Chapter 6: Economic and Geographic Impact Studies

6.1 Overview

The final section of the AGR is concerned with studies that have examined the economic impacts of gambling and the geographical distribution of gambling activities and how this is related to gambling patterns, expenditure, and the prevalence of problem gambling. This section does not directly coincide with any of the national research priorities as stated in Chapter 1, but touches on specific elements listed under each priority. These include: the importance of understanding the effects of policy measures on problem gambling (Research Priority 2), the nature of patterns of gambling (Research Priority 6) and strategies designed to 'measure the impact and effectiveness of strategies introduced to reduce the extent and impact of problem gambling' (Research Priority 5). The first part of the chapter provides an overview of the major economic studies that have been undertaken in Australia, and the second part examines geographical studies.[1]

As will be evident in the discussion that follows, there are currently many challenges associated with conducting research in this area. Effective economic analysis requires the availability of consistent, comprehensive, and accurate economic data at an aggregate, regional, or local level. In many cases it requires the consolidation of data collected by Governments at different levels, as well as sometimes sensitive material maintained by industry groups that often do not have a commercial interest or statutory requirement to provide it to external parties. As a consequence of these difficulties, Australian economists have found it quite difficult to access the range of data necessary for comprehensive economic analyses of the gambling industry. To compensate for these problems, economists therefore have to use their best judgement to estimate the values of missing data items, or make assumptions about the likely range of values.

[1] The content of the AGR was very much informed by the needs of the Independent Gambling Authority of South Australia, so that only the most relevant impact studies are included. For example, the findings from casino impact studies were not included because the Authority is very unlikely to have to consider the effects of the establishment of a new casino in Adelaide. There is also a preference for an inclusion of actual impact studies rather than prospective evaluations of possible impacts.

Another challenge faced by economists is choosing an appropriate theoretical framework to apply. In contrast to some areas of social science, where researchers can often confine themselves to describing the patterns that emerge from within data-sets (e.g. as in prevalence research), economic analysis usually requires the adoption of a conceptually consistent framework or model. At present, there is no consistently agreed-on conceptual framework for Australian gambling research. Instead, researchers have tended to employ different economic approaches and sources of data for their analyses.

6.2 Estimating Economic Costs and Benefits

The AGR commences with a summary of the Productivity Commission's (1999) analysis of the costs and benefits of gambling. The approach adopted by the Productivity Commission is based on the concept of consumer surplus. Consumer surplus refers to the difference between what consumers pay for a product or service and the maximum that they would have been willing to pay. Consumer surplus is relatively straightforward to calculate mathematically, but requires information concerning the price of gambling from the standpoint of consumers as well as the slope of the demand curve. In particular, there is a requirement to know something of the demand elasticity of gambling; namely, how responsive consumer demand (how much they gamble) is to variations in the price of gambling. The AGR summarises the fundamental problems associated with this form of analysis when applied to gambling. These problems include the lack of clear information concerning the price of gambling (for example is it the cost of entry, return to player, odds of winning?) as well as the elasticity of demand; namely, do changes in the price of gambling give rise to variations in the amount of gambling observed?

Without definitive guidance on either of these issues, the Productivity Commission addressed this problem by developing a range of approximate elasticity values. However, this range is seen to vary depending on the status of gamblers. Demand is seen to be more elastic for recreational gamblers because it is easy for them to substitute one gambling activity for another if the price varies. By contrast, since problem gamblers feel compelled to gamble even when it is expensive to them, their demand curve is assumed to be more inelastic. Based on these assumptions, the Commission estimated that recreational gamblers obtain a net consumer surplus benefit, whereas problem gamblers usually incur a loss. Taking into account these figures as well as the taxation benefits to the Government, the Commission concluded that the net benefit to Australia was somewhere between $4.37 billion and $6.08 billion per annum.

Having obtained these estimates of benefit, the Commission calculated the likely costs of gambling based on the various impacts likely to arise from problem gambling. Estimates were obtained by working out the typical cost to the community of divorces, crime associated with gambling, lost productivity, psychological distress, and other factors. These costs were then extrapolated to the number of problem gamblers estimated to exist in the Australian community as based on the Commission's national survey estimates. The final figure was estimated to lie somewhere in the range of $1.8 billion to $5.59 billion. When these figures were combined with the benefit figures provided above, the total net effect was therefore calculated as lying in a range from -$1.2 billion (a loss) to $4.3 billion (a net gain). On balance, the overall effects of gambling on the Australian economy and community were assumed to have a greater likelihood of being positive rather than negative.

Such analyses are important from a public policy perspective in that they allow Governments and regulators to determine whether the introduction of gambling, or expansion of gambling, is likely to have positive or negative overall impacts on the community and the economy. However, the obvious difficulty with these analyses is that they are based upon layers of assumptions, many of which may not be entirely supported by empirical evidence. Cost estimates are likely to be inaccurate because not all severe problems are reported in telephone surveys, and not all impacts are easy to associate with a discrete cost amount. For example, what is the social/community cost of a divorce, or a person who gambles at work? Similarly, without further research into the actual price of gambling and demand elasticity, it is very difficult to be confident about the estimates of consumer surplus provided in the Commission's report.

6.3 Economic Impact Studies

A range of economic impact studies are also reviewed in the AGR. The analysis commences with a discussion of the National Institute of Economic and Industry

Research (NIEIR) (2000) in Victoria. The aim of this study was to ascertain the net costs or benefits of gambling to the overall Victorian economy as well as to some specified local areas. The study included an analysis of Household Expenditure Survey (HES), some micro-economic simulation analyses, and a venue survey conducted by Market Solutions (1999). In its study, the NIEIR employed what is termed a Keynesian approach to economic analysis in that its focus was on the extent to which the recent growth in the gambling industry in Victoria had expanded overall economic output. Economic output refers to the total amount of economic activity in the economy as indicated by how much people and Governments spend, the amount of investment by industry, and the amount of taxation revenue reaped by the Government. It is assumed that economic benefits accrue from economic growth because of the combined effect of greater consumption (higher sales of a product or service) and what are termed multiplier effects. Multiplier effects occur when expenditure on one industry lead to greater expenditures on other related products or services (e.g. in the case of gambling: alcohol and meals). NIEIR's study investigated whether gambling had led to growth as a result of industry investment in infrastructure, an increase in consumer spending, and increases in taxation revenue to the Victorian Government. They also examined how evenly these positive impacts of the gambling industry were distributed across different communities.

The NIEIR concluded that the overall effect of the gambling industry on Victoria was a positive one, based on growth in employment, multiplier effects, and greater consumer spending. The NIEIR argued that this increase occurred largely because gambling encouraged greater consumer spending drawn from savings or asset reserves. In other words, gambling led to greater cash flow in the Victorian economy because people injected their savings or reserves into gambling and related products and services rather than leaving it in the bank or diverting existing expenditure away from other areas of consumption. On the whole, this conclusion appeared to follow logically from the data analysed by the NIEIR. However, as Pinge (2001) pointed out, there are several important caveats that need to be taken into account when interpreting the conclusions drawn from this report. The first is that the report contains relatively little discussion of the social impacts of gambling, so that the overall net benefits seen to accrue from gambling may be overstated due to the omission of many important costs to the community. Second, as Pinge (2001) points out, the HES data used by NIEIR is highly suspect as reflected by the considerable under-estimation of actual gambling expenditure. Third, according to Pinge, it is questionable whether declines in saving ratios observed during the period of growth in gambling expenditure were necessarily attributable to gambling. Many other factors such as increases in the general cost of living may have been influential. In other words, although the NIEIR utilised a set of analyses that were logically consistent and which utilised actual reported expenditure data, the conclusions need to be analysed in terms of the primary focus of the investigation and the validity of the ‘savings hypothesis’ assumption.

Other studies reviewed in the AGR include the Market Solutions (1999) survey of 698 venues and 454 patrons in Victoria, the KMPG longitudinal impact study (1999), and other studies commissioned by the Victorian Casino and Gaming Authority (VCGA) that examine the impact of gambling on inner city municipalities and small rural communities (VCGA, 1997a, 1997b, 1997c). All of these studies relied on analyses of aggregate economic data for the regions under investigation, as well as focus group or telephone surveys of stakeholders, including gamblers, venue owners, local government, and welfare agencies. As indicated in the AGR, not all the findings from these studies greatly advance knowledge in the area because much of the evidence is based on people’s commonsense appreciations of the broader issues, and their own vested interests. Industry groups emphasised the benefits of gambling, including the effects on employment, economic growth, and venue refurbishment, whereas welfare agencies tended to express concerns about problem gambling, community impacts, and other related issues. The more significant findings related to the limitations of gambling as a source of economic growth in local communities. It was pointed out, in both the metropolitan and regional studies, that a considerable amount of consumer spending was lost to the local community via gambling taxes, and that the widespread prevalence of gambling meant that the introduction of EGMs to specific communities did not necessarily lead to any increase in local gambling-related tourism.

Another study was undertaken by Pinge (2001) using the city of Bendigo as a case example. Instead of examining overall economic growth in the region (the aggregate or Keynesian approach adopted by the NIEIR), Pinge adopted what is termed an input-output approach which focused on the inflows and outflows of revenue caused by the introduction of EGMs to the city. Input-output analysis differs from the aggregate approach in that the focus is on ascertaining the overall or margin economic impact of an industry by comparing how much money it effectively brings into, or takes out of, a local economy. Alternatively, these analyses might examine how an industry compares in terms of its economic effect with other similar industries that might exist in its place. Typically, money will flow in when the industry is able to establish multiplier effects,[2] (i.e. it leads to sales and growth in other related industries) and where it can establish forward and backward linkages[3] to industries in the local area. Another factor is taxation. If consumption leads to industry revenue that is lost to the local community in the form of taxation revenue to the State Government, a question arises as to how much of this is returned to the local economy.

To conduct his study, Pinge used data obtained from local industry, the ABS Census, and regional gambling data. Pinge also used nationally available data on the multiplier effects associated with the particular mix of industries available in Bendigo.
Based on his analyses, Pinge reached quite pessimistic conclusions about the effects of the EGM industry on the Bendigo economy. He argued that the highly technological nature of EGMs meant that backward linkages were minimal because there were few technologically based industries in Bendigo that could provide technical support or supplies for the EGM industry. Instead, two-thirds of inputs were derived from outside the local economy. There was also some loss of taxation revenue to the area. One third of this income went to Tattersalls or Tabcorp, and one third to the Government in taxation, so that only one third remained in the local economy. He also found that the effects of gaming expenditure did not give rise to proportional increases in wage and employment growth. While gambling represented 1.1% of total consumer spending in the area, it only generated 0.3% of wages, 0.4% of regional jobs, and 5.1% of regional imports. Based on existing knowledge of the employment effects of other industries, Pinge estimated that the local economy would have had

[2] A multiplier refers to the extent to which an activity gives rise to additional employment or income growth. For example, a value of 1.2 means that every $1 spent on one industry leads to 20% growth in another industry, whereas 0.8 means that the activity of one industry reduces employment or expenditure in another industry by 20%.
[3] A forward linkage is where the output from one industry (e.g. tyres) is used as the input for another industry (e.g. cars). A backward linkage means that the input from an industry is sourced from the local community (e.g. local people are used to provide technical support, parts, etc.).

more jobs and more income if EGMs were removed from the community because other industries would have forged stronger employment growth and linkages with the local economy. Overall, EGM gambling was seen to have led to an $11.57 million loss to the Bendigo region per annum vs. a benefit of $6.2 million based on increased tourism, and increased demand for venue-related services (e.g. conferences and accommodation).

It should be pointed out that some elements of Pinge's analysis need to be treated with caution. First, the multipliers and linkages were estimated rather than based entirely on an extensive body of empirical data derived from the local economy. Second, despite the fact that taxation revenue was lost from the local economy, some of this may have been reinvested in the local community by the State Government or through allocations from the Community Benefit Fund. Third, there are questions about how cost estimates are derived and quantified in this type of analysis. Nevertheless, the style of analysis used by Pinge (2001) provided a very useful template for how similar regions might be analysed in different jurisdictions across Australia. The use of input-output analysis, multipliers, and linkage analyses would appear to be one of the more effective ways to analyse the effects of gambling on the local economy. The significant limitation of these analyses, however, is that each jurisdiction is likely to be slightly different so that the results obtained from regional studies may not be generalisable to metropolitan areas. For example, if EGM technology suppliers were located in the same city as the EGMs (which is more likely in metropolitan areas), there is a greater possibility for backward linkages. In addition, if the community concerned were not isolated geographically (as is the case with metropolitan regions), not all local residents would necessary gamble exactly in the same area, and there would be a greater likelihood of spillover benefits in the form of visits from gamblers from neighbouring areas.

Another study that took advantage of concepts and methods employed by Pinge as well as the Productivity Commission (1999) was a study undertaken by the South Australian Centre for Economic Studies (SACES) (2001) to examine the impact of EGMs on provincial towns and cities in South Australia. This study also used input-output analysis to determine the net employment effect of EGMs in each of the regional communities, but included several refinements. Consumer income distribution effects were mapped to related industries that were more likely to be logical substitutes for gambling (e.g. recreation and leisure activities). The study also included an estimate of consumer surplus based on a similar method used by the Productivity Commission (1999). State-wide estimates of problem gambling were also adjusted upwards based on the assumption that the prevalence of problem gambling would be higher in regional areas due to the greater expenditure on EGMs in those regions. In the end, SACES (2001) estimated that EGMs were likely to have imposed a social cost on the provincial cities of around $16 to $52 million, with a further $26 million lost by problem gamblers. Total taxation revenue was $22 million, but this was largely lost to the areas. Combining these cost figures and the SACES estimate of consumer surplus, it was estimated that the net benefit of problem gambling for regional centres was likely to be negative (range -$0.6 million to -$43.6 million). Once again, this appeared to be for similar reasons as in the Pinge study: the loss of taxation revenue, the limited multiplier effects, and forward and backward linkages.

In 2005–2006, SACES was commissioned by the Independent Gambling Authority of South Australia to conduct a broader economic impact study into gambling across all of the State. As with the previous Provincial Cities report, the SACES study comprised two principal components: a detailed profile of the South Australian gambling industry over time and several analyses based on secondary data sources. The principal analyses were based on three sources: (a) the 1998–1999 ABS Household Expenditure Survey, which documents the expenditure patterns of a representative sample of South Australian households over a period of time, (b) national account data, and (c) gambling expenditure data compiled by the Queensland Treasury.

Using regression modelling, SACES examined the relationship between demographic characteristics of households and their expenditure on gambling, changes in aggregate demand during the period in which EGMs were introduced, and the relationship between gambling expenditure and other household expenditure. The results showed that households in disadvantaged areas tended to spend more on gambling, and that, consistent with previous studies, gamblers tended to spend more on cigarettes than other people. However, there was little evidence that gambling expenditure had significantly affected overall consumer demand because only 2.91% of household expenditure was directed towards gambling. The only redirection of expenditure evidenced in the household expenditure survey was that people appeared to have switched their expenditure away from conventional cafes and restaurants and towards hotels with gaming machines.

Other parts of the report provided analyses of the links between the introduction of gaming machines and employment growth within the gaming industry. It was found that venues with EGMs had experienced growth largely at the expense of venues that did not introduce machines. Hotels had on the whole been more successful in achieving revenue and employment growth than licensed clubs.

As in the Provincial Cities report, SACES provided estimates of the likely net costs and benefits of EGMs to the local economy. These analyses again showed that the costs of EGMs were likely to outweigh the benefits. When one took into account the consumer surplus received by gamblers and the taxation revenue earned by the State Government and then subtracted the social cost of gambling, it was estimated that the net loss to South Australia was in the range of -$582 million to -$56 million.

The SACES studies, as with the Pinge study, describe two approaches that can be used to estimate the net benefits or costs associated with the introduction of gambling into a particular area. However, as listed below, there are many caveats that need to be applied to both studies. Many of these points are not criticisms of the logic or the methodologies applied, but relate to the fact that Australia does not have a sufficiently well developed body of data to allow many important analyses to be conducted.

- It is difficult to determine the dollar cost of particular social costs of problem gambling.
- The method used to estimate the prevalence of problem gambling for the purposes of economic modelling is subject to question.
- The absence of clear information concerning the nature of demand elasticities in the gambling industry makes it difficult to undertake accurate consumer surplus calculations.

- Household expenditure data often used in economic impact studies does not appear to be particularly accurate. Even when people are asked to keep diaries, they clearly find it difficult to keep records of all expenditure, and to partition their expenditure into neat categories.

For all these reasons, it is very difficult to obtain anything more than a very general sense of the overall impact of gambling on the community. Greater confidence can, however, be placed on those analyses that confine themselves to more objective economic data (e.g. employment effects, investment expenditure, and linkages). The findings suggest that there is a need for further more detailed research into the nature of the industry itself. This includes studies of consumer demand to obtain a better sense of how people's behaviour changes in relation to price variations in the gambling industry (elasticity of demand), studies of the linkages between the gambling industry and other industry areas, and the likely value of multipliers. Given the demonstrated feasibility of collecting such information in other industry areas (e.g. in tourism, manufacturing, or retail), it should be possible in the future for similar data to be collected about the gambling industry.

6.4 Inter-jurisdictional Impact Analyses

Based on the many concerns that have been expressed about EGMs and their effects on individuals and the communities described above, SACES (2005b) was commissioned to undertake a further study that compared the nature of gambling activities in Victoria (a State with EGMs in clubs and hotels) and Western Australia (a State without machines in clubs and hotels). The aim was to conduct a natural comparative experiment to highlight any differences between similar regions in the two States. As summarised in the AGR, the study comprised multiple parts. The first section was largely concerned with the analysis of existing gambling statistics concerning both jurisdictions. The second component was a mail-out community attitudes survey sent to residents in both regions. The third component was a secondary analysis of broader social data, including information from treatment services, GPs and other relevant individuals who potentially came into contact with problem gamblers. The final section examined the apparent economic impacts of gambling on regions in each State. The overall hypothesis was that the social and economic impacts of gambling would be greater in Victoria than in Western Australia.

In essence, much of this project was an audit or review rather than primary research in that many of the statistics have been reported elsewhere, e.g. in the Productivity Commission (1999) report and in previous WA prevalence research. The analyses highlighted many important differences in gambling between the two States:

- WA has experienced less growth in gambling revenue than Victoria in the past 20 years;
- fewer people gamble on EGMs in WA (16% vs. 45% in Victoria);
- the prevalence rate of problem gambling in WA (< 1%) is lower than in Victoria (> 1%).

The SACES resident survey (n = 1813), which was sent out to seven regions in Victoria and seven demographically matched regions in Western Australia, showed that Western Australians were more likely to gamble on racing and lotteries than Victorians, but were less likely to gamble on EGMs. Victorian residents expressed stronger reservations about the effects of gambling on the community, and were more likely to consider gambling to be too readily accessible. Further analysis of secondary data showed that problem gamblers seeking assistance in Western Australia were significantly more likely to be male and to report racing as the principal cause of their gambling. GPs in Victoria were four times more likely to report having identified problem gambling as a disorder in their patients. Finally, the economic impact analysis showed that, although there had been, at some points, greater employment growth in the gambling industry in Victoria due to the introduction of EGMs, this growth had not continued. In fact, the growth in employment relative to growth in EGM expenditure was quite poor as compared with other industry sectors.

From a policy perspective, the SACES study is useful in that it takes advantage of natural differences between the regions in its consideration of the social and economic impacts. It shows quite convincingly that the patterns of gambling and gambling-related impacts differ between the regions. The only principal limitation of the study is that the project (due to time-frame and funding) did not have the capacity to obtain more detailed data, e.g. to conduct a more formal community survey, and to interview businesses or analyse local economic data in more detail.

6.5 Geographical Analyses

6.5.1 Accessibility and Indices of Gambling Activity

Although the accessibility of gambling can be influenced by a range of factors as discussed earlier in this report (e.g. cultural and social influences, conditions of entry, the size and nature of gambling venues and Government policy), the final section of the AGR is concerned predominantly with an analysis of studies dealing with the geographical accessibility of gambling. Geographical accessibility is considered an important policy and regulatory issue for several principal reasons: first, because of concerns about the unequal impact of gambling on specific communities (e.g. disadvantaged areas, and second, because of the implications of these findings for future expansion of gambling in particular areas. Geographical accessibility is also one potential aspect of the gambling industry which might be amenable to some form of regulation (e.g. limits on the expansion of future gambling operations or reductions in the availability of existing forms of gambling).

The fundamental assumption underlying many geographical approaches is that gambling by residents is influenced by the position of venues as well as by the spatial concentration of gambling. Key independent measures that have been used in this form of analysis include: the number of EGMs or gambling venues per capita population in specified geographical areas, the demographic or socio-economic profile of areas where gambling venues are located; the geographical spacing between venues (e.g. are they evenly spaced or concentrated within particular locations?), and the distance from venues to where people live. Important dependent measures in these studies include: the net revenue earned by particular venues in those areas; the net revenue per capita residents in an area; gambling participation rates; and the estimated number of problem gamblers per capita. In these studies, the usual research hypothesis is that greater gambling opportunities are, or should be, associated with greater expenditure on gambling, more frequent gambling, as well as a greater proportion of problem gamblers. A secondary hypothesis, based on the demographic findings of prevalence surveys, is that areas with greater socio-economic disadvantage tend to have higher levels of gambling and a greater proportion of problem gamblers.

As the AGR points out, studies of this nature commenced with a series of analyses conducted as part of the Productivity Commission's (1999) report. The Commission found, for example, based on its national survey, that jurisdictions with a greater density of EGMs (EGMs/1000 adults) tended to obtain higher SOGS scores in the national survey. Other analyses of data from the Victorian Department of Human Services (Jackson et al., 1999 showed that service agencies located in areas with a greater density of EGMs had a greater demand for services (i.e. more clients seeking help). As the Commission concedes, neither of these analyses is entirely satisfactory in that the inter-jurisdictional correlation is based on very few data points, whereas the Victorian data might only reflect the fact that services tend to be located in areas where there is greater demand, rather than the concentration of gambling necessarily being the cause of the greater demand for services.

Nevertheless, since then a number of other studies conducted in multiple jurisdictions have obtained similar findings. Livingstone (2001) as well as Marshall and Baker (2001a, 2001b; 2002) found, using gambling data from Victorian local government areas (LGAs) that net gambling revenue was highly correlated with the number of EGMs per 1000 people. Similar results were obtained using Statistical Local Areas (SLAs) by Delfabbro (2002). There was a very high correlation between the density of EGMs and venues and net expenditure, as well as the proportion of the population who had sought help from the treatment services. Taken together, these various studies suggested that areas where gambling is more geographically accessible are more likely to have higher levels of gambling expenditure and a higher incidence of problem gambling.

This association is thought to exist because people tend to gamble very close to where they live. Marshall (2002), for example, in a study in NSW, found that people living within 500 metres of a club were more likely to gamble than those who lived further away, whereas KPMG (1999) in Victoria found that Victorians typically only travelled 2.5 kilometres in order to gamble. Another study by McMillen et al. (2003) in Victoria similarly found that 57% of Victorians travel less than five kilometres to gamble and that 32% travel less than 2.5 km. Thus, there is now inter-jurisdictional data from three separate States to support the view that people tend to be attracted to gambling venues close to their place of residence and that venue location, in turn, may therefore attract people from local areas.

In terms of the relationship between the density of gambling and socio-economic status, the results have also shown some consistencies. Marshall (1999) found, based on EGM data pooled across postcode areas in metropolitan Adelaide, that areas with a greater proportion of EGMs per capita tended to score more poorly on measures of social disadvantage. Similar results were obtained in Victoria by Livingstone (2001), Delfabbro (2002) in Adelaide using single demographic indicators of disadvantage (e.g. proportion of housing trust dwellings) and a follow up study in Victoria by Marshall and Baker (2002). In Marshall and Baker's analysis, the distribution of EGMs in Victoria was mapped against the changing demographic profile of areas over time. The results showed that the correlation between social disadvantage and EGM density became stronger over time, suggesting that EGMs were gravitating towards areas with greater disadvantage. It was concluded that the migration of machines may reflect the fact that they are more profitably deployed by industry in areas with greater disadvantage. At the same time, the AGR cautions that one cannot necessarily extend this argument to all jurisdictions in Australia. For example, in South Australia, the location of EGMs is influenced by historical factors such as the original location of clubs and hotels rather than by any strategic positioning of venues. Venues were usually established long before gambling was introduced, so that any association between gambling and lower socio-economic status only occurs because hotels happened to be clustered in traditionally 'working' areas.

Although studies based on the use of particular geographical areas (SLAs and LGAs) are useful in gaining some general sense as to the relationship between gambling availability and related patterns of activity, it is not always the case that this form of analysis can be applied very effectively in every jurisdiction. In cities such as Adelaide and Melbourne, there is a tendency for venues to be relatively more homogenous in terms of their nature and size. A venue in one Adelaide suburb will, for example, have a similar number of machines and look very similar to others located elsewhere. In such situations, it is convenient for local people to drive to their local hotel or club to gamble, or to treat each venue as being very similar. One can, therefore, make reasonable assumptions that the vast majority of patrons at a particular venue will have probably only travelled 2.5–5.0 km to gamble. By contrast, in cities such as Sydney and Canberra, the situation may differ in that some clubs may be many times larger than other venues (e.g. have 1500+ machines), and have specific membership requirements. In such situations, it is more likely that venues may be treated as destination venues by a greater number of patrons, so that the catchment area for patrons will not so easily coincide with a 2–5 km radius (as might typically correspond with an LGA or SLA).

To investigate this possibility, Marshall, McMillen, Niemeyer, and Doran (2004) undertook a very detailed geographical investigation of the Canberra area of Tuggeranong. A total of 2447 local residents were interviewed using a door-knock methodology about their gambling behaviour and asked to indicate where (i.e. at which clubs) they gambled. House locations were mapped by precisely using GIS technology and patron catchment areas were mapped to each club. The results showed that some clubs had catchment areas that were very proximal and regular in their distribution (rather like an SLA), whereas there were others that did not correspond with this pattern. Most patrons came from contiguous areas, but others were willing to travel further. Despite this, the results nonetheless confirmed that people who lived closer to venues (< 3.54 km) tended to spend more on gambling than those who lived further away. Unfortunately, the study did not include any measures of problem gambling, or the relative size or density of venues, so it is unclear to what extent the proximity of venues or the number of gambling opportunities within a given area had any negative impacts on the surrounding areas.

The important policy and regulatory implication of these findings is that the accessibility of gambling appears to influence gambling expenditure and also the impacts of gambling on the local community. Even taking into account the caveats described above, these findings appear to be generalisable across a number of Australian jurisdictions, and suggest that the geographical distribution of gambling may have important policy implications when assessing the expansion or reduction of gambling opportunities in a given area. Despite being subject to some limitations, SLA and LGA studies provide useful indicators as to the strength of the relationship between gambling opportunities and other indicators (e.g. expenditure, gambling involvement), but such broad analyses may also need to be supplemented by smaller, more refined catchment studies that examine the effects of particularly salient venues. Such analyses would appear to be particularly important in New South Wales, the Australian Capital Territory, and possibly in regional areas where people have to travel further to gamble. For such research to have the optimum benefit for regulators and policy makers, it would be possible to replicate many features of the ACT Tuggeranong study in other jurisdictions. Some of the important elements of this research might include:

- a community residential survey of gambling travel patterns;
- an assessment of gambling involvement and also problem gambling;
- the use of GIS to pinpoint residential locations in relation to venues;
- the use of aggregation, cluster or gravity models to assess the effect of venues or clusters of venues with different sizes. To what extent do larger clusters attract more patrons and expenditure than smaller clusters?

6.5.2 Effects of Capping Schemes and EGM Reductions

The final section of the AGR reviews two Australian attempts to limit or reduce the availability of EGMs. The first part of this section examines the recent removal of gaming machines in South Australia, and the second part examines the effects of the regional capping scheme imposed in specific regions in Victoria.

The South Australian machine reduction was based on an inquiry and report submitted to Parliament by the Independent Gambling Authority of South Australia in 2003 (IGA, 2003) and originally involved the removal of 3000 EGMs from South Australian venues. However, when the legislation was finally put into place, SA clubs were exempted from the removal process, so that the actual number of machines removed was reduced (in practice) to just over 2000. Larger for-profit-venues with 32–40 machines lost 8 machines, and 1–7 machines were removed from venues with 21–31 machines, with a floor value of 20 machines (i.e. for-profit venues with 21 machines only lost 1).

The effectiveness of the machine reduction was evaluated in a report by Harrison Health Research and Delfabbro (2006) involving an analysis of venue data, a survey of 400 venue patrons (regular or fortnightly + EGM players) from different clubs and hotels variously affected by the machine removal. The results showed that overall revenue remained relatively unchanged even after the machines were removed in July 2005, and that there was little change in the number of venues after the reduction. The survey showed that many patrons were aware of the changes and that around 50% reported that it was harder to find a machine than before. However, relatively few people reported a reduction in their urge to gamble or any greater control over gambling. Only 30 of 400 people reported having made any changes to their gambling since the reduction, and most did not consider removing a small number of machines to have any impact on problem gambling.

In Victoria, a similar attempt was made to reduce gambling accessibility by removing 406 machines from 5 regions identified as being particularly at risk of gambling-related problems due to their relative level of social disadvantage. In 2005, the South Australian Centre for Economic Studies (SACES, 2005a) was asked to examine the effect of this policy on gambling expenditure and problem gambling. EGM expenditure data from 2002–2004 for individual venues within the capped regions were analysed. The results showed that the reduction appeared to have had very little, if any, impact on expenditure during this period. Instead, other measures, including general smoking bans and restrictions on opening hours, appeared to have had a greater impact on venue revenue. These findings were further borne out in a series of interviews with counselling agencies and industry representatives. Counsellors felt that there had been no change in the number of problem gamblers seeking help for their problems, whereas industry representatives pointed out that utilisation rates of machines (usually 20–25%) were so low that a small reduction in machine numbers would have little effect on the availability of gaming machines to patrons.

Although both of these studies have some limitations that need to be taken into account when interpreting the results (i.e. the use of self-report data that may not necessarily correspond with actual changes in behaviour), the fact remains that both objective and subjective data tended to support the same conclusion. Even when there may be some links between the geographical accessibility of gambling and other indicators (e.g. expenditure, participation and problem gambling rates), the removal of only a small number of gaming machines is unlikely to have a significant effect on gambling behaviour or problem gambling. For these measures to be effective as public health initiatives, it is likely that a significantly greater number of machines and venues would need to be removed. At present, the considerable saturation of EGMs in many regions means that it remains relatively easy for patrons to gain access to this form of gambling even after these limitations are imposed.