive and continuous forms of gaming to problem gambling is well documented (Delfabbro et al, 2007, pp. 37-38).

Table 10.4 shows the taxes and fees from gambling for the state of Tasmania from all modes for the years 1999/00 to 2006/07. It is important to note that fees collected by the state of Tasmania are designed to cover the cost of administration of the gambling sector which is a highly regulated sector of the economy. Costs of administration include regulation such as the issuing of permits and licences, probity investigation, inspection, compliance monitoring, tax collection, data collation and reporting. The costs of regulation are offset by licence fees and fees related to gambling permits. Later in this report the net effect of fees is appropriately assumed to be zero.

In 2006/07, Tasmanian taxes and fees from gambling totalled $85.4 million. The largest source was gaming taxation, totalling $52.5 million, of which $50.8 million came from EGMs. Lotteries yielded $24.1 million and the betting exchange (Betfair) yielded $5.0 million.

Looking across the table, the tax revenue from casinos has been relatively stable, fluctuating in the range of $20 million to $24 million, and totalling $22.3 million in 2006/07. This masks an increasing trend in casino EGM tax revenue from 86.9 per cent in 1999/00 to account for 99.0 per cent of total casino tax revenue in 2006/07, and a dropping off of table gaming tax revenue from $1.2 million in 1999/00 to just $73,000 in 2006/07, which represented just 0.33 per cent of tax revenue. Casino licence fees rose from $1.7 million in 2001/02 to $2.9 million in 2006/07.

External gaming tax revenue from hotels and clubs rose over the period shown, peaking in 2004/05 at nearly $33 million before falling back to $30.2 million in 2006/07. This trend was primarily accounted for by EGMs.

Racing is shown to have provided $7.5 million in revenue to the government in 1999/00, falling to just $791,000 the following year before dropping away altogether thereafter. This is explained by the fact that the TOTE ceased to pay tax on totalisator turnover from 1 August 2000, following its corporatisation.

[74] The revenue per machine in clubs and hotels, and the age demographics of club members, provides an interesting insight into player characteristics.

Table 10.4
Taxes and fees from gambling ($'000)

	1999/00[1]	2000/01[1]	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Casinos								
Table gaming	1,247	1,104[2]	807	397	88	71	74	73
Gaming machines	21,478	20,309[2]	18,046	19,729	21,668	23,302	21,719	22,076
Keno			111	90	112	120	132	136
Racetrax[4]			8	3	-	-	na	na
Unclaimed prizes			6	8	4	4	4	4
Other (1999/00 and 2000/01 only)	1,992	(3,780)[3]						
Total casinos	**24,717**	**17,543**	**18,979**	**20,226**	**21,873**	**23,497**	**21,929**	**22,289**
External gaming in hotels and clubs								
Gaming machines	19,815	25,385[2]	23,717	27,033	31,126	31,516	28,011	28,712
Keno	2,300	2,446[2]	922	972	964	1,174	1,196	1,231
Keno unclaimed prizes			213	217	230	285	255	281
Other (1999/00 and 2000/01 only)	463	(7,139)[3]						
Total external gaming in hotels and clubs	**22,578**	**20,692**	**24,853**	**28,222**	**32,320**	**32,975**	**29,462**	**30,224**
Internet casino			4	1	na	na	na	na
Internet unclaimed prizes			-	-	na	na	na	na
Total gaming taxation	**47,295**	**38,235**	**43835**	**48,450**	**54,193**	**56,472**	**51,391**	**52,512**
Other gambling modes								
Lotteries	20,964	19,665	20,523	21,633	21,883	22,132	22,867	24,134
Soccer pools	76	46	52	68	55	59	52	48
Minor gaming	649	405	245	6	283	53	21	21
Telephone sports betting	3	1	-	-	-	-	-	-
Tipstar	-	-	26	30	38	29	29	27
Internet sports betting	-	-	8	-	-	-	-	-
Betting exchange								
Tax	-	-	-	-	-	-	446	2,462
Product levy	-	-	-	-	-	-	523	2,536
Total other forms	**21,692**	**20,117**	**20,852**	**21,737**	**22,259**	**22,274**	**23,938**	**29,228**
Licence fees and penalties								
Casino licence fees			1,667	1,703	2,553	2,758	2,854	2,915
Casino penalties			-	-	13	-	-	40
Licence premises gaming licence fees			268	285	295	288	281	255
Penalties			8	6	2	4	104	4
Tasmanian gaming licence fees			375	540	na	na	162	424
Total fees and penalties			**2,318**	**2,535**	**2,863**	**3,049**	**3,401**	**3,637**
Total racing (1999-00 and 2000/01 only)[5]	7,478	791						
Total taxation and fees	**76,465**	**59,143**	**67,006**	**72,722**	**79,314**	**81,795**	**78,730**	**85,377**

Notes:
[1] 1999/00 and 2000/01 from Tasmanian Gaming Commission Annual Report 2000/01
[2] Excludes credits for GST paid on gaming tax
[3] Includes GST credits paid.
[4] Racetrax ceased operation in October 2004
[5] From 1 August 2000, the TOTE is no longer required to remit racing taxes.

Source: Tasmanian Department of Treasury and Finance and Tasmanian Gaming Commission Annual Report 2000/01

Looking at the other gambling modes, tax revenue from lotteries showed a moderate increase over the period, reaching $24.1 million in 2006/07, while Betfair, which was granted a licence on 10 January 2006 and began operations on 7 February 2006, netted the Tasmanian government $5.0 million in its first full year of operation. Betfair's financial arrangements are discussed further below.

10.5 Tax rates in Tasmania

10.5.1 Gaming machine tax rates

As shown in Table 10.5, EGMs are taxed at two rates in Tasmania: 20.88 per cent up to gross profits of $35 million and 25.88 per cent for gross profits above $35 million. These rates apply to all EGMs in casinos, hotels and clubs. In 2006/07, this amounted to a total tax take of $21.89 million. From 1 July 2013, the 25.88 per cent will become a single flat rate applying to all gross profits from EGMs.

Table 10.5
Gambling tax rates for EGMs, 2006/07

	Gross profit ($m)	Tax rate (per cent)	Tax ($m)
Gross profit up to $35m	35.00	20.88	7.31
Gross profit above $35m	56.34	25.88	14.58
Total	**91.34**		**21.89**

Note: The total of $21.89m varies slightly from actual tax receipts of $22.08m.
Source: Tasmanian Gaming Commission Annual Report 2006/07.

Table 10.6 shows how Tasmania's EGM tax rates compare with the other Australian states and territories. Most states have an incremental tax structure, with the rates rising with the gaming revenue or profits. Tasmania currently has a two-tiered tax structure for clubs and hotels, raising the rate when gross profits surpass $35 million, but the higher rate of 25.88 per cent is due to become the single flat rate as of 1 July 2013.

It varies between jurisdictions whether taxes are based on weekly, monthly or annual returns and on net revenue, gross profits or metered wins. Some have hypothecated levies for community funds – specifically Victoria, Queensland, Northern Territory and Tasmania.

For clubs, most jurisdictions have a zero tax rate for the first tranche of earnings or profits, with the exceptions of Victoria and Tasmania. Tax rates then rise as earnings or profits rise, with as many as six bands, all attracting increasing tax rates. The highest rate charged is in South Australia when annual net revenue exceeds $3.5 million. Clubs must then pay $1.24 million plus 55 per cent of the excess (i.e. the amount of annual net revenue over $3.5 million). The lowest top rate is charged in the ACT, at 18 per cent of monthly gross revenue.

Table 10.6
Tax rates on EGMs in Australia

	Tax rates on EGMs in clubs	Tax rates on EGMs in hotels
New South Wales	on annual profits: ≤$200,000 0.0%; $200,001 to $1m 10.70%; $1m to $5m 19.40%; $5m to $10m 22.30%; >$10m 23.70%	on annual profits: ≤$25,000 5.70%; $25,001 to $200,000 15.70%; $200,001 to $400,000 18.50%; $400,001 to $1m 27.10%; $1m 10.70%;$1m to $5m 32.10%; >$5m 36.40%
Victoria	24.24% of gross profits	32.57% of gross profit of which 8.33% goes to the Community Support Fund
Queensland	on monthly metered win: $0 to $9,500 0.0%; $9,501 to $75,000 17.91%; $75,001 to $150,000 20.91%; $150,001 to $300,000 23.91%; $300,001 to $1.4m 25.91%; ≥$1.4m 35.91% (includes 8.5% levy for Community Investment Fund)	35.91% of monthly metered win (includes 8.5% levy for Community Investment Fund). Plus contribution to Major Facilities Fund: $0 to $10,000 0.0%; $100,001 to $140,000 3.5%; $140,001 to $180,000 5.5%; $180,001 to $220,000 7.5%; $220,001 to $260,000 13.5%; ≥$260,000 20.0%
South Australia	on annual net revenue: $0 to $75,000 0.0%; $75,001 to $399,000 21% of excess; $399,001 to $945,000 $68,040 + 28.5% of excess; $945,001 to $1.5m $223,650 + 30.91% of excess; $1.5m to $2.5m $395,200.50 + 37.5% of excess; $2.5m to $3.5m $770,200.50 + 47% of excess; ≥$3.5m $1,240,200.50 + 55% of excess.	On annual net revenue: $0 to $75,000 0.0%; $75,001 to $399,000 27.5% of excess; $399,001 to $945,000 $89,100 + 37% of excess; $945,001 to $1.5m $291,120 + 40.91% of excess; $1.5m to $2.5m $518,170.50 + 47.5% of excess; $2.5m to $3.5m $993,170.50 + 57% of excess; ≥$3.5m $1,563,170.50 + 65% of excess.
Western Australia	no EGMs	no EGMs
Tasmania	on monthly gross profits: 20.88% up to $35m; 25.88% above $35m; 4.0% CSL*	on monthly gross profits: 20.88% up to $35m; 25.88% above $35m; 4.0% CSL
Northern Territory	on monthly gross profits: $0 to $5,000 12.91%; $5,001 to $50,000 22.91%; $50,001 to $150,000 32.91%; >$150,000 42.91%	42.91% of gross profit plus Community Benefit Levy at 10% of gross profit
ACT	on monthly gross revenue: <$15,000 0%; $15,000 to <$25,000 15%; $25,000 to <$50,000 16%; ≥$50,000 18%	25.9% of gross monthly revenue

Note: * Half of the CSL on clubs in Tasmania is paid for by the Federal Hotels Group.
Source: Office of Financial Management, New South Wales Treasury (2004).

In recognition that hotels are generally profit-making organisations while clubs are not-for-profit organisations that invest their earnings for the benefit of members and/or the wider community, the tax rates charged to hotels are typically higher. In several states, clubs are permitted to earn up to a certain level before paying any tax at all – for hotels this privilege is afforded only in South Australia. In all other jurisdictions, the tax rate for hotels is applicable from the first dollar of earnings or profit. In New South Wales, clubs can make $200,000 in annual profits from EGMs before paying tax, but hotels pay between 5.7 per cent and 36.4 per cent on earnings, with no tax-free banding. In Victoria, clubs pay a flat rate of 24.24 per cent of gross profits and hotels pay a higher flat rate of 32.57 per cent, the difference being the 8.33 per cent to the state's Community Support Fund. In Queensland, there is a gradual increase in tax rates paid by clubs from zero up to a maximum of 35.91 per cent on the monthly metered win. Hotels in Queensland must pay a flat rate of 35.91 per cent on any level of monthly metered win, plus a contribution to the Major Facilities Fund which rises in bands to a maximum of 20 per cent.

Table 10.7
Average Taxation Rates for Casino, Gaming Machine and Keno Gambling
(Total government revenue from gaming as a proportion of total gaming expenditure)

	2001/02	2002/03	2003/04	2004/05	2005/06
New South Wales	16.4	16.6	16.5	17.6	18.8
Victoria	28.9	28.1	27.9	28.6	29.2
Queensland	21.7	23.1	23.9	25.4	25.3
South Australia[a]	32.8	34.1	36.1	36.8	35.9
Western Australia[b]	15.0	15.0	15.9	16.7	17.2
Tasmania	21.2	22.3	22.8	22.7	22.3
Australian Capital Territory[a]	14.9	14.8	16.6	16.4	15.8
Northern Territory[a]	13.4	13.3	14.1	16.7	19.0

Note: [a] Calculations only include Casinos and Gaming Machines.
[b] Calculations only include casino.
Source: AGS, Calculations SACES.

Tasmanian taxation on gaming (casino, gaming machines and keno) earned $51.1 million, seven per cent of total State revenue in 2005/06.[75] Tasmania's average tax rates in respect of gaming is close to the national average, above New South Wales, Western Australia and the Territories but below South Australia, Victoria and Queensland (see Table 10.7). Differences in the average level of taxation between states and territories would reflect various factors relating to the varying nature of the gambling environment across states and territories, including, *inter alia*: differences in tax scales and how they are applied; differences in the scale of gambling venues (since the scale often affects the level of marginal taxation faced by a venue); and differences in gambling patterns, which themselves are influenced by various factors (e.g., accessibility, regulation, demography, socio-economic factors etc).

10.5.2 Taxes on casinos

The licence fees and tax arrangements at the casinos around Australia are summarised in Table 10.8. Licence fees vary from a once only, lump-sum fee, to regular annual, quarterly or monthly fees.

[75] Tasmanian Department of Treasury and Finance (2007), '2007-08 Budget: Budget Paper Number 1', p. 5.6

Tax rates vary widely between jurisdictions and between gambling modes in casinos. For example, in Tasmanian casinos, table gaming is taxed at 0.88 per cent, keno at 5.88 per cent and EGMs at 20.88 and 25.88 per cent, depending on annual gross profits. In the Northern Territory, each casino pays different rates on its gross profits from EGMs and table games. In some states table gaming is taxed far lower than EGMs, such as in Tasmania and South Australia, while in Victoria it is treated the same, and in Western Australia tax rates for table games and EGMs are similar at 18 per cent and 20 per cent, respectively. Queensland's approach is to tax the casino as a whole, with its Gold Coast and Brisbane casinos paying twice the tax rates of those in Townsville and Cairns.

In Tasmania, in addition to the gambling taxes, the casinos must pay an annual licence fee, which is indexed. The licence fees are designed to be a cost recovery charge to cover the cost of regulation and monitoring of the casinos. The value of the casino gaming licence fee (both are included here) was $2.9 million in 2006/07 (see Table 10.4).

10.5.3 Taxes on other gambling modes

The tax rates applied to keno and table gaming (shown in 10.5.2) are calculated on gross profits.

There are no state-owned lottery facilities in Tasmania. The Victorian company Tattersall's runs the lotteries and the Tasmanian Government receives 100 per cent of the duty paid to the Victorian Government for the Tasmanian subscriptions to Tattersall's Lotteries. Similarly, the Tasmanian Government receives 100 per cent of the duty paid to the Victorian Government for the Tasmanian soccer pools subscriptions.

On 1 July 2004, taxes were abolished on minor gaming activities including bingo, instant draw bingo, sweepstakes and lucky envelopes.

10.6 Betfair

Betfair was granted a five-year licence on 10 January 2006 to operate Australia's first betting exchange, following amendments to the *Gaming Control Act 1993*, which were approved in November 2005. Betfair then paid an upfront fee of $5 million to the Tasmanian Racing Industry in January 2006, and commenced operations on 7 February 2006. It then paid a further $5 million to the Tasmanian Racing Industry in 2006/07, its second year of operation.

In terms of the company's financial arrangements, Betfair must pay an annual gaming licence fee of 350,000 'fee units' on 1 July of each year, which on 1 July 2006 equated to $423,500, or $1.21 per fee unit, and this fee is indexed.[76]

[76] A fee unit is a legislated amount that applies to all Tasmanian legislation. The Fee Units Act 1997 sets out the calculation of a fee unit, which is expressed in dollars. The calculation provides for annual increases based on Hobart CPI. In legislation, all fees are referred to in terms of fee units and have built-in CPI escalation. The fee unit for 2006/07 was $1.21, for 2007/08 it is $1.25.

Table 10.8
Tax arrangements at Australia's casinos

	Licence fee	Tax rates	Other
New South Wales	Once only non-refundable lump sum payment of $256m (fully paid).	10.91% of gross revenue from table gaming plus super tax above $227m p.a. at 1% for each $7m to a maximum of 35.91%. 13.41% of gross revenue from slots.	Community Benefit Levy of 2%.
Victoria	$358.4m (fully paid)	21.25% of gross gaming revenue from table games and EGMs for regular players and 9% for commission-based players. Super-tax of 1% for each $20m above $500m for regular players to maximum 41.25%, and 1% super-tax for every $20m above $160m for commission-based players to maximum 21.25%.	Plus 1% of gross revenue to Community Benefit Levy.
Queensland	$164,900 per quarter, increases 1 July each year with the CPI	20% of monthly gross revenue for Gold Coast and Brisbane casinos. 10% of gross revenue for Townsville and Cairns casinos. Junkets (premium players): 10% of monthly gross revenue for Gold Coast and Brisbane casinos; 8% or Townsville and Cairns casinos.	Plus 1% of monthly gross revenue to Community Benefit Fund.
South Australia	Nil	Table games at 0.91% of net gambling revenue plus EGMs at 34.41% of net gambling revenue.	
Western Australia	$2.09m (2004/05) indexed annually to the CPI	International Commission Business 11%; EGMs and Trackside 20%; Table games and Keno 18%.	Plus 1% of gross revenue for upkeep of Burswood Park.
Tasmania	For 2005/06, $118,900 per month (indexed annually)	Tax based on gross profit in a financial year. EGMs <$35m 20.88%; ≥$35m 25.88% of excess. From 1 July 2013 a flat rate of 25.88% will apply. Keno taxed at 5.88% of gross profit; and table gaming at 0.88% of gross profit.	
Northern Territory	Nil	Lasseter's Casino: 8% of table games gross profit; 21% of EGMs gross profit; 4% of international sourced bets gross profit; SkyCity Darwin Casino: 12% of Keno and table games gross profit; 20% of EGMs gross profit.	
ACT	Annual fee $658,372 (2003/04), CPI linked. Interactive gaming: $200,000 when licence is granted plus $100,000 each year after that.	20% of gross revenue of general gaming operations; 10% of gross revenue of commission-based operations. Interactive gaming: 20% of gross monthly profit. Drops to 10% when total for year profit exceeds $10m and to 5% when exceeds $20m until end of financial year.	

Note: GST arrangements vary between jurisdictions.
Source: New South Wales Treasury.

Taxes and levies paid by Betfair are as follows:

- 15 per cent tax rate on total gross commissions from betting exchange events held in Australia;
- 10 per cent tax rate on total gross commissions from betting exchange events held outside Australia; and
- 20 per cent product levy on total gross commissions from all racing events (thoroughbred, harness and greyhound) held in Australia.

The Government appropriates part of this revenue to TOTE Tasmania for distribution to the Tasmanian Racing Industry. The portion of the funds raised in a given financial year, which are appropriated the following year are as follows:

- two thirds of tax revenue on events held in Australia (less the 4 per cent of gross commissions paid to the CSL)
- half of the tax revenue on events held outside Australia; and
- 100 per cent of the product levy on racing events held in Australia.

Betfair guarantees that the total funding to the Tasmanian Racing Industry, from both TOTE and Betfair sources, is at least at the level provided by TOTE in 2004/05 indexed (i.e. pre Betfair being licensed). Since Betfair has been licensed, the combined TOTE and Betfair funding has exceeded this guaranteed amount.

10.7 Destination of gaming machine revenue

The Federal Hotels Group provided SACES with a typical breakdown of where the money taken by a gaming machine in a hotel goes, as shown in Table 10.9. Under section 145 of the *Gaming Control Act 1993*, the commission from gross profits paid to a hotel is 32 per cent and for a club it is 30 per cent. From the commission paid, the gaming operator (the Federal Hotels Group) deducts costs such as rental and other costs.

If a given machine had a notional revenue of $100, then State taxes amount to $25.88, GST paid to the Australian Government is $9.09,[77] $4.00 is collected for the CSL. After these taxes and levies, the venue operator receives $32 and the gaming operator receives $29.03.

In addition, the venue pays a rental charge which is on average $7.38 per machine per day.

Table 10.9
Destination of gaming machine revenue for hotels

	Per cent
State tax	25.88
GST	9.09
CSL	4.00
Gaming operator	29.03
Venue commission	32.00
Total revenue (per day)	100.00

Source: Federal Hotels Group, adjusted by SACES for GST and returns to gaming operator.

[77] GST is paid to the Commonwealth Government and is returned to Tasmania as part of its share of the GST pool.

10.8 Community Support Levy

As well as the EGM taxes, all revenue derived from gaming machines in hotels and clubs each month is subject to a 4 per cent CSL on gross profits, as required by the *Gaming Control Act 1993* (the casinos do not pay this levy). Licensed clubs pay 2 per cent CSL and Federal Hotels Group pays the difference to bring the total to 4 per cent. Very similar arrangements are found in other states regarding payment of a CSL-type levy, such as in South Australia, Queensland and Victoria.

Under the Act, the Treasurer must distribute the CSL as follows:

- 25 per cent for the benefit of sport and recreation clubs;
- 25 per cent for the benefit of charitable organisations; and
- 50 per cent for the provision of research into gambling; services for the prevention of compulsive gambling; treatment for the rehabilitation of compulsive gamblers; community education concerning gambling; and other health services.

The TGC makes recommendations to the Treasurer regarding the allocation of CSL funds to appropriate projects and services. The Tasmanian Department of Health and Human Services (DHHS) has administrative responsibility for making recommendations for appropriation of the 50 per cent component of the CSL, as well as the 25 per cent allocated to charitable organisations. These responsibilities are largely carried out within DHHS by the Gambling Support Program within the Children and Families Division of the DHHS. Sport and Recreation Tasmania, within the Department of Economic Development, has responsibility for distributing the 25 per cent allocated for the benefit of sport and recreation clubs. This is achieved through the administration of the Minor and Major Grants Programs (previously the Community Grants Program and Facilities Grant Program). There are very similar arrangements in other states.

Total CSL receipts in Tasmania for the period 1996/97 to 2006/07 are shown in Table 10.10. Expenditure totalled $3.96 million in 2006/07, against receipts of $4.50 million. This was in contrast to total CSL expenditure of $6.38 million in 2005/06, against receipts of $4.38 million. The discrepancy between receipts and expenditure each year is due to the CSL funds not being required to be spent in the same year as they are collected. This resulted in an accumulation of CSL funds during the first few years of operation, which was reversed in 2003/04 and the subsequent years when expenditure significantly exceeded receipts.

The CSL is spent on the three main categories shown in Table 10.10 as follows (in 2006/07):

(1) Problem gambling category including community education and research:

- $592,000 to the provision of support services to assist people affected by gambling, including personal and family counselling; financial counselling; support groups; and the 24-hour telephone helpline.
- $1.15 million to the Neighbourhood Houses Program, which expands the support services available to Tasmanian communities.
- $82,000 to Social Programs, including programs dealing with mental health promotion and prevention strategy, education and prevention services.

Table 10.10
Community Support Levy in Tasmania, 1996/97 to 2006/07 ($'000)

	Total receipts	Total expenditure			
		50 per cent of levy to: support services, research, community education, other health services	25 per cent of levy to: sporting organisations	25 per cent of levy to: charitable organisations	Total
1996/97	203	143			143
1997/98	940	319	219	78	616
1998/99	1,485	374	250	128	751
1999/00	2,324	684	714	505	1,902
2000/01	3,063	572	686	834	2,092
2001/02	3,784	1,225	910	467	2,602
2002/03	4,356	1,502	519	889	2,910
2003/04	4,853	4,113	1,201	1,580	6,894
2004/05	5,029	3,223	1,785	1,409	6,417
2005/06	4,379	3,911	1,410	1,055	6,376
2006/07	4,498	1,832	1,170	962	3,964

Source: Tasmanian Gaming Commission Annual Reports.

(2) Charitable organisations category:

$200,000 to the charitable grants program through the CSL. Of this, $94,000 went to the No Interest Loan Scheme and $106,000 to Lifeline programs. In 2006/07, 101 charitable grants (ranging from $3,000 to $10,000) were approved for 91 organisations totalling approximately $300,000, to be funded from the CSL in the 2007/08 financial year. In addition, funding of $762,000 was allocated to the Neighbourhood Housing scheme.

(3) Sport and recreation category:

Sport and Recreation Tasmania (SRT), a business unit of the Department of Economic Development, is responsible for spending 25 per cent of the CSL for the benefit of sport and recreation clubs. It does this through the Facilities Grant Program and the Community Grants Program.

The researchers were not required to evaluate the operations or administration of the CSL and we have not done so. On the issue of the commissioning of research, the function and funding for gambling research appears to have been passed to the Department of Health and Human Services (the Gambling Support Program) and this is funded out of the CSL levy. However, one of the functions of the TGC is to "research and investigate matters related to gaming" yet it is not clear how this is supported and whether the TGC has any role in deciding research priorities to assist the TGC in carrying out its functions.

10.9 Conclusion

Some researchers (Walker 2007) maintain that from an economic perspective gambling tax revenue should "not be considered a net benefit of any policy" as it represents a transfer from taxpayers to government. However, because gambling taxes "are avoidable or elective in the sense that participation in gambling is optional" (CRSTC 1992, p. 3) and the possibility that a small component of the tax revenue may be contributed by non-Tasmanians,[78] we treat direct tax revenue from gambling expenditure as a net benefit for Tasmania (see Chapter 16).

Gambling taxation is an important source of revenue for the Tasmanian Government. At $84.3 million in 2006/07 this represented 11.5 per cent of state own source revenue. This placed Tasmania in the "middle of the pack" with the proportion of revenue coming from gambling taxes highest in the ACT at 15.1 per cent, followed by South Australia at 14 per cent and Victoria 13.1 per cent. Western Australia is ranked lowest at 6.1 per cent.

Gaming machines whether located in hotels, clubs or the casino account for approximately 60 per cent of the total; lotteries account for a further 29 per cent. The CSL raised $4.5 million in 2006/07.

Licence fees and permit charges are designed to cover the cost of administration and regulation of the gambling sector. The net effect is assumed to be zero.

[78] In the Chapter on Tourism we considered that there was at best, a relatively small contribution to gambling taxation from non-Tasmanians.

Section D

Assessment of Social Impacts

In this section ─ consisting of six chapters ─ we first consider (in summary form) the results of the prevalence survey in regard to problem gambling and problem gamblers, as problem gambling is crucial to the social costs of gambling.

Harm minimisation strategies are discussed in Chapter 12 while Chapter 13 examines whether there is any relationship between gambling expenditure and crime. Chapter 14 examines problem gambling and EGM expenditure at the regional (LGA) level.

Finally, Chapters 15 and 16 conclude the study by estimating (valuing) social impacts. Chapter 16 draws together the social, financial and economic impacts of gambling in Tasmania to provide a final estimate of the **net impact**.

Authors Note: The approach in this study to an assessment and valuing of social impacts follows the approach adopted by the Productivity Commission, complemented by a sub-regional analysis discussed in Chapter 14. Social impacts are also considered in Chapter 15 and in Volume 2: Prevalence Study. Different approaches to the assessment of social impacts were considered in Chapter 2 where the authors noted that Tasmania (from a legislative point of view) does not define social impacts nor require that they be identified for the purpose of a gaming licence. The researchers devoted extensive time in face-to-face interviews with all major stakeholders questioning each on matters related to social impacts, plus such impacts were raised in the public submission process.

Finally, in Section E were put forward a suggestion that in updating this study a micro-regional analysis and community impact assessment be undertaken so that the "macro and micro analysis" complement each other.

11. Problem Gambling in Tasmania: 2007 Prevalence Survey

As part of the broader research on the social and economic impacts of gambling in Tasmania, a survey was undertaken to obtain up-to-date figures concerning the prevalence of gambling and problem gambling in Tasmania. Detailed results from the 2007 Prevalence Survey of Tasmanian gambling are provided in Volume Two of this report; however the key results with respect to problem gambling are reported here as *problem gambling is crucial to the social costs of gambling*.

A telephone survey of 4,051 Tasmanian adults was conducted in August and September 2007. Respondents were interviewed using the Computer Assisted Telephone Interview System (CATI). Households were randomly sampled, although in keeping with the methodology used in the previous 2005 survey, quotas were set for the 4 major Statistical Districts of Tasmania. Quotas based on the most recent ABS Census were also set for the 18-24 year old age-group to ensure adequate representation of young people in the final sample.

All respondents were asked to indicate whether they had gambled; the type of activity involved; their attitudes towards gambling in Tasmania; and to provide demographic information. People who gambled on at least one activity were asked to provide details of how often they gambled. Those who gambled on gaming machines were asked a series of questions relating to time and expenditure, the influence of venue proximity, the use of ATMs in the casino or nearby to other venues, and their use of loyalty cards.

Respondents who gambled at least once per week (or 52 times or more per year) on activities other than lotteries, scratch tickets or bingo, completed the entire survey. Each was administered a validated problem gambling screening tool as well as questions relating to the harms associated with problem gambling. The CPGI with a last 12 months time-frame was the screening instrument used in this study. This measure had also been included for the first time in 2005 and is the recognised measure for prevalence research in Australia.

Information was not sought on respondents annual spending, or time spent gambling, by gambling mode. Data of this nature are potentially useful in that the intensity of a person's gambling can be used to validate other self-reported measures of problem gambling (e.g. as obtained via screening instruments). However, a serious difficulty with such data is that estimates of expenditure obtained from self-report studies have been found to be unreliable (see Blaszczynski et al., 1999), and extrapolated estimates based on survey data are often many times lower than the actual figures (Delfabbro & Winefield, 1996; SACES, 2006).

11.1 Gambling participation

The results showed that 71.7 per cent of the sample had gambled at least once in the previous year. Although this figure is significantly lower than the figure of 85 per cent obtained in the 2005 survey, this may only be because of the removal of raffle tickets from the list of activities in the 2007 survey. The Tasmanian participation rate is similar to that obtained in recent prevalence studies in South Australia, New South Wales and the Northern Territory,[79] but slightly lower than observed in Victoria, the Australian Capital Territory, and Queensland.[80]

[79] SA, S.A. Department of Health (2007); NSW, AC Neilson, 2007; and NT, Young, *et al.*, 2006 respectively.
[80] Victoria, McMillen *et al*., 2004; ACT, McMillen, *et al*., 2001; and Queensland, Queensland Treasury, 2007.

More accurate insights into the changing pattern of gambling in Tasmania can be discerned from Table 11.1 that provides comparative participation rates (2005 vs. 2007) for individual gambling activities among the adult population in Tasmania. Participation rates in Table 11.1 cannot be summed as participation is in more than one type of gaming activity.

Table 11.1
Participation Rates for Individual Gambling Activities (Per cent)

Variable/Location	2005	2007
Lotteries	52.3	51.3
Scratch Tickets	31.8	31.3
Gaming Machines		
Overall	n.a.	28.5
At a casino	22.2	21.4
At a club/hotel	22.9	20.7
Keno		
Overall	n.a.	25.9
At a club/hotel	20.8	23.6
In a casino	9.5	8.8
Horse Racing		
Overall	n.a.	16.8
Off course	14.7	12.0
On course	6.7	8.5
By telephone	2.5	1.6
Via Internet	0.8	1.7
Casino table games	5.2	7.0
Sports-betting	3.5	3.9
Bingo	2.2	1.8
Private card games / Majong	4.6	5.3
Poker tournaments	n.a.	1.2
Internet		
General	n.a.	1.4

Note: The 'Overall' category is based on participation at any venue, i.e. at least one or at both. The percentages for specific venue types do not add up to the total listed next to 'played anywhere'.

The results are set out so that readers can discern the overall participation rate for individual activities as well as the locations at which they are played. As indicated in Table 11.1, adults in Tasmania are most likely to gamble on lotteries. Scratch tickets are played by a third of the population, gaming machines by just under 30 per cent, keno by a quarter of the population, whereas horse racing attracts fewer than 1 in 5 Tasmanian adults. Comparative statistical analyses showed that the participation rates in 2007 are similar to those in 2005. All differences between proportions were very small and therefore not statistically meaningful.

A further analysis examined the frequency with which people gambled on each activity (Table 11.2). All figures are based on the total sample so as to allow the figures to be generalised back to the broader Tasmanian adult population. Table 11.2 shows that approximately 1 in 5 Tasmanians play lotteries on at least a weekly basis, *but that only a small proportion gambles this frequently on any other form of gambling*. For example, only 1.5 per cent gamble on gaming machines on a weekly basis, and only 2 per cent buy scratch tickets or place bets on races. Analysis involving the comparison of 2007 weekly figures with 2005 showed no significant differences in weekly participation rates for any individual activities.

Table 11.2
Frequency of Participation for Individual Activities: 2007 (Per cent)

Variable/Location	Less than once per month	1-3 times per month	Once per week or more
Lotteries	22.4	8.3	21.6
Scratch Tickets	23.9	5.7	2.2
Gaming Machines			
Played anywhere	21.8	5.9	1.5
At a casino	18.0	2.7	0.7
At a club / hotel	15.5	4.2	1.0
Keno			
Played anywhere	19.8	4.4	1.7
At a club /hotel	17.9	4.1	1.6
In a casino	8.0	0.6	0.2
Horse Racing			
Anywhere	11.8	2.9	2.1
Off course	8.7	2.0	1.3
On course	7.5	0.9	0.1
By telephone	0.8	0.4	0.4
Via Internet	0.6	0.5	0.6
Casino table games	6.3	0.6	0.1
Sports-betting	3.2	0.6	0.1
Bingo	1.2	0.2	0.4
Private card games / Majong	3.7	1.1	0.5
Poker tournaments	0.9	0.1	0.2
Internet			
General	0.4	0.5	0.5

Overall participation figures were compared across the demographic characteristics of the sample and the results are set out in Table 11.3. Significant differences (5 per cent or greater or lower than the overall sample proportion) are identified with ⇑ or ⇓ symbols. A difference of 5 per cent or more is statistically significant and unlikely to be due merely to chance. For each demographic characteristics (e.g. gender or age), the percentages are based on the proportion of each category gambling on each activity, e.g. the percentage of total males or 18-24 year olds gambling on a particular activity. Percentages will not therefore sum to 100 per cent for each demographic characteristic.

The results in Table 11.3 show that men and women in Tasmania are equally likely to gamble, but that older people (60+ years) are significantly less likely to gamble. Higher gambling participation rates are observed in: three person households; in those who are looking for work; in people who have lower educational attainment, or those who identify themselves as being of Aboriginal descent. The lowest participation rate was observed in students.

Table 11.3
Demographic Differences in Overall Participation

Variable	Number	Per cent
Gender		
Male	1,408	72.2
Female	1,498	71.3
Age Group		
18-29 years	552	74.2
30-39 years	502	73.2
40-49 years	583	73.9
50-59 years	548	73.7
60+ years	720	66.2⇓
Household Size		
1 Adult	384	65.3⇓
2 Adults	1,814	72.1
3 Adults	481	76.7⇑
4 Adults	184	71.6
5+ Adults	42	67.7⇓
Geographical Area		
Greater Hobart	1,207	70.1
Southern	215	72.6
Northern	816	71.7
Mersey-Lyell	667	74.5
Ethnicity (Aust)		
Aboriginal	91	85.0⇑
Non-Aboriginal	2,532	73.0
Country of Birth		
Australia / NZ	2,647	73.2
United Kingdom	161	64.4⇓
Other	97	71.7
Living Status		
Partner / Spouse, but no children	955	72.2
Children but no partner or spouse	120	75.9
Partner / Spouse and children	1,045	73.1
With other relatives	359	74.0
Single person household	313	63.2⇓
Group household	94	70.7
Other	18	75.0
Work Status		
In paid employment (fulltime)	1,206	75.7
In paid employment (part-time)	534	75.1
Household-duties	229	70.7
Student	122	54.7⇓
Retired	644	67.0⇓
Looking for Work	65	79.3⇑
Other	100	66.7⇓
On Pension		
Yes	521	69.9
No	122	58.4⇓

Table 11.3 (continued)
Demographic Differences in Overall Participation

Variable	Number	Per cent
Personal Income		
< $20,000	931	69.6
20,000-29,999	305	71.4
30,000-39,999	337	77.8⇑
40,000-49,999	300	66.7
50,000-59,999	234	74.3
60,000-69,999	167	66.3
70,000+	243	71.3
Education		
Less than Year 12	1,260	77.7⇑
Year 12 only	428	75.5
At least some Uni	1,118	65.1⇓
Diploma / Technical	93	62.7

Note: Many people chose not to disclose their income details.
Figures do not sum to 100per cent due to non-responses or rounding errors.
⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
Total sample, N=2,905, 71.7 per cent.

11.2 Problem gambling prevalence rate

The prevalence of problem gambling was assessed using the CPGI. Only respondents who gambled at least once per week (or 52 times or more per year) on activities other than lotteries, scratch tickets or bingo, were assessed using the CPGI.[81] Although it is not without its limitations, it has been endorsed as the best currently available measure by Gambling Research Australia (SACES, 2005c) and has been used in almost all recent Australian prevalence surveys.

CPGI results for the 2007 Tasmanian survey are contained in Table 11.4. As indicated, the estimated prevalence rate for problem gambling in Tasmania for 2007 was 0.54 per cent (95 per cent confidence interval: 0.31 per cent to 0.77 per cent) with a further 0.9 per cent (95 per cent confidence interval: 0.60 per cent to 1.20 per cent) estimated to be moderately at risk.

Table 11.4
Problem Gambling (CPGI) results for 2007

	Regular Gamblers (N=304)		Total Sample (N=4051)	
	Number	**Per cent**	**Number**	**Per cent**
Regular Gamblers: No Risk	209	68.8	209	5.16
Low Risk	40	13.2	40	0.99
Moderate Risk	35	11.5	35	0.86
Problem	22	7.2	22	0.54

Table 11.5 summarises the results from other recent prevalence surveys that have been undertaken using the CPGI. The results show that the Tasmanian figure for 2007 was slightly lower than for 2005, although this was **not** statistically significant (as was confirmed by a

[81] The CPGI is a 9-item scale. For each item, respondents are asked to indicate how often the statement applied to them in the previous 12 months, where 0 = Never, 1 = Sometimes, 2 = Most of the time, and 3 = Always. Scores can range from 0-27, with scores of 0 indicating no risk, 1-2 low risk, 3-7 Moderate risk, and 8+ = High risk or problem gambling.

calculation of the 95 per cent confidence intervals for 2005 and 2007). The confidence intervals for the two years overlapped so that the 2007 figure of 0.54 per cent **is not reliably lower** than the 2005 figure of 0.73 per cent. Tasmania's 2007 prevalence rate is similar to the rates obtained in South Australia and Queensland, but lower than in Victoria. The estimated moderately at risk percentage was also similar to the 2005 Tasmania figure and that obtained in Victoria and South Australia, but significantly lower than in Queensland. In other words, Tasmania is generally most similar to South Australia in terms of its problem gambling prevalence rate.

Table 11.5
Comparative Inter-jurisdictional Prevalence Rates for Problem Gambling as Based on the CPGI

	Sample Size	Moderate Risk	Problem Gambling
Queensland 2001	13,082	2.70	0.83
Queensland 2003	30,373	1.97	0.55
Victoria 2003	8,479	0.91	0.88
South Australia 2005	17,140	1.20	0.40
New South Wales 2006	5,029	1.60	0.80
Northern Territory 2005	1,873	n.a.	0.64
Tasmania 2005	6,048	1.02	0.73
Tasmania 2007	4,051	0.86	0.54

Note: n.a. = not applicable.

Table 11.6 summarises the proportion of the sample that endorsed each item on the CPGI. To allow meaningful comparisons based on the level of risk, groups are collapsed into two groups: No and Low Risk and Moderate and Problem Gambling. This was done because of the relative small number of respondents falling into the problem gambling group.

The results in Table 11.6 show that all problems (or endorsed items) were very rare in the no risk and low risk groups and significantly higher in the moderate risk and problem group. The most commonly endorsed items related to spending more money to obtain the same excitement, betting more than could be afforded, feeling that one had a problem, and feeling guilty about gambling.

The proportion of gamblers falling into the moderate risk and problem gambler groups were compared across the different demographic characteristics of the sample. The results, summarised in Table 11.7, show that males, young people, and people living in the Greater Hobart area were significantly more likely to be in the moderate risk and problem gambling groups. Older people, those with higher incomes, and people with partners and children were least likely to fall into these groups.

Table 11.8 provides a summary of how many regular gamblers (No and Low risk *vs*. Moderate Risk and Problem Gambling) participated in the various activities. As indicated, the higher risk group was significantly more likely to play keno and buy scratch tickets and play gaming machines, but was less likely to gamble on casino table games. In interpreting this table in relation to previously presented tables, it is important to note that much larger percentage differences are required in Table 11.8 to detect significant differences because the sample size is much smaller (only 304 regular gamblers). Previous analyses have included sample sizes of over 1,000 so that only relatively small differences in percentages can lead to statistically significant differences.

Table 11.6
Summary of Responses to Individual CPGI Items

	No and Low Risk (N=249)		Moderate Risk and Problem Gamblers (N=57)	
	Number	**Per cent**	**Number**	**Per cent**
1. Bet more than you could afford to lose				
Never	234	94.0	12	21.0
Sometimes	15	6.0	25	43.9
Most of the time	0	0.0	7	12.3
Almost Always	0	0.0	12	21.0
2. Gambled with larger amounts to get same feeling of excitement				
Never	247	99.2	23	40.4
Sometimes	2	0.8	22	38.6
Most of the Time	0	0.0	2	3.5
Almost Always	0	0.0	8	14.0
3. Gone back to win money lost in previous session				
Never	242	97.2	11	19.3
Sometimes	7	2.8	36	63.2
Most of the Time	0	0.0	2	3.5
Almost Always	0	0.0	6	10.5
4. Borrowed money/ sold anything to gamble				
Never	249	100.0	38	66.7
Sometimes	0	0.0	13	22.8
Most of the Time	0	0.0	2	3.5
Almost Always	0	0.0	2	3.5
5. Felt that you might have a problem with gambling				
Never	246	98.8	15	26.3
Sometimes	3	1.2	26	45.6
Most of the Time	0	0.0	4	7.0
Almost Always	0	0.0	10	17.5
6. Gambling caused you health problems				
Never	246	98.8	31	54.4
Sometimes	3	1.2	10	17.5
Most of the Time	0	0.0	3	5.3
Almost Always	0	0.0	9	15.8
7. People criticised your gambling				
Never	243	97.6	27	47.4
Sometimes	6	2.4	20	35.1
Most of the Time	0	0.0	2	3.5
Almost Always	0	0.0	6	10.5
8. Gambling caused financial difficulties				
Never	249	100.0	32	56.1
Sometimes	0	0.0	17	29.8
Most of the Time	0	0.0	3	5.3
Almost Always	0	0.0	3	5.3
9. Felt guilty about your gambling				
Never	238	95.6	9	15.8
Sometimes	11	4.4	29	50.9
Most of the Time	0	0.0	7	12.3
Almost Always	0	0.0	10	17.5

Table 11.7
Demographic Profile of Moderate Risk and Problem Gamblers

Variable	Number	Per cent
Gender		
Male	36	1.85⇑
Female	19	0.90⇓
Age Group		
18-29 years	17	2.28⇑
30-39 years	8	1.16
40-49 years	15	1.90
50-59 years	4	0.54⇓
60+ years	10	0.92
Household Size		
1 Adult	10	1.70
2 Adults	26	1.03
3 Adults	12	1.90
4 Adults	7	2.72⇑
5+ Adults	0	0.00
Geographical Area		
Greater Hobart	35	2.03⇑
Southern	4	1.35
Northern	7	0.62⇓
Mersey-Lyell	9	1.00
Ethnicity (Aust)		
Aboriginal	*	*
Non-Aboriginal	49	1.40
Country of Birth		
Australia / NZ	52	1.43
United Kingdom	*	*
Other	*	*
Living Status		
Partner / Spouse, but no children	10	0.76⇓
Children but no partner or spouse	*	*
Partner / Spouse and children	15	1.05
With other relatives	14	2.89⇑
Single person household	8	1.62
Group household	*	*
Other	*	*
Work Status		
In paid employment (fulltime)	21	1.32
In paid employment (part-time)	12	1.69
Household-duties	*	*
Student	*	*
Retired	9	0.94
Looking for Work	*	*
Other	*	*
On Pension		
Yes	8	1.07
No	*	*

Table 11.7 (continued)
Demographic Differences in Regular Non-Lottery Gambling

Variable	Number	Per cent
Personal Income		
< $20,000	26	1.94
20,000-29,999	4	0.94
30,000-39,999	7	1.62
40,000-49,999	8	2.05
50,000-59,999	5	1.59
60,000-69,999	*	*
70,000+	1	0.29⇓
Education		
Less than Year 12	29	1.79
Year 12 only	6	1.06
At least some Uni	20	1.16
Diploma / Technical	*	*

Note: Many people chose not to disclose their income details.
Figures do not sum to 100per cent due to non-responses or rounding errors.
⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
* = Cell size too small to allow valid analysis.

Table 11.8
Gambling Preferences of Moderate Risk and Problem Gambler Groups (Per cent)
(Note: all are regular gamblers)

Variable	No Risk and Low Risk Groups (N=249)	Moderate Risk and Problem Gambler Groups (N=55)
Lotteries	71.1	70.1
Scratch Tickets	41.8	65.5⇑
Gaming Machines	69.1	87.3⇑
Keno	65.0	80.0⇑
Horse Racing	61.0	61.8
Casino table games	28.9	9.1⇓
Sports-betting	20.1	29.1
Bingo	6.8	1.8
Private card games / Majong	24.0	23.6
Poker tournaments	8.4	9.1
Internet	12.4	10.9

Note: ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.

11.3 Harms associated with gambling

A series of questions relating to the harms associated with gambling were also included in the survey. Consistent with the previous South Australian survey (2005) and Productivity Commission (1999) study, these revolved around the personal, social, financial, vocational and legal implications of problem gambling. Table 11.9 summarises the results for these questions.

Inspection of Table 11.9 shows that the higher risk groups endorsed every question with greater frequency than the low risk groups. Those in the moderate risk and problem gambler groups were significantly more likely to experience depression as a result of gambling; use gambling to escape worry; experience disruptions to family and social lives; have debts due to gambling; and experience disruptions to work and study.

Table 11.9
Harms Associated with Gambling

Variable	No Risk and Low Risk Groups (N=249)		Moderate Risk and Problem Gambler Groups (N=57)	
	Number	Per cent	Number	Per cent
Suffered depression because of gambling				
Never/Rarely	248	99.6	38	69.0⇓
Sometimes	1	0.4	8	14.5⇑
Most of the time	0	0.0	7	12.7⇑
Almost always	0	0.0	1	1.8⇑
Gambled to escape worry or trouble				
Never/Rarely	245	98.4	29	52.7⇓
Sometimes	4	1.6	12	21.8⇑
Most of the time	0	0.0	7	12.7⇑
Almost always	0	0.0	5	9.1⇑
Put off doing things together because of gambling				
Never/Rarely	249	100.0	37	67.3⇓
Sometimes	0	0.0	12	21.8⇑
Most of the time	0	0.0	5	9.1⇑
Almost always	0	0.0	2	3.6⇑
Gambling made it harder for money to last				
Never/Rarely	246	98.8	31	56.4⇓
Sometimes	3	1.2	13	23.6⇑
Most of the time	0	0	6	10.9⇑
Almost always	0	0	6	10.9⇑
People had difficulties trusting you because of gambling				
Never/Rarely	249	100.0	46	83.6
Sometimes	0	0.0	2	3.6⇑
Most of the time	0	0.0	2	3.6⇑
Almost always	0	0.0	5	9.1⇑
Thought about suicide because of gambling				
Never/Rarely	249	100.0	48	87.3
Sometimes	0	0.0	7	12.7⇑
Most of the time	0	0.0	0	0.0
Almost always	0	0.0	0	0.0
Gambling left no money for rent				
Never/Rarely	249	100.0	44	80.0
Sometimes	0	0.0	8	14.5⇑
Most of the time	0	0.0	2	3.6⇑
Almost always	0	0.0	0	0.0
Gambling left no money for bills				
Never/Rarely	249	100.0	42	76.4⇓
Sometimes	0	0.0	8	14.5⇑
Most of the time	0	0.0	4	7.3⇑
Almost always	0	0.0	1	1.8⇑
Experience substantial debt because of gambling				
Never/Rarely	249	100.0	40	72.7⇓
Sometimes	0	0.0	8	14.5⇑
Most of the time	0	0.0	6	10.9⇑
Almost always	0	0.0	1	1.8⇑

Table 11.9 (continued)
Harms Associated with Gambling

Variable	No Risk and Low Risk Groups (N=249)		Moderate Risk and Problem Gambler Groups (N=57)	
	Number	Per cent	Number	Per cent
Gambling affected family interests				
Never/Rarely	249	100.0	41	74.5⇓
Sometimes	0	0.0	10	18.2⇑
Most of the time	0	0.0	4	7.3⇑
Almost always	0	0.0	0	0.0
Experienced relationship breakdown due to gambling (own or other person's)				
Yes	25	10.0	11	20.0⇑
No	224	90.0	44	80.0
Gambling affect work or study performance				
Never/Rarely	249	100.0	45	81.8⇓
Sometimes	0	0.0	5	9.1⇑
Most of the time	0	0.0	0	0.0
Almost always	0	0.0	4	7.3⇑

Note: ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.

All gamblers were also asked to indicate the largest amount that had ever been lost in a single day of gambling. No and low risk gamblers gave an average figure of $114 (SD = 267) which was significantly lower than the figure of $579 for the moderate risk and problem gambler groups. The largest reported amount lost was $2,500.

11.4 Conclusion

As the negative social impacts from gambling arise from problem gambling, the estimated prevalence of problem gambling is the foundation of any social cost estimate. The results from the 2007 Prevalence Survey (which used the CPGI as the screen to identify problem gamblers) showed that an estimated 0.54 per cent of the sample scored in the problem gambling range, 0.86 per cent in the moderate risk range, and 0.99 per cent in the low risk range. This results suggests that 2,030 Tasmanian adults scored in the problem gambling range, with a further 3,233 adults being 'moderately at risk'. Tasmanian 'problem gambling' and 'moderately at risk' rates were similar to South Australia, but lower than in Victoria and Queensland.

The responses to the questions on the experience of harms associated with gambling reinforce that the experiences of those scored as 'problem gamblers' or 'moderately at risk' are distinct from other regular gamblers. For example, the higher risk groups were significantly more likely to experience depression as a result of gambling (14.5 per cent of the high risk groups reported this 'most of the time' or 'almost always' compared to 0 per cent of the low risk groups). No regular gamblers in the low risk groups reported over the past having experienced gambling related: disruptions to family and social lives; substantial debts; thoughts about suicide; or disruptions to work and study.

12. Harm Minimisation

It has been recognised throughout Australia and New Zealand that there are problems arising from gambling. Therefore all Australian jurisdictions and New Zealand have introduced a range of harm minimisation measures. A brief discussion of the "public health approach to problem gambling" in New Zealand is included here because the approach differs in many respects to that of Tasmania and other Australian jurisdictions. This section looks first, at the Tasmanian harm minimisation framework, then specific policies and measures to minimise harm, including approaches in other jurisdictions and the potential application of smart card technology.

12.1 Harm minimisation framework

The *Gaming Control Act 1993* (section 151) requires that a proportion of the funds paid into the CSL be distributed for the provision of services for the prevention and treatment of "compulsive gambling" and for community education and research into gambling. Also, 25 per cent of the levy must be distributed to sport and recreation clubs, and 25 per cent to charitable organisations.

The Gambling Support Program (GSP, previously the Gambling Support Bureau) within the Department of Health and Human Services (DHHS) is primarily funded through the CSL. The GSP is responsible for policy development and program management in relation to: state-wide problem gambling support service delivery; gambling community education and health promotion; and the Charitable Organisations grants programs. It also has a major role in gambling research.

An integrated state-wide Gambling Community Education and Harm Minimisation Strategy was launched by the Minister for Health and Human Services in November 2000. A Community Education and Harm Minimisation Officer and a Health Promotion Officer are employed under the GSP.

The GSP provides materials, resources and programs to improve community awareness of support services and gambling behaviours. These strategies include the provision of brochures to venues and to help service providers; web-based self-help material; and visits and educational kits for schools.

Through the GSP, the DHHS also provides a range of gambling support services promoted collectively as the 'Break Even Network', which is discussed further below. These services are provided for those affected by problem gambling, and there is a component of the activities which extends to prevention/community education. In Tasmania, (and Tasmania is not unique in this regard), a number of harm minimisation measures focus on the latter stages in the gambling continuum, looking more at dealing with symptoms of those experiencing problems, rather than on preventative measures. In regard to other measures, it might reasonably be argued that Tasmania is favourably distinguished from other jurisdictions in its efforts at preventing harm.

All staff employed in hotels and clubs as a licensed special employee are required to undertake an approved Responsible Conduct of Gambling course within three months of being licensed. AHA provides the most popular course which includes a segment on problem gambling provided by a Break Even Services counsellor.

Non-voluntary responsible gaming provisions are imposed by the TGG such as self-exclusion schemes and venue and machine specific measures considered below. In addition, responsible gambling provisions are applied via industry self-regulation through voluntary codes of practice.

For example, TOTE Tasmania is regulated in part through self-regulation under its own legislation – *Racing (Totalisator Betting) Act 1952*, supplementary regulations and through Ministerial control.

Betfair is subject to regulatory framework under the Gaming Control Act, and as outlined in their written submission (see Chapter 5) is required to offer customers pre-commitment facility and the option of self-exclusion.

Break Even Network

The Break Even Network, Tasmania, was established in 1996 and offers a 24-hour telephone crisis counselling and referral service, counselling services and group support sessions. These services are free and confidential for people who have gambling problems, as well as for those affected by another person's gambling activities. The 24-hour telephone service, Gambling Helpline Tasmania, provides direct crisis counselling as well as referrals to other Break Even services and direct mailings of gambling-related information. Other Break Even services[82] are offered by Anglicare (Tasmania) and Relationships Australia (Tasmania), both of which offer personal and family counselling. Anglicare also offers financial counselling. The Break Even Network is funded by the CSL.

Awareness of Help-Services

A potentially concerning result from the 2007 Tasmanian prevalence survey was a significant decrease in people's awareness of services or sources of help as compared with the 2005 results. Many of the results in this survey were much closer to those obtained in the 2000 survey than those in 2005. Whether this represents a genuine decrease in awareness or merely the result of greater promotion of services in 2005 as compared with 2007 remains unclear.

Respondents were provided with a list of help services and asked to indicate whether they had heard of them. A summary of the number who were able to identify the different services is provided in Table 12.1.

There were a number of age and gender, but not area, differences in awareness of the formal services listed in Table 12.1:

- Both Gamblers Anonymous and Relationships Australia were better known by women than men.
- Young people were more likely to know about the Helpline and GABA, but less likely to know about Anglicare (better known by the older people in the sample).

[82] Gambling and Betting Addiction Inc. (GABA) was a key organisation of the Break Even Services up until 31 December 2007.

Table 12.1
Awareness of Help-services

	Tasmania 2005 (N=2003)	Tasmania 2007 (N=4051)
Gamblers Anonymous	81	70.0⇓
Gambling Helpline Tasmania	68	58.3⇓
Social Worker	49	34.0⇓
Anglicare Tasmania	43	39.4
Family or Friends	42	33.2⇓
Emergency Relief	38	26.9⇓
Financial Counsellors	37	24.8⇓
Spouse or Partner	35	28.1⇓
Church or Religious Worker	31	21.3⇓
Doctor	30	26.4
Relationships Australia	21	17.7
Counsellor at GABA	11	8.6
Gambling venue employee	9	7.0
Someone else	1	1.3

Note: ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
Source: 2007 Prevalence Survey.

12.2 Venue-level measures

As well as the state-wide cap on EGMs which was introduced by the Tasmanian Government in 2003 and set at 3,680 machines and venue caps for hotels (30) and clubs (40), the TGC also applies a number of measures related to harm minimisation which specifically target venues and the machines themselves.

Venue-specific measures

- Effective January 2006, smoking was banned inside any licensed venue in Tasmania. It is only permitted in certain outdoor areas.
- ATMs are not permitted in gaming venues other than at the two casinos. Tasmania is distinguished from other jurisdictions in relation to banning ATMs.
- EFTPOS facilities must not be used for the provision of cash from credit accounts.
- Cash provisions through EFTPOS may not be used for gambling purposes. A maximum of one EFTPOS cash transaction per day is permitted from a debit or non-credit account, and only when the Licensed Premises Gaming or Special Employee is satisfied that the individual is not experiencing problems controlling their gambling.
- Cheques may be cashed at the discretion of the licensed premises gaming operator. A maximum of one cheque may be cashed per patron per day.
- The voluntary Code of Practice requires that clocks be installed in gaming areas in hotels, clubs and casinos. In addition, the time of day must be displayed on the screen of all gaming machines.
- Opening hours for EGMs are determined by the liquor licence.[83]
- Minors are banned from gaming machine areas.

[83] There are no venues operating gaming for 24 hours. Under the Gambling Industry Code of Practice all gaming venues (i.e. hotels, clubs and casinos) must shut down four hours in a twenty-four hour period. As at May 2008 there were (venues with gaming machines): 88 venues with a licence to operate up to 20 hours; 5 venues with a licence up to 19 hours; and 10 venues up to 18 hours.

- There are advertising restrictions through the voluntary Code of Practice.

Two venue specific features ─ ATMs not permitted in gaming venues other than at the two casinos and controls on opening hours ─ are best practice measures. SACES (2005a) and SACES (2005b) found that both measures had a positive impact on NGR. For example, the use of ATMs by patrons of clubs and hotels in Victoria was 25 per cent compared to 14 per cent in Western Australia,[84] and the difference can be attributed to the withdrawal of cash for gambling in gambling venues as the "availability of ATMs in both states is in proportion to their respective populations" (SACES, 2005a). The reduction in hours of trading of hotels in Victoria also resulted in a decline in NGR at those venues (SACES, 2005b).

The extent of EGM revenue in the two casinos relative to other gambling activities suggest further consideration could be given to the availability of ATMs in those venues.

Machine-specific measures

- Autoplay is prohibited.
- Gaming machines with note acceptors are not allowed in hotels and clubs.
- The maximum bet limit is $10 in clubs and hotels.
- Game features that increase the speed of play are not permitted.
- Player Information Displays (PIDs) are required for all new gaming machines in casinos, hotels and clubs. PIDs allow a player to view particular information about the game, including the return-to-player configuration of the game and any connected jackpots; total wins and losses and the duration of play; and odds of the top five and bottom five prizes.

There are a number of areas in which Tasmania has made significant steps in an attempt to minimise harm and is thus in line with best practice around Australia and New Zealand. Specifically, standout achievements in Tasmania are: no note acceptors are permitted on EGMs in hotels and clubs; ATMs are not permitted to be located in gambling venues (other than casinos); maximum bet limits are in place; and gambling advertising is limited, with gambling venues all taking the brand name of Oasis, and it is this name that is advertised at venues, rather than EGMs themselves, while the advertising of jackpots and more prominent gambling advertising is prohibited.

12.3 Tasmanian self-exclusion scheme

The Tasmanian Gambling Exclusion Scheme (TGES) as it operates today started in August 2002, and was set up as an integrated program involving the TGC through the Liquor and Gaming Branch of the Department of Treasury and Finance, the Gambling Support Program, the Break Even Services Network (which includes Gambling Helpline Tasmania and gambling service providers delivering or facilitating counselling and gambling support through Anglicare Tasmania and Relationships Australia), the AHA Tasmania Branch, the GIG and the Tasmanian Police. Its operation is grounded in legislation, set out in the *Gaming Control Act 1993*.

[84] Western Australia has no EGMs in clubs or hotels.

The provision of voluntary self-exclusion programs is mandatory in Tasmanian casinos, hotels and clubs and an online self-exclusion program is also required for betting exchanges. In relation to TOTE operators, self-exclusion is not regulated under the Gaming Control Act, so it is not mandatory. The self-exclusion program is the major form of exclusion. It allows gamblers to have themselves banned from venues. There is no minimum period of self-exclusion. Other forms of exclusion can be instigated by the venue operator or the police can ban a patron. Further, a request to the TGC from a third party who has a close personal interest in a person's welfare can also be instigated (known as a third party exclusion).

Self-exclusions are usually enacted when gamblers contact the Gambling Helpline or Break Even Services counsellors and account for 80 per cent of exclusions.[85] The person has their photo taken and a passport size photograph is distributed to the venues by the AHA. The AHA sends a follow-up notice when the exclusion is revoked or expires. The exclusions are kept on a database and the AHA can provide a list of excluded patrons if required or provide an immediate check on a particular person.

Clients can be excluded from a number of venues and this is usually the case, as shown in Table 12.2. Some request to be excluded from all EGM venues in the state, which is more than 100 venues in total, including the two casinos. Others may just request to be excluded from a handful of venues in their local area. The standard period for exclusion is three years, and is the period set for about 80 per cent of cases. However, clients may choose to revoke the exclusion, and some have been known to do so as soon as they set them up. Others may choose never to revoke the exclusion, and opt for an open-ended agreement, so these clients tend to have a revocation date of 2050.

The TGC must be informed if an exclusion order is breached, and penalties can be applied both to the excluded patron and the venue. Breaching exclusion conditions is reported by Break Even Services counsellors to be not uncommon, a not dissimilar situation across all jurisdictions.[86] The effectiveness of the scheme *per se* has not been investigated; however, a major review of the program has been undertaken by the Liquor and Gaming Branch for the TGC which examined the limitations in its current form, including ways to improve the operational effectiveness of the scheme.

Review of the Tasmanian Gambling Exclusion Scheme (TGES)

A review[87] of the TGES looked at the principles behind the scheme; how it operates in practice; its effectiveness; and comparison with other Australian schemes.

There are a number of underlying principles to the operation of the TGES. Firstly, a proportion of the community is acknowledged to have difficulty in limiting or controlling their gambling behaviour. However, there is also the belief that all individuals, including industry and patrons, must take some responsibility for their gambling behaviour. Following on from this, individuals have some responsibility for self-excluding from venues when they recognise that they have problems controlling their gambling. In addition, the gaming industry has a responsibility to provide a safe gambling environment, to recognise problem gambling behaviour and to assist these people in reducing negative impacts from gambling.

85 "Review of the Tasmanian Gambling Exclusion Scheme", by Liquor and Gaming Branch, Department of Treasury and Finance (2007).

86 SACES (2003), "Evaluation of Self-Exclusion Programs in Victoria, report commissioned by the (former) Gambling Research Panel.

87 "Review of the Tasmanian Gambling Exclusion Scheme" by Liquor and Gaming Branch, Department of Treasury and Finance (2007).

It is important with regard to the TGES that the process is easy to understand and is easily accessed by those who wish to access it. It is also important to note that the TGES does not treat psychological disorders; it is simply a tool to assist individuals who wish to address a problem with their gambling behaviour.

Finally, as previously noted, in addition to the individuals and venues, there are other groups who are able take on a responsibility to exclude patrons exhibiting problem gambling behaviours, namely the police and third party observers. Reflecting this, the TGES encompasses Self-Exclusion, Venue Exclusion, Police Exclusion and Exclusion by a Third Party.

The primary focus of the TGES is on counselling and assisting the patron according to their individual needs, rather than punitive measures. The aim is to assist the patron to build on their own motivation to change their behaviour.

Venues have a role in administering the self-exclusion. The exclusions are initiated through Break Even Services counsellors. There are anecdotal observations that venues vary in how well they administer the scheme. For example, Break Even Services counsellors reported low levels of vigilance by gaming staff at venues in identifying excluded patrons and on some occasions even identified excluded patrons were not challenged. One counsellor in the review was quoted as saying that about 40 per cent of his excluded clients had experienced a breakdown in the procedure of this type, and most clients breached within six months of initiating the exclusion.

Furthermore, gaming staff are required to be trained in the Responsible Conduct of Gambling, and the current training does not suggest that staff become involved (and appropriately so) in counselling matters. As a result, staff tend to intervene with problem gamblers only if invited to, so the involvement of staff and the provision of information and material is mostly passive rather than proactive. The researchers personal interviews with staff in several hotels and clubs we visited reinforced our understanding of this as actual practice.

As shown in Table 12.2, in terms of the scheme's effectiveness, roughly 300 people were self-excluded at any one time during the five year period between 2003 and 2007, with the total number of venues from which individuals excluded rising each year to over 16,000 in 2007 and the average number of venues from which people excluded doubling in that time.

Table 12.2
Tasmanian self-exclusions current at end of financial year

	Individuals: Self-excluded	Number of Venues excluded from	Average exclusions per individual
30/06/2003	178	4,965	27.9
30/06/2004	279	8,540	30.6
30/06/2005	357	12,415	34.8
30/06/2006	304	13,829	45.5
30/06/2007	282	16,265	57.7

Source: DHHS, 20th August 2007, emailed to SACES.

In terms of its effectiveness, the review by the Liquor and Gaming Branch (2007) looked at the number of problem gamblers based on the Roy Morgan (2000) study, which estimated that 0.9 per cent of Tasmanian adults were in the 'at risk' or 'problem gambling' categories, according to the SOGS screening system. Of the mean adult Tasmanian population in

2001/02 or 353,000, this gave a number of 3,177 "problem and at risk gamblers". From the AHA database, 155 people took out exclusions in 2003/04, relating to 4,300 venue exclusions. This self-exclusion rate at 4.9 per cent of the total number of problem gamblers is very low, but it is consistent with the rate found in other states.

It will also be seen in the next section, according to a study carried out by KPMG (2007) of the Break Even Services in Tasmania, that people who experience gambling problems tend to do so over a long period of time, with around a third of respondents experiencing problems for five years or more, and nearly half of these for more than ten years. People tend to access the Break Even Services for significant lengths of time, with nearly half (46.5 per cent) of respondents using the services for one year or more.

It is not known how much the self-exclusions process helped the patrons who do partake, but anecdotal evidence from counsellors suggests gamblers who are personally committed to cease gambling do benefit.

The review examined ways to improve the Tasmanian model and looked at the Queensland Gambling Exclusions Regime. This regime centres on venue-initiated activities, while under the Tasmanian system the counsellors (i.e. service providers) are the main initiators. The Queensland scheme features a Customer Liaison Officer and the use of awareness indicators by the gambling provider to identify customers with gambling problems. The review considered that the venue is not the ideal initiating point and that there should not be too much dependence on venue staff. This position is supported by the findings of Delfabbro, *et al* (2007) discussed in the next section.

Self-exclusion programs operate in all Australian states with varying levels of success. Tasmania operates one of the most efficient and systematic schemes with a strong emphasis on counselling and support to the client. Tasmania has an advantage in operating one coordinated and consistent scheme for the whole state. It is also advantageous in involving all stakeholders, not just industry.

Issues regarding identification and timing of the intervention

Two main issues surrounding the operation of any self-exclusion scheme are regarding the identification of problem gamblers (because they are barred from entering what is a 'restricted gaming area') and the timing of the application of such an intervention. These are discussed in turn.

It is accepted among researchers that it is a difficult task to identify problem gamblers and to then enforce the intervention by gaming staff to offer assistance and information. Delfabbro, *et al* (2007) investigated the issues surrounding the identification of problem gamblers. The main points he made were:

- Not all venues comply with identifying problem gamblers.
- Even if they do comply to a certain degree, staff tend not to be proactive in identifying problem gamblers, for a variety of reasons.
- There is no enforcement to ensure that venues comply with identifying problem gamblers.
- There is usually no audit process or ongoing reporting.

- Where codes of practice are voluntary, as is the case in Tasmania, venue managers may feel that they are not compelled to comply.
- Even with full complicity, it is not a straightforward task to identify and approach problem gamblers.

It is also the case that gaming areas tend to be run with relatively low labour intensity, so there are not likely to be many staff members assigned to the gaming area. Delfabbro, *et al* (2007) states how little time gaming staff have to monitor gaming areas for the purpose of identifying problem gamblers, bearing in mind the other duties that they need perform during their shifts:

> Observations of venue movements in South Australian venues also showed that venue staff are rarely in a position to make ongoing observations because of other duties within the venue. The time commitment required for venue staff to observe gamblers' behaviour for long periods is likely to be excessive.

It is difficult, if not impossible, to recall faces from the many small photographs of self-excluded gamblers and it is unreasonable to expect staff to do so.[88] A patron is able to exclude from all venues (i.e. statewide) so that their photograph will be sent to venues they have never frequented or are very unlikely to frequent. While counsellors assist clients to target or to limit their exclusion to relevant venues the problem remains as shown in Table 12.2 where the average exclusion per client is approaching 60 venues. Add to this the increase each year in the number of exclusions and it is feasible for venues to have many hundreds of photographs.[89] This is a practical reality and difficulty of the scheme. If a patron sought to hide their identity then the task is even more difficult.

Industry also takes on a more reactive than proactive role in identifying problem gamblers, as is the experience in other jurisdictions. Staff approach only "when gamblers show signs of distress or when the comfort of [other] patrons is compromised".

The second point of interest here is that self-exclusion schemes are a very late intervention in terms of the gambling continuum. The patron has typically been experiencing problems with gambling for seven years before seeking help and treatment. This is the 'ambulance at the bottom of the cliff scenario'. Furthermore, it is also clear from the data that very few people even with this level of problems, will voluntarily access assistance for their gambling problems. There is thus the question of how effective a self-exclusion scheme can be, regardless of whether it is the best-practice scheme available. Notwithstanding, the direct linking of the scheme to counselling assistance is a strong feature of the TGES.

12.4 KPMG study of Break Even Services in Tasmania

KPMG produced a report for the Gambling Support Program of the DHHS in August 2007, entitled, *Break Even Gambling Services Client Information Report for the period 1 July 2000 to 30 June 2005*. It is an independent overview and analysis of the operation of the Break Even Services in Tasmania, looking at client demographics and activities, as provided by the three service providers at that time that formed the Break Even Services, namely Anglicare Tasmania Inc., Gambling and Betting Addiction Inc. (GABA) and Relationships Australia (Tasmania).

[88] Many staff in the hospitality industry are part-time, they work varying shift hours, the small photographs are not high quality and even computerised access to photos would demand some time to study.

[89] This was observed by the researchers at the Glenorchy RSL Club for example and in other venues.

There are a number of interesting observations arising from the data about the nature of problems; the longevity of problems and of treatment; the demographics of those experiencing problems; the differences between modes of gambling, and so on. This section considers the most important selection of the results presented in the report. It should be noted that the numbers of people answering the various questions varied according to the applicability of the question to each client, and the proportion who responded to each question. Outcomes from attending the activities were difficult to assess, as 84.1 per cent of counsellors did not fill out this part of the clients' records. Therefore, KPMG does not provide a summary of these results.

Source of referral

The range of referral sources is spread across the Gambling Helpline (13.4 per cent), family/ friend/neighbour (13.2 per cent), brochure/phonebook/other media (10.2 per cent), and GABA (8.8 per cent), and a number of other sources such as employers, educators, health practitioners, financial advisors, government agencies, Anglicare, and so on.

Occupation

There was a 52.0 per cent response to the question about the gambler's occupation (1,074 respondents out of 2,065 clients) and of these, 33.8 per cent of clients providing a response were not in paid employment. A further 11.7 per cent were classed as home duties and 2.5 per cent as students. This amounts to 48.0 per cent of respondents, so 52.0 per cent said that they were in employment of various types.

Duration of gambling problem

The length of time that clients claimed to have been experiencing problems with gambling demonstrates the long term nature of gambling problems. Of 1,071 respondents, 15.5 per cent answered over ten years, 17.7 per cent said five to ten years, 31.9 per cent said two to five years and 19.5 per cent said one to two years. Only 15.3 per cent had had problems for less than a year.

Urge to gamble

The urge to gamble was rated and of 1,035 responses, 65.7 per cent said that the urge that they felt was 'definite', 'marked' or 'severe', as opposed to 'slight' or 'none at all'.

Gambling mode

Of the 1,434 responses, EGMs in hotels and clubs were cited by 75.9 per cent of people as the main source of their gambling problems, and EGMs in casinos by 40.7 per cent. The next highest was TOTE/racing with 15.3 per cent. Keno was cited by 7.0 per cent, casino gaming tables by 5.9 per cent and lotteries by 1.9 per cent.

Recent activity

Recent activity showed that of the 844 respondents, in the month prior to answering the questions, on EGMs alone, 22.5 per cent had lost between $501 and $1,000 and 19.1 per cent

had lost over $1,000. A further 22.1 per cent had lost between $201 and $500. A profit was reported by three people. On other forms of gambling, when asked the same question, of 682 respondents, 53.9 per cent said they had lost no money at all. The largest losses on other than EGMs were reported by 7.9 per cent of people (over $1,000) and 12.0 per cent had lost between $201 and $1,000.

In the 2007 Prevalence Survey self-reporting by gamblers shows that only 4.7 per cent of players of EGMs claimed to have lost over $100 in their most recent gambling session, and over 40 per cent said that they had lost less than $10. Combined with the KPMG data, this suggests a number of gambling sessions by players during the month. Delfabbro also finds that gambling sessions at casinos tend to be significantly longer, averaging 58 minutes as opposed to 38 minutes in hotels and clubs.

Financial issues reported

Asked about financial issues that they have experienced due to gambling, of 876 respondents to this question, 51.4 per cent said they had incurred debts as a direct result of gambling; 17.0 per cent had borrowed to gamble; 9.5 per cent had lost essential assets due to gambling; and 8.7 per cent had gone bankrupt or lost their home from gambling.

Family issues reported

There were 793 responses to the question about family issues facing clients. Most common was family conflict (33.5 per cent) and episodes of lying, mistrust or deception (29.5 per cent). Family separation was reported in 12.5 per cent of cases.

Health issues reported

There were 1,803 responses to the question about health issues brought about by gambling problems. Depression, low self-esteem and anxiety were the most common responses, at 19.4 per cent, 18.5 per cent and 14.9 per cent respectively. Suicide ideation was reported by 6.4 per cent of respondents.

Treatment type

The type of treatment provided by Break Even Services through GABA, Anglicare and Relationships Australia was predominantly face-to-face counselling sessions, at 80.6 per cent of the known activities (9,171 out of 11,381). At 6.6 per cent and 5.7 per cent respectively were case reviews/session plans and telephone counselling.

Client attendance

The duration of attendance to client activity sessions averaged about 18 months. From 1,732 valid client records, 31.9 per cent attended for less than six months; 21.6 per cent for between six months and a year; 19.7 per cent for between one and two years; 11.4 per cent for between two and three years; and 15.4 per cent attended for three years or more. Of the total 10,993 client activity sessions, attendance was 86.8 per cent, with only 2.6 per cent of clients not attending without notification.

In summary

The attendance to Break Even Service activities and the duration of the gambling problem are spread over several years. This has implications for the funding of gambling counselling services and the effectiveness of any treatment. A large number of people gamble who are not in gainful employment. The main source of gambling problems in Tasmania are EGMs, be they in hotels, clubs or casinos. Finally, the wide range of referral sources which were used across various sectors of the economy and community demonstrates that a sector-wide and community-wide approach is appropriate to assist in harm minimisation measures.

12.5 New Zealand's approach to harm minimisation

In this section we provide an overview of the New Zealand's public health approach to gambling harm minimisation. The New Zealand approach provides an example of a model that is in contrast to almost all Australian jurisdictions, and as such it is deserving of consideration in this chapter. With the passing of the *Gambling Act 2003*, the New Zealand government made a clear and deliberate switch from a market-oriented to a public health approach to gambling policy, which is very clearly illustrated in its approach to harm minimisation. The Act includes a number of wide-ranging objectives relating to harm prevention, and preventing crime associated with gambling, as well as ensuring that money from gambling benefits the community. It also has clauses aimed at facilitating community involvement in decisions about the provision of gambling.

The *Gambling Act 2003* gave the Ministry of Health the responsibility of developing and implementing an integrated problem gambling strategy focused on public health. It also requires that all profits from non-casino gaming machines are allocated to community purposes. Only a corporate society can operate 'class 4 gambling', which is defined in the legislation as operating gaming machines outside the casinos. A society is a body established and conducted entirely for non-commercial purposes. Hotels and clubs act as hosts of the gaming machines. In New Zealand, non-casino gaming machine operators are explicitly <u>not</u> businesses and they do not have business objectives (although they are required by the gambling regulator, the Department of Internal Affairs [DIA] to operate in a "business-like" way). DIA regards these operators as part of the philanthropic sector, rather than part of the hospitality industry (although how they regard themselves may differ). This arrangement in itself may be regarded as a harm minimisation measure.

The Ministry of Health's problem gambling strategy covers the continuum of gambling from prevention right through to offering counselling and support services for those experiencing serious problems from gambling. It also covers the continuum from the individual gambler and their significant others right through to population-wide measures, including measures targeting specific groups in society. The Productivity Commission's emphasis[90] of focusing harm minimisation measures on the problem gambler is not compatible with the New Zealand approach. DIA places more emphasis on the impacts of gambling on collectives rather than treating problem gambling only as an 'individual pathology'. The approach of the New Zealand government is to look at communities, and in particular at the differential impacts within and between communities. The DIA considers that improved consumer information and psycho-social interventions are of use **but not** as the primary solutions to problem gambling.

[90] The Productivity Commission's approach is incorporated into the gambling policy approach (either explicitly or implicitly) of Australia's states and territories with the implementation of consumer protection measures aimed at the individual consumer level.

At the licence application stage, in order to obtain a venue and/or operating licence for class 4 gambling, the corporate society must apply to the territorial local authority (TLA) for consent. Each TLA is required to establish a gaming venue policy for its district, in which it must consider social impacts, but the TLAs do this in very different ways. Some have undertaken quite extensive social impact assessments, while others have been less thorough. However, the TLA can be legally challenged if the gaming venue policy is not considered to be satisfactory. The *Gambling Act 2003* requires the TLAs to follow a process rather than to produce a document.

There are a number of harm minimisation measures, aimed at the venues, community accessibility, community services and the specific operation of machines. At the venue level there are limits on opening hours, advertising, age limits to gamble and so on. ATMs are not permitted (although EFTPOS transactions can take place at the venue). Information must be provided on the odds of winning on gaming machines, as well as information about the characteristics of problem gambling and ways to seek advice. Tasmania has similar arrangements in place.

The machines themselves have limits. All new gaming machines are required to have a feature whereby continuous play is interrupted at least every 30 minutes, and messages will display information about the duration of play, dollars spent and the player's net wins or losses. The player must choose whether to continue playing and if they elect not to then the machine must automatically pay out all remaining credits. By 1 July 2009, all gaming machines must have these features. In addition, since March 2007, it has been a legal requirement under the *Gambling Act 2003* that all gaming machines be connected to an electronic monitoring system. This system enables DIA to monitor the integrity of each machine. This is already the case for gaming machines in casinos. Similar monitoring systems are in place in Tasmania and other states/territories. Other specific features include: note acceptors must not accept notes above denominations of $20; the maximum bet limit for non-casino gaming machines is $2.50 in clubs and hotels; prizes are limited to $500 per machine and $1,000 for a linked machine jackpot.

In terms of community accessibility there is no nation-wide or regional cap of gaming machines in New Zealand. At the venue level, clubs and hotels may have up to nine or 18 gaming machines (and under certain circumstances and club mergers this may rise to a maximum of 30).

The Ministry of Health funds intervention (counselling) services, as well as a range of primary prevention activities aimed at health promotion and community awareness. This includes working with local authorities on gambling policies and on a social marketing campaign which aims to encourage New Zealanders to make 'healthy choices' in regard to gambling. Some of these activities have been targeted at Asian, Pacific and Maori communities and other groups deemed to be at risk from harm from gambling.

The Australian state that has taken the most similar approach to that of New Zealand is Queensland, through the Queensland Responsible Gambling Strategy. One of the priorities of the strategy is to promote partnerships between the community, the gambling industry and government in addressing concerns about gambling, both at the state and local levels. The legislation requires a Community Impact Statement (CIS) to be submitted with any gaming licence application, if applications are of 'significant community impact', in order for the Queensland Gaming Commission (the gambling regulator) to be able to assess the social and economic implications. As well as requiring a consultation process with local residents,

businesses and organisations in the community, the CIS process requires information and data for a comprehensive list of social impacts, economic impacts and net impacts. It also requires a 28-day period during which the application is advertised and submissions may be made by the public. The licensing process in Tasmania does not require a social and economic impact statement to be presented to the TGC by the applicant.

Finally, New Zealand also operates a voluntary self-exclusion scheme, according to the *Gambling Act 2003.*

Evaluation of the New Zealand self-exclusion scheme (Townshend 2007) found similar flaws in the scheme which can be found in the Tasmanian and schemes in other states. Essentially, all schemes exist outside of contract law and is ultimately not enforceable. This and other implementation issues led Townshend to put forward the idea of smart cards:

> Consideration might be given to the issue of ID cards that have to be swiped each time a gambling session is started or reporting in, that is a cashless system. This would pick up any self-banned customers before gambling is started as well as enabling a multitude of host responsibility systems and interventions to be automated. Given the high level of non-compliance this may be the only way to achieve a safe gambling environment in the non-casino class 4 gambling sector.

From this overview of the New Zealand public health approach to harm minimisation from gambling, similarities and differences emerge compared to Australian jurisdictions including the Tasmanian approach. Gambling treatment is located in DHHS in Tasmania, which is comparable to it being located in the Ministry of Health in New Zealand. The Tasmanian Self-Exclusion Scheme is based on counselling and reflects the "gateway to treatment" approach (Blaszczynski, A et al, 2004). In terms of other harm minimisation strategies, Tasmania has several venue and machine specific measures that in the researchers view, are ahead of current practice in other jurisdictions. In that sense, Tasmania could claim to be more pro-active; in requiring social impact assessments or community impact statements, Tasmania is not as advanced as several other jurisdictions.

12.6 Smart card technology

The introduction of smart card technology has been considered in the literature and has been trialled in Queensland. It is technologically feasible and could be used to advance a number of policy objectives in the gambling sector, as discussed in this section. However, it is not yet in use in any of the Australasian jurisdictions. The Victorian government recently announced[91] that it would move to introduce a "smart card or a flash drive USB key" to limit and record the time and money spent on EGM gambling. The announcement did not contain further details. This followed their announcements to remove ATMs from pokie venues by 2012 and to reduce the maximum bet on EGMs to $5 per spin.

Smart card technology is essentially a computer-based system whereby the personal information of the gambler is entered into the system and stored on the card. A universal system throughout all gaming venues and the requirement that everyone must produce the card before starting a gambling session would facilitate a range of consumer protection measures, and improve information quality and availability to policy-makers, industry and to the gamblers themselves.

[91] *The Australian*, 26 March 2008, "Plan to Cap Player losses on pokies."

There are a number of advantages of introducing smart cards. Firstly, if a person has to produce the card before starting a gambling session, this is a straightforward, fail-safe way to prohibit under-age and self-excluded people from gambling, rather than relying on gaming staff or the people themselves to take such action. It removes the problems associated with photo recognition as discussed above. This may catch people at a point along the gambling continuum earlier than might be the case without the smart card, which in turn would improve the chances of any gambling treatment being successful and at an earlier point. This would cut costs to the gambler themselves, to the people around them, and to support services.

Secondly, gamblers can set themselves pre-commitment limits on frequency of playing, the amount they are prepared to lose, the duration of the gambling session, and so on. They would do this away from the venue floor. This empowers the consumer to make better choices. Thirdly, the collection of data is useful for the individual in seeing exactly how much they have spent and the patterns of their gambling behaviour. These two features are consistent with the recommendation in the Productivity Commission (1999) report that individuals need to be empowered to make the best consumption decisions for themselves, and this kind of information and self-imposed limits would help them to do this.

A fourth advantage also relates to the collection of detailed, up-to-the-minute, reliable data, which go into a centralised computer system (assuming a state-wide scheme for all gambling venues). This facilitates industry, support service providers and government in understanding the nature of gambling behaviour; designing policy, products and services; carrying out gambling-related research; and working towards consistent goals.

As Dickerson (2003) notes in relation to pre-commitment possibilities and smart card technology:

> The expectation that the player will be able to continue to make controlled, informed, rational decisions during such a session of continuous gambling is ill-founded. The latter approach (i.e. offer of pre-commitment as sound business practice) has been shown to result in a strong consumer protection approach which 'at a stroke' has the potential to prevent excessive consumption of gambling: i.e. to prevent problem gambling." (p. 10).

Tasmania has the advantage of being a relatively closed environment, which is ideal for testing out smart card technology. The system would be most effective if it covered **all** EGMs, since they are the gambling mode that creates proportionately more problems, which would require it encompassing all hotels and clubs and the two casinos. Photos of excluded patrons can be stored on an easy access database, but this would only be needed as a back-up, since the card itself will alert gaming staff to whether a person is registered as a problem gambler. Consequently, the state-wide requirement to produce a card to play any EGMs would alleviate the need to improve the self-exclusion scheme, which as it has been shown, is easy to avoid, ignore or evade in every jurisdiction where it operates.

The smart card scheme would provide the kinds of benefits associated with the Betfair arrangement, whose submission is presented in Chapter 5 of this report. Players must provide personal information to join, such as their age and address details, amounting to 100 points of identifying information. Betting is done through an online account which must be in credit. Members can set limits on losses, the amount that they put into their betting account and they can also self-exclude. The site also offers features such as timing the gambling sessions; providing links to help organisations; self-help and awareness information. Out of a total of 724 Tasmanian registered accounts (with completed information requirements and funding of

their account), only three people have self-excluded since the site commenced full operations from a data centre in Hobart in August 2006.

Benefits from the Betfair system include detailed information on every player, which may be accessed by the player as well as Betfair; easy access to help services; easy access to self-exclusion; the option of deposit and loss limits; and prohibiting underage gambling. The data will show trends as it is collected over time.

12.7 Conclusion

There will always be debate around the effectiveness of harm minimisation measures, the adequacy of the measures, their coverage, etc. Different perspectives and approaches to the gambling industry and the social impacts arising from the industry will also influence any assessment of the effectiveness of such measures. A public health approach will judge the adequacy of measures, not from the standpoint of "the individual alone", but from a broad, community-wide approach operating along the entire gambling continuum. Other frameworks stress assistance, information and empowerment of the individual in the national decision making approach. It is important to acknowledge the different frameworks that are used by various stakeholders.

On balance, the researchers find that Tasmania is distinguished from other jurisdictions in the following ways:

- banning ATMs in gaming venues is best practice (the two casinos are excluded);
- Tasmania was the first state to ban smoking inside any licensed venue;
- there are no venues operating gaming for 24 hours[92];
- competitive advertising of gaming is moderated, partly through the brand name of "Oasis", and partly through the industry voluntary codes of practice;
- gaming machines with note acceptors are not permitted in hotels and clubs, while autoplay is prohibited; and
- there is a maximum bet limit of $10 in clubs and hotels.

Several of these features most likely contribute to the difference in expenditure per machine for clubs, hotels and casinos noted earlier in this report.

The Tasmanian Self-Exclusion Scheme is also well designed and importantly, linked directly to counselling services. It is consistent with best practice schemes found elsewhere.

The Tasmanian licensing application process does not currently require a social or community impact assessment as part of the licence application and this could be a future consideration.

[92] Up to 20 hours (88 venues); up to 19 hours (5 venues), and up to 18 hours (10 venues).

13. Crime and Gaming Expenditure in Tasmania

13.1 Introduction

We have earlier documented the fact that gambling expenditure in Australia in real terms has substantially increased in the last few decades. While the majority of people gamble within their means, concerns have been raised about the advent of 'problem gambling' and its associated adverse social consequences.[93] Although problem gamblers only make up a very small percentage of gamblers overall, their expenditures on gambling constitute a significant amount (estimates range from 30 to 80 per cent (Productivity Commission, 1999, Borderlands Cooperative 2003).

13.1.1 Problem gambling consequences

There is some evidence that excessive gambling, especially on poker and gaming machines (otherwise known as electronic gaming machines or EGMs), has led to social problems in society, such as personal financial pressures, emotional distress, domestic violence, employment difficulties, suicide and crime (Productivity Commission, 1999).

The pathway from excessive gambling to crime has been described as the following: as problem gamblers deplete their own resources, they often turn to family and friends to borrow money that they never repay. Others pawn assets, or take out high interest loans. Once debts have become too large to service, some problem gamblers may then turn to illegal activities (Sakurai and Smith 2003).

The question remains as to what extent excessive gambling expenditure translates into criminal activity. There is no firm consensus over the extent of the relationship between gambling and criminal activity, although there has been considerable research carried out in this area.[94] Theoretically, gambling and crime could be linked in the following ways:

(a) overall crime rates could be lowered by gambling expenditure as it may positively influence the economy by producing jobs and indirectly influencing the economy (and hence decreasing the need to resort to crime);

(b) overall crime rates may be increased because of increased gambling expenditure as it hinders economic development as there is a net loss of income/output within the economy, hence decreasing job opportunities, increasing dissatisfaction and potential thefts;

(c) the advent of gambling opportunities may attract visitors to the area who commit crimes (or become victims of crimes); and

(d) the gambling opportunities may lead to the development of problem gamblers who commit crimes (namely income-generating crimes) in order to fund their habit (Smith and Wynne 1999).

[93] The national definition of problem gambling which contains reference to both problem gambling behaviours and to harms is the following: "problem gambling is characterised by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community" (SACES, 2005).

[94] Wheeler *et al*. 2008; Grinols & Mustard, 2006; Phipps, 2004; Sakurai & Smith, 2003; South Australian Independent Gambling Authority, 2003; Gazel *et a*l, 2001; GAO, 2000; Doley, 2000; Centre for Criminology & Criminal Justice, 2000; Albanese, 1999; Hames Sharley, 1997; Nelson *et al* 1996; Margolis, 1997; Florida Department of Law Enforcement, 1994; Friedman *et al*, 1989.

This chapter investigates the premise that increased gambling expenditure may lead to increased crime rates in local areas specifically in relation to Tasmania. Based on anecdotal reports, the community seems to believe that such a link between problem gambling and crime exists (Hames Sharley 1997).

13.2 Crime and gambling

Box 13.1

As recently as 3rd March 2008, the *Hobart Mercury* reported in an article "$5.4m feeds addiction", that Supreme Court figures revealed 17 "robbers" had been convicted since 2003 for stealing money to feed a gambling habit. Crimes committed included theft and fraud from employers and charitable organisations. These headline cases are potentially the 'tip of the iceberg', and do not cover theft within family networks and minor theft such as shoplifting.

Some 528 convictions for gambling related fraud totalling $269.2 million were reviewed by Warfield (2008) with 30 cases investigated in Tasmania totalling $8.2 million in the period 1998 to 2007.

There are several crime links associated with gambling in general, such as organised criminal activity (systematic money laundering through EGMs); opportunistic criminal activity such as hold-ups of gaming clubs; offences within gaming clubs, and offences associated with problem gambling (SACES 2005).

Pinto and Wilson (1990) describe the relationship between the gambling industry as a whole and organised crime, as "well established". Casinos and EGMs have been linked with criminal activities such as tax evasion, money laundering, cheating and loan sharking.

A number of previous studies have attempted to quantify directly the link between illegal gambling and crime. The Productivity Commission (1999) found that up to 70 per cent of Australian problem gamblers may commit offences. A variety of methodologies have been employed in these studies. Surveys of some sort have been the most popular methodology used, in particular, surveys of the general population, but also surveys of law and order officials, prisoners, and problem gamblers.[95] One finding from these surveys is that a large percentage of problem gamblers have admitted committing an offence such as theft, fraud, robbery, and breach of apprehended violence orders due to their gambling habit. A large percentage of these gambling-related crimes are due to problems with gaming machines (Jackson *et al*. 1997; Warfield, 2008).

In general, most of this literature generally agrees that there seems to be a positive link between gambling and crime, and in particular property crime. However, the relationship is far from clear. This chapter studies the relationship between gaming expenditure in Tasmania in particular (expenditure on electronic gaming machines (EGMs)) and crime. Gaming expenditure was used given the more comprehensive statistics available, and it has been found that a high percentage of EGM players in Australia are problem gamblers (Productivity Commission 1999). The next section describes different approaches to modelling the link between gaming and crime.

[95] Examples include: general population samples (Tseloni 2006, Goudriaan *et al*. 2006, Bennett & Holloway 2005, Fergusson *et al*. 2003, Tseloni *et al*. 2002, Entorf & Spengler 2000, Trumbull, 1989, Productivity Commission, 1999); law and order officials (Smith and Wynne 1999); prison samples (Abbott *et al*. 2005; Abbott and McKenna 2005; Yeoman and Griffiths 1996; Blaszczynski 1994); and problem gamblers (Jackson *et al*. 1997; Blaszczynski & McConaghy 1994, Blaszczynski *et al.* 1989).

13.3 Community model studies

Community (or area level) models of crime research are quantitative analyses that seek to explain crime levels by attributes of the community itself. Attributes include variables such as its socio-economic status, demographics and urbanisation.[96] Australian criminological research has found that crime is not randomly distributed, but is concentrated in various locations (Briscoe and Donnelly 2003), hence it is concluded that crime must be influenced by certain characteristics of that location.

Area level studies have tended to be mainly North American and have focussed primarily on the influence of large casinos on crime rates.[97] Similar to evidence from population surveys, results from these studies have often been contradictory, with either no impact on crime found (i.e. Margolis 1997) or positive links have been found between crime and gambling (i.e. Wheeler et al. 2008; Grinols *et al*. 1999). A number of authors have suggested findings of these studies simply mirror the objectives of those who funded the study, as much gambling research is funded by casino organisations (Grinols and Mustard 2006; Banks 2002).

Wheeler *et al.* (2008) studied the relationship between electronic gaming machine expenditures and property (income-generating) crime rates reported to police in local areas in South Australia in 2002/03. **It was found** that in South Australia the higher the expenditures on gaming machines in a particular local area per adult, the higher the income-generating crime rate in that area. No statistically significant links were found between gaming machine expenditure and non-income-generating crime rates.

13.4 Under-reporting issues

Another problem to be aware of when investigating the link between gambling and crime is the 'dark figure' of crime (MacDonald 2002). This term refers to the hidden crimes which occur but are not included in official recorded statistics. Problem gamblers often steal from friends or family, hence increasing the probability of the under-reporting of crime related to legal gambling (Productivity Commission, 1999). SACES (2005) also identified the possibility that many defendants who go to court are deliberately advised not to mention their gambling problem as it may leave them open to further liability (such as an additional jail term). Crofts (2003) suggested that nearly 40 per cent of employee-related crime is not reported to police by companies, for a variety of reasons.

In addition, crime figures are influenced by the public's willingness to report crimes, and by changes in police reporting practices, referred to as 'under-reporting' and 'under-recording'. Under-reporting can vary over time, and can be influenced by factors such as unemployment and economic status (MacDonald 2002).

13.5 Causality issues between gambling and crime

Another argument in the literature is the causal link between problem gambling and crime. Are problem gamblers the type of people that commit crimes anyway? Or is it a dependency on gambling that leads people to commit illegal activities? Some authors argue that problem

[96] Examples of community models include: (Wheeler *et al*. 2008; Tseloni *et al*. 2002; Fajnzylber *et al*. 1998; Cornwell & Trumbull 1994; Sampson & Groves 1989).

[97] Grinols & Mustard 2006; Phipps 2004; Gazel *et al.* 2001; GAO 2000; Albanese 1999; Nelson *et al.* 1996; Margolis 1997; Florida Department of Law Enforcement 1994; Friedman *et al.* 1989).

gambling and anti-social criminal behaviour go hand in hand, with many gamblers who commit offences having prior convictions (Meyer and Stadler 1999). But other evidence supports the theory that it is gambling addiction that leads people into crime (Sakurai and Smith 2003; Warfield, 2008). This chapter seeks to shed further light on the relationship between problem gaming and crime.

13.6 Hypothesis creation and methodology

13.6.1 Variables influencing crime levels

Although considerable research has been conducted on gambling issues, there is an even larger literature examining the various influences on crime and a variety of factors have been identified. We have attempted to identify as many other influences on crime as possible (and collect statistics on them), because the omission of these factors from the analysis may create correlation between the gaming expenditure variable and the regression's error term, yielding biased estimates.

From the literature review, a range of socio-economic and demographic influences on crime rates have been identified, such as income, alcohol, drugs, age profiles, ethnicity profiles, family status, gender profile, police presence and unemployment. See Appendix G for details of findings from past studies as to the influence of these factors.

13.6.2 Data

The current study employs a similar methodology to that used in Wheeler *et al.* (2008). It was designed to investigate whether a causal connection existed between expenditure on EGMs and increased crime rates in local areas in Tasmania, using a cross-sectional panel analysis of local area data against a variety of community attributes.

The hypothesis is that excessive expenditure on gaming machines in a local area leads to an increase in crime in that area. This is based on the hypothesis that problem gamblers tend to gamble in areas close to their home or workplace, and that criminal behaviour as a result of problem gambling tends to be more based on opportunity rather than planned, and is thus more likely to occur in the same local area as the gambling took place. As the crimes linked to problem gaming tend to be income-generating crimes (to fund a gambling habit), it is expected that the crimes most influenced by gambling are those of theft, fraud, break and enter, forgery, false pretences, larceny and robbery. These crimes are referred to in this paper as income-generating crimes. All other crimes not associated with income-generation are referred to as non-income-generating crimes, and it is hypothesised that gambling expenditure should not be significantly related to such crimes, or at the very least, should be significantly less related to such crimes. Appendix G provides more detail on the crimes classified as income-generating and those classified as non-income generating. There is also an argument that some violent criminal offences are committed by frustrated problem gamblers (Productivity Commission 1999).

A community level analysis requires information on socio-demographics and area level characteristics in order to undertake an econometric analysis of the relationships between the variables. The ABS is the only organisation that provides consistent estimates of these demographics at the local level over time (via the Census). The geographic areas that are used for the collection and publication of Census data are known as spatial units. The

Australian geographical hierarchy (drilling down from Australia in total and States and Territories) is:

- Collection District (CD): This is traditionally an area that one collector can cover and deliver censuses in a ten-day period. In 2001 there were 37,209 CD's defined throughout Australia;
- Statistical Local Area (SLA): In non-Census years, this is the smallest level of analysis used by the ABS. It contains one or more CDs and is the base spatial unit used for statistical purposes. SLAs are based on the boundaries of incorporated bodies of local government areas (LGAs) where these exist. These bodies are the Local Government Councils and the geographical areas which they administer are known as Local Government Areas (LGAs). An LGA often forms two or more SLAs which generally correspond to one or more suburbs or other areas of interest. In 2001 there were 1,353 SLAs in Australia and 624 LGAs;
- Statistical Subdivisions (SSD): A general purpose spatial unit of intermediate size that contains one or more SLAs. In 2001 there were 207 SSDs in Australia;
- Statistical Divisions (SD): A general purpose spatial unit that is the largest and most stable unit within each state. It contains one or more SSDs, and in the 2001 Census there were 66 SDs in Australia.

This chapter uses the base spatial unit, SLAs for Tasmania, as its level of area analysis. Data on gaming expenditure was available in time series from 2001 onwards. There were 43 SLAs across Tasmania in 2001 and 2006 (ABS 2001). Generally, SLA social and economic demographic statistics are only reliable from Census information (hence 2001 and 2006 were our years of analysis). This is thought to be the most relevant area analysis upon which to model the links between gaming expenditure and crime. Studies find that the majority of Australian gamblers travel distances of less than 5km to gamble on EGMs in hotels/pubs and sporting clubs, while most of these travel distances of less than 2.5km (Eltridge & Delfabbro 2006; SACES 2005; The Centre for Gambling Research 2004), and hence they are gambling in the SLA in which they live. Similarly, it seems that most gambling-related crime is opportunity based – focussed on family and friends, and workplaces. Hence it does not seem unreasonable that crime and gambling activity is occurring within the SLA in which the gambler lives.

Fortunately for this analysis, there were no changes to the boundaries of SLAs in Tasmania 2001 to 2006, thereby allowing for a panel data analysis of SLAs (i.e. adding census years together to create a much larger dataset upon which to model), making up a total 86 SLAs to model in this time period.

Police data

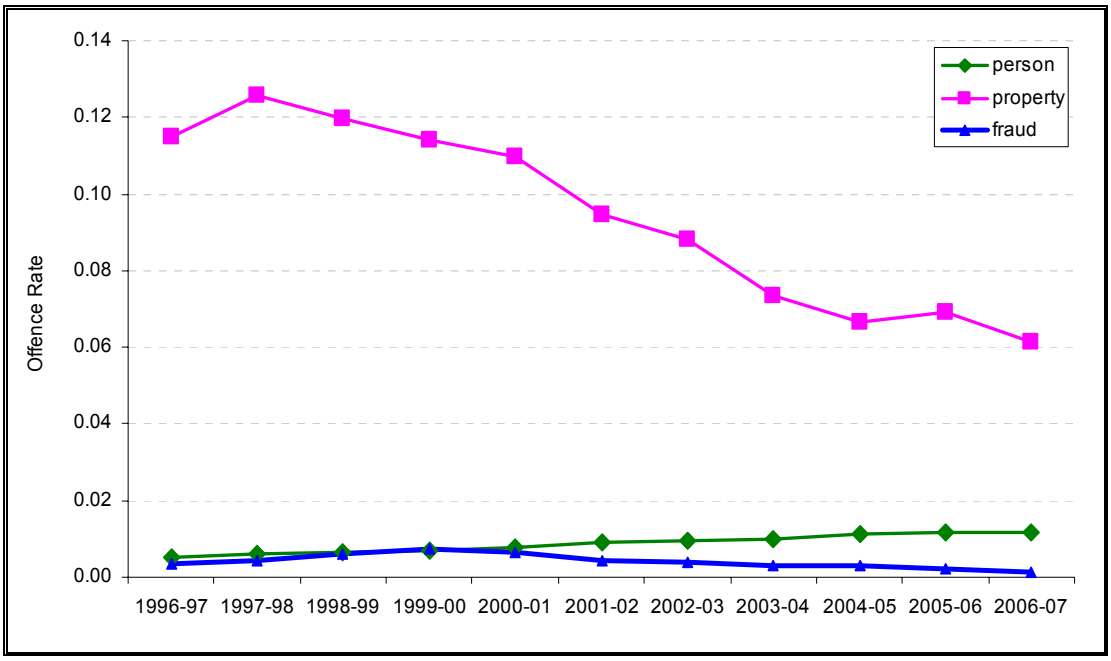
Data were requested on all recorded offences, drug cautions/diversions, drink driving charges, and total charges from the Tasmanian Department of Police and Emergency Management.

Recorded offences refer to those reported by the public and those detected by the police. The basic counting unit for police statistics is the victim. One unique offence is counted for each victim per incident (Offence Report); the number of offenders is irrelevant. The victim-based rule is applied regardless of the number of criminal acts in cases where a series of related criminal acts are committed against the same victim. An exception to this rule applies to fraud-related offences where one offence is counted for each transaction.

The offence data made available to us included: Offences Against the Person; Offences Against Property; and Fraud and Similar Offences from 1996/97 to 2006/07. Excluded were offences within the category, Other Offences (miscellaneous offences).[98] Figure 13.1 below illustrates the changes in offence rates over this time period.[99] Property crime dominates the offences, though it has been falling in Tasmania since the late 1990s. Person-related crime rates have generally increased, while fraud rates have generally remained stable. Given the classification of crimes in Tasmania into these three broad categories, this is what most of our analysis focuses upon.

Tasmanian Police provided offences by suburbs and at individual offence level. For the purposes of our local area analysis, we concorded suburb data to postcode, postcode to SLA and divided the offences up into income-generating and non-income-generating crimes.[100] Details of our classification of crimes, where I = an income-generating crime and N = non-income-generating is provided in Appendix G.

Figure 13.1
Person, Property and Fraud Offences in Tasmania



Source: Tasmanian Police.

Statistics for drug cautions and diversions by suburb were provided from 2001/02 to 2006/07.[101] The offence was recorded in the suburb of the offender's place of residence at the time the offence was committed.

98 Subsequent requests were made for this data, however given the Christmas and holiday period it could not be provided in time. Hence, we are missing some offences from total offences, though it is likely that this is small. Other offences include acts such as child abuse and bestiality, conspiracy, escape, perjury, personation, breach of family violence order and other.

99 Offence rates were calculated by dividing total offences by the relevant SLA population, sourced from: http://www.Statistics.abs.gov.au/Statistics/free.nsf/0/B775B677737B687BCA256C330002A07C/$File/Population,%20Tasmania,%201820%20to%201910.XLS

100 Gaming and offence data was provided to us by suburb or postcode, and had to be concorded up to SLA level. Suburb data had to be allocated a postcode (this was allocated using the postcode information provided on the Australia Post webpage (http://www1.auspost.com.au/postcodes/) or the internet in general. There were some suburbs whose postcodes could not be identified, and had to be eliminated. Postcodes were concorded to SLAs using concording files for 2001 and 2006 from the ABS. Some observations were further deleted from the database as their respective postcodes were not found in the ABS concording files. Overall, 1.11 per cent of the offences provided were not included in the analysis due to either unidentified suburbs or unmatched postcodes.

101 They are made up of the following: 1st Level Caution, 2nd Level Diversion; and 3rd Level Diversion.

Charges in total were provided from 2001/02 to 2006/07. The charges include all offences (apart from traffic and road safety charges). Statistics referred to in this section relate to the number of charges which may be either as a result of an arrest or a summons. The full list of charges is not provided here, but is available upon request. Such a data variable provided an indication of the presence of police officers in local areas, and represents a proxy from the time spent by officers in areas. Charges and total offences (calculated by adding together all the statistics provided on person, property and fraud) were highly correlated at 0.89.

Drink driving charges from 2001/02 to 2006/07 were also provided to test the link between gaming expenditure and drink driving charges. Drink driving charges and the number of liquor licenses in local areas (explained further in the next section) were reasonably correlated at 0.59. The drink driving charge was recorded in the suburb of the offender's place of residence at the time of the complaint.

The number of liquor licences by postcode was provided by Tasmanian Treasury, current at 26th November 2007. This information indicated when each licence began; hence the number of licences present in local areas could be established for 2001 and 2006 (albeit it is possible there were licenses operating in 2001 that have since folded). The number of liquor licences (adjusted by the population of the local area) represents a proxy for the amount of alcohol consumed in the area.

13.6.3 Analytical methodology

Most analyses of criminal activity have used either a linear or log-linear functional form (log-linear is where the dependent variable is logged and expressed as an annual per-capita rate (i.e. Raphael and Winter-Ebmer 2001)). This analysis tested a variety of functional forms and dependent variables, with the best functional form being log-linear:

$$\ln Crime_t = \beta_0 + \beta_1 Socioeconomic\ and\ Demographic\ Characteristics\ of\ Area_t + \beta_2 Alcohol\ Licences_t + \beta_3 Rural_t + \beta_4 Gaming\ Expenditure_t + \beta_5 Drug\ Offences_t + \beta_6 Police\ Presence_t + \beta_7 Year_t \quad (1)$$

where t is the time period, and a variety of crime rates of income generating (IG) and non-income generating (NG) (such as person (PERSON), property (PROPERTY), fraud (FRAUD), drink-driving (DRINKDRIVING) and totals (IGOFF, NGOFF, TOTOFF)) were the dependent variables. Socioeconomic and demographic characteristics (all sourced from ABS censuses) include the unemployment figure for the area (UNEMPFIG), the proportion of indigenous people in the area (INDIGP), the proportion of males in the area (MALEP), the proportion of the population aged between 15 and 18 (TEENP), the proportion of the population aged above forty (FORTYPLUSP), the proportion of households on middle incomes (MIDDLEHOUSEINCOMEP), the proportion of households renting (HOUSERENTP), the proportion of single parent families (SINFAMILYP), the proportion of students in the area (TOTSTUDP), the proportion of Asian population in the area (ASIANP). Alternatively, we also sourced an index of disadvantage from the ABS, namely the Index of Relative Socio-economic Disadvantage (SEIFA) for 2001 and 2006 (2006 index has only been available since March 2008). This index is derived from Census variables related to disadvantage, such as low income, low educational attainment, unemployment, and dwellings without motor vehicles, and a higher value indicates more advantage within an area. This index was used as an alternative in the regression models instead of the socioeconomic variables.

The number of venues with licences to sell alcohol per km^2 is the second variable (LIQP). The third independent variable in equation (1) is a dummy for rural and urban areas in Tasmania (RURAL, where 1 = rural). The fourth independent variable was NGR per adult (EGMP) (provided by Tasmanian Treasury by venue and concorded up to SLAs). The next variables were drug offences per SLA (DRUGOFFP, a proxy for drug use by SLA), and police presence by SLA (CHARGESP), indicated by the charges levied by police in SLAs. The final variable is a dummy variable for year (YEAR), where 2001 was coded as 1 and 2006 was coded as 0.

There were two SLAs removed from the total database, namely Hobart (remainder) and Launceston Pt B, because of the presence of the two casinos within these local areas. The principal reason for this is due to the presence of non-locals at such venues; thus, these areas were removed from the analysis (four observations in total over the two years, leaving a possible total of 82 observations).

13.6.4 Empirical results

Table 13.1 provides the descriptive statistics for the variables used in the analysis.

Table 13.1
Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
fraudigp	0.27	0.94	0.00	8.27
fraudngp	0.03	0.13	0.00	1.18
propertyigp	5.06	7.14	0.68	63.10
propertyngp	1.52	1.22	0.11	9.60
personigp	0.03	0.07	0.00	0.55
personngp	0.90	0.95	0.11	7.91
drinkdriving	1.05	0.39	0.36	2.16
totoffp	7.80	10.23	0.90	90.61
igoffp	5.36	8.11	0.68	71.92
ngoffp	2.44	2.22	0.23	18.69
rural	0.54	0.50	0.00	1.00
egmp	211.44	184.67	0.00	1334.64
chargesp	6.33	4.03	0.80	26.45
year	0.50	0.50	0.00	1.00
drugoffp	0.24	0.13	0.00	0.70
liqp	12.22	52.68	0.00	426.67
totstudp	21.29	2.87	13.17	27.84
sinfamilyp	13.86	3.81	7.78	24.83
middlehousey	104.34	16.42	43.08	125.76
unempfig	5.43	1.83	1.70	9.98
houserentp	19.95	9.36	6.18	52.73
malep	50.88	2.17	47.80	60.35
teenp	4.31	0.88	2.36	7.79
fortyplusp	22.96	2.19	16.45	29.04
indigp	4.20	2.78	1.30	17.93
asianp	0.95	1.30	0.21	7.73
SEIFA	959.38	44.64	829.49	1078.01

As the data are cross-sectional panel data over two years, we used generalised least squares with random-effects (which were chosen over a fixed effects regression given results of Hausman tests) as our preferred regression form. Each regression was then tested for

autocorrelation and heteroskedasticity using the Breusch and Pagan LM test for random effects. Where it was found that the null hypothesis of unbiased estimates could not be accepted, we used cross-sectional time-series linear models of feasible generalized least squares (FGLS). This command allows estimation in the presence of AR(1) autocorrelation within panels and cross-sectional correlation and heteroskedasticity across panels (the use of FGLS is indicated by the log likelihood test rather than the R^2 measure). The final models presented had no collinearity problems (however previous specifications did and a variety of other variables had to be eliminated – such as low household income, percentage of other ethnicities, other age groups etc). Collinearity was detected using VIFs. Endogeneity of independent variables was also tested using a version of the Hausman test (as proposed by Davidson and MacKinnon 1993). Our key variable, gaming expenditure, had no problems with endogeneity, but various socioeconomic variables (such as unemployment, income, race, age, education) were found to have endogeneity problems, though the relationship between the variables and different crime types were complex. For example, more endogeneity problems were detected with socio-economic variables and non-income generating crime than with income-generating crime. Given the number and complexity of the endogeneity problems, estimation with 2SLS was not possible, hence we substituted the socioeconomic variables with the ABS SEIFA measure of disadvantage (which did not suffer from the same problems).

Detailed regression results for broad offence types are provided in Appendix G. The first set of regressions are the ones without modelling problems; while the second set are the more fuller models with most socio-economic variables included. These regressions are presented for transparency purposes, though due to their endogeneity problems the estimates cannot be relied upon and the results are not discussed any further. The following variables are *significant* and *positive* in influencing various crime rates (at least at the 10 per cent level) in our best log-linear specification of the models:

- Gaming expenditure;
- Police presence;
- The year 2001;
- ABS SEIFA disadvantage index;
- Drug offences;
- Liquor licences;

Similarly the following variable was a *significant* and *negative* influence on at least one form of crime rate in the log-linear specification (at least at the 10 per cent level):

- Rural area.

Further specifications were conducted using log-log and linear models, but the log-linear had the better measure of fit and hence the others are not displayed here.

A *positive*, *significant relationship* was found between gaming expenditure and nearly all crime rates (with the exception of person income-generating crimes though this suffered from a number of missing observations). On average, the relationship between gaming and crime was more significant (with larger coefficients though this does not show in the table) for income-generating crime than non-income generating crime, with the strongest relationship between income-generating fraud crime and gaming expenditure, followed by total offences, property offences, person offences and drink-driving. Such results do conform to some extent

to prior held hypotheses about the relationship between gaming expenditure and different types of crime.

Another consistent influence on various offences was alcohol licences, confirming the hypothesis that alcohol consumption is strongly linked with crime (though interestingly liquor licences were not significant in the drink-driving model). It was also found that the more that police were present in the area (i.e. frequency of policing), the more crime was detected. Drug offences were a significant influence mainly in non-income generating crime, which does and does not conform to theory. Our index of social disadvantage was only marginally significant in some regressions, which is probably reflective of the combination of a different number of variables. As predicted from our literature review, urbanisation had a large, significant influence on crime rates, with a stronger relationship between income-generating crime than non-income generating crime.

Overall, our regressions seem to predict reasonably well, with most variables conforming to hypothesised relationships. It seems acceptable to suggest that there does seem to be some link between gaming expenditure and crime, though their relationship is far from clear or straightforward. Although the most significant link was detected between income-generating crime and gaming expenditure, there was also was a positive significant link detected between gaming expenditure and non-income generating crime rates, which does not conform to theory, and is different from the results for South Australia (Wheeler *et al.* 2008). If there is a relationship, it is a very slight one and other influences play a much larger role on crime. However, it is important to bear in mind the limitations with the current analysis. There were numerous difficulties in measuring key variables and a variety of proxies were created; a number of non-income generating offences are missing/different from those used in the analysis of gambling and crime conducted previously in South Australia; there were missing data for some areas; most socio-economic variables could not be used in our models due to endogeneity problems and we had to substitute an imperfect social disadvantage index instead; and the number of observations available in Tasmania was comparatively small, which together may translate into a lack of significance found for some key influences on crime.

13.7 Conclusion

The results of this study provide some concern about the relationship between gaming expenditure and crime in Tasmania, although caution is urged.

A *positive* and *significant* relationship was found between gaming expenditure and various crime rates, as well as some evidence of the strongest link between gaming expenditure and income-generating crimes, though the results did not confirm all the hypotheses suggested in the review of the likely impact on variables of interest. The relationship between the two variables is slight and other influences play a larger role. Problems encountered in this analysis suggest the need for caution in any interpretation; however the fact that many other key influences (such as police presence, alcohol licences, urbanisation) played important, theorised and significant roles in impacting on crime suggests that the models performed well overall. Hence, perhaps even the identification of any link between gaming expenditure and crime, no matter how small, should provide cause for concern.

14. Problem Gambling and EGM Expenditure in Regions

In this Chapter the researchers examine aspects of EGM expenditure and problem gambling at the regional level, to determine whether there is any apparent association between EGM participation (and problem gambling) and the socio-economic profile of sub-regions in Tasmania. The policy relevant questions examined here are firstly, whether there are vulnerable communities and how and whether the reconfiguration of gambling opportunities might impact on problem gambling.

14.1 Socio-economic profile of Tasmanian regions

Table 14.1 summarises the distribution of SLAs for each state and territory ranked according to the 2006 Index of Relative Socio-economic Advantage and Disadvantage (SEIFA). It shows the proportion of SLAs for each state and territory that are ranked in each decile whereby the first decile represents the 10 per cent of most disadvantaged SLAs in the country as ranked by the index. The results show that Tasmanian SLAs are generally ranked as being more disadvantaged compared to SLAs in other states and territories. For instance, almost 19 per cent of SLAs in Tasmania are ranked in the first decile of disadvantage well above the ranking in other states. In fact almost three-quarters of Tasmania's SLAs are ranked in the first three deciles whereas only thirty per cent of national SLAs (by definition) are ranked in the first three deciles.

Table 14.1
Index of Relative Socio-economic Advantage and Disadvantage
Statistical Local Areas by Decile (Per cent of total SLAs)

Decile	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Aust
1 ▲(most disadvantaged)	4.0	2.0	11.5	13.1	6.5	18.6	40.0	1.0	10.0
2	15.6	9.8	8.1	16.4	9.7	27.9	5.6	1.0	10.2
3	13.1	11.3	7.9	18.0	11.0	25.6	3.3	0.0	10.0
4	13.1	13.7	9.2	13.1	14.8	9.3	0.0	0.0	10.1
5	12.6	17.2	6.2	8.2	21.9	0.0	7.8	0.0	10.0
6	11.1	13.2	10.8	8.2	12.3	9.3	5.6	1.0	10.0
7	8.5	10.8	12.1	9.0	9.7	2.3	11.1	5.8	10.1
8	7.0	7.8	13.0	4.1	1.9	7.0	20.0	14.6	9.9
9	3.5	6.9	11.3	8.2	6.5	0.0	3.3	40.8	10.1
10 ▼ (most advantaged)	11.6	7.4	9.8	1.6	5.8	0.0	3.3	35.9	9.8

Source: ABS, Statistics, Census of Population and Housing.

The selected median values for Tasmania provide similar indications of relative disadvantage, with median household income only 75 per cent of the national average (Table 14.2).

Table 14.2
Selected Medians from 2006 Census: Tasmania and Australia

	Tasmania	Australia
Median age of persons	39	37
Median individual income ($/weekly)	398	466
Median family income ($/weekly)	1,032	1,171
Median household income ($/weekly)	801	1,027
Median housing loan repayment ($/monthly)	867	1,300
Median rent ($/weekly)	135	190

Source: ABS, Statistics, Census of Population and Housing.

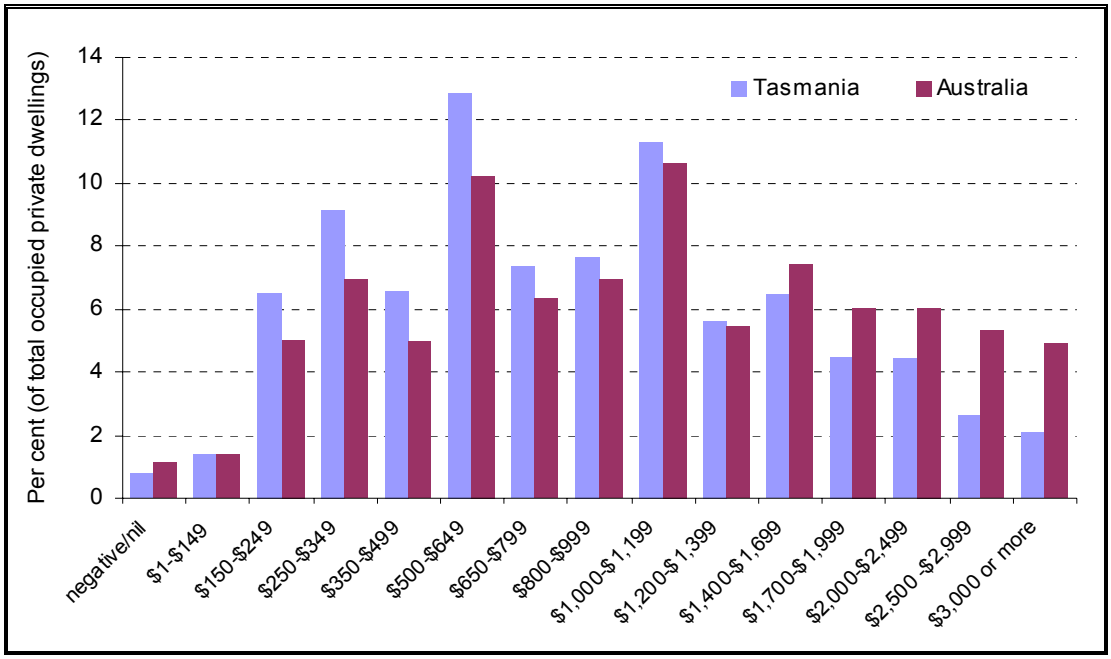
The evidence from the distribution of individual incomes (Table 14.3) points to a similar pattern with Tasmania having a significantly higher proportion of individuals with a weekly gross income of less than $600 (62 per cent compared to 55 per cent for Australia as a whole). The proportion of Tasmanians with a weekly income over $1,600 is less than half that of Australia.

Table 14.3
Individuals by gross weekly individual income range
Persons aged 15 years and over – Per cent

	Tasmania	Australia
Negative/Nil income	5.7	7.2
$1-$149	7.0	6.9
$150-$249	17.7	13.9
$250-$399	16.1	13.0
$400-$599	15.3	13.6
$600-$799	11.0	10.6
$800-$999	7.2	7.9
$1,000-$1,299	6.8	7.7
$1,300-$1,599	3.0	4.2
$1,600-$1,999	1.3	2.5
$2,000 or more	1.6	3.5
Individual income not stated	7.3	8.9
Total	100.0	100.0

Source: ABS, Statistics, Census of Population and Housing.

Figure 14.1
Occupied Private Dwellings by Gross Household Income (Weekly)
2006 – Per cent



Source: ABS, Statistics, Census of Population and Housing.

A smaller share of the adult population in Tasmania is active in the labour market, and of those a higher proportion is unemployed than nationally (Table 14.4). As a consequence 54 per cent of those aged over 15 are in employment compared with 57 per cent nationally. Tasmanian workers are also slightly less likely than the national average to be working full-time.

Table 14.4
Characteristics of Employment, 2006

	Tasmania	Australia
Full-time/part-time status (per cent of total employed)		
Employed, worked full-time[(a)]	60.0	64.0
Employed, worked part-time	32.9	29.5
Employed, away from work[(b)]	7.1	6.5
Total employed	100.0	100.0
Unemployment rate (per cent)	6.6	5.2
Participation rate (per cent)	57.3	60.4
Employment to population ratio (per cent)[(c)]	53.5	57.2

Note: (a) Employed full-time' is defined as having worked 35 hours or more in all jobs during the week prior to Census Night.
(b) Comprises employed persons who did not work any hours in the week prior to Census Night and employed persons who did not state their hours worked.
(c) The number of employed persons expressed as a percentage of persons aged 15 years and over.
Source: ABS, Statistics, Census of Population and Housing.

In summary, the SEIFA index and other socio-economic data presented in written submissions to this study, including that:

- 160,000 Tasmanians are eligible for Commonwealth concession cards (TasCOSS);
- lower levels of educational attainment to year 12 (Anglicare quoting analysis by Saul Eslake, ANZ Chief Economist); and
- survey data from Anglicare and DHHS relating to financial stress;

illustrate the broad socio-economic environment into which EGM gambling has been introduced (see discussions Box 14.1). The question is whether the availability and greater accessibility of EGM gambling opportunities has had any impact and what is the nature of that impact.

Box 14.1
Behavioural Economics: Socio-Economic Environment and Consumer Protection

In a recent review of Australia's Consumer Policy Framework[102] the Productivity Commission hosted a seminar on the subject of behavioural economics. While not a new field of economics, behavioural economics adds insights to the rational, self-interested behaviour of more traditional economic models (i.e. said to supplement the insights of "as if" modelling, by relaxing the assumption of perfect rationality).

The Productivity Commission noted that "one of the common threads of behavioural economics is that human behaviour is dependent on the environment in which choices are made" (p. 375).

The Productivity then stated that a consumer policy framework should, *inter alia*:

> "meet the needs of those who, as consumers are most vulnerable, or at greatest disadvantage" (Vol. 2, p. xv).

That is to say, consumer protection policies should incorporate protection for the disadvantaged or those persons with low education, low income, poverty, disability or poor English proficiency and the more vulnerable (i.e. in a gambling context, those who already may have a co-morbidity which is exacerbated or exploited in the gambling environment). The problem gambler may be one such disadvantaged and vulnerable person!

[102] Productivity Commission (2008), "Review of Australia's Consumer Policy Framework", N45.30, April.

14.2 Statistical analysis of regional variation in EGM expenditure

Concerns about the potential regional impact of gambling in Australia have generally focussed on electronic gaming machines, partly for their regional spread, and partly because of the relatively higher rates of problem gambling associated with electronic gaming machine (EGM) gambling.

14.2.1 Results of the Prevalence Study

In particular, there is considerable interest in examining how the distribution of gambling opportunities influences gambling behaviour. For example, if one has a higher concentration of gaming machines or venues in a particular area, does this influence the likelihood that a person will gamble, how much they spend, and their likelihood of developing gambling problems? Conclusive answers to these questions are difficult to obtain. However, one way in which one can infer the potential role of proximity of gambling opportunities is to examine people's gambling habits and how they are influenced by geography.

As part of the 2007 Prevalence Survey, respondents were asked to indicate how far they would usually travel in order to play EGMs. The results are summarised in Table 14.5. All figures are expressed as a proportion of the total number of people who gambled on EGMs (rather than as a function of the total sample).

Table 14.5
Distance Usually Travelled to Play EGMs

	Tasmania 2007	
Distance	**Number**	**Per cent**
Within 1 km	160	13.8⇓
2-5 km	331	28.6
6-10 km	207	17.9
10 or more km	399	34.5⇑
Denominator	1,156	

Note: ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
Source: Drawn from Prevalence Study (SACES, 2008).

The results in Table 14.5 show that just over 40 per cent of Tasmanians reported travelling only 0-5km to visit a gaming venue; just under one in five reported travelling 6-10km, and over a third said that they travelled over 10 kilometres. A comparison with the South Australian figures shows that people in Tasmania generally travel further to gamble than in South Australia. In South Australia, 56 per cent of EGM players travel only up to 5km and only 1 in 5 travel more than 10km

To cast further light on these findings and to determine whether the same pattern was observed across Tasmania, the data were further analysed by area. As indicated in Table 14.6, the only clear trend was for people living in the southern areas of Tasmania to report travelling further than people from other areas. People in Hobart were more likely than the rest of the sample to travel 6-10km to gamble on EGMs.

A further question asked people whether they usually gambled at the venue closest to their home (Table 14.7) or work. Just over 2 in 5 (41.9 per cent) of EGM players said 'Yes' to this question, whereas 56.2 per cent said no. A further 12.6 per cent of EGM gamblers indicated that they gambled at the closest venue to their workplace

Table 14.6
Distance Travelled By Area (Per cent)

Distance	Greater Hobart	Southern	Northern	Mersey-Lyell
Within 1 km	13.9	9.6	12.3	16.5
2-5 km	26.8	17.8	30.6	32.0
6-10 km	23.2⇑	5.5⇓	19.2	10.9⇓
10 or more km	29.6⇓	64.4⇑	33.0	36.6
Denominator	466	73	333	284

Note: ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
Source: Drawn from Prevalence Study (SACES, 2008).

Table 14.7
Do EGM Players Gamble at the Venue Nearest to Home? (Per cent)

Distance	Total	Greater Hobart	Southern	Northern	Mersey-Lyell
Yes	41.9	37.4	31.5	44.6	48.6⇑
No	56.2	59.1	67.1	53.9	51.1

Note: Not all figures sum to 100 per cent due to missing responses. ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
Source: Drawn from Prevalence Study (SACES, 2008).

14.2.2 Analysis of expenditure data

Table 14.8 sets out the regional variation in electronic gaming machine expenditure and machine and venue numbers. It is important to note that this refers only to machines located in hotels and clubs and therefore does not include the machines located in the two casinos, which account for a significant proportion of electronic gaming machine expenditure in Tasmania. In order to preserve the confidentiality of venue level data, expenditure data for councils with fewer than three premises have been aggregated with a nearby council area.

There is considerable regional variation in player loss or NGR[103] on electronic gaming machines located in hotels or clubs, which does not appear to be positively related to regional variations in household incomes. For example, the council area with the highest per capita NGR, West Coast, is ranked 19 out of 26 councils for per capita EGMs on household income. That is to say, high per capita net gambling revenue but lower median income. Indeed out of the five councils with the highest per capita NGR, none is in the top ten councils for median incomes.

There is also an association between disadvantage (as measured by the ABS' SEIFA) and regional concentration of gaming machines and NGR.

Table 14.9 sets out data which has grouped councils based on the national decile of their SEIFA score[104] in the index, e.g. a council with a score which placed it in the bottom 20 per cent would be grouped in decile 2. No council had a score in the index which placed it in either the first or the seventh decile, and deciles 5 and 6 have been merged as there was only one council with a score which would place it in decile 6.

[103] Net gaming revenue refers to or is the equivalent of player loss.
[104] The SEIFA Index for each LGA is for 2006 and the EGM data is for 2006/07.

Table 14.8
Electronic Gaming Machine Revenue by Local Government Area: Tasmania (2006/07)

	Population	Median weekly income	Venues	EGMs	NGR ($'000)	NGR/ capita
Break O'Day	6,218	296	2	52	} 2,956.8	219
Dorset	7,253	353	3	45		
Brighton	14,329	378	2	50	} 5,460.5	227
Derwent Valley	9,692	360	2	40		
Burnie	19,701	366	4	108	7,647.0	388
Central Coast	21,259	362	5	125	} 8,163.1	271
Latrobe	8,888	384	1	45		
Circular Head	8,188	426	2	40	} 2,203.4	223
King Island	1,703	504	1	12		
Clarence	50,808	458	6	165	7,850.0	155
Devonport	24,880	368	8	225	10,750.7	432
George Town	6,744	331	3	57	1,861.0	276
Glamorgan/Spring Bay	4,329	353	3	61	1,202.1	278
Glenorchy	44,179	384	9	270	19,816.7	449
Hobart	49,556	526	8	189	7,412.0	150
Huon Valley	14,442	349	3	55	3,719.0	154
Kentish	5,965	339	1	15	} 1,515.5	61
Meander Valley	18,938	399	2	35		
Kingborough	31,706	476	3	60	1,807.1	57
Launceston	64,620	395	14	368	17,453.8	270
Northern Midlands	12,505	388	2	30	} 1,895.8	103
Southern Midlands	5,845	367	2	22		
Sorell	12,131	396	3	70	2,465.1	203
Waratah-Wynyard	13,815	352	4	106	5,271.9	382
West Coast	5,171	357	6	75	2,506.8	485
West Tamar	21,543	413	4	80	2,279.8	106
Statewide Total	**484,408**	**408**	**103**	**2,400**	**112,009.7**	**231**

Source: ABS, Tasmanian Gaming Commission, Calculations SACES

NGR per capita is highest in councils whose score on the index falls in the third decile nationally, with the second highest level of NGR found in those councils which fall in the second decile. Per capita expenditure in councils in deciles 8,9 and 10 is only 40 per cent of that of deciles 2 and 3, despite per capita incomes which are 40 per cent higher. As a consequence, expenditure on gaming as a share of income is 2.1 per cent in councils ranked in the third decile of SEIFA scores, and 1.6 per cent in councils ranked in the second decile. In contrast gaming machine expenditures account for only 0.5 per cent as a share of income in councils ranked in the 10th decile.

It would appear that there is a greater propensity to locate gaming machine venues and gaming machines in relatively disadvantaged areas (Table 14.9) and that machines in disadvantaged areas earn higher per capita revenue. Expenditure per machine for councils with disadvantaged populations (deciles 2 and 3) is $52,700 and $49,800 respectively, but only $39,150 for machines in relatively advantaged councils. Revenue per machine generally falls as the level of disadvantage declines. This pattern is consistent with the observations of the Productivity Commission for Australia as a whole when econometric analysis conducted by the 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 regional median weekly income and annual average expenditure on electronic gaming machines.

Table 14.9
Tasmanian LGAs Grouped by Index of Relative Socio-economic Advantage and Disadvantage
Ranked by National Decile, Gaming Machines and Revenue excl. Casinos

	Population number	Median weekly income $	Venues number	EGMs number	NGR $ million	NGR/ per machine $	NGR/ capita $	NGR/ income per cent
decile 1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
decile 2	118,217	368	32	666	35.1	52,702	297	1.6
decile 3	62,725	363	19	500	24.9	49,800	397	2.1
decile 4	50,790	371	11	222	9.7	43,693	191	1.0
decile 5 & 6	104,577	395	21	518	23.0	44,401	220	1.1
decile 7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
decile 8	72,351	445	10	245	10.1	41,224	140	0.6
decile 9	31,706	476	3	60	1.8	30,000	57	0.2
decile 10	49,556	526	8	189	7.4	39,153	150	0.5
Tasmania	489,922	408	104	2,400	112.0	46,666	229	1.1

Source: Department of Treasury and Finance, Liquor and Gaming Branch, ABS, Calculations SACES.

This concentration of expenditures cannot be attributed to the share of the population who live in these relatively disadvantaged councils (Table 14.10). With just under **37 per cent** of the State's population, and one-third of its income, councils in deciles 2 and 3 account for:

- 49 per cent of venues and machines; and
- 54 per cent of expenditure.

Table 14.10
Tasmanian LGAs Grouped by Index of Relative Socio-economic Advantage and Disadvantage
Ranked by National Decile, per cent of state total

	Population	Total Income	Venues	EGMs	NGR
decile 1	n/a	n/a	n/a	n/a	n/a
decile 2	24.1	21.8	30.8	27.8	31.4
decile 3	12.8	11.4	18.3	20.8	22.2
decile 4	10.4	9.4	10.6	9.3	8.7
decile 5 & 6	21.3	20.7	20.2	21.6	20.5
decile 7	n/a	n/a	n/a	n/a	n/a
decile 8	14.8	16.1	9.6	10.2	9.0
decile 9	6.5	7.6	2.9	2.5	1.6
decile 10	10.1	13.1	7.7	7.9	6.6
decile 2+3	*36.9*	*33.2*	*49.0*	*48.6*	*53.6*
decile 8,9&10	*31.4*	*36.7*	*20.2*	*20.6*	*17.3*

Source: Department of Treasury and Finance, Liquor and Gaming Branch, ABS, Calculations SACES.

It is worth noting that the concentration of gaming machine venues in councils which fall into deciles 2 and 3 of the SEIFA only partly stems from the overall number of venues (other than restaurants) licensed to serve alcohol. Councils in deciles 2 and 3 accounted for 39.4 per cent of all licensed venues, but 49 per cent of venues with electronic gaming machines

The data provided in Tables 14.8 to 14.10 could suggest that there is a negative correlation between incomes in a region and expenditure on gaming machines. However it could equally be the case that it is some other factor(s) (for example age) which is driving the variation in NGR per capita and income and the negative correlation with income is purely coincidental.

For example, persons aged over 60 have low average incomes, so if those aged over 60 were significantly more likely to participate in EGM gambling, regions with higher proportions of persons aged over 60 would have (all other things being equal) both lower incomes and higher NGR expenditures.

In order to assess the factors which influence the regional level of electronic gaming machine gambling, regression analysis was conducted to test which socio-economic, geographic and demographic factors appear to influence average per capita gaming machine expenditure at the council area level. Regression analysis allows the testing of the individual impact of a range of explanatory variables simultaneously to identify their individual impact. So, in the example given above, a regression analysis would identify that there was a positive correlation between the proportion of a region's population aged over 60 and per capita NGR, and then identify any residual effect of income holding the age profile constant.

Similar analyses have been conducted by the researchers for South Australia in the late 1990s and mid-2000s, and for Victoria in the early-2000s. SACES (2001) found the following in their econometric analysis of influences on average NGR per adult by council area in South Australia (1998/99):

- A positive relationship between average NGR and density of gaming machines and venues;
- A slight positive relationship between disposable income and average NGR;
- A positive relationship between average NGR and unemployment levels;
- A positive relationship between average NGR and Aboriginal and Torres Strait Islander (ATSI) levels; and
- A positive relationship between average NGR and proportion of housing trust homes.

The regression technique used was ordinary least squared (OLS) regression, and the dependant variable chosen was Average NGR per Adult in each council area. A wide range of potential explanatory variables were tested. In general economists seek to model sets of variables for which theory suggests that there may be a relationship, however in the case of NGR there is no clear theoretical model as to the potentially important factors. The researchers would normally respond to this by using the Hendry method.; initially modelling the dependent variable as a function of all the potentially relevant variables, and then sequentially eliminating explanatory variables starting with the variables which had the lowest levels of statistical significance. Variables are eliminated up to the point where the removal of the variable decreases the goodness of fit of the model. Due to the number of variables this was not possible in this case, so an initial selection process was undertaken, modelling NGR per capita as a function of each of the explanatory variables individually. Only those variables which were individually significant were then included in the full regression. Variables included at this first stage are set out below under geographic, socio-economic and demographic factors.

Geographic factors

- The number of venues in the council licensed for electronic gaming machines;
- The number of electronic gaming machines per 1000 residents;
- The population of the council;
- The population density of the council;
- Whether a council is rural or not;

- The remoteness rating assigned to the council by the ABS using their ARIA system.
- The number of kilometres to either Wrest Point or Launceston casino (which ever was nearer, estimated by calculating the shortest travel distance between the city council chambers and the casino using www.whereis.com.au).
- The travel time in minutes to either Wrest Point or Launceston casino (which ever was nearer, estimated by calculating the shortest travel distance between the city council chambers and the casino using www.whereis.com.au. In the case of King Island the travel time was calculated based on estimated flight times including check-in etc. from King Island to Burnie, and then travel time by land from Burnie).

Socio-economic factors

- Average median incomes for adults.
- The proportion of households which were renting their place of residence.
- The proportion of the population which was unemployed.
- The proportion of the population which was part of a low income household.
- The proportion of the adult population which was employed in a 'blue collar' occupation.
- The proportion of the adult population which was employed in a 'professional' occupation.
- The proportion of households which did not have a motor vehicle.

Demographic factors

- The proportion of the population which was male.
- The proportion of the population which was aged 15 to 18.
- The proportion of the population which was aged 18 to 40.
- The proportion of the population which was aged 55 to 70.
- The proportion of the population which was aged over 70.
- The proportion of the population which was of Aboriginal or Torres Straight Islander descent.
- The proportion of the population which was born in Asia.
- The proportion of the population which was born in Africa.
- The proportion of the adult population which had never been married.
- The proportion of the adult population which was separated/divorced.
- The proportion of the population which was religious.

The final model structure for NGR per Capita when testing down was completed indicated that the following variables appeared to have a statistically significant impact:

- EGM density (the number of electronic gaming machines in the council region per 1,000 residents)
- The proportion of the Council's households which did not own a motor vehicle;
- The proportion of the adult population which was employed in a 'professional' occupation.
- Travel time to the nearest casino.

Initial tests of the significance of the model appeared to suggest that it was a good model of the factors influencing the level of net gaming expenditure per adult in Tasmania. The Ramsey RESET test indicated that there were no relevant explanatory variables which had been omitted from the specification; and the model performed well on measures of overall significance such as Adjusted R^2 and the F-statistic. Adjusted R-squared is the most commonly used measure of significance for OLS regressions, measuring the proportion of the actual variation in the dependent variable explained by the estimated equation, with 1 indicating that the model perfectly explains the pattern of the data[105]. In this model the Adjusted R^2 was 0.796. 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 (hence a low prob. F — in the case of this specification 0.0000 — indicates that the coefficients are jointly meaningful, supporting the model specification).

The model appears to be fully specified, with the Ramsey RESET test rejecting the hypothesis that there are one or more omitted variables. However there is weak evidence for heteroskedasticity, with the Breusch-Pagan test statistic significant at the 10 per cent level.

There was another important test needed before these results could be regarded as a meaningful model of the variation in NGR by council regions; a test for simultaneity bias. Simultaneity bias exists when one of the explanatory variables is endogenous with the dependent 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 models of NGR the potential source of simultaneity bias is that either hotel and club owners would decide whether to apply 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. Thus the value of EGM numbers per thousand residents may be driven by other explanatory variables in the model, rather than being independently determined (this is described as a variable being endogenous rather than exogenous). Simultaneity bias was tested for electronic gaming machines per 1,000 adults using a version of the Hausman test[106]. The results of this test showed that simultaneity bias **was** present for either of these factors (although it was not particularly significant) and that consequently regression results using OLS were not robust.

As the ordinary least squares regression was not statistically valid, an alternative estimation technique was required. The technique chosen was Two-Stage Least Squares regression, as it is possible to control for simultaneity bias. The first stage of this technique is to develop a list of the factors which determine the endogenously determined explanatory variable from the initial equation (in this case the EGM density). These factors must not affect NGR directly (otherwise they should just be included in the regression directly rather than as instruments). This was the model developed for EGM density as part of the Hausman test, and the results are summarised in Table 14.11.

[105] In reality in applied work a model will never have an R^2 of 1 because it is a model of behaviour and includes a range of sources of potential error as well as being subject to random variations.

[106] Davidson, R and J.G. MacKinnon (1989) "Testing for Consistency using Artificial Regressions," *Econometric Theory*, v. 5, pp. 363–384.

Table 14.11
Variables Correlated with the EGM Density
(Instrumental Variables)

	Coefficients	Standard Error	t Stat	P-value
Intercept*	-29.77	10.60	-2.81	0.010
Population*	-0.0002	0.0001	-2.48	0.021
Median per capita income*	0.027	0.010	2.62	0.015
Number of venues licensed for EGMs*	1.313	0.320	4.10	0.000
Proportion of the population aged 55+**	15.98	8.97	1.78	0.088
Proportion of adults employed in 'blue collar' occupations*	39.67	14.59	2.72	0.012

* Significant at the 5 per cent level
** Significant at the 10 per cent level

Adjusted R^2: 0.673
F-statistic: 12.53
Prob. F: 0.0000

These results indicate that, all other factors being equal, a higher population in a region will lead to a smaller density of electronic gaming machines, but this impact is relatively small, with an increase in population of 10,000 only increasing the number of EGMs per 1,000 residents by 1.7. Factors correlated with higher EGM densities are: the number of venues licensed for EGMs, median incomes; the proportion of the population aged over 55, and the proportion of adults employed in 'blue collar' occupations.

These variables which are correlated with EGM density, are then entered into the two stage least squares estimation as instrumental variables, and the initial model specification is then re-tested.

The use of two-stage least squares estimation procedure produced changes to both the coefficients and their standard errors. None of the explanatory variables which were previously significant have become insignificant, but several variables have higher standard errors relative to their coefficient values than was previously the case (e.g. the range within which the true value of the coefficient is likely to sit is wider). There was also one explanatory variable ─ a dummy variable identifying whether a council was in a regional area ─ which became statistically significant once the endogeneity of EGM density was addressed in the modelling. The results of the two-stage least squares regression are shown in Table 14.12. As can be seen from the table, this revised range of explanatory variables appears to be a good model fit for the data, with an R^2 of 0.826, and a Wald Statistic (roughly equivalent to an F statistic) of 134.2 (with an associated probability that all of the coefficients for the explanatory variables should actually be zero of 0.0000).

Evaluated at the State average, the proportion of households which do not own a motor vehicle (a proxy indicator of disadvantage) has the second largest impact on expenditure, closely following EGM density. Whether or not a council is rural, and the travel time to the nearest casino have significantly smaller impacts on expenditure levels assessed at the State average.

Table 14.12
Variables Correlated with Net Gaming Expenditure per Adult in Council Areas
Two-Stage Least Squares Estimates

	Coefficients	Standard Error	t Stat	P-value
Intercept	27.79	60.32	0.46	0.645
EGM density*	23.20	5.577	4.16	0.000
The proportion of households which do not own a motor vehicle*	1,843	452.6	4.07	0.000
Travel time to the nearest casino**	0.528	0.276	1.91	0.056
Proportion of adults employed in 'professional' occupations**	-312.0	176.8	-1.76	0.078
Rural council areas (dummy variable)*	-54.21	25.03	-2.17	0.030

* Significant at the 5 per cent level
** Significant at the 10 per cent level

Adjusted R^2: 0.8262
Wald statistic: 134.21
Prob. 0.0000

Comparing the difference in expenditure implied by the model results for the council regions with the highest and lowest values for variables (or those regions with EGMs) suggests that, holding everything else equal, the region with the highest EGM density would be expected to have per capita expenditure which was $294 higher than the lowest density region. The difference implied for per-capita expenditure between the region with the highest proportion of its households not owning a motor vehicle (again holding everything else constant) is $173 higher than that of the region with the smallest proportion. The other impacts are somewhat smaller, with the implied difference in expenditure between the region with the highest and lowest travel time to the nearest casino being $103. The region with the greatest proportion of professionals has an implied expenditure $95 **lower** than the region with the smallest share, and rural councils have expenditure levels $54 **lower** than metropolitan councils.

These results provide some evidence that expenditures on electronic gaming machine gambling increase in regions which are disadvantaged, although this is weaker than the superficial comparison of expenditure and income.

The proportion of the population which does not own a motor vehicle is generally regarded as an indicator of disadvantage (although it can also indicate concentrations of households which are significantly older or younger than average), and this variable has a significant predictive power for expenditures. Similarly, the negative correlation between the proportion of a region's population employed in professional occupations suggests that the better off regions have lower expenditure.

14.3 Statistical analysis of regional aspects of problem gambler numbers

The other approach which could be taken to exploring the regional dimension of gambling and particularly problem gambling is regression analysis on the factors which are correlated with regional variations in the number of problem gamblers. Unfortunately results from the 2007 Prevalence Survey undertaken as part of this project are not reliable at the level of individual councils as the standard errors of the data are too high. The alternative source of problem gambler numbers at a regional level is calls to the telephone 'Helpline' run by the

Break Even counselling providers. The data covers calls made to the Helpline from 1 January 2005 to 30 June 2007.

This dataset (as is the case with many datasets compiled for administrative purposes) is not particularly well suited to statistical analysis. In particular, 136 of the 504 callers who were themselves gamblers did not have a post code recorded in the data set. There is also the question as to whether only those callers where the caller themselves is recorded as being a gambler should be used, or alternatively whether it is better to use the total number of callers to the service (e.g. including calls from the family and friends of gamblers). The concern with using all callers to the service is that there is the potential for double counting, however if only those callers identified as the gambler are used there is the potential to understate the number of problem gamblers receiving help from the service in a region. There is no clear reason to prefer one of these approaches so the analysis has been undertaken using both definitions of caller and the results will be compared. A second limitation is that research suggests that only a small proportion of problem gamblers will access help services in any given year. As the numbers of callers are so small random variations in the proportion of problem gamblers who call the helpline from a given region could significantly change a regions relative ranking.

As data on helpline callers is provided on a postcode basis it was concorded to a council level, as the socioeconomic and demographic data is recorded by council. This creates some potential difficulties as there are a number of postcodes which cross local government boundaries. The concordance assigns a proportion of the callers in these split postcodes based on the distribution of population (e.g. if 78 per cent of the population of postcode 7250 live in the Launceston LGA then that proportion of helpline callers are assigned to Launceston). Of course there is no way of knowing whether this proportionate allocation was correct. The limitations of the data set mean that any results should be treated with caution.

Table 14.13 sets out the number of callers to the Helpline by local government area, as well as other selected variables. This would appear to suggest that the most important factor influencing call numbers is population. However, regions with higher expenditure appear to have higher numbers of calls. Hobart and Launceston, the locations of the two casinos, also appear to have noticeably higher than expected numbers of calls (although to the extent that people may give a postcode of their work location, or a false postcode, this could be artificially inflated).

These apparent relationships can be tested by undertaking regression analysis on the factors influencing the number of calls to the Helpline from each region. The range of explanatory variables is the same as was used for the NGR regression, as outlined earlier in this chapter, and the variable identification process followed the same approach. Models were tested for both callers who were identified as the gambler and the total number of callers. The initial regression approach used was OLS.

Table 14.13
Helpline Callers by Local Government Area, 2005-07

	Helpline callers, gamblers	Helpline callers, total	Population	Venues	EGMs	NGR/capita
Break O'Day	2	4	6,218	2	52	219
Dorset	3	4	7,253	3	45	
Brighton	6	11	14,329	2	50	227
Derwent Valley	9	15	9,692	2	40	
Burnie	18	24	19,701	4	108	388
Central Coast	16	26	21,259	5	125	271
Latrobe	4	5	8,888	1	45	
Central Highlands	2	3	2,316	0	0	0
Circular Head	2	5	8,188	2	40	223
King Island	0	2	1,703	1	12	
Clarence	23	37	50,808	6	165	155
Devonport	30	50	24,880	8	225	432
Flinders	0	0	881	0	0	0
George Town	1	3	6,744	3	57	276
Glamorgan/Spring Bay	1	2	4,329	3	61	278
Glenorchy	51	75	44,179	9	270	449
Hobart	70	107	49,556	8	189	150
Huon Valley	5	8	14,442	3	55	154
Kentish	3	8	5,965	1	15	61
Meander Valley	15	25	18,938	2	35	
Kingborough	12	22	31,706	3	60	57
Launceston	57	81	64,620	14	368	270
Northern Midlands	5	9	12,505	2	30	103
Southern Midlands	1	3	5,845	2	22	
Sorell	9	15	12,131	3	70	203
Tasman	0	1	2,317	0	0	0
Waratah-Wynyard	3	6	13,815	4	106	382
West Coast	1	1	5,171	6	75	485
West Tamar	17	24	21,543	4	80	106
Unknown	136	249				
Statewide Total	503	824	**484,408**	**103**	**2,400**	**231**

Source: ABS, Tasmanian Gaming Commission, Calculations SACES.

The final model for the number of Helpline callers who were themselves the gambler is set out in Table 14.14. As can be seen the model is a very good fit for the data, with an adjusted R^2 of 0.98. The Ramsey RESET test indicates that there is no evidence of omitted variables. Heteroskedasticity was tested for using the Breusch-Pagen test, and appears to be present. The model was then re-estimated with robust standard errors, which will mean that the coefficient results are reliable despite the variance in the errors, with the IM test confirming that the heteroskedasticity appears to have been addressed. However the presence of heteroskedasticity can artificially inflate the value of the R^2 so this should be disregarded.

The Hausman test strongly rejects the presence of simultaneity bias in this specification, so the OLS regression model structure was retained.

The apparent positive relationship between population and caller numbers does not hold when the full range of factors is taken into account. Indeed once a full range of factors has been considered the impact of population on caller numbers is not statistically significantly different from zero. However, both population density and NGR, which tend to be higher in

regions with higher populations, are positive and statistically significant influences on the number of callers (Table 4.14).

Table 14.14
Variables Correlated with the Helpline Callers – Gamblers

	Coefficients	Standard Error	t Stat	P-value
Intercept*	21.90	7.194	3.04	0.006
Travel time to the nearest casino	-0.021	0.0147	-1.45	0.161
Population density*	0.028	0.004	7.10	0.000
Net gaming revenue ($ million)*	1.798	0.094	19.07	0.000
Per cent of population employed in 'blue collar' occupations*	-0.496	0.163	-3.04	0.006
Total licensed premises other than clubs*	0.415	0.027	15.36	0.000

* Significant at the 5 per cent level

Adjusted R^2: 0.980
F-statistic: 1994.58
Prob. F: 0.0000

Proximity to a casino appears to increase the expected number of Helpline callers albeit only slightly, with the region closest to a casino expecting (all other factors being held equal) four additional callers compared with the most distant region. The population density of a region is a more significant potential influence, with the expected number of calls from the council with the highest population density being 18 higher than the region with the lowest population density.

NGR appears to be the most significant influence on the number of Helpline callers from a region, with the LGA with the highest total expenditure expected to have 36 more callers than those LGAs where there are no EGMs.

The total number of (non-club) premises licensed to serve alcohol without food also appears to have a significant impact on the variation in expected callers, with the Council with the highest number expected to generate 32 more callers than the region with the smallest number of licensed premises. All other factors being held constant, regions with a higher proportion of persons employed in 'blue collar' occupations will generate fewer calls for the helpline, with the Council with the highest proportion expected to generate 11 fewer calls than the region with the lowest share.

The results for the model using all callers rather than just those identified as gamblers produces very similar results. As with the model for callers who were gamblers, the Ramsey RESET test indicates that there is no evidence of omitted variables in the specification, but the Breusch-Pagan test suggests the presence of heteroskedasticity. In order to address this, the model was re-estimated with robust standard errors, with the IM test confirming that the heteroskedasticity appears to have been addressed. However the presence of heteroskedasticity can artificially inflate the value of the R^2 so this measure of fit should be disregarded in assessing the regression.

The Hausman test strongly rejects the presence of simultaneity bias in this specification, so the OLS regression model structure was retained.

Table 14.15
Variables Correlated with the Helpline Callers – All Callers

	Coefficients	Standard Error	t Stat	P-value
Intercept*	38.65	8.979	4.30	0.000
Travel time to the nearest casino	-0.032	0.022	-1.45	0.162
Population density*	0.051	0.008	6.14	0.000
Net gaming revenue ($ million)*	2.467	0.176	13.98	0.000
Per cent of population employed in 'blue collar' occupations*	-0.828	0.207	-3.99	0.001
Total licensed premises other than clubs*	0.555	0.061	9.18	0.000

* Significant at the 5 per cent level

Adjusted R^2: 0.975
F-statistic: 1132.28
Prob. F: 0.0000

The same group of variables is significant for the regression on all callers, and all of the coefficients are of the same order of magnitude in Table 4.15. As would be expected given the higher number of callers included in this regression, each of the coefficients is slightly larger, but their relative size has remained constant, suggesting the same underlying group of factors influences both groups.

14.4 Conclusion

The researchers found an association between disadvantage, the regional concentration of gaming machines and NGR. There is also an association between high per capita NGR but lower medium income. As a consequence, expenditure on gaming as a share of income accounts for 0.2 per cent and 0.5 per cent in those councils ranked in the 9th and 10th decile (most advantaged), but 1.6 per cent and 2.1 per cent in those councils ranked in the 2nd and 3rd decile (most disadvantaged) respectively. EGMs earn higher per capita revenue in disadvantaged areas, while revenue per machine generally falls as the level of disadvantage declines. This pattern is found in regions in other states (SACES, 2001). A proxy for disadvantage ─ the proportion of households which do not own a motor vehicle ─ was found (in regression analysis) to have the largest impact on expenditure, closely followed by EGM density.

That NGR appears to be the most significant influence on the number of Helpline callers from a region, with the LGA with the highest total expenditure expected to have 36 more callers than those regions with no local expenditure on gaming machine gambling suggests a need to examine the spatial determinants giving rise to the generation of problem gamblers.

Reconfiguration of supply of gambling opportunities may be one option, including more substantive support to clubs relative to hotels in the relevant regions of interest. A comprehensive, universal policy approach (in the absence of supply side reconfiguration) would involve a consideration of smart card applications to EGM play.

15. Valuing Social Impacts

15.1 Introduction

In general the economic analysis of an industry sector would not include an assessment of its social impacts, as these are generally thought to be internalised by the purchaser of the good and thus factored into their decision as to how much of the good to purchase. However, there are cases where a good or service produces externalities (that is costs or benefits for those not involved in the transaction) and in these cases it is important to take its social impacts into consideration. Gambling (like alcohol and tobacco) is one such product. This Chapter seeks to draw out some of those impacts and to estimate the annual total social cost of problem gambling. The debate surrounding the appropriate way in which to measure and value the social costs/social impacts of gambling is complex, and there is no consensus on the best approach. In this study the researchers employ the methodology used by the Productivity Commission adjusted to 2007 dollars and using Tasmanian data.

As discussed in Chapter 2 on assessing social impacts, the approach taken in the analysis is the more individually based approach of economists and psychologists. Data which sheds light on the nature and scale of the social impacts of gambling is relatively scarce, not least because the relative frequency of problem gambling is low which means that samples need to be very large to collect data from a meaningful number of problem gamblers. The more detailed the required information on the behaviour and experiences of problem gamblers the larger the required sample size. For that reason, the Productivity Commission's data, which combined a large prevalence study of the general population with a significant survey of problem gamblers accessing gamblers help services, remains the most comprehensive available.

15.2 Forms of social impact arising from problem gambling

The basis of any notion of social cost from gambling (at least within an economic framework) is problem gambling, where gamblers are either not taking into account the impacts of their behaviour on others when deciding on their level of gambling expenditure, or exhibiting some form of bounded rationality in their decision making and so not fully taking into account the impacts of their own actions on themselves. In the literature, the terms 'compulsive', 'pathological', 'disordered', 'excessive' and 'problem' gambling have often been used interchangeably, to describe someone who exhibits an emotional dependence on gambling and impaired control over such behaviour. The term problem gambling is now more generally accepted because it is more neutral and it avoids any implication that there is an underlying disease model to explain the gambling behaviour (Blaszczynski, et al, 1997).[107]

In this discussion, the researchers have restricted their analysis of social impacts to those impacts arising from the actions of problem gamblers. In keeping with its terms of reference, this report uses the definition adopted by the Council of Australian Governments' Ministerial Council on Gambling in 2005:

[107] However, this broad acceptance of 'problem gambling' as the appropriate framework for analysis and policy development is not uncontested. For example, the Commonwealth Department of Health and Aged Care, in a submission to the Productivity Commission's inquiry into gambling, queried the use of 'problem' rather than 'pathological' gambling noting that: "Some researchers, however, consider that the process of re-definition can create a benign image for a potentially addictive activity while ensuring that responsibility for gambling-related problems is seen to rest with the individual rather than the gambling industry (sub. 163, p. 8)", quoted in Productivity Commission, 1999, p. 6.7.

> Problem gambling is characterised by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community. (SACES, 2005d)

The problems experienced by problem gamblers are both serious and numerous. A 2005 study found that Victorian GPs were 4 times more likely to identify patients presenting with health issues associated with gambling than their Western Australian counterparts (where access to gambling is much more restricted). Depression, stress, physical and emotional problems and relationship issues due to excessive gambling were the impacts most often cited (SACES, 2005a).

While the problem gambler suffers, the costs are by no means confined to the individual and also impact on the gambler's family members, friends, employers, creditors, and the wider community. The Productivity Commission (1999) estimated that on average, for each problem gambler, seven other people experience negative impacts.

In considering the social impacts of gambling, the negative effects can be broadly thought of as falling into the following broad categories[108]:

- Personal;
- Interpersonal;
- Financial;
- Legal;
- Work;
- Community.

This categorisation is very similar to the types of problems identified by individuals commencing with Gamblers Help in Victoria in 2001/02, set out in Table 15.1.[109] This includes over 60 per cent experiencing some form of financial problem; 45 per cent experiencing family problems and 22 per cent experiencing legal issues related to their problem gambling.

Table 15.1
Presenting Problems of Individuals Commencing with Gamblers Help Services in Victoria

Presenting problem	1995/96		1997/98		1999/00		2001/02	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Financial issues	864	74.9	1,413	57.0	1,404	55.1	2,186	62.1
Employment/work	427	37	590	23.8	542	21.3	1,053	29.9
Leisure use issues	765	66.4	1,084	43.7	846	33.2	1,514	43.0
Interpersonal related	783	67.9	1,220	49.2	1,197	47.0	1,972	56.0
Intrapersonal	857	74.3	1,388	56.0	1,408	55.3	1,972	64.2
Family issues	682	59.2	961	38.8	961	37.7	1,583	44.9
Legal issues	153	13.3	250	10.1	227	8.9	763	21.7
Physical symptoms	302	26.2	312	12.6	217	8.5	696	19.8
Gambling behaviour	1,035	89.7	2,209	89.1	2,418	95.0	3,362	95.5

Source: Dickerson (2004)

[108] This classification is based on that used in Chapter 9 of the Productivity Commission report.

[109] Victoria has undertaken substantial data collection from individuals commencing with Gamblers Help services, making it the most comprehensive such data collection in the country. The data reporting on those commencing in 2001-02 (Dickerson, 2004) is the most recent published by the Victorian Department of Human Services.

Eighty per cent of those commencing with Gamblers Help reported at least four maladaptive behaviours related to gambling, which in a clinical setting would meet the criteria for a diagnosis of pathological gambling. Indeed 42 per cent reported eight or more maladaptive behaviours (see Table 15.2).

Several submissions to this study described their experience of the diverse range of social impacts as presented by problem gamblers they have assisted. The impacts were raised with the researchers and highlighted in case studies as well. The Productivity Commission (1999), Dickerson (2004), SACES (2005a), Knox (2001) and financial counsellors and gambling help service providers in other states (i.e., from over 20 research studies on gambling conducted by SACES) describe the diversity of social impacts that are examined in the following discussion.

Table 15.2
Maladaptive Behaviours of Clients Commencing with Victorian Gamblers Help in 2001/02

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Preoccupied with gambling behaviour	1,101	69.7	1,122	68.3	2,223	69.0
Needs to gamble increasing amounts of money	1,034	65.5	1,057	64.3	2,091	64.9
Has repeated unsuccessful efforts to control gambling	1,292	81.8	1,375	83.7	2,667	82.8
Is restless or irritable when attempting to cut down	1,035	65.5	1,085	66.0	2,120	65.8
Gambles as a way of escaping	1,405	89.0	1,540	93.7	2,945	91.4
After losing money, chases losses	1,324	83.9	1,265	77.0	2,589	80.4
Lies to family members, therapist or others	1,148	72.7	1,184	72.1	2,332	72.4
Has committed illegal acts	372	23.6	219	13.3	591	18.3
Has jeopardised relationships, job, education	1,022	64.7	829	50.5	1,851	57.4
Relies on others to provide money	870	55.1	862	52.5	1,732	53.8

Source: Dickerson (2004).

Personal Impacts

Gambling problems can be associated with feelings of guilt, low self esteem, stress and poor health. Gambling problems heighten depression and anxiety in some people, and this depression may sometimes lead to suicide. Relationships Australia, in their submission to this study, provided a summary of what they call 'personal and family dimensions of the gambling toll' based on their experience in providing counselling and support services to problem gamblers in Tasmania. The personal impacts they note include:

- loss of work productivity;
- loss of employment;
- poor general health;
- health problems (anxiety, depression);
- suicide (attempted, completed);
- accidents, including road accidents; and
- increased alcohol, tobacco, and other drug consumption.

The 2007 Prevalence Survey found that 31 per cent of the 'moderate risk and problem gambler' group experienced depression related to gambling, and 14.5 per cent experienced it most of the time, or always. The Productivity Commission report stated that of those gamblers seeking support from counsellors, one in ten reported an attempted suicide, and it is

likely that there are realised suicide attempts linked to problem gambling.[110] The personal impacts identified by Relationship Australia are illustrated in Box 15.1, a case study provided by TasCOSS to the researchers.

Box 15.1
Case Study: Community Support Organisation

G was an enthusiastic community person, involved in sporting clubs and his children's activities. He was a part owner of a successful business and admired by his peers and the community where he lived.

G started gambling and unbeknown to his associates he started using business funds to feed his gambling addiction. Bills were not paid and it wasn't until the business car was repossessed that people started asking questions. The business had to be sold to pay debts.

G slipped into depression and never recovered. He committed suicide and left a grieving wife and two young children.

Interpersonal Impacts

The heightened levels of stress, financial problems and reduced time spent with family (and friends) experienced by problem gamblers can lead to relationship difficulties and breakdown and in some cases domestic or other violence. Relationships Australia identified the following interpersonal impacts of gambling based on their experience in providing services to problem gamblers in Tasmania:

- loss of family reputation;
- children's futures jeopardised;
- marital and family breakdown;
- social isolation;
- family violence; and
- child neglect and abuse.

Data for Victoria (Dickerson, 2004) indicates that almost 60 per cent of problem gamblers accessing Gamblers Help services have jeopardised a relationship or employment as a result of their gambling problem.

Financial Impacts

The results of the Productivity Commission's survey of gamblers indicated that 42 per cent of NGR from electronic gaming machines comes from problem gamblers The financial losses inevitably associated with gambling problems leads to bad debts (imposing costs on creditors, which often also include family and friends), asset repossessions including the forced sale of houses, financial hardship for the gambler and immediate family, and the consequences of bankruptcy. Relationships Australia identified the following forms of financial impact from problem gambling:

- financial stress;
- debt;
- loss of family assets;

[110] Blaszczynski and Farrell (1998) through an analysis of coroner's records estimated that over the period 1994-97 1.7 per cent of Victorian suicides were related to gambling. The Productivity Commission estimated that this prevalence rate applied nationally would imply around 46 gambling related suicides were occurring in Australia in the late 1990s (1999, p. 7.19).

- early release of superannuation funds;
- loan default;
- homelessness; and
- bankruptcy.

The 2007 Prevalence Survey found that four per cent of moderate risk and problem gamblers reported that 'most of the time' or 'almost always', gambling left no money for rent; nine per cent reported that gambling left no money for bills and 13 per cent that they experience substantial debt because of gambling. Financial impacts are illustrated in the case study summarised in Box 15.2.

Box 15.2
Case Study: Multi-Purpose Health Service

A woman earning enough to pay a mortgage, run a car, meet other living expenses and some extras began gambling at casino. Gambling built up over a number of years (5-8 years).

Mainly gambled at the casino only going to pubs when she couldn't afford to get into town. Borrowed money to renovate her house and lost it gambling. Lost most of her social contacts as leisure time increasingly spent at casino. When her car broke down she couldn't afford repairs or to replace it. Cadged lifts with others until they became sick of her and then managed to get a loan to replace the car. Her friend stood over her to make sure she did spend the money on a car. Always tried to hide her addiction from people and denied it was a problem if any of her few remaining friends tackled her about it.

Became increasingly anxious and depressed. Eventually the bank foreclosed on her mortgage and house was sold to recover their money. Used what was left to pay off car, once again with pressure from her friend. Is now suffering from ill health, renting run down premises on the outer edge of Hobart, is isolated and in danger of homelessness.

Continues to gamble whatever money she can, rationalising that everyone needs a little fun in their lives.

The mean gambling related debt reported by new clients commencing with Gamblers Help counselling in Victoria in 2001/02 was $35,000 for men and $15,000 for women; the largest was $4,000,000 (Dickerson, 2004, p. 19). The impact of gambling on bankruptcy is likely to be significantly understated in administrative data as it is illegal to declare bankruptcy as a result of gambling debts.

Legal Impacts

The excess expenditure and diversion of resources from normal living expenses together with the employment problems that many problem gamblers experience can make meeting basic living expenses difficult after gambling expenditure, creating an incentive for financial crimes. In addition there are cases where problem gamblers have stolen in order to directly fund gambling with the proceeds. Relationships Australia have identified the following legal impacts from gambling based on their work in Tasmania:

- criminal acts (theft, robbery, fraud, other financial crime);
- court appearance, jail; and
- homicide.

Research amongst clients of problem gambling counselling and support services suggests that criminal activity is not uncommon amongst those seeking treatment. Of new clients commencing with Gamblers Help counselling in Victoria in 2001/02 24 per cent of male, and

13 per cent of female, clients reported having undertaken illegal activities related to their gambling (Dickerson, 2004, p. 20).

The modelling reported in Chapter 13 found that there was a *positive*, *significant relationship* between gaming expenditure and nearly all crime rates in Tasmania (with the exception of income-generating crimes against the person though this suffered from a number of missing observations). On average, the relationship between gaming and crime was more significant for income-generating crime than non-income generating crime The strongest relationship between gaming expenditure and a form of crime was with income-generating fraud, followed by total offences, property offences, offences against the person and drink-driving.

Warfield and Associates in a recent report on "Gambling Motivated Fraud in Australia"[111] during the period 1998 to 2007 reviewed "online law judgements as well as newspaper articles on convictions where evidence was led that the proceeds of the crime were gambled or where existing gambling debts were the motivation for committing the illegal acts" (p. 7). While the research was not intended to document the size of the problem it reported the following:

- 528 cases of fraud convictions investigated nationally;
- 58 per cent were male (N=307); 42 per cent female (N=221);
- involving $269.3 million;
- EGMs were by far the most nominated mode of gambling by the offenders and 64 per cent were female using this mode of gambling;
- the average loss to fraud where the person was solely addicted to EGMs was $350,148; and
- 30 cases were identified in Tasmania with the amount defrauded totalling $8.2 million.[112]

Work Impacts

Preoccupation with gambling and, in many cases, the associated time spent away from the workplace can result in poor job performance, absenteeism and finally job loss. The Commission found that around one-fifth of problem gamblers said they lost time from work or study due to gambling; one problem gambler in 200 indicated that they had been sacked as a result of their gambling. Job loss represents a cost both to the employee, who may require significant time and effort to find new employment, and employer, who faces the search, recruitment and training costs for new staff, and lost productivity both because of the problem gambler's poor performance in work, and whilst the resulting vacancy is filled.

In the Prevalence Study (SACES, 2008), 9.1 per cent of moderate risk and problem gamblers reported that gambling affected their work or study performance 'sometimes', and 7.3 per cent reported that it 'almost always' affected their work or study performance; none of the regular no risk or low risk regular gamblers surveyed reported this problem.

111 Warfield, B. (2008), "Gambling Motivated Fraud in Australia 1998-2008".
112 *op. cit.*

Community Impacts

Inevitably, the poverty resulting from excessive gambling losses presents greater need to charitable community organisations for basic support in the form of food and clothing, etc. These community organisations often also provide counselling help to problem gamblers. To exacerbate the impact on community organisations, many report that fund raising has been more difficult since the expansion of gambling opportunities. Loss of employment may also lead to social security receipt, adding a burden to the public purse.

Relationships Australia, in their submission to this study, lists what it calls the 'social and community dimensions of the gambling toll':

- erosion of cultural resources (cultural and social activities including social club participation, church attendance);
- impact on community fund-raising activity;
- loss of wealth from local communities;
- breakdown of community solidarity;
- loss of human capital via out-migration, unemployment, and imprisonment of family victims;
- increased demand for health, welfare, legal, policing, and court services; and
- increased financial burden on taxpayers to meet the expanded costs of maintaining state-funded services.

An example of the wider community impacts resulting from excessive gambling are illustrated in Box 15.3.

Box 15.3
Case Study: Impact on Community Organisation

The TASCOSS submission to this report quotes a study by the Hobart Benevolent Society[113] into the impact of problem gambling on their operations. The study reported that over a nine month period in 2000/01:

- There were 281 services provided directly or indirectly for problem gamblers or people adversely affected by another's gambling.
- $8,000 was spent supporting problem gamblers or people adversely affected by gambling, with 85 per cent of money going towards food vouchers;
- 100 per cent of negotiations with creditors and 67 per cent of advocacy services were directed to clients affected by problem gambling; and
- Clients affected by problem gambling received 18 per cent of the services and accounted for 16 per cent of the expenditure of services even though they comprised 11 per cent of the clients who participated in the study (Knox 2001: pp 40-41).

15.3 Assigning a value to social impacts

As the negative social impacts from gambling arise from problem gambling, the estimated prevalence of problem gambling is the foundation of any social cost estimate. However that is not sufficient of itself. In addition, data is needed on the frequency with which each impact occurs amongst problem gamblers, and the cost that the impact imposes.

[113] Knox, D (2001), 'The Impact of Gambling on Emergency Relief Services', Hobart Benevolent Society.

The Centre has based its valuation of the social costs of problem gambling on the Productivity Commission's estimates, but has adjusted prevalence estimates to Tasmanian data where possible using the results of the 2007 Prevalence Survey. The Productivity Commission's inquiry is still the most comprehensive assessment of the frequency and value of potential costs stemming from problem gambling as that inquiry included a significant data collection on the harms experienced by problem gamblers supplemented by surveys of problem gamblers in treatment.

The approach used by the Productivity Commission for valuing the benefits and costs of gambling is set out in Box 15.4. The discussion in Box 15.4 also identifies the key criticisms of the Commission's approach, and assesses their validity. It is our considered view that, whilst a number of areas of uncertainty exist (and were acknowledged by the Productivity Commission), none of the criticisms over the general approach were persuasive. As such we have followed the Productivity Commission's approach to valuing the social costs of gambling, but have used Tasmanian specific estimates of the frequency of harms where they were available from the Prevalence Study (SACES, 2008).

Box 15.4
The Productivity Commission's Approach, and its Critics

Despite now being ten years old, the Productivity Commission's inquiry into Australia's gambling industries remains the most comprehensive attempt to draw together costs and benefits of gambling. The benefits identified by the Productivity Commission were the consumer surplus enjoyed by (non-problem) gamblers, and taxation revenue. The costs include 'excess' expenditure by problem gamblers, and a range of social costs arising from problem gambling. The sources of data on the prevalence of the social costs were the Commission's National Gambling Survey, and a survey of problem gamblers in treatment.

The intangible costs arising from problem gambling include the emotional costs of depression, suicide and relationship break-downs. In the Productivity Commission's report, an estimate is made only for severe problem gamblers and their family and friends, noting that, while the emotional distress for families and parents of moderate problem gamblers was not measured, this is also a legitimate cost. The Productivity Commission notes that it was the first body to try to estimate intangible costs from gambling. With no market mechanism to guide the amount that people would pay to avoid them, the Productivity Commission assigned a range for the values, based on the compensation payment schedules for emotional harm used in New South Wales and Queensland. Less severe cases were valued between $5,000 and $15,000, and more severe cases between $30,000 and $50,000.

Broader community impacts of gambling were not included in the Productivity Commission report. For example, some submissions to the Productivity Commission stated that EGMs alter the nature and feel of the community, and undermine the norms of ethical and acceptable behaviour. On the other hand, some submissions said that there have been improved facilities in clubs and funds recycled back into community projects, which have been paid for by gambling revenue. The Productivity Commission states:

Overall, while the Commission recognises that gambling may indeed generate (potentially substantial) social costs through its effects on people's norms, ethics and preferences, it is unable to determine just how significant or pervasive these impacts may be.

Economic analysis makes the distinction between the **private** costs of a good and service and its social costs (externalities). So in the case of alcohol consumption, economics sees no role for the government in seeking to address the cost to the consumer of a hangover as it is assumed that the consumer factored the risk of getting a hangover into their decision on the amount of alcohol to consume. However there is a potential role for public policy in addressing costs to persons other than the drinker, such as deaths and injuries resulting from alcohol related motor vehicle accidents and violence, as it is unlikely that the drinker took those costs into account when choosing how much to drink.

The division between private and social impacts is a key assumption in any assessment of the costs arising from gambling. The Productivity Commission treats the costs imposed on the gambler's family as social not private costs, and also includes some costs to the gambler themselves on the assumption that they were in part involuntary due to the existence of problem gambling.

Box 15.4 cont…
The Productivity Commission's Approach, and its Critics

Concerns have been raised that the Productivity Commission's approach systematically overstates the costs of gambling through its treatment of social costs. For example the economic consulting firm ACIL, in a submission prepared on behalf of some gambling providers, argued that the Productivity Commission was incorrect in treating costs to gamblers and their families as social costs (and in failing to count the consumer surplus arising from all expenditures by problem gamblers as a benefit) as this implied consumer irrationality. Instead, ACIL proposed that gambling addiction could be persuasively seen as utility maximising behaviour; the so-called 'rational' addiction model.

The rational addiction model posits that goods are addictive because the pleasure derived from consuming a unit of the good increase based on the amount of the good that has been consumed previously, and that in choosing to consume the good addicts are behaving rationally having determined that the net benefits of this self-reinforcing satisfaction, even after any costs of the addiction, outweigh alternative consumption patterns they could make. E.g. even if a heroin addict is unhappy whilst continuing to consume heroin, they do so because to stop consuming heroin would make them even more unhappy. In this framework, the concept of a problem gambler (or an alcoholic or drug addict) is rendered irrelevant, because any problems faced by the gambler must, by definition, be outweighed by the personal benefits of continuing the addiction in order to explain the decisions that are observed.

The Productivity Commission rejected this critique, noting that whilst Rational Addiction theory provides a useful guide as to how addicts may respond to changes in incentives (for example, it correctly predicts the large drop in cigarette consumption that resulted from improved public information on the risks of smoking), it has a number of limitations. In particular, the Productivity Commission notes that rational addiction models are inconsistent with the existence of pre-commitment schemes; does not fit with the lived experiences of people with gambling problems, or the persistent misconceptions they have about winning; ignores the substantial literature on impaired control that seems to be a consistent feature of many people with severe gambling problems (Productivity Commission, pp. 6.9 – 6.12).

On the basis of this rejection of the implications of the Rational Addiction theory, the Productivity Commission continued to treat expenditure and harms generated by problem gambling as social costs on the basis that the individual's behaviour was not a result of a rational choice.

Others have suggested that the approach taken by the Productivity Commission significantly understates the cost of problem gambling or overstates its benefits. One source of these concerns is the use of consumer surplus, which has been criticised as a 'hypothetical cost saving' which should not be compared with the more tangible costs of gambling (see, for example, Delfabbro and LeCouter, 2006, pp. 165-70). This reflects a misunderstanding of the nature of consumer surplus, which is a method of measuring utility. It also fails to note that many of the costs of gambling identified by the Productivity Commission are also intangible such as the 'emotional distress of family members'.

Others raised concerns about the assumption that non-problem gamblers are rational. Some researchers argue that there is insufficient information about the 'product' that gamblers are buying to enable them to make a rational decision, supported by the kind of behaviour where problem gamblers are known to chase losses, and have inflated expectations of wins. Also, it has been claimed that gamblers cannot have perfect information in their consumption decisions, i.e. they cannot know beforehand whether they will win or lose (Doughney, 2001).

SACES regards this critique as misguided for several reasons. First it appears difficult to sustain the proposition that all of the 72 per cent of Tasmanian adults who have participated in gambling were fundamentally irrational and derived no benefit from it. Second, research on the reasons people give for gambling suggest that expected winnings are only one factor driving participation (e.g. Productivity Commission, 1999, pp. 5.5 – 5.6). Thus, whilst the *possibility* of winning is important in explaining the enjoyment derived from gambling, the precise odds are probably not (for example, it would appear difficult to sustain the idea that the Saturday lotto draw gives almost seven times more satisfaction to consumers than PowerBall, but if the expected probability of winning was the main driver of satisfaction then this would be the consequence of the relative odds of the two games). Finally, it is not necessary to know the result of a random process to assign it an expected value.

The results of the 2007 Prevalence Survey suggest that the Productivity Commission's estimates should be a reasonable guide as to the scale of negative social impacts stemming from gambling, as the frequency of harms appear to be similar. For example, the recent prevalence study suggests that 31 per cent of the 'moderate risk and problem gambler' group experienced depression related to gambling, and 14.5 per cent experienced it most of the time, or always. This is similar to the Productivity Commission survey results where 15.8 per cent of problem gamblers reported suffering depression 'often to always'. Similarly, 14.8 per cent of problem gamblers in the Productivity Commission's study reported having seriously considered suicide 'sometimes' or 'often'; the figure from the 2007 Prevalence Survey in Tasmania was 12.7 per cent (see Table 15.3).

Table 15.3
Harms Experienced by Regular Gamblers 'Most of the time' or 'Almost always'
Per cent

Variable	No Risk and Low Risk Groups	Moderate Risk and Problem Gamblers
Suffered depression because of gambling	0.0	14.5⇑
Gambled to escape worry or trouble	0.0	21.8⇑
Put off doing things together because of gambling	0.0	12.7⇑
Gambling made it harder for money to last	0.0	21.8⇑
People had difficulties trusting you because of gambling	0.0	15.7⇑
Thought about suicide because of gambling (per cent answering 'Sometimes')	0.0	12.7⇑
Gambling left no money for rent	0.0	3.6⇑
Gambling left no money for bills	0.0	9.1⇑
Experience substantial debt because of gambling	0.0	12.7⇑
Gambling affected family interests	0.0	7.3⇑
Experienced relationship breakdown due to own or other person's gambling (per cent 'yes')	10.0	20.0⇑
Gambling affect work or study performance	0.0	7.3⇑

Note: ⇑ or ⇓ indicate that the proportion is significantly higher or lower than the overall sample proportion.
Source: Drawn from Prevalence Study (SACES, 2008), Table 5.7.

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 or psychological 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 psychological impact and hence cost of the adverse impact. The Productivity Commission estimated that the national social costs resulting from gambling were in the range of $1.8 billion to $5.6 billion in 1998 dollars (which is equivalent to $2.4 to $7.4 billion in current terms).

A significant difficulty exists in assessing the potential impact of problem gambling as other factors (e.g. divorce, break-up of a relationship) might be the originating source for the adverse impacts experienced by problem gamblers rather than gambling activities themselves, with the problem gambling being a symptom of the underlying cause. There is no consensus as to the level of this reverse causation of impact. 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".

Despite the significant values identified as the average annual cost per problem gambler it should be noted that the Productivity Commission's estimates which form the basis of this calculation 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 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 estimate costs for:

- Non-regular gamblers: to the extent that some non-regular gamblers experience problems, the estimates are understated.
- Gamblers who are children; the prevalence estimates were derived from surveys of adults, but some gambling expenditure comes from those aged under 18, and some of these adolescent gamblers will experience negative consequences.
- Where data on the prevalence of a form of harm was only available from the survey of gamblers in counselling, it was assumed that the harm only impacted on those in counselling. This is likely to understate the costs of gambling. However there is no information available which would allow a researcher to reasonably estimate the proportion of problem gamblers whose characteristics match those in counselling.
- 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.
- Costs relating to those who are rarely or sometimes depressed; and
- Actual suicides caused by gambling.

15.4 Conclusion

Based on the approach outlined in this Chapter which has considered the categories of social impacts and assigned a value to those impacts, Table 15.4 presents the factors which feed into the calculation of the estimated social costs arising from gambling. Table 15.4 provides estimates of costs associated with gambling problems for Tasmania, adjusted using the 2007 Prevalence Survey and in 2007 dollars. The number of problem gamblers from the 2007 Prevalence Survey includes both moderate risk and problem gamblers CPGI 3+ (0.86 + 0.54 = 1.4 per cent). The adult population[114] is at June 2007 and was 375,981 persons giving the number of moderate and problem gamblers of 5,263. This number is multiplied by the social cost per gambler of between $8,000 and $25,000 giving a range of $42-$132 million (see Table 15.4).

[114] ABS, "Population by Age and Sex, Australian States and Territories", June 2007 (Cat. No. 3201.0).

Table 15.4
Estimates of Costs Associated with Gambling Problems: Tasmania 2007

	Prevalence of Harm	Per Person Cost Assumption	Total Cost to Tasmania	
	Per cent of Problem Gamblers	Cost in 2007 Dollars	Low $'000	High $'000
Financial				
Bankruptcy	0.11	5,293	30.1	30.1
Productivity and employment				
Productivity loss at work	2.39 – 16.79	3,969	499.2	3,508.7
Productivity loss outside work	0.87		129.4	898.3
Earnings loss		5,690	572.4	572.4
Employee job search		3,176	319.5	319.5
Employer staff replacement cost		5,160	519.2	519.2
Crime and legal costs				
Cost of police incidents		675	76.4	76.4
Court cases		10,585	133.1	133.1
*Jail costs**		19,847	119.8	119.8
Personal and family				
Emotional distress of immediate family members[a]				
Moderate PGs	65.15	ne	0.0	0.0
Severe PGs	51.58	6,616 - 19,847	17,962.7	53,888.2
Emotional distress of parents[b]				
Moderate PGs	57.41		0.0	0.0
Severe PGs	45.46	0 – 6,616	0.0	15,831.7
Break-up of a relationship[c]				
Gambler (T)	10.0	6,545 – 19,636	3,386.7	10,160.1
Other party (T)	10.0	6,545 – 19,636	3,386.7	10,160.1
Divorce and separation				
Gambler and family		19,636 - 39,272	4,271.1	8,542.2
Violence		6,545 – 19,636	64.8	194.4
Depression[d]				
Often to always (T)	14.5	6,545 – 19,636	5,428.1	16,284.3
Seriously thought of suicide[e]				
Gambler	2.72	19,636 – 39,272	2,812.4	5,624.7
Immediate family	1.84	19,636 – 39,272	1,896.9	3,793.8
Parents	1.44	0 – 6,545	0.0	495.3
Effective suicides	0.01 - 0.02	ne		
Gambling counselling services (T)			592.0	592.0
Total			**42,200.5**	**131,744.3**

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. (T) indicates estimate drawn from Tasmanian data

Source: Calculation by SACES, contributing data sources include: Productivity Commission (1999) and Tasmanian Gaming Commission Annual Reports.

The first column identifies the relative frequency with which the harm occurs amongst problem gamblers. The second column provides the per case cost estimate identified by the Productivity Commission, converted to 2007 dollars.

The final two columns give the upper and lower bounds of the total estimated cost to Tasmania derived from these frequencies and per case costs.

On the basis of the Productivity Commission's estimated cost and frequency of harms, adjusted where possible using Tasmanian data, the estimated annual total social cost of problem gambling (in 2007 dollars) ranges from $42 million to $132 million. This is an annual cost per problem gambler of $8,000 to $25,000.

16. Social and Economic Impacts of Gambling in Tasmania

16.1 Introduction

In order to draw together the Economic, Financial and Social Impacts identified in this report, this Chapter sets out each form of quantified impact, and calculates the ***net*** impact on Tasmania. Valuing both the costs and benefits of gambling in dollar terms has the clear advantage of enabling a comparison across different forms of impact on a common basis.

However, it is important to note that all of the impacts included (with the exception of the increase in taxation revenue to the Tasmanian Government) are ***estimates*** only. The choice of different assumptions around the social costs to problem gamblers, or in the calculation of consumer surplus (particularly the choice of the price elasticity of demand), could lead to a different balance of costs and benefits. It is also the case that there are a number of impacts, particularly in relation to the social costs arising from problem gambling, which could not be quantified or valued and which are therefore excluded from the social impact calculation.

16.2 Economic impacts

16.2.1 Net economic activity

The analysis of aggregate consumption expenditure patterns for Tasmania showed no evidence that the level of gambling had any influence over the level of expenditure. This is not particularly surprising given that gambling, whilst large in absolute terms at $287 million is only a small share of consumption expenditure; 2.4 per cent of the total in 2005/06. To put this in context, total expenditure on recreation and culture (including gambling) was $1.6 billion, or 14 per cent of the total. Similarly, the level of gambling expenditure had no impact on either the level of State Final Demand or the Total Compensation of Employees in Tasmania.

This suggests that any claims that gambling is a significant driver of the Tasmanian economy do not appear to have any foundation. It has not increased the total level of consumption, nor are increases in gambling expenditure correlated with increased State Final Demand or Total Compensation of Employees. Together these analyses suggest that there has been no impact on aggregate economic activity in Tasmania as a result of gambling expenditure. This suggests that it is best characterised as representing a transfer of activity between sectors of the economy rather than an increase in total output.

We conclude that there is **no evidence of any net economic impact on Tasmania from expenditure on gambling,** and the benefit included in the calculation of the net impact of gambling is $**0.00** (see Table 16.3).

Of course the conclusions from this **aggregate analysis** do not suggest that there are no individual businesses which have suffered negative effects from their former clients choosing to spend more money on gambling. Nor does it indicate that there are no households where significant shifts in expenditure have occurred to fund gambling, as is known to occur with some problem gamblers.

16.2.2 Shifts in consumption expenditure between sectors

At the level of individual expenditure categories there is also little evidence of any impact from gambling expenditure. The only category of expenditure on which the level of gambling spending has an unambiguous impact is Recreation and Culture (excluding gambling). In the short run an increase in gambling expenditure of 1 per cent above its trend rate leads to a reduction in expenditure on recreation and culture (relative to its trend) of 0.65 per cent. There are two other forms of expenditure for which it is ambiguous as to whether there is a statistically significant impact, 'Electricity, gas & other fuels' and 'Education'. In each case the potential impact is a reduction in expenditures in the short run in response to an above trend increase in gambling expenditure, however the probability that the coefficient is actually zero is just over ten per cent which is outside the conventional level of significance.

Shifts in consumption patterns do not represent a net economic impact (in the absence of a change in the overall level of economic activity or an increase in productivity), thus no benefit or cost arising from any such shift has been included in the calculation of the net impact of gambling.

16.2.3 Investment

It is very likely[115] that there has been significant investment associated with the gambling industries over the last few decades. This would include casino facilities; the purchase and installation of electronic gaming machines; upgrading hotels and clubs to create gaming rooms; and the installation of keno facilities in hotels and lottery terminals in newsagents. There may also have been significant investment indirectly linked to gambling, for example a hotel using the revenue stream from EGMs to upgrade other facilities in the venue such as bars or dining rooms, which is likely to use local materials and labour. However, some of this investment spending would flow outside of Tasmania, such as the purchase of electronic gaming machines by the operator.

Given that the pool of available investment resources (such as construction employees, project managers, financing etc.) is constrained, resources used in projects related to the gambling sector are not available to other sectors. As such, investment activity related to gambling represents, at least in part, a diversion of resources rather than a net increase. This is particularly likely to be the case where, as is the case of gambling, the expansion of the sector that is investing has not led to an increase in net economic activity in Tasmania. Also, to the extent that increased consumption spending in the gambling sector is as a result of falls in other forms of expenditure those sectors will experience a fall in investment. The net effect is likely to be that capital investment spending has switched sectors in response to the economic incentives (and disincentives) created by changes in gambling behaviour, rather than increasing in net terms.

A visual inspection of the trends in private investment expenditure (see Figure 7.7) appears to support this assumption. Were gambling a significant factor in net investment we would expect to see a change in the trend or level around the point where hotels and clubs were licensed for EGMs, but no such shift is apparent. Statistical analysis of business investment data found that there was no statistically significant short-run relationship between gambling expenditure and business investment; however there was a long-run statistically significant

[115] Unfortunately the gross level of investment related to gambling cannot be quantified for Tasmania as the ABS' data series on investment do not provide figures for investment spending broken down by detailed industry and State, and more detailed industry level collections such as '8684 – Gambling Services' do not include data on investment.

negative relationship (e.g., all other things being equal, an increase in gambling expenditure appears to be correlated with a fall in business investment).

This result should be viewed with some caution, as national accounts data is of lower quality when broken down to the State level, and there is no obvious mechanism through which gambling expenditure would reduce investment. Perhaps the safest conclusion to draw is that there is, at best, **no evidence that the increase in gambling expenditure has led to an increase in the level of private sector investment**, and thus the net benefit related to investment expenditure included in the calculation of the net impact of gambling is $**0.00** (see Table 16.3)**.**

16.2.4 Employment

Significant claims have been made for the benefits to the Tasmanian economy from gambling, and in particular the introduction of gaming machines into hotels and clubs. For example in its submission to this study the Federal Hotels Group states:

> The introduction of gaming machines into hotels and clubs in 1997, was the catalyst for stimulating growth throughout the economy, primarily through increased employment and increased capital investment.
>
> There is also a strong link between gaming expenditure and increased expenditure and on other recreational industries such as restaurants and take-away meals, and entertainment. Providers of gaming services tend to stimulate the demand for other recreational services.

'Hotels, taverns and bars' are the most significant category of employment potentially related to gambling, followed by casino operation and clubs, with the employment by category as follows in Table 16.1.

Even if it is assumed that all persons employed in hotels and clubs are gambling employees, total gambling related employment in Tasmania as recorded in the 2006 Census was 3,514 or 1.7 per cent total employment.

Table 16.1
Employment Potentially Related to Gambling: 2006 Census

Hotels, taverns and bars	2,067
Clubs (hospitality)	442
Horse and dog racing administration and track operation	21
Other horse and dog racing activities	113
Casino operation	598
Lottery operation	13
Other gambling activities	260

Note: No total is given as it is not possible to identify the share of employment in 'Hotels, taverns and bars' and 'Clubs (hospitality)' which can reasonably be ascribed to gambling.
Source: ABS 2006 Census.

Notwithstanding the overall number of employees whose employment appears to be directly related to gambling, there certainly does not appear to be any evidence that the introduction of gaming machines into hotels and clubs increased employment by them. Total employment in 'Clubs, Pubs, Taverns and Bars' recorded in the ABS Labour Force Survey appears not to have grown, remaining roughly constant at around 3,000[116] employees over the period from

[116] ABS, AusStats, Labour Force (Cat. No. 6291.0.55.003). Note that there is a discrepancy between the estimated employment for hotels and clubs derived from the Census and that from the Labour Fore survey, the reasons for which are unclear.

May 1993 to May 2004, whereas over the same period total employment in Tasmania increased by 10 per cent. Indeed average employment in 'Clubs, Pubs, Taverns and Bars' was lower in the five years after the introduction of gaming machines than in the five years preceding it.

This should not necessarily be taken as indicating that the introduction of gaming machines reduced employment in hotels and clubs, although gaming operations are significantly less labour intensive as a share of revenue than other forms of hotel and club operations. As noted previously, it is estimated that for every $1 million of income 3.2 persons were employed in gambling, compared to 8.3 for sales of liquor and other beverages. It is worth noting that during the initial phase of the introduction of electronic gaming machines in hotels and clubs Tasmania experienced weak general economic conditions.

Employment in hotels and clubs only began to grow in June 2004, which followed a general strengthening of the Tasmanian economy from mid 2002. This would appear to suggest that employment in hotels and clubs reacts to the overall economic conditions in the Tasmanian economy, rather than driving economic growth.

The logical conclusion to draw from the employment data is that there is **no evidence of any *net* employment related benefits to Tasmania from gambling,** and thus the benefit included in the calculation of the net impact of gambling is $**0.00** (see Table 16.3)**.**

16.2.5 Consumer surplus

As discussed in Section 6, the consumer surplus derived by Tasmanians from being able to enjoy access to gambling is likely to be the most significant form of economic benefit related to gambling. The researchers have followed the Productivity Commission's approach in treating only that portion of problem gamblers expenditure which they would make in the absence of a problem as a source of consumer surplus, classifying expenditure by problem gamblers above the level for non-problem gamblers as 'excess losses' (1999, pp. 5.12-5.16). Following Hawke (2000, p. 4) we use a price elasticity of demand of 0.8 for non-problem gamblers and 0.36 for problem gamblers in our low elasticity scenario and 1.3 and 1.0 respectively in our high elasticity scenario. This gives the following levels of consumer surplus related benefit, and excess costs by mode of gambling.

Table 16.2
Consumer Surplus and Excess Loss by Mode of Gambling, 2006/07

	Consumer Surplus		Excess losses of Problem Gamblers ($)
	Low Elasticity ($)	High Elasticity ($)	
Gaming machines hotels, clubs & casinos	81,090,632	48,038,708	80,178,829
Lotteries	17,782,736	10,759,307	2,578,400
Keno	11,904,947	7,050,406	4,988,708
Wagering[a]	4,587,972	2,698,019	2,838,382
Table games	4,812,860	2,913,450	749,165
Total	**120,179,148**	**71,459,889**	**91,333,484**

Note: [a] Wagering data relates to 2005/06 as this is the most recent published data.
Source: Tasmanian Department of Treasury and Finance, AGS, Calculations SACES.

This suggests that there is an estimated **net benefit of $71 to $120 million** from consumers enjoyment of gambling, which has been incorporated in the calculation of the total benefit from gambling (see Table 16.3).

The **social cost arising from the excess losses of problem gamblers** (e.g. the difference between their actual expenditure, and their assumed expenditure if they were not problem gamblers) is estimated at **- $91 million** (see Table 16.3).

16.2.6 Tourism

As all other States and Territories have a casino located in them, and all except Western Australia also have electronic gaming machines located in hotels and clubs there is no reason to suppose that gambling has any influence on tourist numbers, duration of stay or levels of expenditure. The analysis in Chapter 9 suggests there is little to no evidence of any positive or negative relationship between tourism and gambling expenditure. The availability of casinos and gambling opportunities have become very widespread throughout Australia in the last 15 years so any local benefit (if it existed at all) might reasonably be expected to decline. Thus **there is no evidence of any positive economic impacts from gambling on tourism**, and the net benefit included in the calculation of the net impact of gambling is $**0.00** (see Table 16.3).

16.3 Financial impacts

Gambling taxation is an important source of revenue for the Tasmanian Government. Total gambling taxation raised by the Tasmanian Government was $84.3 million in 2006/07, 11.5 per cent of total tax receipts.[117] Gaming machines (whether located in hotels and clubs or casinos) are the most important source of this tax revenue, accounting for 60 per cent of the total. Lotteries are the other form of gambling which makes a significant contribution to government revenue, with taxation of lotteries products accounting for a further 29 per cent of taxation on gambling. There are additional revenues from the CSL on electronic gaming machines in hotels and clubs, which in 2006/07 raised $4.5 million.

As state government taxation revenue as a share of turnover is significantly higher for gambling than most other forms of expenditure, and as taxation revenue is put to the general benefit of the community, it seems reasonable to treat all of the direct tax revenue from gambling expenditure as a **net benefit for Tasmania of $88.8 million** (see Table 16.3).

Other taxation related to gambling, such as payroll tax revenue from persons employed in gambling industries, and the share of GST revenue related to gambling expenditure returned to the Tasmanian Government, is not a net benefit as the spending and employment, and hence the tax revenue, would occur in some other sector if gambling did not exist.

[117] Tasmanian Department of Treasury and Finance (2007), '2007-08 Budget: Budget Paper Number 1', p. 5.6

16.4 Social impacts

16.4.1 Problem gambling

The social impacts of gambling on Tasmania arise due to the existence of problem gambling. The results from the 2007 Prevalence Survey (which used the CPGI as the screen to identify problem gamblers) showed that an estimated 0.54 per cent of the sample scored in the problem gambling range, 0.86 per cent in the moderate risk range, and 0.99 per cent in the low risk range. This results suggests that 2,030 Tasmanian adults scored in the problem gambling range, with a further 3,233 adults being 'moderately at risk'.

Tasmanian 'problem gambling' and 'moderately at risk' rates were similar to South Australia, but lower than in Victoria and Queensland.

16.4.2 Crime

The modelling reported in Chapter 13 found that there was a *positive*, *significant relationship* between gaming expenditure and nearly all crime rates in Tasmania (with the exception of income-generating crimes against the person though this suffered from a number of missing observations). On average, the relationship between gaming and crime was more significant for income-generating crime than non-income generating crime The strongest relationship between gaming expenditure and a form of crime was with income-generating fraud, followed by total offences, property offences, offences against the person and drink-driving.

An estimated valuation of the costs of gambling related crime is included in the valuation of social impacts reported in Section 16.4.4, below.

16.4.3 Regional nature of impacts

There is considerable regional variation in NGR on electronic gaming machines located in hotels or clubs, which does not appear to be positively related to regional variations in household incomes. For example, West Coast, the council area with the highest per capita NGR is only ranked 19 out of 26 councils for per capita household income. Indeed out of the five councils with the highest per capita NGR, none is in the top ten councils for median incomes.

There is also an association between disadvantage (as measured by the ABS' Index of Relative Socio-economic Advantage and Disadvantage and regional concentration of gaming machines and NGR. NGR per capita is highest in councils whose score on the index falls in the 3 decile nationally, with the second highest level of NGR found in those councils which fall in the second decile. Expenditure as a share of income is 2.1 per cent in councils ranked in the 3 decile of SEIFA scores, and 1.6 per cent in councils ranked in the 2nd decile. In contrast electronic gaming machine expenditures account for only 0.5 per cent of income in councils ranked in the 10th decile.

There a greater propensity to locate gaming machine venues and gaming machines in relatively disadvantaged areas and machines in disadvantaged areas earn higher revenue. Expenditure per machine for councils with disadvantaged populations (deciles 2 and 3) is $51,500, but only $39,150 for machines in relatively advantaged councils.[118]

[118] Calculated from Table 4.16 (e.g. decile 10 $7.4 million divided by 189 machines).

The data provided could suggest that there is a negative correlation between incomes in a region and expenditure on gaming machines, and econometric analysis was undertaken to test this. The following variables were found to be correlated with per capita expenditure on electronic gaming machines (see Table 14.12 for full results):

- EGM density (+);
- The proportion of households which do not own a motor vehicle (+);
- Travel time to the nearest casino (+);
- Proportion of adults employed in 'professional' occupations (-); and
- Rural council areas (-).

These results provide some evidence that expenditures on electronic gaming machine gambling increase in regions which are disadvantaged, although this is weaker than the superficial comparison of expenditure and income. In particular, expenditure is positively correlated with the proportion of households which do not own a motor vehicle, and negatively correlated with the proportion of a region's population employed in professional occupations. If this correlation accurately reflects the underlying reality, then problem gambling may well be higher in already disadvantaged regions, which would act to reinforce the disadvantage. However, as regional level data on the distribution of problem gamblers does not exist it is not possible to quantify any such impact and no value is recorded in Table 16.3.

16.4.4 Value of social impacts

On the basis of the Productivity Commission's estimated cost and frequency of harms, adjusted where possible using Tasmanian data, the **estimated annual total social cost** of problem gambling (in 2007 dollars) ranges from **-$42 million to -$132 million** (see Table 16.3). This is an annual cost per problem gambler of $8,000 to $25,000.

This estimate may be conservative as there were a number of forms of impact for which the Productivity Commission (1999) did not estimate a cost, such as adverse consequences for those who gambled less than 52 times a year. The frequency of some harms may also be understated as where data on the prevalence of a form of harm was only available from the survey of gamblers in counselling, it was assumed that the harm only impacted on those in counselling. Finally, any assessment of harms resulting from problem gambling is dependent on the estimate of the frequency of problem gambling, and not all problem gamblers will accurately answer the questions relating to the CPGI. On the other hand, the inclusion of some of the forms of impact used by the Productivity Commission have been disputed, with it being argued that they are more properly thought of as private not social impacts.

16.5 Net impact

Most of the potential forms of impact from gambling on Tasmania do not appear to be a net impact, for example there is no evidence that consumer expenditure on gambling and the associated employment would not have occurred in the absence of legal gambling. Instead it appears to represent a transfer of activity away from other sectors of the economy. The forms of benefit and cost which appear to be net impacts are:

- consumer surplus (benefit)
- taxation revenue (benefit)

- excess expenditure by problem gamblers (cost)
- social costs of problem gambling (cost)

Drawing together the quantifiable economic and social costs suggest that the net impact on Tasmania is ambiguous, with the net benefit of the quantifiable impacts of gambling ranging from **-$62.7 million to +$75.5 million**.

Table 16.3
Net Economic Impact of Gambling on Tasmania ($ million)

	Lower bound	Upper bound
Benefits		
Net increase in economic activity	0.0	0.0
Net increase in investment	0.0	0.0
Net increase in employment	0.0	0.0
Consumer surplus	**71.5**	**120.2**
Net increase in tourism	0.0	0.0
Taxation revenue	**88.8**	**88.8**
Costs		
Potential increase in regional disadvantage	ne	ne
Excess expenditure by problem gamblers	**-91.3**	**-91.3**
Social cost of problem gambling	**-131.7**	**-42.2**
Net economic impact	**-62.7**	**75.5**

Note: ne Value of impact could not be estimated.
Source: ABS, PC, Tasmanian Department of Treasury and Finance, AGS. SACES calculations.

16.6 Conclusion

It is generally acknowledged that the social impacts of the gambling sector are characterised by small benefits experienced by the vast majority of those engaged in gambling, and significant costs for a small minority of gamblers (problem gamblers) and those around them. The challenge facing policy makers is to devise measures which reduce the extent of harm resulting from problem gambling, whilst having the smallest possible impact on the ability of those who are not problem gamblers to enjoy gambling.

The researchers have earlier noted that Tasmania has implemented a range of measures that seek to reduce the level of harm arising from problem gambling. A number of these represent national best practice. Notwithstanding these measures, and other harm minimisation strategies common across the country such as gamblers help counselling services and self-exclusion programs, the overall level of harm remains substantial.

Section E

Future Research Framework

In this section the researchers provide an outline of an approach to updating selected components of the current study and extending on this study through regional analysis. Socio-economic analysis at the LGA level would complement the macro assessment provided in this baseline study.

17. Future Research Framework

The final terms of reference for this study was to "establish a framework and methodology to enable the research to be repeated."

This study was the first to inquire into the nature, scope and scale of the social, financial and economic impacts of gambling in Tasmania. To a very large extent, it is the first study to estimate a **baseline** of these impacts and to provide comparisons with other states. Given time and budget constraints, data constraints and the requirement to provide state by state comparisons, the researchers outlined a particular methodology at the commencement of the study and have adhered to that methodology.

The terms of reference for example referred to the "broad social impacts of gambling in Tasmania" and to "quantify financial impacts upon State and Local Government ... [and] effects on sectors of the aggregate economy including tourism, recreation and broader impacts on employment and economic development." This study has been concerned to meet the terms of reference and establish a solid foundation or baseline to assess the **net impacts** of gambling in Tasmania.

At the same time, the researchers have endeavoured to canvass socio-economic impacts at a much finer level ─ at the problem gambler, the individual, the family and community level. The submissions and the consultations undertaken for this study touched on these impacts and the harm minimisation measures and regulatory initiatives of the government, the TGC and industry to minimise harm from gambling.

Individual and community participation and attitudes to gambling were investigated through prevalence research. This study also refers to previous prevalence surveys that have been conducted in Tasmania since 1994, and the researchers specifically included research into the prevalence of gambling at a population level.

In this study the researchers have considered the debate in the literature and the practical difficulty of separating out economic and social costs (and benefits as well) from gambling. We have also indicated that often the costs of gambling are hidden or they are retained and felt at the personal or immediate family level. That is to say, very private costs may not ever become quantifiable yet nevertheless they are real. Financial counsellors, gambling help service providers, help line agencies have experience in this regard. The fact that in Tasmania (and in all state/territories) there are large numbers of problem gamblers who do not seek assistance or so very few who self-exclude, is testimony to the hidden nature of many gambling problems.

We have also illustrated in this study (see Chapter 14) that there is evidence that expenditures on electronic gaming machine gambling increases in local government regions which are disadvantaged and that "better off" (on a range of variables) regions have lower expenditure. This issues warrants much closer analysis and review.

These and other results from this study suggest to the researchers that a way forward involves a combination of approaches including:

(a) update only selected components of this study;

(b) at the same time, conduct a focussed socio-economic study on selected key regions; and

(c) update the prevalence study with the possibility to include an incidence study based on the current 2007 Prevalence Survey.

Each of these are outlined below.

A. Update Components of this Study

The researchers are of the view that the current study provides a useful comparison between Tasmania and other states/territories and also, policy relevant information on the changes and trends in gambling behaviour and participation within the Tasmanian economy. However, changes in the structure of industry (e.g. witness recent decisions in Victoria that will influence the structure of the industry), changes in regulatory arrangements and the introduction of new consumer protection/harm minimisation measures which may emerge over time and are likely to have an impact on revenue, means that it will be important to provide an update of changes and trends in gambling behaviour and participation in Tasmania and that these, be compared with other states.

Because regulatory arrangements may change and new measures to minimise harm may be implemented, then this suggests a need in future to update and review jurisdictional decisions and changes in Tasmania as well.

Based on Sections A-D in this report this implies that the following chapters would be included in any future update to present an overview of the Tasmanian gambling environment.

Section A: Chapters 3 (industry structure only) and Chapter 4 based on the national data set and administrative data sets relevant to each gambling product. This would not exclude a call for public submissions.

Section B: nil.

Section C: Chapter 10.

Section D: Chapters 12 and 14 (but refer point B below).

Taken together this would provide a whole of state overview, changes and trends in gambling, comparisons with other states, including an update and review of harm minimisation measures.

In regard to the suite of harm minimisation measures (Chapter 12) individual initiatives have been evaluated by researchers, policy makers and others, to assess their effectiveness as a harm minimisation measure (e.g. self-exclusion programs, venue and regional caps, specific machine features) but to our knowledge there has never been a detailed evaluation of the effectiveness of any "package of measures". That is to say, are the current suite of measures effective in minimising harm? Who are the measures impacting upon? Who uses the various measures such as counselling and self-exclusion and do these overlap? Are various measures circumvented by some gamblers? In short, how effective are the suite measurers in impacting on the number of problem gamblers and/or assisting problem gamblers?

This would entail amongst other tasks, a detailed examination of the administrative data sets held by gambling help service agencies, financial counsellors, gamblers helpline, those providing emergency assistance and local government.

It may require in the interim period, assistance be provided to the relevant agencies to improve and maintain the data they collect. It may also require a review of the data that is currently collected and to what uses that data is put. Setting up a more systematic collection of data will ultimately assist researchers and others to assess the impacts of gambling at the individual through to the community level.

B. Selected Key Regions: socio-economic analysis

The emphasis in any future study should, in our view, be on those regions that are most disadvantaged yet exhibit high participation rates particularly in regard to electronic gaming machine gambling.

In meetings with the Local Government Association of Tasmania and several councils the issue of quantifying the impact of gambling on local communities was discussed. It was mentioned that the difficulty for individual LGAs is that while they have access to data in relation to numbers of gaming machines, gaming turnover and expenditure, they have currently no way of reliably and accurately quantifying the impact of this on their community.

It was further mentioned that this situation is not helped by the fact that there is no requirement in Tasmanian legislation (for example the Land Use Planning and Approvals Act) for social impact assessments to be undertaken in relation to specified types of development applications. This is different to the situation applying in many other states. There is also no requirement for social or community impact assessments under the current licensing application process of the TGC.

It was also pointed out that in other state jurisdictions community impact assessments have been undertaken in relation to electronic gaming machines and that these have provided the kind of data that is needed by Local Government to indicate the actual effects at a family, community level and regional level.

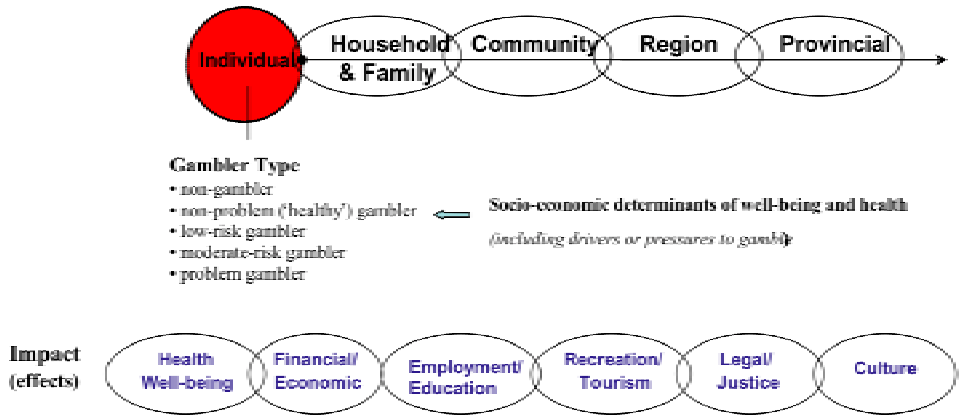
It was put to the researchers that LGA's including Glenorchy, Brighton, West Coast and Devonport were possible regions/LGAs where community impact assessments could be conducted. These are areas where there are a high number of machines, relatively high levels of socio-economic disadvantage and high per capita expenditure relative to incomes.

Peer review commentators also considered the benefit and feasibility (as data constraints exist) of such an assessment at a micro regional level.

Community Impact Assessments involving economic and social analysis are valuable in seeking to understand and document impacts on individuals, families and communities, and within regions such as LGA spatial regions.

The South Australian Centre for Economic Studies has undertaken this form of micro regional analysis[119] and comparison of community impacts.[120] This latter study along with other community impact studies has been cited by Anielski (2008) in constructing a socio-economic impact of gambling (SEIG) framework. Anielski's own framework (shown here in Figure 1) sets out a very useful approach to different levels of impact and to the impacts or effects to be measured (e.g., health, employment, education, legal, etc.).

Figure 1: Assessment Framework for the Social and Economic Impact of



An **approach** to conducting community impact assessment would be select up to four LGAs for intensive analysis involving, *inter alia*, the collection and analysis of primary and secondary data sources, stakeholder consultations, sample surveys, community forum/focus group and observations of gaming venues. The regions could also be compared with two control regions; the objective here would be to better understand those variables that influence participation in gambling. Broad socio-economic profiles of each region would be constructed from a range of data sources including the ABS, the Australian Institute of Health and Welfare (AIHW), Medicare, Centrelink, etc.

In terms of Figure 1 the focus would be at the individual, household and family and community level within selected regions. Agreement to such an approach should be made as early as possible so that systematic collection of administrative data from a number of agencies can be set in place.

A regional approach would also involve analysis of problem gamblers and problem gambling at the regional level (utilising improved administrative data) as well as an assessment of targeting and benefits of the Community Service Levy.

C. Prevalence Survey and Incidence Survey

The Productivity Commission (1999) noted that "population surveys of problem gambling will tend to underestimate the number of people with extreme problems requiring help".[121] Prevalence surveys are subject to both response bias and sampling bias. However, to the extent this bias is consistent and uniform over each prevalence survey, then the contribution of a prevalence survey in any future analysis is that it provides an update of the prevalence of gambling and problem gambling, albeit perhaps understated.

[119] SACES (2001), "The Impact of Gaming Machines on Small Regional Economies", August.
[120] SACES (2005), "Community Impacts of Electronic Gaming Machine Gambling: Parts A and B".
[121] Productivity Commission (1999), p. 6.34.

Two options could be considered.

Option A would involve a repeat of the prevalence survey. One advantage is that a repeat of the prevalence survey provides a "type of time series" information. A second advantage is that a prevalence survey is the basis for estimating the social costs of gambling.

Option B addresses the incidence of problem gambling and whether regular and problem gamblers move between classifications over time. It is not mutually exclusive from Option A but would require commencing this analysis towards the end of 2008. This essentially involves re-contacting regular and problem gamblers over 6 month periods and assessing to what extent their gambling behaviours and patterns change over time. We have done a careful check and we have managed to get telephone numbers from 84 per cent of total participants (3300). Of the regular gamblers, we have obtained numbers from 75 per cent of the 55 moderate/high risk gamblers and 215/249 of the other regulars.

A useful follow-up would be to repeat the survey for regular and moderate/high risk gamblers later this year to assess how habits have changed in 12 months to obtain *incidence data*. This should not be undertaken prior to an interval of 12 months as a number of survey questions are premised with the statement "In the last 12 months ...".

In conclusion, a suggested approach could be the following:

- update only selected components of this study (macro analysis);
- conduct an intensive socio-economic study of selected regions (micro analysis), combined with;
- an update of the prevalence survey.

Bibliography

Abbott, M. and McKenna, B.G. (2005), "Gambling and problem gambling among recently sentenced women prisoners in New Zealand, *Journal of Gambling Studies*, 21, pp. 559-581.

Abbott, M., McKenna, B.G. and Giles, L.C. (2005), "Gambling and problem gambling among recently sentenced males in four New Zealand prisons", *Journal of Gambling Studies*, 21, pp. 537-558.

Albanese, J.S. (1999), "Casino gambling and white collar crime: An examination of the empirical evidence", prepared for American Gaming Association.

Anielski Management Inc. (2008), "An Assessment Framework for Canada: In Search of the Gold Standard", report prepared for the Inter-Provincial Consortium for the Development of Methodology to Assess the Social and Economic Impact of Gambling.

Archives Office of Tasmania (AOT) (2006), "Tasmanian Archives Online database, Agency Details, Tasmanian Racing Authority" [Online]. Available: http://search.archives.tas.gov.au/default.aspx?detail=1&type=A&id=TA01552 [2007, August 16]

Australian Bureau of Statistics (ABS) (2001), Australian Standard Geographical Classification (ASGC), Cat. No. 1216.0.

_____ "Clubs, Pubs, Taverns and Bars, Australia". Cat. No. 8687.0, Canberra, various years.

_____ "Australian National Accounts: National Income, Expenditure and Product". Cat. No. 5206.0, Canberra, various years.

_____ (2001), "Casinos, Australia, 2000-01". Cat. No. 8683.0. Canberra.

_____ (2007), "Sports Attendance, Australia, 2005-06". Cat. No. 4174.0, Canberra.

_____ (2007), "Population by Age and Sex, Australian States and Territories", June, (Cat. No. 3201.0).

Australian Gaming Council (2007), "A Database on Australia's Gambling Industry 2006/07".

Australian Institute of Criminology and Pricewaterhouse Coopers (2003), "Serious fraud in Australia and New Zealand", Research and Public Policy Series, No. 48, Australian Institute of Criminology, Canberra.

Australian Institute for Gambling Research, University of Western Sydney (1999), "Australian Gambling Comparative History and Analysis", report prepared for the Victorian Casino and Gaming Authority, Melbourne.

_____ (2001), "Survey of the Nature and Extent of Gambling and Problem Gambling in the ACT" [Online]. Available: http://www.gamblingandracing.act.gov.au/Documents/Survey%20of%20Problem%20Gambling%20in%20the%20ACT.pdf [2008, February 21].

_____ (2001), "Social and Economic Impacts of Gambling in New Zealand".

Australian Racing Board (2007), "Australian Racing Factbook 2006/07", Sydney.

Attorney-General's Department (SA) (2005), "Gaming Machines Regulations 2005", Adelaide.

Azmier, J., Kelley, R. and Todosichuk, P. (2001) Triumph, Tragedy or Trade-Off?: Considering the Impact of Gambling (Canada West Foundation).

Banks, G. (2002), "The Productivity Commission's gambling inquiry: 3 years on", Productivity Commission Working Paper No. 1735.

Bennett, T. and Holloway, K. (2005), "Disaggregating the relationship between drug misuse and crime", *Australian and New Zealand Journal of Criminology*, 38, pp. 102-121.

Blaszczynski, A. (1994), "Criminal offences in pathological gamblers", *Psychiatry, Psychology and Law*, 1, pp. 129-138.

_____ (1999). "Pathways to pathological gambling: identifying typologies", Electronic Journal of Gambling Issues, URL: http://www.camh.net/egambling Canada.

_____ (2002), "Identifying and treating problem gambling", paper presented to the Australian Medical Association, South Australia.

Blaszczynski, A. and Farrell, E. (1998), "A case series of 44 completed gambling related suicides", *Journal of Gambling Studies*, Vol. 14, pp. 93-110.

Blaszczynski, A. and McConaghy, N. (1994), "Criminal offences in gamblers anonymous and hospital-treated pathological gamblers", *Journal of Gambling Studies*, 10, pp. 99-127.

Blaszczynski, A., Dumlao, V., & Lange, M. (1997), "How much do you spend gambling?" Ambiguities in survey questionnaire items, *Journal of Gambling Studies*, 13, 237-252.

Blaszczynski, A., Ladouceur, R. and Nower, L. (2004), "Current Issues Self-exclusion: A Gateway to Treatment", Australian Gaming Council, Melbourne.

Blaszczynski, A., McConaghy, N. and Frankova, A. (1989), "Crime, antisocial personality and pathological gambling", *Journal of Gambling Studies*, 5, pp. 137-152.

Blaszczynski, A., M. Walker, A. Sagris, and M. Dickerson (1997), "Psychological Aspects of Gambling Behaviour", Position Paper prepared for the Directorate of Social Issues, Australian Psychological Society.

Bodman, P. and Maultby, C. (1997), "Crime, punishment and deterrence in Australia: A further empirical investigation", *International Journal of Social Economics*, Vol. 24 (7/8/9) pp. 884-901.

Borderlands Cooperative (2003), "Whitehorse Gaming Impact Study," report prepared for Community Development Department, City of Whitehorse, October.

Bridges, F.S and Williamson, C.B. (2004), "Legalised gambling and crime in Canada", *Psychology Report*, 95, pp. 747-753.

Briscoe, S. and Donnelly, N. (2003), "Problematic licensed premises for assault in inner Sydney, Newcastle and Wollongong", *The Australian and New Zealand Journal of Criminology*, Vol 36 (1), pp. 18-33.

Centre for Criminology and Criminal Justice (2000), "The impact of gaming and crime statistics", Report for Victorian Casino and Gaming Authority, Monash University, Melbourne.

Centre for Gambling Research (2004), "2003 Victorian Longitudinal Community Attitudes Survey", prepared for the Gambling Research Panel by the Centre for Gambling Research, Australian National University, April.

Collins, D. and Lapsley, H. (2000), The Social Costs and Benefits of Gambling: An Introduction to the Economic Issues. Presented at the First International Symposium on the Economic and Social Impacts of Gambling, September 23-27, 2000.

Collins Dictionary of the English Language (1979).

Committee for Review of State Taxes and Charges (CRSTC), (1992), "Report into the Extension of Gaming Machines into Hotels and Licensed Clubs", October.

_____ (1993), "Tax Reform in Tasmania Towards 2000: Today's Problem – Tomorrow's Opportunity".

Cornwell, C. and Trumbull, W. (1994), "Estimating the economic model of crime with panel data", *The Review of Economics and Statistics*, 76, pp. 360-366.

Crisp, B. R., Thomas, S. A., Jackson, A. C., Smith S., Borrell, J., Ho, W., Holt, T.A. and Thomason. N. (2004), "Not the Same: A Comparison of Female and Male Clients Seeking Treatment from Problem Gambling Counselling Services", *Journal of Gambling Studies*, Vol. 20 (3) pp. 283-299.

Crofts, P. (2002), "Gambling and criminal behaviour: An analysis of local and district court files", Casino Community Benefit Fund, Sydney.

_____ (2003), "White Collar Punters: Stealing from the boss to Gamble", *Current Issues in Criminal Justice*, Vol. 15, pp. 40-52.

Crown Solicitor of Tasmania, The (2003), Deed of Agreement, The Federals Hotels Pty Limited, Australian National Hotels Pty Ltd and Tasmanian Country Club-Casino Proprietary Limited and The Crown in Right of the State of Tasmania.

Cultural Partners Australia Consortium (2000), "The Impact of Gaming on Specific Cultural Groups", Report prepared for Victorian Casino and Gaming Authority.

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

_____ (1993), "Estimation and inference in econometrics", New York: Oxford University Press.

Delfabbro, P.H., & Winefield, A.H. (1996), "Community gambling patterns and the prevalence of gambling-related problems in South Australia: with particular reference to gaming machines", Adelaide: Department of Family and Community Services.

Delfabbro, P., Osborn, A., Nevile, M., Skelt, L. and McMillen, J. (2007), "Identifying Problem Gamblers in Gambling Venues", report commissioned by The Ministerial Council on Gambling, November.

Department of Infrastructure, Energy and Resources (2005), "Annual Report, 2005", [Online]. Available: http://www.dier.tas.gov.au/publications [2007, August 14].

Department of Treasury and Finance (2007), "2007-08 Budget: Budget Paper Number 1".

Department of Treasury and Finance, Office of Liquor and Gaming Branch (Tasmania) (undated), "Review of the Tasmanian Gambling Exclusion Scheme".

Dickerson, M., (2003) "What if there were no problem gamblers?", paper presented at International Centre for Youth Gambling Problems and High-Risk Behaviours, McGill University, Montreal, Canada, 2 July.

Dickerson, M. (2004) "Analysis of clients presenting to problem gambling counselling services, July 2001 to June 2002", Client and Service Analysis Report No.8, Victorian Government Department of Human Services, Melbourne.

Doley, R. (2000), "Want to make a bet? Gambling and crime in Australasia", *Australasian Centre for Policing Research: A Critical Issues in Policing Paper*, 4, pp. 1-22.

Doughney, J. (2001), "Why 'consumer surplus' is not an appropriate measure of poker machine gambling: An essay on the limits of economic logic". Melbourne: Victoria University, Workplace Studies Centre.

Ehrlich, I. (1973), "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation", *Journal of Political Economy*, 81, pp. 521-565.

Eltridge, F. and Delfabbro, P. (2006), "Evaluation of 2004 legislative amendments to reduce EGMs", Report for Independent Gambling Authority, South Australia, October.

Entorf, H. and Spengler, H. (2000), "Socioeconomic and demographic factors of crime in Germany: Evidence from panel data of the German states", *International Review of Law and Economics*, 20, 75-106.

Fajnzylber, P., Lederman, D. and Loayza, N. (1998), "Determinants of crime rates in Latin America and the world: An empirical assessment", World Bank, Washington.

Fergusson, D.M., Horwood, L.J. and Swain-Campbell, N. (2003), "Ethnicity and criminal convictions: Results of a 21-year longitudinal study", *Australian and New Zealand Journal of Criminology*, 36, pp. 354-367.

Florida Department of Law Enforcement (1994), "The question of casinos in Florida: Increased crime: Is it worth the gamble?", Tallahassee, State of Florida.

Friedman, J. Hakim, S. and Weinblatt, J. (1989), "Casino gambling as a 'growth pole' strategy and its effect on crime", *Journal of Regional Science*, 29, pp. 615-623.

GAO (2000), "Impact of gambling". U.S. Government Accounting Office/GGD-00-78, pp. 1-68.

Gazel, R., Rickman, D. and Thompson, W. (2001), "Casino gambling and crime: A panel study of Wisconsin counties", *Managerial and Decision Economics*, 22, pp. 65-75.

Ghezzi, P., Lyons, C. and Dixon, M. (2000), *Gambling from a socioeconomic perspective*. In W. Bickel and R. Vuchinich (Eds.) *Reframing health behavior change with behavioral economics*. New York: Erlbaum.

Glaeser, E., Sacerdote, B. and Scheinkman, J. (1996), "Crime and Social Interactions", *Quarterly Journal of Economics*, 111, pp. 507-548.

Goudriaan, H., Wittebrood, K. and Nieuwbeerta, P. (2006), "Neighbourhood characteristics and reporting crime: Effects of social cohesion, confidence in police effectiveness and socio-economic disadvantage", *British Journal of Criminology,* 46, pp. 719-742.

GPI Atlantic (2004), "The Costs and Benefits of Gaming, A Summary Report from the Literature Review", prepared for Nova Scotia Gaming Foundation, September.

Grant J., Kushner, M. and Kim, S. (2002), "Pathological gambling and alcohol use disorder", *Alcohol, Research and Health*, Vol. 26, pp. 143-150.

Gray, K.L., Oakley Browne, M.A. and V. Radha Prabhu (2007), "Systematic review and meta-analysis of studies on early intervention and prevention for problem gambling", prepared for Gambling Research Australia, November.

Grinols, E., Mustard, D. and Dilley, C. (1999), "Casinos and Crime," University of Illinois, University of Georgia, pp. 1-35.

Grinols, E.L. and Mustard, D.B (2006), "Casinos, crime, and community costs", *The Review of Economics and Statistics*, 88, pp. 28-45.

Hames Sharley (1997), "Impact of electronic gaming machines on small rural communities", report for the Victorian Casino and Gaming Authority, Melbourne.

_____ (1997a), "Impact of Gaming Venues on Inner City Municipalities", report for the Victorian Casino and Gaming Authority, Melbourne.

Hawke, A. (2000), "Measuring the impact of gambling: An economist's view", Hawke Institute Working Paper Series No. 4.

Hayward, K. and Colman, R. (2004), "The costs and benefits of gaming: A summary report from the literature review", GPI Atlantic.

Independent Pricing and Regulatory Tribunal (IPART), New South Wales (2004), "Gambling: Promoting a Culture of Responsibility", [Online], available: http://www.ipart.nsw.gov.au/files/Gambling04.pdf, [2008, March 14].

Jackson, A., Thomas, S., Thason, N., Crisp, B., Ho, W. and Borrell, J. (1997), "Analysis of clients presenting to problem gambling counselling services, from 1 July 1996 to 30 June 1997", Client and Service Analysis Report No. 2, Problem Gambling Research Program, School of Social Work, University of Melbourne.

Knox, D (2001), 'The Impact of Gambling on Emergency Relief Services', Hobart Benevolent Society.

KPMG (2000), "Report of the 1999 Longitudinal Community Impact Study. Vols 1 and 2", prepared for Victorian Casino and Gaming Authority, September.

_____ (2006), "Fraud Survey 2006", report prepared in conjunction with the University of Melbourne and the University of Queensland.

_____ (2007), "Break Even Gambling Services Client Information Report (for the period 1 July 2000 to 30 June 2005)", report prepared for the Gambling Support Bureau, Department of Health and Human Services, Tasmania, August.

Krugman, PR and M Obstfeld (1994), *International Economics: Theory and Policy, 3rd Edition*, New York: Harper Collins

Lahn, J. (2005), "Gambling among correctional populations: results from an Australian survey", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 49 (3) pp. 343-355.

Law, M. (2005), "House of cards: Problem gambling and low income earners in Tasmania", Anglicare Tasmania, June.

Lee, D. and Holoviak, S. (2006), "Unemployment and crime: an empirical investigation", *Applied Economics Letters*, Vol. 13 (12), pp. 805-810.

Liquor and Gaming Branch, Department of Treasury and Finance (2007), "Review of the Tasmanian Gambling Exclusion Scheme".

MacDonald, Z. (2002), "Official crime statistics: their use and interpretation", *The Economic Journal*, 112, pp F85-F106.

MacDonald, M., McMullan, J. and Perrier, D. (2004), "Gambling Households in Canada", *Journal of Gambling Studies*, Vol. 20 (3) pp. 187-236.

Margolis, J. (1997), "Casinos and crime: An analysis of the evidence", American Gaming Association.

Masih, A. and Masih, R. (1996) "Temporal causality and the dynamics of different categories of crime and their socioeconomic determinants: evidence from Australia", *Applied Economics*, Vol. 28 (9) pp. 1093-1104.

Marvell, T. and Moody, C. (1996), "Police Levels, Crime Rates, and Specification Problems." *Criminology*, Vol. 34 (4) pp. 609-646.

McMillen, J., Tremayne, K. and Masterman-Smith, H. (2001), "Survey of the Nature and Extent of Gambling and Problem Gambling in the ACT", report prepared for the ACT Gambling and Racing Commission.

McMillen, J., Marshall, Ahmed, E., & Wenzel, M. (2004), "2003 Victorian longitudinal community attitudes survey", Melbourne, Victorian Gambling Panel.

Meyer, G., and Stadler, M. (1999), "Criminal behaviour associated with pathological gambling", *Journal of Gambling Studies*, Vol. 15, pp. 29-43.

Miller, W. and Schwartz, M. (1998), "Casino Gambling and Street Crime", *The Annals of the American Academy of Political and Social Sciences*, Vol. 556 (1) pp. 124-137.

Narayan, P. and Smyth, R. (2004), "Crime rates, male youth unemployment and real income in Australia: evidence from Granger causality tests", *Applied Economics*, Vol. 36 (18) pp. 2079-2095.

_____ (2006), "Do governments lead or lag in fighting crime?", *Applied Economics Letters*, Vol. 13 (1) pp. 11-15.

National Competition Council (2004), "Assessment of governments' progress in implementing the National Competition Policy and related reforms: 2004, Volume 1: Assessment", Melbourne.

National Gambling Impact and Policy Commission (U.S.) (1999), "The National Gambling Impact Study Commission: Final Report".

Nelson, D.J., Howard, L.E. and Langan, R.J. (1996), "Indian gaming and its impact on law enforcement in Wisconsin", API Consulting Services.

New Zealand Department of Internal Affairs (2003), Fact Sheet: The Gambling Act 2003 summary, Wellington.

New South Wales Casino Control Authority (2007), Annual Report 2006/07 [Online]. Available: http://www.casinocontrol.nsw.gov.au/resource/reports/2006-07%20annual%20report.pdf [2008, March 13].

New South Wales Office of Liquor, Gaming and Racing, and Departments of the Arts, Sport and Recreation (2007), "Prevalence of Gambling and Problem Gambling in NSW – A Community Survey 2006" [Online]. Available:

http://www.olgr.nsw.gov.au/pdfs/rr_prevalence_gambling.pdf [2008, February 21].

New South Wales Office of Liquor, Gaming and Racing, "Frequently Asked Questions – FAQs" [Online]. Available: http://www.olgr.nsw.gov.au/gaming_info_faqs.asp

O'Connor, J. and Jones, G. (1998), "Problem-gambling related crime: where is the policy response to a structural problem?", paper presented at the conference Partnerships in Crime Prevention, convened jointly by the Australian Institute of Criminology and the National Campaign Against Violence and Crime and held in Hobart, 25-27 February 1998.

Office for Problem Gambling, Department for Families and Communities (2006), "Gambling Prevalence in South Australia" [Online]. Available:

http://www.problemgambling.sa.gov.au/Default.aspx?tabid=33#subl1

[2007, June 21].

Office of Economic and Statistical Research (OESR), Queensland Treasury (2007), "Australian Gambling Statistics 2007".

Office of Financial Management, New South Wales Treasury (2004), "Interstate Comparison of Taxes 2004-05", [Electronic]. Research and Information Paper. Available: http://www.treasury.nsw.gov.au/pubs/trp2004/trp04-04.pdf [2005, September 5].

Office of Parliamentary Counsel, The "Racing Regulation Act 2004" (Tasmania). Hobart.

O'Hara, John (1988), "A Mug's Game: A History of Gaming and Betting in Australia", New South Wales University Press, Sydney.

Parliament of Tasmania, Legislative Council Select Committee (2002), "Impacts of gaming machines", December.

Phipps, A. (2004), "Crime and disorder, and house sales and prices around the casino sites in Windsor, Ontario, Canada", *The Canadian Geographer*, 48, pp. 403-432.

Pinto, S. and Wilson, P. (1990), "Gambling in Australia", Australian Institute of Criminology, Trends and Issues in Crime and Criminal Justice, No. 24, Canberra.

Piscitelli, F. and Albanese, J. (2000), "Do Casinos Attract Criminals? A Study at the Canadian-U.S. Border", *Journal of Contemporary Criminal Justice*, Vol. 16 pp. 445-456.

Productivity Commission (1999), "Australia's gambling industries, inquiry report, Vols. 1-3", 10, Productivity Commission, Canberra.

_____ (2008), "Review of Australia's Consumer Policy Framework", N45.30, April.

Queensland Department of Families, Youth and Community Care (1996), "Problem Gambling and Criminal Behaviour in Queensland: A Report of the Second Year of the Study into the Social and Economic Impact of the Introduction of Gaming Machines to Queensland Clubs and Hotels", a report prepared by the Australian Institute for Gambling Research, University of Western Sydney, and the Labour and Industry Research Unit, University of Queensland.

Queensland Government (2006), "Queensland Household Gambling Survey 2003-04" [Online]. Available: http://www.responsiblegambling.qld.gov.au/research/population-surveys/2003-04survey/QLD%20Household%20Gambling%20Survey_updated07.pdf [2008, February 21].

Queensland Office of Gaming Regulation (2006), "Gaming Newsletter", December 2006, Vol. 9, Issue 3 [Online]. Available: http://www.qogr.qld.gov.au/publications/newsletters/Archive/index_nl_archive.shtml [2008, March 13].

Raphael S. and Winter-Ebmer, R. (2001) "Identifying the Effect of Unemployment on Crime", *The Journal of Law and Economics*, Vol. 44, pp. 259-283.

Roy Morgan Research (2000), "Seventh Survey of Community Gambling Patterns and Perceptions".

_____ (2005), "The fourth study into the extent and impact of gambling in Tasmania with particular reference to problem gambling", report prepared for the Department of Health and Human Services, Hobart.

Sakurai, Y. and Smith, R.G. (2003), "Gambling as a motivation for the commission of financial crime", *Australian Institute of Criminology: Trends and Issues*, No. 256, pp. 1-6.

Sampson, R.J. and Groves, B.W. (1989), "Community structure and crime: testing social disorganization theory", *American Journal of Sociology*, 94, pp. 774-802.

Sauer, R.D. (2001), "The Political Economy of Gambling Regulation", *Managerial and Decision Economics*, 22: p. 5-15.

School for Social and Policy Research, Charles Darwin University (2006), "Northern Territory Gambling Prevalence Survey 2005" [Online]. Available: http://www.nt.gov.au/justice/policycoord/documents/cbf/Gambling_prevalence.pdf [2008, February 21].

Smith, G. and Wynne, H. (1999), "Gambling and Crime in Western Canada: Exploring Myth and Reality", report for Canada West Foundation.

_____ (2000), "A Review of the Gambling Literature in the Economic and Policy Domains", report for the Alberta Gaming Research Institute, October.

Smith, J. (1998), "Gambling Taxation in Australia", Research Study No. 32, Australian Tax Research Foundation, Sydney.

_____ (2000), "Gambling Taxation: Public Equity in the Gambling Business", *Australian Economic Review*, 33(2), pp. 120-44.

South Australian Centre for Economic Studies (SACES) (2001), "The impact of gaming machines on small regional economies", report commissioned by The Provincial Cities Association of SA, August.

_____ (2003), "Evaluation of Self-Exclusion Programs in Victoria", report commissioned by the (former) Victorian Gambling Research Panel, February.

_____ (2005a), "Community Impacts of Electronic Gaming Machine Gambling", report commissioned by the (former) Victorian Gambling Research Panel, December.

_____ (2005b), "Study of the impact of Caps on electronic gaming machines", report commissioned by the Victorian Gambling Research Panel.

_____ (2005c), "Problem Gambling and Harm: Towards a National Definition", report commissioned by Gambling Research Australia, December.

_____ (2006), "The South Australian gambling industry: Phase 1: Profile of the gambling industry; Phase 2: Economic impact of gambling", report commissioned by the SA Independent Gambling Authority.

_____ (2008), "Social and Economic Impact Study into Gambling in Tasmania, Volume 2: The Prevalence Study", report commissioned by the Tasmanian Department of Treasury and Finance, prepared with the assistance of the School of Psychology (University of Adelaide) and Harrison Health Research (Adelaide), May.

South Australian Centre for Economic Studies and Swinburne Institute for Social Research University of Western Sydney (2005), "Changes in wagering within the racing industry", reported commissioned by the Victorian Gambling Research Panel, May.

South Australian Department of Health (2007), "Gambling patterns in South Australia: October to December 2005", SA Department of Health, Adelaide.

South Australian Independent Gambling Authority (2003), "Study into the relationship between crime and problem gambling", Report to the Minister.

Tasmanian Gambling Commission (TGC), (2006), *2005-06 Annual Report* [Online].

_____ (2007), "Details of Licensed Casinos" [Online]. Available: http://www.treasury.tas.gov.au [2008, February 18].

The WAGER, Vol. 7 (20), "The Perfect Match? Co-occurring Problem Drinking and Gambling" published by Harvard Medical School, 15 May, 2002.

Tourism Research Australia (2008), "International Visitors in Australia: December 20007, Quarterly Results of the International Visitor Survey" [Online]. Available: http://www.tra.australia.com/content/documents/IVS/IVS%20December%202007.pdf [2008, April 3].

_____ (2007), "Travel by Australians: December 2007, Quarterly Results of the National Visitor Survey" [Online]. Available:

http://www.tra.australia.com/content/documents/NVS/Travel%20by%20Australians%20Dec%202007.pdf [2008, April 3].

Townshend, P. (2007), "Self-exclusion in a Public Health Environment: An Effective Treatment Option in New Zealand", *International Journal of Mental Health Addiction.*

Trumbull, W.N. (1989), "Estimations of the economic model of crime using aggregate and individual level data", *Southern Economic Journal*, 56, 423-439.

Tseloni, A. (2006), "Multilevel modelling of the number of property crimes: household and area effects", *Journal of the Royal Statistical Society: Series A*, 169, 205-233.

Tseloni, A., Osborn, D., Trickett, A. and Pease, K. (2002), "Modelling property crime using the British Crime Survey", *British Journal of Criminology*, 42, 109-128.

Tullock, G. (1967), "The Welfare Costs of Tariffs, Monopolies and Theft", *Western Economic Journal*, vol. 5, pp. 224-232.

University of Melbourne (2000), "Client and Services Analysis Report No. 6 – Analysis of Clients Presenting to Breakeven Counselling Services July 1, 1999 to June 30, 2000", School of Social Work report, Victorian Government Department of Human Resources, Melbourne.

URS (2007), "Australian Casinos Economic Report 2005/06" [Online]. Prepared for the Australian Casino Association. Available: http://www.auscasinos.com/documents/publicationsSubmissions/ACAFinalReport200506v3.pdf

Victorian Casino Gambling Authority (2000), "Seventh Survey of Community Gambling Patterns and Perceptions" [Online]. Available: https://www.vcgr.vic.gov.au/CA256F800017E8D4/Statistics/70D30CFD33845B03CA25701F00442CA4 Open [2008, February 21].

Victorian Commission for Gambling Regulation (2007) Statistics sourced from: http://www.vcgr.vic.gov.au/CA256F800017E8D4/Statistics/9BAB7B3FF8CEE4EFCA25701C004D7E1C?Open#intNav3, last accessed 12-12-07.

Walker, D. (2007), *The Economics of Casino Gambling*, Springer, New York.

Walker, D. and Barnett, A. (1999), "The Social Costs of Gambling: An Economic Perspective", *Journal of Gambling Studies*, Vol. 15(3) pp.181-212.

Warfield, B. (2008), "Gambling Motivated Fraud in Australia 1998-2007", prepared by Warfield and Associates, Sydney.

Wheeler, S., Round D., Sarre, R. and O'Neil, M. (2008), "The Influence of Gaming Expenditure on Crime Rates in South Australia: A Local Area Empirical Investigation", *Journal of Gambling Studies*, Vol. 24 (1), 1-12.

Wilcox, M. [Wilcox Report] (1983), Report of Board of Inquiry into Poker Machines, Melbourne: Government Printer.

Willig, Robert D. (1976), 'Consumer's Surplus Without Apology', *American Economic Review,* vol. 66 no. 4, pp. 589-597.

Withers, G. (1984), "Crime, Punishment and Deterrence in Australia: An Empirical Investigation", *Economic Record*, Vol. 60 (169) pp. 176-185.

Worthington, A. (2001), "Implicit finance in gambling expenditures: Australian evidence on socioeconomic and demographic tax incidence", *Public Finance Review*, Vol 29 (4) pp 326-342.

Yeoman, T. and Griffiths, M. (1996), "Adolescent machine gambling and crime", *Journal of Adolescence*, 19,183-188.

Appendix A

Terms of Reference

Background

Under Section 151(5) of the *Gaming Control Act 1993*, the Treasurer must cause an independent review of the social and economic impact of gambling every three years. This will be the first of these impact studies.

It is a requirement under the *Gaming Control Act 1993* that the Study be carried out by persons (only one of whom may be employed by the State of Tasmania or a State Agency) who, in the Treasurer's opinion, possess appropriate expertise or qualifications to carry out the review.

Scope of Study

The Study is to:

a) establish a framework and methodology to enable the research to be repeated and used for longitudinal analysis;

b) quantify and assess the broad social impacts of gambling in Tasmania;

c) analyse the economic impacts of gambling in Tasmania and quantify the financial impacts upon State and local government, as well as an assessment of its effect upon tourism, recreation, economic development and employment;

d) identify the incidence of problem gambling in Tasmania and analyse that in comparison with other States and Territories.

It is a requirement that:

- consultation with stakeholders be undertaken during the Study;
- the national definition of problem gambling be used as endorsed by the Ministerial Council on Gambling, as follows: "Problem gambling is characterised by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community";
- estimates of gambling prevalence be comparable with the previous Tasmanian Gambling Prevalence Study (2005) using the nationally agreed gambling screen, 'the Canadian Problem Gambling Index'; and
- the draft report be subject to independent peer review before it is finalised.

Reporting Date

The Study is to be completed by 31 March 2008

Appendix B

Invitation to Make Written Submission

DEPARTMENT of TREASURY
and FINANCE

Social and Economic Impact Study into Gambling in Tasmania

Invitation to make Written Submission

Treasury and Finance has engaged a Consultant to undertake a Social and Economic Impact Study into Gambling in Tasmania.
The scope and objectives of this Study are to:

- establish a framework and methodology to enable the research to be repeated;
- quantify and assess the broad social impacts of gambling in Tasmania;
- analyse the economic impacts of gambling in Tasmania and quantify the financial impacts upon State and Local Government, and its effect upon tourism, recreation, economic development and employment; and
- identify the incidence of problem gambling in Tasmania compared with other States and Territories.

Written submissions are invited for consideration by the Consultant.

Participants may comment on any matter considered relevant to the Study and where possible, provide evidence, such as data and documentation, to support your views.

Submissions should be forwarded directly to the Consultant:
South Australian Centre for Economic Studies
PO Box 125
RUNDLE MALL SA 000

Email: saces@adelaide.edu.au

Facsimile: (08) 8232 307

Phone: (08) 8303 5555

SUBMISSIONS CLOSE AT 5pm, 31 AUGUST 2007.

Enquiries: Further information on the Study (including Terms of Reference) is available by contacting Mr Damien Febey, Department of Treasury and Finance, 21 Murray Street, Hobart 7000, phone 6233 2094 or email damien.febey@treasury.tas.gov.au

Appendix C

List of Submissions

Submissions for this report came from:

- The Federal Hotels Group;
- Australian Hotels Association (Tasmania Branch);
- Betfair;
- The Tasmanian Gambling Industry Group (GIG);
- Salvation Army;
- Anglicare Tasmania Inc.;
- TasCOSS;
- Tasmanian Inter-church Gambling Taskforce (the Taskforce);
- Relationships Australia;
- Individuals; and
- Others.

Appendix D

List of Consultations*

Department of Treasury and Finance
Liquor and Gaming Branch (DTF, Secretariat to TGC)
Department of Health and Human Services
Tasmanian Gaming Commission
Tasmania Police
Local Government Association Tasmania
Federal Hotels Group
Australian Hotels Association (Tasmania)
Clubs Tasmania
TOTE Tasmania
Betfair Australia
Glenorchy City Council
Salvation Army Tasmania
Tasmanian Council of Social Services
Relationships Australia (Tasmania)
Anglicare
Gambling and Betting Addiction Incorporated (GABA)
Interchurch Gambling Taskforce
John Barker and Associates
Mr Kim Booth, MP (The Greens, Tasmania)
Mr Will Hodgman, Leader of the Opposition
Mr Michael Hodgman, QC, MP
Mr Jeremy Rockliff, MP

The research team also visited a number of clubs, hotels, the casinos to observe participation in gambling and in some cases spoke with supervisory staff, venue or club managers, bar and gaming staff.

* Also includes follow-up detailed telephone conversations, second interviews, other discussions following receipt of submissions.

Appendix E

Tasmanian Parliamentary Inquiry, 2002

Terms of reference

On Thursday, 4 October 2001 the Legislative Council resolved that a Select Committee of Inquiry be appointed "to inquire into and report upon:

(1) the immediate and long term social and economic impacts upon the community of the expanded operation of poker machines in hotels and clubs;
(2) the adequacy of current funding and support services for gaming machine addicted persons, families and communities;
(3) the role and membership of the Tasmanian Gaming Commission;
(4) the role and application of the Community Support Levy;
(5) the degree to which undertakings given during the debate on the Gaming Control Bill 1993 have been adhered to;
(6) the degree to which the Parties have complied with the obligations contained within the Gaming Control Bill 1993 and attached Deed; and
(7) other matters incidental thereto".

Process of the inquiry

The Legislative Council Select Committee (LCSC) placed advertisements in the three regional daily newspapers and the local newspaper on Tasmania's West Coast, and invited submissions from key stakeholder groups and individuals. The Committee received 36 written submissions, and verbal evidence was provided by 36 witnesses in Tasmania and 25 witnesses from mainland Australia.

The LCSC also investigated the requirements set out in legislation. It considered a number of issues, and came up with recommendations as shown. This included the requirement for a study to be carried out immediately, and independently of government, looking at the social and economic impacts of VGMs on the Tasmanian community, focusing on the period since they were introduced into hotels and clubs. There had been no such report carried out in Tasmania to date.

Reference: "Impacts of Gaming Machines", Parliament of Tasmania, Legislative Council Select Committee, December 2002.

The Committee concluded that:

1. Within the Tasmanian community there is concern about the social and economic impacts caused by the expansion of gaming machines into the community, especially since the rollout into local clubs and hotels from January 1997.
2. Previous studies did not take into account the 'social' impacts of VGMs on the broader Tasmanian community and their families.
3. Previous studies did not specifically measure the 'economic' impacts of VGMs on the Tasmanian community and particularly in regional/rural areas.
4. A large percentage of Tasmanians thought that the Tasmanian community had not benefited from having machines in hotels and clubs and that a Social and Economic Impact study is needed.

5. There is concern indicating that harm minimization practices need to be re-addressed.
6. There is recognition of the positive aspects, such as new entertainment options, extra revenue to fund social problems and employment opportunities, but the question was often raised as to whether or not the government has become too reliant on the "gaming dollar", as a revenue source.

Recommendations from the inquiry included the following:

1. The state government immediately commission a study to determine the social and economic impacts on the Tasmanian community, since the expanded operation of gaming machines in hotels and clubs.
2. The social impacts be considered separately from the economic impacts.
3. The study be conducted on a regular (bi-annual) basis to carefully monitor changes, using the same terms of reference, criteria and guidelines.
4. This research be more extensive and independent of government.
5. The issue of harm minimisation practices be re-addressed.

Appendix F

Findings from the Productivity Commission (1999) report

- About 82 per cent of adults participated in gambling in Australia in 1997/98. Around 60 per cent participated in lotteries, 39 per cent played poker or EGMs, and 24 per cent gambled on racing. An estimated 40 per cent of adults were regular gamblers, defined as gambling at least once a week; 20 per cent of adults were regular non-lottery players, of which 15 per cent were problem gamblers (equating to 2.1 per cent of the total adult population).
- The average loss in 1997/98 was $760 per Australian adult, of which $420 was lost in EGMs.
- Total net expenditure (i.e. losses) on gambling in 1997/98 was around $11.3 billion, of which $10.8 billion was lost by Australians and the remainder by overseas visitors. Of this, $5.9 billion was spent (lost) on gaming machines. Casinos were the second largest category with net expenditure of $2.2 billion, followed by racing at $1.7 billion, with lotteries and minor gaming accounting for the rest. Total turnover for the gambling sector was around $95 billion, of which EGMs was the largest category, at nearly $58 billion.
- The Productivity Commission stated was unable to say with any certainty whether the net impacts from gambling were positive or negative. The total net impacts across the country lie within the range of a net loss $1.2 billion to a net benefit of $4.3 billion for 1997/98.
- EGMs have seen the biggest growth in expenditure, and were reported in the surveys as the biggest issue for problem gamblers seeking help. The Productivity Commission found that between 65 and 80 per cent of problem gamblers receiving counselling had issues stemming from EGM use.
- Problem gambling is positively related to the degree of accessibility of gambling, particularly gaming machines.
- While problem gambling accounted for a third of all gambling expenditure in Australia, it was shown to account for a significantly higher 42.3 per cent of gaming machine expenditure. This compares to 33.1 per cent of wagering spending, 10.7 per cent of casino table game spending, and 5.7 per cent of expenditure on the various lotteries.
- Direct losses from gambling are estimated at an average of $12,200 per problem gambler, and the additional social costs are estimated to be in the range of $6,100 to $19,100 per problem gambler. The Productivity Commission observes that those costs which are easiest to measure account for a small share of the total.
- For the year 1997/98, the Productivity Commission estimates the number of severe problem gamblers at 1.0 per cent (130,000) of Australian adults and the number of moderate problem gamblers at an additional 1.1 per cent (163,000), totalling 293,000 problem gamblers for Australia as a whole.
- The States of New South Wales and Victoria showed the highest estimated prevalence of problem gambling, while the lowest levels were in Tasmania and Western Australia, as shown in Table F.1.
- The Productivity Commission estimates that most gamblers (*excluding* problem gamblers) gain an average benefit of $250 to $400 each year, which is their own benefit excluding the tax going to government. With *all* gamblers taken into

account, the value drops significantly to a range of $5 to $150 (also excluding tax revenue).

- The Productivity Commission report lists the categories of costs arising from problem gambling as follows: financial costs (family debts and bankruptcy); effects on productivity and employment; crime (theft, court cases, imprisonment); personal and family impacts (divorce, separation, depression, suicide); and treatment costs (counselling services).
- It is estimated that between five and ten people will be adversely affected by each problem gambler.
- The Productivity Commission puts a dollar value on a range of externalities or social costs from gambling, as shown in Table F.2, and chooses not to put dollar value on other costs. With no benchmark by which to set prices, it produces a wide range of estimates, reflecting uncertainty around these values. As shown in the table, the distress of family and parents is potentially the largest cost of all, followed by depression and suicide, and then by relationship break-downs.
- The shifting of expenditure from one activity to another is viewed by the Productivity Commission as part of usual business practice, and simply shows that the benefit of the new activity is higher than that of the one it replaces. There is therefore considered to be no net cost to society from this shift, although there will be individual winners and losers.
- The Productivity Commission finds that in 1997/98, 76 per cent of money spent (lost) by problem gamblers was through EGMs, so in its calculations it allocated 76 per cent of social costs to that mode.
- There were found to be differing cost/benefit implications by gambling mode. Lotteries, scratchies and casino gaming are all estimated to have consumer benefits which outweigh the social costs, giving a net benefit. EGMs and wagering give a wide range of net benefits between a positive and negative figure. EGMs produced by far the largest social costs. The total net impact ranged between a large net cost and a smaller net benefit, with the figures dominated by EGMs.
- While gender, education, ethnicity and income did not show any clear relationship to the typical problem gambler, there was shown to be a tendency towards younger people being more highly represented among problem gamblers.
- Attitudes to gambling – from the national survey, it emerged that there is widespread community concern over the harm caused by gambling. About 70 per cent of those interviewed considered that gambling does more harm than good, differentiating it from other forms of entertainment. Furthermore, 92 per cent did not want to see further expansion of gaming machines.

Table F.1
Prevalence of problem gamblers and harm incidence in the adult population (per cent)

	SOGS 5+	Severe problems	Harm incidence[a]
New South Wales	2.55	1.25	1.96
Victoria	2.14	0.82	2.05
Queensland	1.88	0.76	1.79
South Australia	[b]	[b]	1.44
Western Australia	0.70	0.17	1.50
Tasmania	0.44	0.09	0.12
Northern Territory	1.89	0.77	1.24
Australian Capital Territory	2.06	0.73	1.32
Australia	**2.07**	**0.92**	**1.80**

Notes: [a] A self-assessed indicator of significant adverse impacts on the life of the gambler.
[b] The numbers derived for South Australia are 2.45 per cent for SOGS 5+ and 1.38 per cent for severe problems. These results appear to be unrealistically high and are likely to reflect sampling error.
Source: Productivity Commission report *Australia's Gambling Industries* (1999).

Table F.2
Gambling cost ranges estimated by the Productivity Commission (1999)

Impact	Low ($m)	High ($m)
Bankruptcy	1.3	1.3
Productivity loss	28	200
Job change	59	59
Police, court and jail	14	14
Distress of family and parents	756	2,933
Break-up, divorce and separation	417	1,120
Violence	2.8	8.3
Depression and suicide	502	1,230
Gambling counselling services	20	20
Total	**1,800.1**	**5,585.6**

Source: Productivity Commission (1999).

Appendix G

Annex to Chapter 13 Crime

Background Information on Crime

Previous Studies on Factors Influencing Crime

Income of an area has been found to be related to crime, with higher and lower family income each associated with higher person and property crime (Ehrlich 1973, Fajnzylber *et al*. 1998, Tseloni *et al*. 2002, Wheeler *et al.* 2008). Hence, areas with middle income have been found to have proportionately less crime. Some age profiles of an area are also related to crime, with areas that have higher proportions of teenagers having higher levels of all types of crime (Raphael and Winter-Ebmer 2001, Tseloni *et al.* 2002). Some studies have found positive links between the proportion of ethnicity groups and crime (Smith and Wynne 2000, Fergesson *et al.* 2003, Wheeler *et al.* 2008). Alcohol consumption and licensed premises have been positively linked with criminal behaviour, particularly violent crime (Raphael and Winter-Ebmer 2001, Briscoe and Donnelly 2003, Wheeler *et al.* 2008). Similarly, drug consumption has also been positively linked with crime (Fajnzylber *et al.* 1998, Bennett and Holloway 2005). On the whole, it is suggested by the literature that males tend to be more violent than females (Fajnzylber *et al.* 1998). One of the most-debated influences on crime has been unemployment, with mixed evidence for and against its impact, but most positive influence has been found on property crime (Raphael and Winter-Ebmer 2001; Masih and Masih 1996; Narayan and Smyth 2004; Lee and Holoviak 2006; Bodman and Maultby 1997). There also seems to be some positive link between single parent families and crime in a community (University of Melbourne 2000).

The influence of police in an area is said to have a negative effect on crime (because of deterrence effects), (Ehrlich 1973, Fajnzylber *et al.* 1998, Bodman and Maultby 1997, Withers 1984). Conversely, it can be equally hypthothesised that having more police in an area may result in the detection of greater levels of certain types of crime (Wheeler *et al.* 2008). Endogeneity of this variable (in terms that as crime goes up, then more police officers are employed and vice versa) was not found by Narayan and Smyth (2006), though it was found by Marvell and Moody (1996). Very few studies have found any link between the education of a population and criminal activities, although it has been suggested that it can have a 'civilizing' effect by reducing the incidence of criminal activity, but can also raise the opportunities for crime as the population may be wealthier. In terms of where people live (urban or rural), Masih and Masih (1996) found that urbanisation had the second-greatest impact on Australian crime rates (from 1963/1990).

Classification Structure for Crime: Classification of Offences Provided

Person		Offensive Publication	N	Unlawfully Set Fire To Property	N
Aggravated Armed Robbery	I	Peep/Peer Into Dwelling	N	Unlawfully Set Fire To Vegetation	N
Aggravated Robbery	I	Procuration	N	**Fraud**	
Armed Robbery	I	Rape	N	Computer Related Fraud	I
Demand Property With Menaces	I	Resist Police (CC)	N	Conspiracy To Cheat/Defraud	I
Robbery	I	Resist Police (POA)	N	Corruption In Relation To Business	I
Abduction	N	Sexual Intercourse With A Young Person	N	Deception/Dishonestly Obtain Financial Advantage	I
Abduction Of A Young Person	N	Stalking	N	Destroy/Injure Property _Police Offences_	I
Administer Drug With Intent To Commit An Offence	N	Threaten To Murder	N	Evade Taxi Fare	I
Aggravated Assault _Cc_	N	Threaten/Abuse/Intimidate Police	N	False Pretence	I
Aggravated Assault _Poa_	N	Threaten/Abuse/Intimidate Public Officer	N	Forgery	I
Aggravated Sexual Assault	N	Unlawful Act Intending Harm	N	Fraud As A Clerk/Servant	I
Assault _Cc_	N	Wounding	N	Fraud On Creditor	I
Assault _Poa_	N	Assault/Resist/Obstruct Police _Cc_	N	Fraudulently Cheat/Cozen A Person	I
Assault on Pregnant Woman	N	Assault/Resist/Obstruct Police _Poa_	N	Imposition	I
Assault Police (CC)	N	**Property**		Insert False Data	I
Assault Police (POA)	N	Aggravated Burglary	I	Make Off Without Payment	I
Assault With Indecent Intent	N	Burglary	I	Misappropriation As A Company Officer	I
Assault/Resist/Obstruct Person Arresting _Cc_	N	Motor Vehicle Stealing	I	Unauthorised Access To Computer	I
Assault/Resist/Obstruct Person Arresting _Poa_	N	Possession Of Stolen Property	I	Utter Counterfeit Money	I
Assault/Resist/Obstruct Person Assisting Police	N	Receiving Property Of Commonwealth	I	False Report To Police	N
Assault/Resist/Obstruct Public Officer	N	Receiving Stolen Property	I	Uttering	N
Attempted Murder	N	Steal Property Of Commonwealth	I		
Death By Dangerous Driving	N	Stealing	I		
Grievous Bodily Harm	N	Stolen Vehicle Plates/Labels	I		
Ill Treating A Child _Criminal Code_	N	Unlawful Possession _Poa_	I		
Incest	N	Unlawfully Take/Use Vehicle	I		
Indecency	N	Arson	N		
Indecent Act with Young Person	N	Casting Away A Ship	N		
Indecent Assault	N	Cause Fire With Intent To Injure	N		
Indecent Exposure	N	Destroy/Injure Property _Police Offences_	N		
Lurk/Loiter/Secrete Near Dwelling	N	Injure Property _Criminal Code_	N		
Maintain A Sexual Relationship With A Young Person	N	Interfere/Damage H_E_C_ Apparatus	N		
Make False Threats Of Danger	N	Interfere/Damage Telecom Installation	N		
Making And Possession Of Dangerous Things	N	Kill Animal With Intent To Steal	N		
Manslaughter	N	Kill/Maim/Wound Animal _Police Offences_	N		
Murder	N	Take/Use A Vessel Without Consent	N		
Obstruct Police (CC)	N	Tamper With Motor Vehicle	N		
Obstruct Police (POA)	N	Trespass	N		
Offensive Behaviour	N	Unlawfully Kill/Maim/Wound Animal _Criminal Code_	N		

Note: I = an income-generating crime and N = non-income-generating.
Source: Department of Police and Emergency Management.

Detailed Regression Results

Log-linear Regressions of Various Income and Non-Income Generating Offences

lnigoffp	*Coef.*	*Std. Err.*	*z*	*P>|z|*	*lnngoffp*	*Coef.*	*Std. Err.*	*z*	*P>|z|*
rural	-0.25	0.10	-2.58	0.01	rural	-0.19	0.08	-2.30	0.02
egmp	0.00	0.00	3.19	0.00	egmp	0.00	0.00	3.12	0.00
chargesp	0.06	0.01	3.88	0.00	chargesp	0.05	0.01	3.97	0.00
year	0.69	0.12	5.77	0.00	year	0.29	0.10	2.89	0.00
drugoffp	-0.20	0.53	-0.38	0.71	drugoffp	0.94	0.45	2.08	0.04
liqp	0.00	0.00	3.38	0.00	liqp	0.00	0.00	3.44	0.00
seifa	0.00	0.00	-0.84	0.40	seifa	0.00	0.00	-1.55	0.12
_cons	1.54	1.25	1.23	0.22	_cons	1.45	1.06	1.36	0.17
LL	-44.73				LL	-31.40			
Wald chi	177.82				Wald chi	161.66			
n	82.00				n	82.00			

lntotoffp	*Coef.*	*Std. Err.*	*z*	*P>|z|*	*lndrinkdri~p*	*Coef.*	*Std. Err.*	*z*	*P>|z|*
rural	-0.23	0.09	-2.65	0.01	rural	-0.02	0.07	-0.22	0.83
egmp	0.00	0.00	3.44	0.00	egmp	0.00	0.00	1.88	0.06
chargesp	0.05	0.01	4.13	0.00	chargesp	0.02	0.01	2.11	0.04
year	0.56	0.10	5.31	0.00	year	0.04	0.08	0.49	0.62
drugoffp	0.31	0.47	0.66	0.51	drugoffp	0.62	0.38	1.65	0.10
liqp	0.00	0.00	3.61	0.00	liqp	0.00	0.00	-0.50	0.61
seifa	0.00	0.00	-1.06	0.29	seifa	0.00	0.00	-1.63	0.10
_cons	2.06	1.10	1.87	0.06	_cons	0.98	0.89	1.09	0.27
LL	-34.48				LL	-17.00			
Wald chi	188.79				Wald chi	41.10			
n	82.00				n	82.00			

lnfraudigp	*Coef.*	*Std. Err.*	*z*	*P>|z|*	*lnfraudngp*	*Coef.*	*Std. Err.*	*z*	*P>|z|*
rural	-0.32	0.18	-1.81	0.07	rural	0.65	0.31	2.11	0.04
egmp	0.00	0.00	3.79	0.00	egmp	0.00	0.00	3.44	0.00
chargesp	0.03	0.03	1.15	0.25	chargesp	-0.14	0.07	-1.94	0.05
year	1.55	0.22	7.13	0.00	year	1.80	0.40	4.48	0.00
drugoffp	0.84	1.01	0.84	0.40	drugoffp	2.97	2.04	1.46	0.15
liqp	0.00	0.00	2.19	0.03	liqp	0.00	0.00	0.86	0.39
seifa	0.00	0.00	0.90	0.37	seifa	0.00	0.00	0.38	0.71
_cons	-5.74	2.24	-2.56	0.01	_cons	-7.83	3.42	-2.29	0.02
LL	-82.84				LL	-69.69			
Wald chi	147.35				Wald chi	54.19			
n	75.00				n	50.00			

lnpersonigp	*Coef.*	*Std. Err.*	*z*	*P>|z|*	*lnpersonngp*	*Coef.*	*Std. Err.*	*z*	*P>|z|*
rural	-0.43	0.27	-1.61	0.11	rural	-0.10	0.09	-1.22	0.22
egmp	0.00	0.00	1.23	0.22	egmp	0.00	0.00	3.77	0.00
chargesp	0.02	0.04	0.58	0.56	chargesp	0.03	0.01	2.54	0.01
year	0.65	0.35	1.88	0.06	year	-0.01	0.10	-0.14	0.89
drugoffp	2.60	1.66	1.57	0.12	drugoffp	1.55	0.47	3.31	0.00
liqp	0.00	0.00	1.89	0.06	liqp	0.00	0.00	3.49	0.00
seifa	0.00	0.00	1.34	0.18	seifa	0.00	0.00	-	0.59

								0.55	
			-					-	
_cons	-9.41	3.24	2.90	0.00	_cons	-0.56	1.10	0.51	0.61
LL	-72.61				LL	-34.25			
Wald chi	39.49				Wald chi	163.54			
n	54.00				n	82.00			
lnproper~igp	***Coef.***	***Std. Err.***	*z*	***P>|z|***	***lnproper~ngp***	***Coef.***	***Std. Err.***	*z*	***P>|z|***
			-					-	
rural	-0.23	0.10	2.41	0.02	rural	-0.25	0.10	2.62	0.01
egmp	0.00	0.00	3.12	0.00	egmp	0.00	0.00	2.42	0.02
chargesp	0.05	0.01	3.81	0.00	chargesp	0.06	0.01	4.09	0.00
year	0.66	0.12	5.58	0.00	year	0.44	0.12	3.72	0.00
			-						
drugoffp	-0.20	0.53	0.38	0.70	drugoffp	0.46	0.53	0.87	0.38
liqp	0.00	0.00	3.36	0.00	liqp	0.00	0.00	2.76	0.01
			-					-	
seifa	0.00	0.00	0.99	0.32	seifa	0.00	0.00	2.00	0.05
_cons	1.71	1.25	1.37	0.17	_cons	1.80	1.26	1.43	0.15
LL	-44.58				LL	-44.94			
Wald chi	168.58				Wald chi	132.91			
n	82.00				n	82.00			

Note: All Wald chi2 figures were significant at 1%.

	Coef.	Std. Err.	Z	P>|z|		Coef.	Std. Err.	Z	P>|z|
	lnfraudigp					***lnfraudngp***			
rural	0.09	0.32	0.28	0.78	rural	0.73	0.67	1.10	0.27
egmp	**0.00**	**0.00**	**2.60**	**0.01**	**egmp**	**0.00**	**0.00**	**3.07**	**0.00**
chargesp	0.04	0.03	1.09	0.27	chargesp	-0.09	0.09	-1.00	0.32
year	**1.41**	**0.38**	**3.67**	**0.00**	**year**	**2.08**	**0.58**	**3.59**	**0.00**
drugoffp	0.46	1.15	0.40	0.69	drugoffp	3.29	2.09	1.57	0.12
liqp	0.00	0.01	0.91	0.36	liqp	0.01	0.01	1.00	0.32
totstudp	0.07	0.07	0.98	0.33	totstudp	-0.02	0.11	-0.15	0.88
sinfamilyp	0.04	0.05	0.85	0.40	sinfamilyp	0.04	0.09	0.42	0.67
middlehousyp	**-0.01**	**0.01**	**-1.68**	**0.09**	middlehousyp	-0.02	0.01	-1.31	0.19
unempfig	0.03	0.10	0.32	0.75	unempfig	0.11	0.15	0.74	0.46
houserentp	-0.01	0.04	-0.15	0.89	houserentp	-0.02	0.06	-0.39	0.70
malep	-0.08	0.10	-0.82	0.41	**malep**	**-0.30**	**0.17**	**-1.75**	**0.08**
teenp	0.18	0.23	0.80	0.43	teenp	0.01	0.39	0.03	0.98
fourtyplusp	-0.01	0.12	-0.06	0.95	fourtyplusp	0.21	0.16	1.29	0.20
indigp	0.04	0.06	0.65	0.52	indigp	0.08	0.10	0.84	0.40
asianp	0.11	0.21	0.50	0.62	asianp	0.33	0.29	1.14	0.26
_cons	-1.36	5.56	-0.24	0.81	_cons	3.83	9.40	0.41	0.68
R2	0.73				LL	-61.64			
Wald chi	144.69				Wald chi	74.20			
n	70.00				n	47.00			
	Coef.	**Std. Err.**	**Z**	**P>|z|**		**Coef.**	**Std. Err.**	**Z**	**P>|z|**
	lndrinkdrivingp					***lntotoffp***			
rural	-0.12	0.11	-1.01	0.31	rural	0.13	0.11	1.26	0.21
egmp	0.00	0.00	0.57	0.57	egmp	0.00	0.00	1.31	0.19
chargesp	**0.02**	**0.01**	**2.04**	**0.04**	**chargesp**	**0.04**	**0.01**	**4.28**	**0.00**
year	0.12	0.13	0.94	0.35	**year**	**0.50**	**0.12**	**4.19**	**0.00**
drugoffp	0.41	0.39	1.06	0.29	drugoffp	0.50	0.36	1.39	0.16
liqp	**0.00**	**0.00**	**-2.86**	**0.00**	**liqp**	**0.00**	**0.00**	**2.98**	**0.00**
totstudp	-0.02	0.02	-1.06	0.29	**totstudp**	**-0.04**	**0.02**	**-1.79**	**0.07**
sinfamilyp	**0.06**	**0.02**	**3.66**	**0.00**	**sinfamilyp**	**0.05**	**0.02**	**2.94**	**0.00**
middlehousyp	0.00	0.00	-0.37	0.71	**middlehousyp**	**0.00**	**0.00**	**-1.80**	**0.07**
unempfig	-0.04	0.03	-1.22	0.22	**unempfig**	**0.07**	**0.03**	**2.75**	**0.01**
houserentp	-0.01	0.01	-1.20	0.23	**houserentp**	**-0.03**	**0.01**	**-3.17**	**0.00**
malep	**0.12**	**0.03**	**3.38**	**0.00**	**malep**	**-0.06**	**0.03**	**-1.86**	**0.06**
teenp	0.01	0.07	0.09	0.93	**teenp**	**0.15**	**0.07**	**2.17**	**0.03**
fourtyplusp	-0.04	0.03	-1.24	0.22	**fourtyplusp**	**-0.11**	**0.03**	**-3.68**	**0.00**
indigp	0.02	0.02	1.54	0.12	indigp	0.00	0.01	-0.03	0.98
asianp	0.09	0.07	1.19	0.23	asianp	0.14	0.07	2.10	0.04
_cons	-5.24	1.78	-2.95	0.00	_cons	6.47	1.65	3.92	0.00
R2	0.57				LL	-5.29			
Wald chi	78.48***				Wald chi	469.59***			
n	77.00				n	77.00			

Notes: *** Indicates significance at 1% level.