EExecutive Summary

The Productivity Commission's tasks and Aristocrat

The federal government has referred the gambling industry to the Productivity Commission and asked it to conduct a public inquiry which will allow the Commission to produce a wide ranging information paper. The Commission will cover issues that include:

- defining gambling as an activity;
- determining what are its economic and social impacts;
- establishing who the participants are;
- examining the role of new technology;
- illuminating the objectives of gambling regulation;
- clarifying gambling's role as a source of government revenue; and
- questioning the adequacy of gambling statistics.

Aristocrat Leisure Industries is one of the world's leading suppliers to an important and growing part of the entertainment industry — electronic gaming. As a machine manufacturer which has been a leader in introducing video technology and as a game designer with proven innovative capacities, it has captured twenty one per cent of world sales.

The diverse activities that make up Australia's gambling industries, and the institutional and regulatory structures in which they operate are very important to Aristocrat.

Aristocrat designs produces, sells and services competitively in those parts of the manufacturing and service sectors that are among the world's most tightly regulated. In doing so it has had to demonstrate its capacity to comply with demanding regulations in multiple jurisdictions, nationally and globally.

To continue to compete effectively Aristocrat has to continually balance these complex regulatory requirements — spanning such diverse things as

minimum player returns, tax requirements, health and safety, and security — with player appeal and wider community demands for a responsible approach to gaming.

All this means that Aristocrat, as a significant industry stakeholder, has a keen interest in the current Productivity Commission inquiry into gambling. Aristocrat has decided to make a submission to the inquiry in the interests of:

- contributing factual information and analysis that will give an appreciation of the size of economic benefits that flow from servicing gambling as an entertainment industry and assist an understanding of the important linkages of the gambling industry to the rest of the economy;

- helping to place in context and perspective the concerns about the social costs of gambling;

- promoting a better understanding of the regulatory environment and some of the costs of regulation of gambling as they affect a supplier like Aristocrat; and

- exploring the impediments to interactive home based gambling.

The dimensions of the industry

After allowing for 'winnings' (player returns) consumers spent nearly $10 billion on the purchase of Australian-provided gambling entertainment services in 1996-97, according to the Tasmanian Gaming Commission. This is equivalent to 3 per cent of private final consumption expenditure in Australia in that year. Chart E.1 reveals how this spending is broken down among various gambling products, among states and the contribution it makes to tax revenue.

Gaming as a component of consumer spending has grown to occupy a significant part of gambling. Chart E.2 demonstrates this growth, as reflected in the growth of government revenue, which has occurred as various state and territory administrations have responded to changing demands for greater legal access to this form of entertainment in their jurisdictions. As clubs and hotels have sought to diversify their entertainment base in response to consumer demand and as tightly regulated casinos have been recognised as a legitimate source of mixed entertainment, gaming has increased in absolute and relative terms.

E.1 **Expenditure on gambling** 1996-97
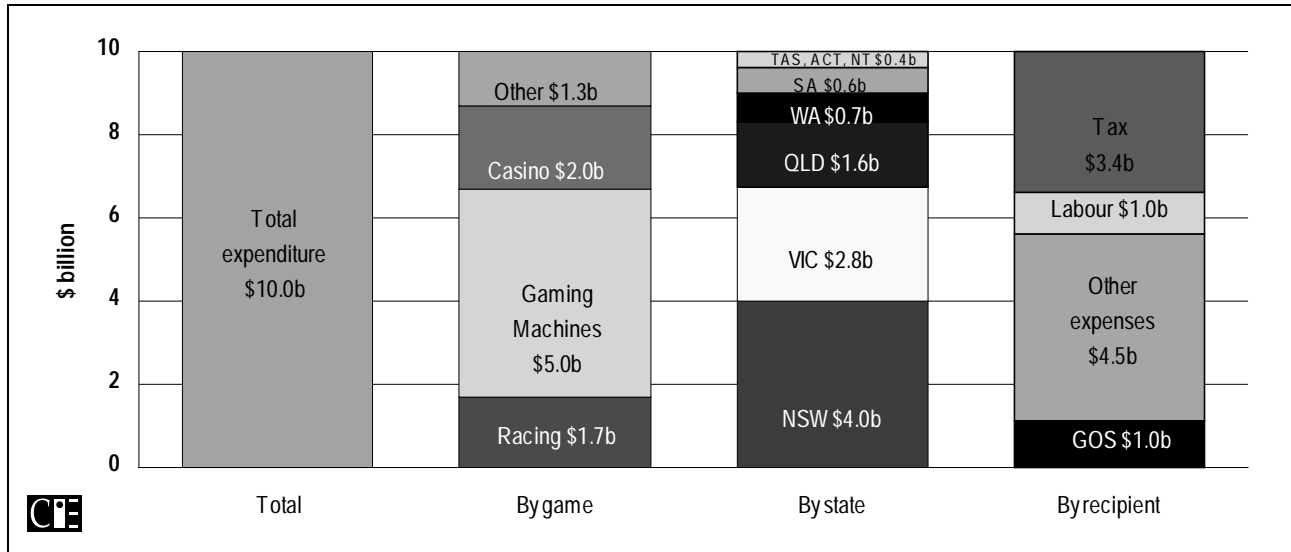
Note: Numbers may not add due to rounding; GOS = Gross Operating Surplus
Data source: Tasmanian Gambling Commission 1996-97

The complex regulatory environment for gaming machine use

To accommodate the changing tastes and growing cultural acceptance of forms of gambling other than the traditional wagering and lotteries, a complex, non uniform web of government intervention and regulation has grown up as the use of gaming machines has been legalised in a succession of states. These interventions include:

E.2 **Government revenue from gambling[a]**
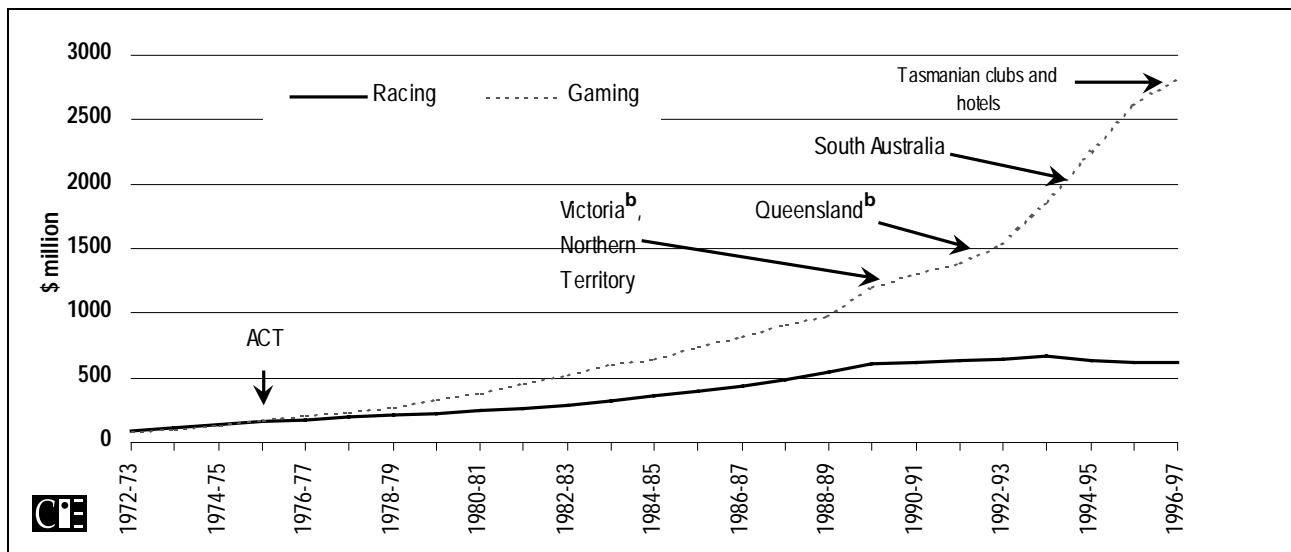
[a] Arrows indicate year in which gaming machines legalised in state [b] Limited gaming permitted prior to 1992-1993
Data source: Tasmanian Gaming Commission 1996-97

- *taxation* arrangements that vary between venue type (clubs, hotels, casinos) and across states and territories;

- *ownership*, restricted to casinos in some states, to two system operators in Victoria, in transition from government to private venue ownership in Queensland, or extended to all authorised venues, as in New South Wales;

- *monitoring* which may require all machines to be connected to a central monitoring system, with this monitoring service contracted out (New South Wales by 2001), direct government monitoring (ACT), monitoring by an independent agency (South Australia);

- *pay out ratio requirements* which vary across juridictions and sometimes across game types with minimum required payout ratios varying between 85 and 92 per cent; and

- *regulating authorities* which vary in their responsibilities and powers across the states and territories. Some states have a mixture of government department and independent agency regulators (NSW), others rely on a specialised control authority (Victoria) while in the ACT responsibility rests with the Revenue Office.

This diversity of approach inevitably creates variations in standards between and within jurisdictions. For Aristocrat, one direct consequence is inflated compliance costs in matters like machine approval. It is estimated that varying requirements across states raises the approval costs substantially for each basic machine type brought into service Australia-wide.

Aristocrat urges the Productivity Commission to consider means by which the costs of regulation might be reduced, including single national regulatory standards or extensions of mutual recognition.

Putting the benefits and costs of gambling in perspective

The recent growth and diversification of gambling products and activities has meant changes for related industries. Among other things it has meant growth in employment and value adding services not just in gambling itself, but also in the accommodation, cafes and restaurant sector which provides many of the goods and services that are consumed along with gambling, and gaming in particular, as part of an entertainment package. By 1994 these ancillary industries were already supplying the gambling sector with $6 billion worth of supplies. Later figures are not yet available.

Even a 1 percent induced contraction in the gambling industry would have large adverse impacts on the Australian economy

With these strong linkages in mind there is a graphic way to demonstrate the benefits of gambling to the Australian community. The proposed model also allows us to ask and answer the following question: 'how big would the social costs of gambling have to be to outweigh the benefits?'

The method adopted is to quantify the economy wide effects of forcing the gambling sector and the related component of the accommodation and restaurant sector by as little as 1 per cent. What would this mean for GDP? For real consumption? For employment?

To answer these questions a widely accepted model of the Australian economy has been customised and used. It is the FHORANI model which captures the kind of inter industry linkage effects of interest. It draws on the fact that not only are the gambling and related industries big sellers of services, they are also big purchasers of inputs.

The experiment increases existing taxes on gambling products to the extent necessary to cause a contraction in the sector by 1 per cent.

The results suggest:

- GDP would fall in real terms by $106 million;

- aggregate employment would fall by more than 2500; and

- real consumption expenditure would fall by $133 million.

Of course there would be winners as well as losers from any such contraction in gambling. But the gains in substitute activities like other sport and recreation and retailing would be insignificant by comparison, with fewer than 200 additional jobs available in retailing while gambling and related industries would shed more than 2400.

What can be counted as social costs and benefits from gambling?

Aristocrat supports efforts to encourage responsible gaming and to minimise *true* social costs and maximise the net benefits that accompany gambling as a legitimate and popular leisure pursuit. There are widespread misunderstandings of what is a social cost when gambling is the activity in question. There are dangers that the very large net benefits from the activities of this important part of the entertainment industry will be overlooked by those who focus exclusively on its social costs.

Aristocrat is giving tangible support to improving our understanding of the impacts of gambling by endowing a chair of gaming studies at the University of Western Sydney.

Many activities generate both benefits and costs over and above those paid for by the producers and consumers of the product. The gaming industry in Australia has more than 60 percent of its gaming machines produced by Aristocrat. In producing those machines, Aristocrat employs more than 600 people of non English speaking background in its manufacturing division. In-house English training for employees in this category has been provided, conferring benefits for Aristocrat but also wider social benefits that go unmeasured and are not captured in the modelling discussed above.

Aristocrat is dependent on continuous R&D effort to maintain its competitive edge in a technologically sophisticated industry. Software engineers, mathematicians and other professionals acquire skills that have wider application and can advantage other industries as labour turnover occurs.

Social benefits conferred by the gambling industry and related suppliers frequently go unremarked while social costs are emphasised.

In those instances where individuals habitually spend more than they can afford on gambling, problems of absenteeism, fraud and other crime, and marital distress and breakdown can result and there are real costs incurred by the wider community in dealing with these.

However, when consumer tastes change to favour one kind of expenditure over another (as has happened with gambling as a leisure product), and some sections of the service sector do less well than others, this is not a social cost. Any attempt to include it would distort the picture of what are the social costs.

Those who wish to deal with the social costs of gambling by shrinking the size of the industry would need to demonstrate that the social costs avoided by having a smaller gambling industry would more than offset the likely job losses and economy wide income losses demonstrated here.

The concept of problem gambling is of limited usefulness in addressing social costs

The negative side of gambling entertainment is often presented by posing social costs as a consequence of the measurable incidence of problem gambling. The difficulty with this is twofold.

There is no widely agreed definition of problem gambling that can be used irrespective of location, culture etc. Variations in estimated incidence of problem gambling within and across communities show the sensitivity to the definition adopted.

Even when a definition of problem gambling is accepted as meaningful there are obstacles to measuring the *costs* that might reasonably be attributed to such behaviour.

Nevertheless, researchers continue to try to measure the costs of problem gambling.

Recent attempts to quantify the costs of problem gambling for the biggest state, New South Wales, put the figure at $50 million, which could be translated to an Australian figure of $125 million. These costs include estimates of the impacts of such things as absenteeism, job loss, legal system costs and acute treatment costs.

As our analysis shows, a reduction in gambling activity of *only 1 per cent*, induced by heavier taxes on gambling products, would cost the economy more than this in loss of economic benefits.

Dealing appropriately with social costs

For the minority of individuals whose gambling behaviour harms them, their family and possibly the wider community, support is required and this submission points to widely held views that venues and gambling operators are the appropriate bodies to be proactive in addressing harmful gambling behaviour and funding support for those affected.

Key stakeholders in the industry, including machine manufacturers, have an interest in seeing that harm is *minimised*. But there are few opportunities to achieve this through technological solutions. Machine manufacturers respond to consumer tastes. The growth in demand for small denomination machines is evidence of the preference of many to buy the maximum number of plays for a given playing budget. Suggestions that problems might be dealt with by 'slowing down the game' run the risk of

seriously reducing the entertainment value of the many in an uncertain attempt to deal with the problems of the few.

Policy directions and new technology-interactive home gaming

Recent growth of pay TV and internet usage has raised the prospect of legalised regulated home based gaming in Australia. There are already internet sites servicing Australian bookmaking operations and more than 20 virtual casino sites operating mostly out of the Caribbean nations offer unprotected participation for those willing to gamble in this way.

Aristocrat's leading edge software development has meant that it is well positioned to participate in home based gaming using the internet or broad band cable services. Despite this technical capability Aristocrat has identified a number of reasons for not participating. Australian gambling control Authorities have been exploring a way forward with development of a Draft National Regulatory Model for regulating interactive home gambling *in Australia*. Aristocrat believes, however, that the global nature of internet gambling will mean that any purely national model would still leave companies such as Aristocrat unacceptably exposed should they participate.

Aristocrat could jeopardise its licence status in many overseas jurisdictions, including the US, which continue to ban internet gambling, should Aristocrat be a participant in Australia, given the effective global market for these services.

Aristocrat is not satisfied that the present quality of encryption security offered in Australia is high enough to support internet gaming at present and failure could have damaging reputational effects for the whole Australian gambling industry.

There are major hurdles to overcome before a globally secure and acceptable form of home gaming could be offered to the public.

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1 *Introduction*

Aristocrat's business

Aristocrat Leisure Limited is an Australian-owned and managed company whose business spans some of the world's strongest growing industry segments, namely: entertainment, design, information technology, security systems and electronic machine maintenance services.

Aristocrat's main activity is designing, building, maintaining and marketing electronic gaming machines. The company is the second largest producer and marketer of such machines in the world. It holds 21 per cent of global sales and its machines are renowned internationally as the most sophisticated available. Its cutting edge technology and design, especially in the area and use of video technology, is allowing Aristocrat progressively to displace the mechanical reel spinning machines produced by its competitors around the world.

Aristocrat is one of the few quintessential high-tech Australian companies. It invests six per cent of its gross revenue in R&D and is a big investor in staff training. It employs over 300 specialists: mathematicians, computer software engineers, computer graphic artists, and regulatory compliance specialists. It is a producer of high quality gaming systems which must comply with several strict requirements:

- the complex gaming regulatory requirements of multiple jurisdictions globally;
- accurate but probabilistic player returns, operator returns and taxes;
- ergonomic and health standards;
- high player appeal; and
- community, company and industry standards of responsible gaming.

In 1997-98 Aristocrat applied for more than 70 trademarks and more than 10 patents to protect its intellectual property. It is one of the most active companies in this area in Australia. The company also employs nearly 250

specialist electronic maintenance technicians. In total it directly employs 1700 people worldwide. Nearly 90 per cent of these jobs are located in Australia.

Aristocrat and the Productivity Commission's inquiry

The Australian gambling industries and the institutional and regulatory structures in which they operate are very important to Aristocrat. Efficiently complying with the requirements set up under these structures has helped Aristocrat build its competitive edge and strengthened its ability to design compliant machines for other jurisdictions around the world. Moreover, Aristocrat recognises that gambling industries have many unique characteristics that attract levels of institutional and regulatory controls higher than for most other industries. Aristocrat clearly recognises the policy objectives of gambling regulation listed on page 10 of the Productivity Commission's issues paper:

- consumer protection;

- minimising criminal activity linked to gambling;

- containing the social costs of gambling;

- maintaining and protecting a significant revenue base for government;

- limiting the exploitation of monopoly market positions; and

- ensuring that some of the benefits of gambling accrue directly to local communities.

There are claims that a revolutionary change is about to sweep through gambling industries around the world as a result of the growth of the internet and the development of other new technologies. These develop- ments raise many questions and challenges for the Australian community and its gambling industries. One of the greatest challenges will be to determine the sorts of policies needed to ensure that the substantial private (consumer) and public benefits of gambling are maximised, while the social costs are minimised. Dealing with this challenge will require balanced debate about the issues and realistic assessments of the impacts of taste changes, leisure availability, new technology and globalisation. Accordingly, Aristocrat believes the Productivity Commission's inquiry is timely and welcomes it.

Maintaining consumer protection, restricting criminal activity, maintaining governments' taxation take and containing social costs of gambling may all require new regulatory solutions as the information and globalisation revolution takes hold. The key challenge will be to ensure that new

regulatory solutions achieve their targets, but at the same time ensure that the Australian economy is able to capture the big gains that are likely to flow from global growth in this segment of the entertainment industry.

The benefits of the gambling industry for the Australian economy are substantial. As a matter of free choice, many Australian consumers have revealed a strong preference for spending some of their entertainment budgets on gambling services. **Consumers spend around three per cent of their incomes on gambling and, as their incomes grow, consumers appear to be keen to spend more of their discretionary income on gambling entertainment.**

As incomes and the demand for entertainment increases globally, Australia faces an important business opportunity, namely, exporting its gambling services. This is likely to require sophisticated technology, marketing and a reputation for probity — areas of obvious interest to Aristocrat. Done well, export of gambling entertainment may be one way Australia can derive benefits from some of the fast growing global information technology and entertainment markets.

Detracting from these economic benefits and opportunities is the social costs of problem gambling. As with other forms of economic activities, it is over indulgence by some consumers which imposes private costs on individuals and their families and in some cases social costs on society in terms of crime, health and absenteeism for instance. Problem gambling is a big concern for the industry. As well as its obvious costs, it tarnishes the image and appeal of the industry, and while some may see problem gambling as demand creating, many in the industry regard it as demand destroying. Some segments of the population distance themselves from the industry due to this element of its image. A key objective of the industry is to find solutions that minimise problem gambling and improve the image of the industry. Various initiatives are pursued to achieve this objective.

This submission

To assist the Productivity Commission to fulfil its reference requirements to better understand the performance of gambling industries in Australia, Aristocrat commissioned the Centre for International Economics to prepare a report on:

- the structure and conduct of the industry, including its size, employment, segments, regulatory environment, linkages to other industries, and how technology might impact on the industry in the future;

- the economy-wide benefits of the industry estimated using the FHORANI model of the Australian economy and to show how these compare to estimated impacts of the social costs of gambling; and

- the current and future effectiveness of various policies impacting on the industry including a discussion of alternative initiatives which may be needed to deal with technology changes.

This submission presents the findings of the CIE's work.

2   *Gambling in Australia*

Gambling defined

Defining what constitutes gambling is an important component of analysing gambling activity. Gambling is more than just the staking of money on uncertain events driven by chance. In its issues paper the Productivity Commission suggests that the following characteristics distinguish gambling from other apparently similar activities:

- as a group, gamblers necessarily lose money as a result of the activity, because the total 'prize' is equal to the accumulated stakes of punters, less taxes to government and profits and costs for operators; and

- gambling is typically presented as a form of entertainment.

Aristocrat sees merit in approaching a definition of gambling based upon these characteristics. In particular, it is important to stress the entertainment values derived from gambling activity. Over recent years, **Aristocrat has seen a significant shift in demand toward lower denomination machines, which offer players the opportunity to gamble for a greater time for a given amount of stake money. Entertainment rather than a desire to 'beat the odds' seems to be the main driving force behind this demand pattern**. The New South Wales Department of Gaming and Racing (1998) agrees with this view citing a major reason for this shift as 'the appeal to players of increased machine playing time for less investment'.

In this submission, the more pragmatic definition offered by the Commission in its issues paper is adopted, namely, those activities which people perceive as gambling or which governments treat as gambling for regulatory purposes. In this context we take gambling products as described by the Tasmanian Gaming Commission in its *Australian Gambling Statistics* publication. In terms of gambling service providers we take, as a starting point, the ABS definition which includes providers of lotteries, lottery agencies, casinos, bookmaker/betting shop operation, TAB and totalisator operation and TAB/totalisator agencies. We broaden this definition to include other operators such as registered clubs and

hotels who are also significant providers of gambling products. We also recognise the emergence of games and providers based on new technologies such as the internet.

The scope and size of the gambling industry

In this section we draw upon available statistics (outlined in box 2.1) and data from Aristocrat's own research to describe the scope and size of the gambling industry in Australia.

The scope of the industry

Chart 2.2 outlines the linkages between input suppliers, gambling service suppliers and customers. Gambling service providers supply a variety of products to domestic and international customers. These products are broadly classified as:

- 'racing' comprising totalisator and fixed odds betting on horse, harness and greyhound racing and on sporting and other events; and

- 'gaming' comprising gambling on electronic gaming machines, casino games, lotteries, and other gaming products such as keno, football pools, lucky envelopes, etc).
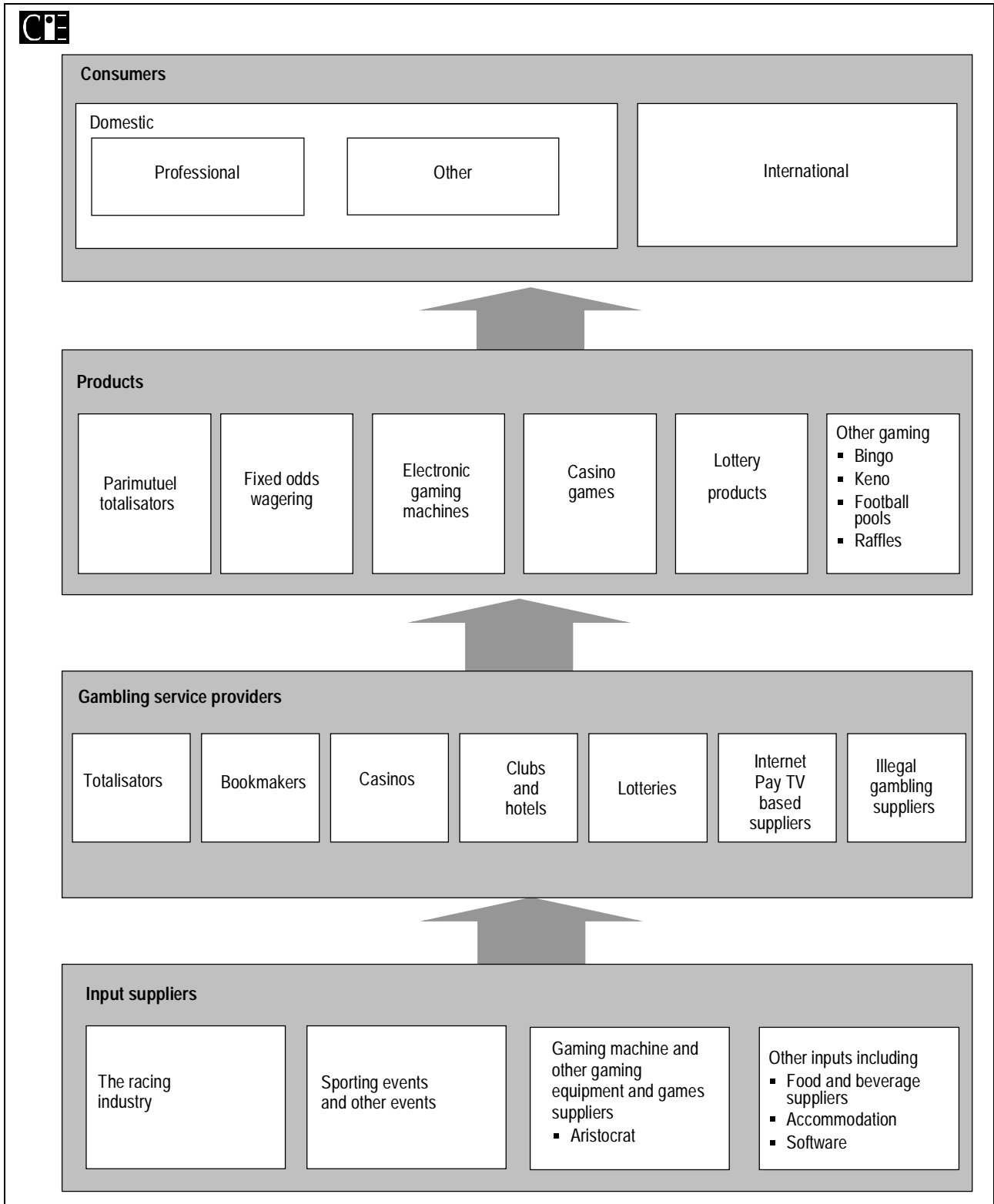

2.1 **Industry statistics**

The Tasmanian Gaming Commission (in association with the Centre for Regional Economic Analysis at the University of Tasmania) has produced the *Australian Gambling Statistics* publication on an annual basis since 1984. The latest publication is available for 1996-97. This publication is commonly cited throughout the industry. The highly regulated and taxed nature of the gambling industry in Australia means that good data is generally available on turnover (the amount actually wagered) and expenditure (the net amount lost by players — player loss). The exception to this is data on Casino turnover which, given the nature of an important component, the table games, is virtually impossible to measure in any practical way. Data on casino handle (the value of money exchanged for gaming chips) is used as a proxy measure.

The other main source of publicly available national statistics is the ABS publication, *Gambling Industries, Australia* (ABS Cat. No. 8684.0). This publication provides data on gambling activity (across all industries which provide gambling services) and gambling industries (incorporating businesses whose *predominant* activity is the provision of gambling services. The latest publication available covers 1994-95. The ABS also produces a publication devoted to casinos alone, which is available for 1996-97.

State regulatory bodies also produce statistics at the state level. For example, the New South Wales Department of Gaming and Racing produces the *NSW Gaming Analysis* publication.

2.2 Linkages within the gambling industry

CIE

Consumers

Domestic

Professional	Other	International

Products

Parimutuel totalisators	Fixed odds wagering	Electronic gaming machines	Casino games	Lottery products	Other gaming • Bingo • Keno • Football pools • Raffles

Gambling service providers

Totalisators	Bookmakers	Casinos	Clubs and hotels	Lotteries	Internet Pay TV based suppliers	Illegal gambling suppliers

Input suppliers

The racing industry	Sporting events and other events	Gaming machine and other gaming equipment and games suppliers • Aristocrat	Other inputs including • Food and beverage suppliers • Accommodation • Software

Suppliers and products

The providers of these products span a wide variety of business types and sizes. Operators of totalisators (TABs) up until recently have generally been government owned. Recent privatisations in Victoria and New South Wales have seen the operations of these businesses transferred to the private sector. These TAB businesses have typically operated totalisators (parimutuel betting) on horse, harness and greyhound racing but are increasingly moving into fixed odds sports betting. Bookmakers are traditionally small unincorporated operators offering fixed odds betting on racing and, in some instances, on sports and other events.

There are currently 14 casinos operating in Australia. All of these (with the exception of Casino Canberra) offer gambling on both casino games and electronic gaming machines. Casinos also earn revenues from keno and commissions from TAB agencies and sports betting operations. Clubs and hotels are the other major venues offering gambling on electronic gaming machines. In 1994-95 over 2100 clubs offered gambling facilities (principally gaming machines). Clubs also offer keno and often have TAB agencies on the premises. Some hotels also have TAB agencies on site. In 1994-95, there were 2327 pubs, taverns and bars offering gambling facilities.

Lottery products are generally offered by government lottery suppliers which have the sole right to offer these products within their states. In Victoria, however, the rights to run lotteries lie with the private trust, Tattersalls. Minor lotteries, guessing competitions and bingo are run by charities.

Gambling over the internet and pay TV infrastructure is still to emerge as a dominant competitor to established gambling operators. Presently gambling via these media is limited to established Australian operators utilising the internet as an alternate distribution channel for their existing products and international operators operating legally in countries such as the Caribbean nations of St Kitts and Nevis, Dominica and St Vincent.

Illegal gambling through SP bookmakers and illegal casinos also competes with legal gambling product suppliers. Limiting illegal gambling activities has often been stated as a goal of legalised gambling.

Input suppliers

Upstream of gambling service suppliers are industries that supply the 'games' upon which wagering and gaming is based. For betting products

such as totalisator and fixed odds betting the racing industry is the key supplier. This importance is recognised in formal requirements in Victorian and New South Wales legislation for the privatised totalisator operators to have formal contracts with the racing industries in those states. Revenue sharing between TABs in other states and the racing industry is also a reflection of the close ties between the activities of racing and betting. To a lesser degree sporting and other events also supply a platform for betting but there tends to be very little by way of wagering revenue derived from betting activity flowing back to these activities.

Upstream of the casino and clubs and hotels are the equipment suppliers who provide the casino games and gaming machines from which those venues derive their gambling revenues. Aristocrat is the dominant supplier of gaming machines in Australia, supplying 64 per cent of machines in 1997-98. Other major suppliers were Olympic (16 per cent) and the US-based IGT (14 per cent).

Other input suppliers include such industries as those supplying food, beverage and accommodation and suppliers of items such a tickets and printing and software suppliers.

The size of the industry

According to the Tasmanian Gaming Commission statistics, nearly $80 billion was wagered with gambling service providers in 1996-97. Net of returns to players, this is equivalent to expenditure of nearly $10 billion. Chart 2.3 illustrates the net player return as a proportion of gambling

turnover. Electronic gaming machines offer the greatest return to players at around 90 per cent of turnover. Lotteries returned only 60 per cent on average. This pattern of returns is largely a function of regulated minimum returns specified by state governments.

Chart 2.4 illustrates the breakdown of total expenditure by gambling products, state and tax take. Approximately half of all expenditure on gambling was on electronic gaming machines, nearly 20 per cent on gambling with casinos and 17 per cent on racing and sports betting.

The relatively high net player return on gaming machines is likely to be one reason for the high expenditure on gaming machines.

Across Australia, nearly 40 per cent of expenditure occurred in New South Wales with high levels of expenditure also in Victoria and Queensland ($2.8 billion and $1.6 billion respectively). On a per capita basis New South Wales and Victoria had the highest levels of expenditure. Chart 2.5 shows per capita expenditure by broad gambling product. Tasmanian gamblers spent the least on gambling with per capita expenditure nearly half that of New South Wales. The per person spend for the Northern Territory requires interpretation. This result is driven by expenditure with Centrebet (approximately $70 million) which operates out of Alice Springs and which earns a significant proportion of revenues from interstate and international customers.

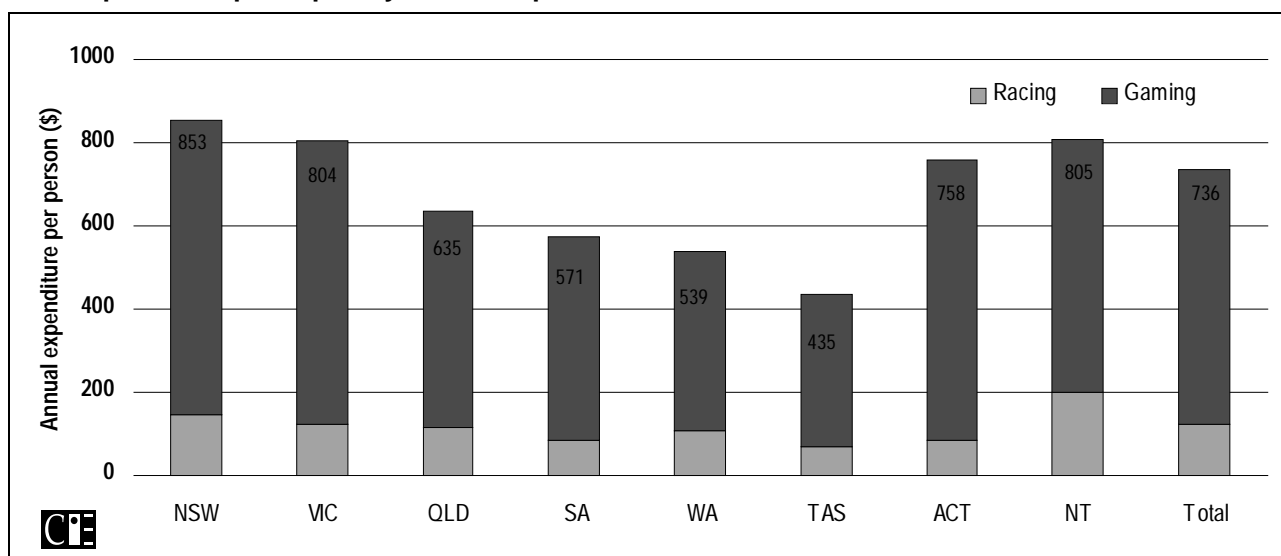**2.4 Expenditure on gambling 1996-97**

2.3 **Net player returns** 1996-97
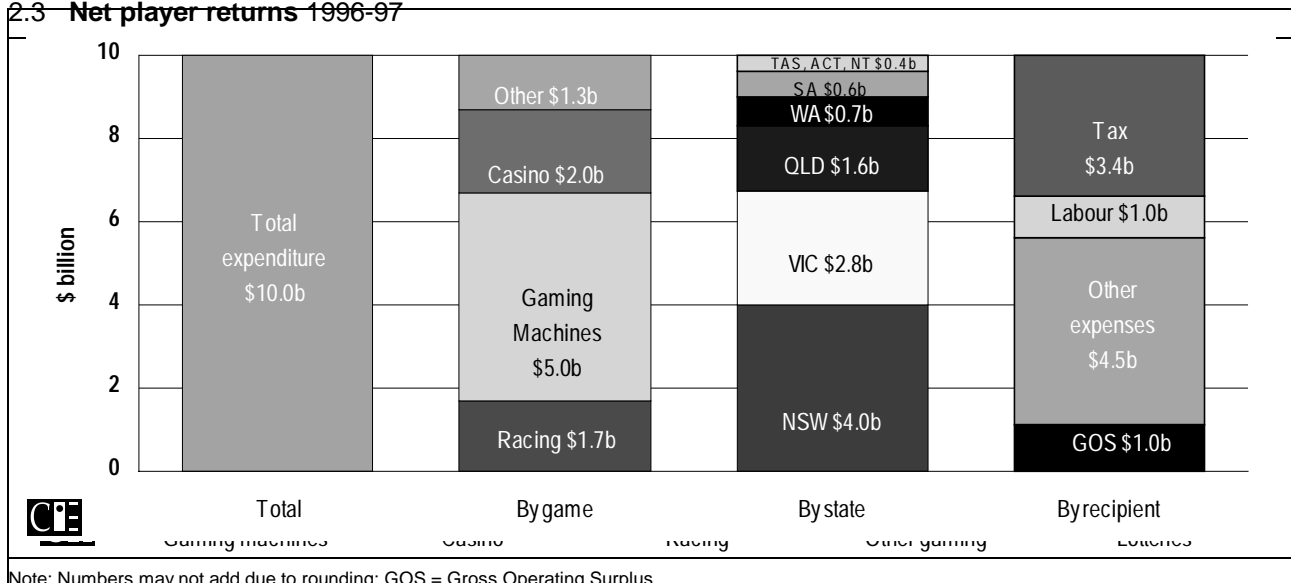
Note: Numbers may not add due to rounding; GOS = Gross Operating Surplus

Data source: CIE estimates based on Tasmanian Gaming Commission, Australian Gambling Statistics 1996-97

2.5 **Expenditure per capita by state and product** 1996-97

*Data source*: Tasmanian Gaming Commission 1996-97

As indicated in chart 2.4 approximately 34 per cent of gambling expenditure was captured as taxation revenues by state governments. Data from the Commonwealth Grants Commission indicates that on average, this revenue from gambling represents approximately 10 per cent of own-source revenues across the states. For Western Australia and the Northern Territory the reliance on gambling taxes was considerably lower (6.9 and 6.6 per cent respectively) while for Victoria approximately 13 per cent of own source revenue came from taxes on gambling (Peter Stubbs, Commonwealth Grants Commission, personal communication to Aristocrat).

Chart 2.6 presents an Australia-wide breakdown of revenue from gambling taxes by source. It is evident that, while lotteries account for 12 per cent of gambling expenditure, they contribute 30 per cent of taxes on this sector. Overall, gaming machines generate the greatest taxation revenue contributing 41 per cent of gambling tax revenues on average.

Liberalisation of laws restricting consumer access to certain gambling products in states other than New South Wales has accounted for important growth in state government revenues from gambling, and machine gaming in particular.

Chart 2.7 illustrates the changing relative importance of the two broad categories of gambling product to government revenues. Since 1990, revenue from racing has largely stagnated whereas tax revenue from gaming has increased by 115 per cent. This increase in gaming tax revenues

2.6 **Government revenue by product**

Casino
12%

Racing
18%

Gaming machines
41%

Lotteries
30%
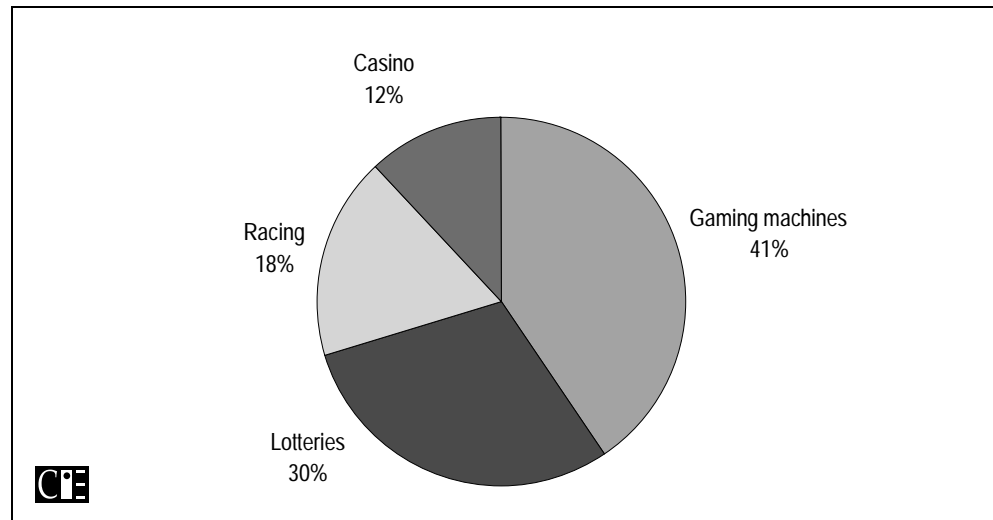
Note: Numbers may not add due to rounding
Data source: Commonwealth Grants Commission

has been primarily driven by increased revenues from taxes on gaming machines in Victoria, Queensland, South Australia and the Northern Territory as these states have liberalised their laws governing gaming machines. The years when states liberalised their laws on gaming machines are also illustrated in chart 2.7. Revenues from gaming machine taxes in New South Wales have been largely stable since 1992.

Employment

The ABS estimates in its *Gambling Industries, Australia* publication (ABS Cat. 8684.0) that approximately 32 000 persons are employed in the enterprises whose primary activity is gambling related. Around half of these are part-time positions. A further 102 000 persons are employed in hotels and clubs with gambling facilities (ABS 1996). In the case of hotels and clubs it should be recognised that not all of this employment can be attributed to gambling activity. Given the nature of these businesses, it may be difficult to partition this employment in such a way.

The customer base

Aristocrat's own research indicates that approximately 22 per cent of those aged 18 and over in Australia have not gambled in the past 12 months. Of those who do gamble, 51 per cent could be described as 'non-venue' gamblers; that is, they did not visit a venue with gaming machines but may have placed a bet or played a lottery or scratchy. Approximately 45 per cent of gamblers played an electronic gaming machine within the previous three months of the survey.

Data sources vary widely in their estimates of the amount of gambling expenditure by householders. The latest Household Expenditure Survey (HES) — 1993-94 — indicated that the average household spends $269 per annum on gambling. Given an estimated 6.6 million households in

2.7   **Government revenue from gambling[a]**
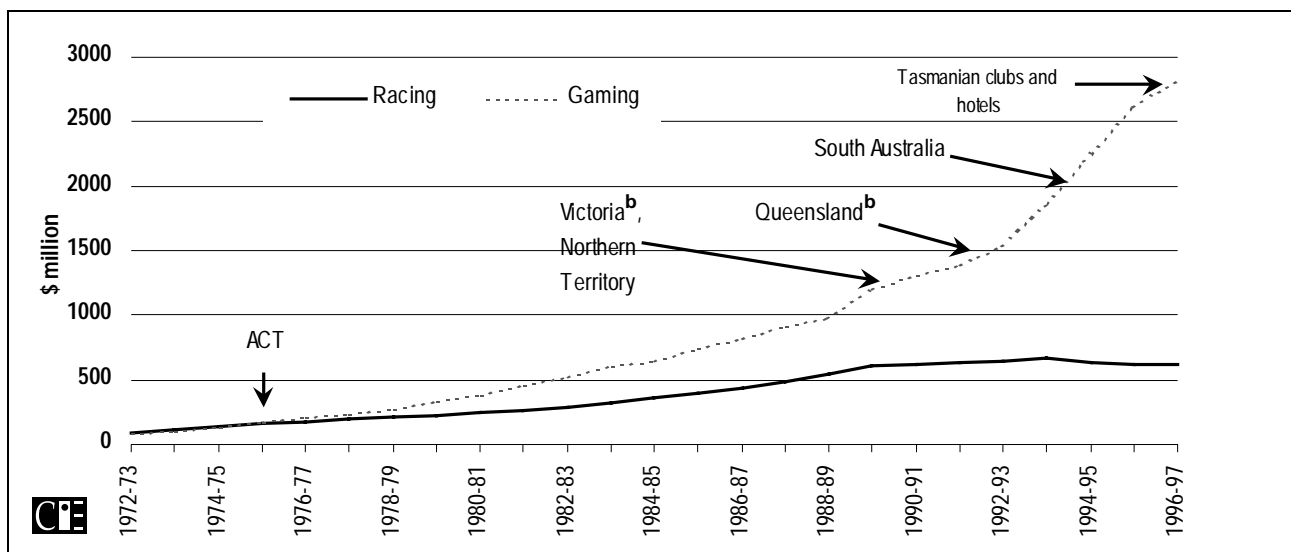
[a] Arrows indicate year in which gaming machines legalised in state   [b] Limited gaming permitted prior to 1992-1993

Data source: Tasmanian Gaming Commission 1996-97

Australia in 1993-94, this corresponds to an estimated expenditure of $1.8 billion. Even allowing for expenditure by overseas tourists, it would seem that households responding to the HES tend to understate their spending on gambling.

Based on Tasmanian Gaming Commission data, expenditure on gambling represents slightly over 3 per cent of household disposable income. National per capita expenditure on gambling is estimated at $736.

The Victorian Casino and Gaming Authority (VCGA) Survey of Community Gambling Patters confirms that gamblers generally understate their gambling expenditure, and provides a higher estimate still on spending on gambling. In Victoria, the perceived level of gambling expenditure was $18 per week in 1997, compared to a calculated outlay of $29 per week ($1500 per annum).

The gaming machine sector

Naturally, Aristocrat has most interest in the gaming machine segment of the gambling market. Warburg Dillon Read (1998) estimate that there are approximately 170 000 gaming machines installed in Australia. Chart 2.8 provides a breakdown by state and shows that nearly 100 000 of these machines are located in New South Wales and the ACT. This reflects the long history of gaming machines as a popular legal source of entertainment, the majority of machines being largely in a community or sporting club environment.

Gaming machines games typically involve some or all of an element of chance. At a basic level, machines usually take the form of a locked cabinet which displays spinning reels or playing cards on a video display. These video reel machines were introduced in the late 1980s replacing the older style mechanical spinning reels. Usually there are five reels with outcomes based upon the mathematical routines built into the software coding of the machine. The mathematics underlying the code is essentially the same (but more convoluted) as calculating the number of outcomes on throwing 5 dice. Randomness is achieved by a random number generator algorithm in the software (in mechanical machines this was achieved through the use of mechanical reels machines, eccentric cams and mechanical clocks).

Machines are generally located in clubs, hotels and casinos only. Registered clubs in New South Wales operated 67 000 machines and hotels operated 24 000.

The regulatory environment for gaming machines

While the preceding statistics show that gaming machines are now a widespread popular and accessible form of entertainment in Australia, they provide that entertainment subject to intense regulation. Tables 2.9 and 2.10 present a summary of regulations governing gaming machine operation across Australian jurisdictions. While many dimensions of gaming machine operation are regulated the focus here is on regulation affecting economic returns in this sector. The degree and type of regulation

2.8 **Installed gaming machines by state**

Data source: Warburg Dillon Reed

differs often significantly in terms of:

- the ownership of gaming machines;
- the supply of gaming machines;
- pricing and taxation arrangements; and
- systems of regulatory oversight.

Systems of regulation tend to have some element of dynamism across states and territories, given the evolving nature of the gaming machine industry. It is understood that changes to current regulations are planned in some states. Some jurisdictions also have an approvals process in place rather than blanket restrictions, which apply to changes in existing restrictions. In all areas where gaming machines are permitted, clubs encounter less restrictions and lower taxes on gaming machines than their hotel counterparts, while casinos receive more favourable treatment than both. The favourable treatment for clubs reflects their non-profit status and their role in contributing to community development. Arrangements for casinos reflect their licensing conditions and possibly competition between states for the international gambling dollar, and for the related expenditures by these players and by tourists whose holiday destination may be influenced by the attraction of the casino.

Ownership

The ownership of gaming machines in most jurisdictions lies with each venue/gaming machine licensee. Government ownership exists only in the Northern Territory and Queensland, with the latter currently transferring ownership to venues. Those states with licensees include Tasmania, where Federal Hotels Limited owns all gaming machines, and Victoria, which has a duopoly arrangement with TABCORP and Tattersalls granted equal shares of gaming machine ownership of the non-casino market.

2.9 Regulation of gaming machines across states

Regulation	State			
	New South Wales	**Victoria**	**South Australia**	**Australian Capital Territory**
Ownership	Owned by venue. TAB Limited also permitted to own	TABCORP and Tattersalls only	Venues	Venues
Location	Clubs, hotels, Star City Casino	Clubs, hotels, Crown Casino	Clubs, hotels, Casino	Clubs and hotels only
Quantity				
Overall	No overall limit	Maximum of 27 500 outside of casino. Equal shares for two operators.	No overall limit	Cap on gaming machines of 5 200 for clubs and hotels
Venue	No cap for clubs. Maximum of 30 gaming machines for hotels with number of poker machines alone not to exceed 15 machines. Maximum of 1 500 machines in casino	Maximum of 105 machines per venue (clubs and hotels). 2 500 machines for casino. Total cap to be divided equally between hotels and clubs	Maximum of 40 per venue for clubs and hotels. No cap for casino but subject to approval (currently 702)	No cap for clubs. Maximum 10 draw and hold machines in hotels (accommodation) plus 3 card machines. Maximum of 2 machines in taverns (no accommodation). No machines permitted in casino
Geographical	None	Minimum 20% of machines to be located outside Melbourne statistical division	None	None
Other	Hotels able to purchase licences for poker machines in excess of 15, maximum of 2 300 such licences available	Cap of 105 machines includes a limit of 5 machines with a bet limit of $2 Statutory cap on gaming machines is 42 500 but is limited to 27 500 by Ministerial direction		Clubs need to apply to Commissioner of Revenue to increase in the number of machines who applies a general rule of 1 machine per 20 members
Price				
Payout ratio	Minimum 85% payout ratio	Minimum 87% payout ratio	Minimum 85% payout ratio	Minimum 85% payout ratio
Maximum bet	$10	No limit	$10	$10
Maximum prize	$10 000 per spin of reel	No limit	$10 000 per spin of reel	No limit

2.9 Regulation of gaming machines across states Continued

Regulation	State			
	New South Wales	Victoria	South Australia	Australian Capital Territory
Taxation	Clubs, based on profits ≤$100 000 zero >$100 001 — ≤$200 000 1% >$200 001 — ≤$1 million 20% >$1 000 001 26.25% Tax rebates for expenditure on community projects will reduce top tax rate to 24.75% Hotels, based on profits ≤$25 000 15% >$25 001 — ≤$400 000 25% >$400 001 — ≤$1 million 35% >$1 000 001 40% Casino pays 22.5% of gross revenue from slots	Clubs pay 33.3% of daily net cash balance Hotels pay 41.67% of daily net cash balance. Half of daily net cash balance in hotels paid to Community Support Fund Casino pays 21.25% of general casino revenue up to $500 million, then an additional 1% for each extra $20 million up to $880 million, above which a rate of 41.25% applies	Clubs, based on net gaming revenue ≤$399 000 30% >$399 001—≤$945 000: $119 700 + 35% of excess >$945 001: $310 800 + 40% of excess Hotels, based on net gaming revenue ≤$399 000 35% >$399 001—≤$945 000: $139 650 + 43.5% of excess >$945 001: $377 160 + 50% of excess Casino pays 43.5% of net gaming revenue	Clubs, based on monthly gaming machine revenue first $8 000 monthly profit 1% >$8 000—≤$25 000 22.5% >$25 001 23.5% Hotels pay 35% of gross monthly profit
Other		TABCORP paid fee of $420m for gaming licence. Tattersalls pay annual fee of the minimum of $35m or 30% of net profit. Machine owner receives 33.3% of daily bet cash balance. Club venues to receive 1/3 of daily net cash balance. Hotels receive ¼ of cash balance	Establishment fee of $1 560 for new licensees $60 line fee per month paid to monitoring agency per machine 0.5% temporary surcharge on net gaming revenue	
Other regulation			All machines purchased from State Supply Board which purchases from approved machine dealers	Linked jackpots permitted between clubs only
Monitoring	All machines to be connected to a Central Monitoring System to be operated by TAB Ltd by 2001	Each operator operates a computer monitoring system	Machines to be connected to central monitoring system operated by Independent Gaming Corporation	Machines monitored by the ACT Government. Venues submit monthly returns, which are processed and checked by Government
Regulator	Department of Gaming and Racing Casino Control Authority	Victorian Casino and Gaming Authority	Office of Liquor and Gaming Commissioner Gaming Supervisory Authority	ACT Revenue Office

2.10 **Regulation of gaming machines across states**

Regulation	State			
	Northern Territory	**Western Australia**	**Queensland**	**Tasmania**
Ownership	Government owns machines in clubs and hotels (no lease fee applies) Casino owns its machines.	Casino only	Previously government ownership, but ownership being transferred to venues (approximately half have been transferred already)	Federal Group of companies (casino) ▪ Federal Hotels Ltd ▪ Australian National Hotels ▪ Tasmanian Country Club Casino
Location	Clubs, hotels and casinos	Casino only[a]	Clubs, hotels, casinos	Clubs, hotels, casinos
Quantity				
▪ Overall	680 (but not yet reached, currently 560 in use)	1 200 — 1 400	No overall limit	No overall limit
▪ Venue	Maximum of 6 machines in hotels, unlimited for clubs and casinos	No limit but subject to approval	Maximum 270 for clubs, 30 for hotels. No limit for casinos	Maximum of 15 machines per hotel and 25 per club until June 2000, increasing to 30 and 40 by 2002. No limit for casinos
▪ Geographical	Target of 500 machines in north of Territory; 180 in south	None	None	None
▪ Other	Targeting distribution of 80% of machines in clubs, 20% in hotels			
Price				
▪ Payout ratio	Minimum 89%-92% payout ratio, depending on the game.	Minimum 90% payout ratio	Minimum 85%, maximum 92% payout ratio	Minimum 85% payout ratio
▪ Maximum bet	$5	Varies, depending on game	$5	30c max for 10c; 20c max for 20c; 25c max for 5c
Maximum prize	No limit	Varies, depending on game	$10 000	$10 000

2.10 **Regulation of gaming machines across states** Continued

Regulation	State			
	Northern Territory	**Western Australia**	**Queensland**	**Tasmania**
▪ Taxation	47% of gross profit on poker machines in clubs and hotels. Casino pays 17.5% of gross profit Hotels pay additional 25% of gross profit payable as Community Benefit Levy (total of 72%). Clubs have Community Benefit Levy on 3% of turnover on Draw Card Machine.	15% tax levied on casino gaming machine revenue	Clubs — based on metered wins: ≤$10 000 10% >$10 000 — ≤$75 000 27% >$75 000 — ≤$150 000 30% >$150 000 — ≤$300 000 33% >$300 000 — ≤$1.4m 35% >$1.4m 45% Hotels pay 45% of gaming revenue. Casino pays 10% for 2 northern casino's, 20% for 2 southern casino's (excluding high rollers).	Casino — tax based on total gross profit of Federal Hotels Ltd ≤$30 million 25% >$30m-$35m 30% of excess >$35 million 35% of excess (NB: casinos own all machines so are the only outlets that pay tax) Community support levy of 4% of gross profit is levied for hotels, and 2% of gross profit for clubs
▪ Other	Clubs and hotels — $1 000 application fee (excludes casino). No requirement for casinos to contribute to any charities or community benefit funds		$100 application fee for hotels and clubs, plus a $100 renewal fee due each two years	$1 000 + $100 per machine over 10 application fee for clubs and hotels
Other regulation			Financiers of gaming machines must be licensed. Of the tax collected 8.5% goes to a Community Benefit Fund	Machines rented by venues at regulated price ($196.54 + $347.44 times the number of approved machines). Fee for maintenance also regulated. Casinos pay hotels and clubs commission on gaming turnover
Monitoring	Government owned central monitoring system (clubs and pubs). Machines at casino monitored by an online monitoring system based at the casino. Soon to be linked to the above central monitoring system	Online reporting to regulator, Office of Gaming and Racing	Licensed operators to provide monitoring networks to replace QOGR network	Machines linked to central monitoring and control system called Network Gaming, run by Federal Hotels Ltd
Regulator	Northern Territory Department of Industries and Small Business.	Office of Gaming and Racing	Queensland Office of Gaming Regulation Queensland Machine Gaming Commission	Tasmanian Gaming Commission.

a Clubs and hotels permitted a combined maximum of 700 Video Lottery Terminals with minimum return to player of 60%. A minimum of 10% must be paid to a nominated charity, 6% to government as tax and the remainder split between owner and venue.

Restrictions on supply

A common regulation across all jurisdictions is the restriction on the provision of gaming machines entertainment to clubs, hotels and casinos. Gaming machines are located in clubs, hotels and casinos in all states except WA— where they are permitted only in the casino — and the ACT (hotels and clubs only). Limiting the placement of gaming machines to licensed venues is an important means of exercising control over the access of minors to gaming machines.

Differences are observed across states in terms of the overall total number of machines permitted in the jurisdiction. Some states such as New South Wales, Tasmania and South Australia have set no overall limit while others including Victoria, Western Australia and the Northern Territory have set caps on machine numbers.

Pricing arrangements

A significant difference in regulation across states and territories concerns the price of a game (which is determined by payout ratios), bet and prize sizes, and taxation arrangements. This is due largely to the competition between jurisdictions for the consumer gambling dollar as well as different perceptions of the value of gambling to the community, leading to different incentive structures.

Minimum payout ratios apply in all states and territories to provide consumer protection. Depending on the game and the state, minimum payout ratios range from 85 — 90 per cent. Maximum bet sizes also vary. Arrangements in Victoria are the least restrictive, imposing neither limits on bet sizes or prizes, and most restrictive in Tasmania where maximum bets sizes are allocated for various betting denominations.

Taxes are often supported by varying application and licence fees across states and territories. Most jurisdictions also require a portion of total revenue collected to be allocated to a community benefit fund, although this is an additional levy only in the NT.

Casinos

Gaming machine taxes levied on casinos are generally lower than taxes that apply for clubs and hotels across all states and territories. There are major differences in tax levels across states, ranging from 10 per cent for the northern Queensland casinos to 43.5 per cent in South Australia.

Sliding tax scales (dependent on revenue) apply only in Tasmania and Victoria.

Clubs and hotels

Clubs receive more favourable taxation treatment with regard to gaming machines than hotels in all states and territories (except Tasmania where all machines are owned by the casino that pays all the tax). Most states apply taxes on a sliding scale for clubs (except Victoria — 33.3 per cent levied on daily net cash balance — and the NT — 50 per cent levy including community benefit levy). Tax rates on a sliding scale are highest in Queensland and lowest in NSW and the ACT.

Hotels are generally levied with a fixed tax rate ranging from 35 per cent in the ACT to 72 per cent in the NT (including community benefit levy). States with a sliding tax scale for hotels include NSW and SA, with rates considerably lower in the former.

Systems of regulatory oversight

Venues that offer gaming machine services are regulated by a government body in all states and territories. However, systems of monitoring vary between jurisdictions. Gaming machines are linked to a central monitoring system in each state and territory, except the ACT where a returns system is adopted. The central monitoring system is run either by the Government (evident in the smaller states and territories) or the major gaming provider(s) (as is the case in the larger states as well as Tasmania).

3 Assessing the impacts on the economy

A fundamental principle of cost benefit analysis is that an activity is worthwhile from a 'whole of community' viewpoint if the associated expected economic and social benefits exceed the expected social costs. In the case of the gambling industry expected benefits accrue as a result of increased economic activity, increased consumer satisfaction and possible spin-offs from R&D activity conducted by the industry. Aside from the cost of providing gambling products to the market, the other main cost associated with the gambling industry is that arising from so called 'problem gambling' (which has been associated with such things as family breakdowns or criminal activity).

A difficulty in assessing the benefits and costs of gambling is that the benefits are generally more readily measurable and identifiable that the costs. Nonetheless, quantitative analysis can help provide a framework to place the assessment of benefits and costs into perspective.

The approach we take here is to use an economic model of the Australian economy to estimate the benefits of the increased economic activity generated by gambling. This estimate is used to establish a threshold or reference value against which the *social* costs, such as those arising from problem gambling, may be assessed. This approach allows policymakers to make a judgement of the following kind: are the social costs likely to approach or exceed these established economic benefits?

A judgement that this reference value is not exceeded implies (in the eyes of the policymaker) that the gambling industry is a net contributor to the welfare of the community. Next we canvass some of the available literature on gambling related social costs to assess how identifiable costs compare against the benefit threshold. We also provide supplementary information relating to the specific structure of the gaming machine sector in general and Aristocrat's operations in particular.

Benefits arising from the existence of the gambling industry

Economywide benefits of gambling in Australia

An assessment of the gambling industry's contribution to the Australian economy must include not only the direct impacts on output and employment but also the indirect, flow on effects which arise as a result of gambling activity. These flow on impacts include:

- effects on the upstream industries such as machine manufacture and food and beverage service providers; and

- impacts on the industries further upstream which in turn supply goods and services to the industries supplying the gambling industry.

The economic framework — FHORANI

In this submission we use a customised version of the FHORANI model which is an economywide model of the Australian economy. The standard version of FHORANI separately identifies 108 sectors and accounts for a full range of production, consumption, export sales and intermediate uses for each of these sectors. An advantage of this economywide framework is that it allows simulation of consumers' and producers' responses to price changes arising from 'exogenously imposed shocks' to the economy — that is, changes that themselves are not generated by the Australian producer or consumer, but rather by government policy, changes in international markets and the like.

In the standard version of FHORANI, the economic activity of gambling sector is not recognised as a separate 'industry' but is spread across the *sport, gambling and recreation services* and *accommodation, cafes, and restaurants* sectors. We have customised the standard version of the model to separately identify the gambling industry and to aggregate a number of other sectors to simplify the analysis. These adjustments reduce the standard model to one with 48 industries producing 48 commodities. The data used to separately identify the gambling sector is drawn from a variety of sources including the Tasmanian Gaming Commission's *Australian Gambling Statistics* and various ABS publications.

The disaggregated model, which has a base year of 1993-94, assumes:

- the gambling industry produces a bundled product comprising gambling products and accompanying food, beverage and accommodation services consumed at the venues where gambling takes place;

- the *accommodation, cafes, and restaurants* sector supplies the gambling sector with approximately $6 billion in food, beverage and accommodation services;

- total production of the gambling sector is in the order of $11 billion in basic value terms (that is, the amount that producers receive net of any commodity taxes that must be paid);

- value added by the gambling industry of $3.6 billion; and

- taxes on the gambling industry in the order of $2.6 billion per year.

The other key parameter in the simulation is the responsiveness of consumers to the price of gambling — that is, the own price elasticity of demand for gambling. Table 3.1 presents a selection of estimates of the price elasticity of demand from Australian and overseas literature. While a consensus estimate from these studies seems to be around -1.7 for gambling as a whole, a difficulty in utilising estimates from these studies is that in a number of cases the studies are fairly old (the studies quoted in Haig and Reece date back to the 1940's).

We adopt a more conservative approach in this modelling allowing the elasticity of demand for gambling to take on different values. We conduct simulations assuming a price elasticity of demand (in absolute terms) of 0.3, 1 and 1.7. A measure of 0.3 is in line with what might be regarded as reasonable price elasticity estimates for other heavily taxed products such as tobacco. The value of 1.7 is based upon the estimates from the studies presented in table 3.1. The value of unity is simply a mid range estimate and is the basis for the results presented below.

The experiment: elasticity of demand 1

One way to illustrate the economic benefits of gambling on an economy—

3.1 **Estimates of the price elasticity of demand from the literature**[a]

Study	Demand	Elasticity estimate
Haig and Reece (1985)	Gambling on horse racing in United States	-1.5 to -1.6
New Zealand Lotteries Commission	Race betting	-0.7
	Lotto and Instant Kiwi	-1.1
	Other (poker machines, etc)	-0.8
	All gaming	-1.7
Swan (1992)	All gambling	-1.6
	Poker machines	-1.7

a It is reasonable to say that the literature on the nature of demand for gambling products is sparse. A major problem facing anyone wishing to carry out applied work to estimate price and income elasticities of demand for gambling services is the frequent and significant changes in regulation which have a significant impact on demand for gambling services as well as their legal supply, and tend to make econometric estimation difficult.

Source: Pers. Comm. R Wilson, Productivity Commission, 19 October 1998.

wide basis is to pose the question: what would happen in the Australian economy if gambling were to contract by a given amount?

The aim of the modelling exercise is to identify the benefits to the economy from gambling industry activity by answering such a question. These benefits are identified by examining the effect of a 1 per cent reduction in the level of activity of the gambling industry. This reduction in activity is modelled as being induced by an increase in the taxes applied to the gambling industry. A 6.5 per cent increase in these taxes is sufficient to reduce gambling activity by the required 1 per cent.

To draw out the welfare implications of the reduction in gambling activity it is necessary to make several assumptions about short run behaviour in the economy. Under these assumptions, the overall change in community welfare can be approximated by the change in real consumption. These assumptions include:

- a constant real wages so that employees flow to and from a pool of labour without any adjustments in the wage rate required;

- zero wage indexation;

- real consumption endogenous;

- no change in the public sector borrowing requirement (effected by a change in taxation); and

- the balance of trade fixed.

The results

Table 3.2 summarises key results of the simulation whereby an increase in gambling taxes reduces activity in the gambling sector by 1 per cent.

The modelling indicates that at a national level even as little as a 1 per cent decrease in gambling industry activity would cause real GDP to be $106 million lower than it otherwise would be. Activity would be lower across a range of sectors with the *accommodation, cafes and restaurants* sector facing the greatest flow on impact with activity falling by 0.3 percent. This result reflects the fact that people are attracted to these venues because of the presence of gambling facilities. The *other machinery and equipment* sector, of which Aristocrat is part, also is one of the more heavily affected sectors. The small impact on the *forestry and fishing* sector which, on the face of it, looks a little curious, is driven by the impact of significant sales by the fishing industry to the accommodation, cafes and restaurants sector.

3.2 Summary of modelling results

Parameter	Unit	Result[a]
Macro variables		
▪ real GDP	$m	-106
▪ aggregate employment	No. of people	-2 539
▪ real consumption	$m	-133
Selected industry activity levels		
▪ gambling	%	-1.000
▪ accommodation, cafes and restaurants	%	-0.3179
▪ other cultural and recreational services	%	-0.0476
▪ forestry and fishing	%	-0.0383
▪ other machinery and equipment	%	-0.0195
▪ retail trade	%	0.0162
▪ beer and malt	%	0.0175
▪ wine and spirits	%	0.0191
▪ sport and recreation	%	0.0208
Selected employment impacts		
▪ accommodation, cafes and restaurants	No. of people	-1 318
▪ gambling	No. of people	-1 145
▪ property and business services	No. of people	-185
▪ other cultural and recreational services	No. of people	-52
▪ other machinery and equipment	No. of people	-30
▪ sport and recreation	No. of people	19
▪ personal and other services	No. of people	34
▪ retail trade	No. of people	166

a Results calibrated to 1997-98 values

Source: CIE estimates

Some sectors do benefit from the contraction in activity in the gambling sector. These include *sport and recreation, wine and spirits, beer and malt, and retail trade.* Overall these gains are modest relative to the magnitude of the reductions in activity in other sectors. These sectors gain because consumers adjust their expenditure patterns in response to the tax increase on gambling that has been used to drive this modelling experiment. The tax change increases the price of gambling products, relative to some other service sector outputs, making these alternatives more attractive.

A similar result would be expected if government were to restrict gambling activity through direct quantitative restrictions on gambling.

Nationally, around 2500 jobs would be shed, these losses being concentrated in the *accommodation, cafes and restaurants* and the *gambling* sectors with 1318 and 1145 jobs lost respectively. Only partly offsetting these losses are gains in the employment in other sectors including *retail trade, sport and recreation,* and *personal services.* The gains in employment in these sectors however, represent little over 10 per cent of the jobs lost in the *accommodation, cafes and restaurants* and the *gambling* sectors and are insufficient to prevent an overall fall in national employment.

As with the employment losses, the reduction in real GDP is driven primarily by losses in the two most heavily affected industries. A 1 per cent decline in activity results in a reduction of value added by the *gambling* industry of approximately $36 million in 1993-94 dollar terms. The *accommodation, cafes and restaurants* sector contributes approximately $8.4 billion in value added to the Australian economy 1993-94 dollar terms. A reduction in its activity of 0.3 per cent corresponds a loss in value added of $25 million. In 1997-98 dollar values, the loss in value added in these two sectors alone accounts for approximately 74 per cent of the total reduction in GDP that would follow a restriction on gambling.

Consumer surplus

As we have identified previously, Australian consumers spent around $10 billion on gambling in 1996-97. This amount, minus the cost of providing gambling services and taking account of indirect effects, provides some indication of the net economic revenues from gambling — the change in GDP. However this expenditure measure is a lower bound estimate of the value that the economy derives from this form of entertainment. This is because consumers usually regard the value of benefits they receive from goods or services more highly than the amount they are required to pay. Consumers generally value the consumption of an *additional* unit of a good or service less than the unit just consumed. That is, the first unit of a good or service is valued highly but as the consumer's consumption of that product increases, he or she is prepared to pay less for each extra unit purchased. Eventually, with increasing consumption, the value of an additional unit to consumers is less than the price they would need pay and so they will decide to spend their money elsewhere. The value to the consumer of the last unit consumed will then be equal to the price of the good or service.

Because initial units of consumption are valued more highly than the price paid for them, there is a surplus that accrues to the consumer. This consumer surplus must be taken into account when judging the net contribution of gambling to the overall welfare of the community.

When activity in the gambling sector is restricted, in addition to the loss of production value in the gambling sector and the economy as a whole, some of this consumer surplus is also lost. Consumer and producer welfare in other sectors is also affected. With the specific assumptions adopted for the simulation discussed above, the net impact to consumer and producer welfare can be approximated by the change in real consumption. Table 3.2 indicates that real consumption would fall by

$133 million, implying that the community wide economic welfare would fall by an estimated $133 million as a result of a 1 per cent reduction in activity in the gambling sector. This implies that benefits to the economy are 25 per cent above the impact on GDP.

It is economic benefits on this scale that must be kept in mind when considering the possible social costs of gambling.

Sensitivity to changes in the price elasticity of demand

The above simulation was repeated with the price elasticity of demand set at -0.3 and -1.7. With less elastic demand (-0.3), a 1 per cent reduction in gambling sector activity causes real GDP and employment to fall by $173 million and 3517 persons respectively. This result derives from the requirement for a higher tax to be imposed to induce the 1 per cent reduction in activity. The higher tax drives up the price consumers pay for gambling services which in turn squeezes consumer budgets and leads to a contraction in the rest of the economy.

When the elasticity is increased (in absolute terms) to –1.7, the resulting impacts of a 1 per cent reduction in gambling activity are reduced. Real GDP falls by $93 million and employment falls by 2393 persons. These results suggest the model results are more sensitive to understating the elasticity of demand (in absolute terms) that overstating it.

Upstream impacts in the gaming machine sector

With nearly a 50 per cent share of direct gambling expenditure, it is clear that the gaming machine sector contributes a sizeable proportion of the economywide benefits identified above. Aristocrat lies upstream of the gambling industry, supplying nearly two-thirds of the Australian market for machines. The economywide analysis identified the *other machinery and equipment* sector, of which Aristocrat is a part, as being adversely impacted by any reduction in demand for machines by the gambling sector. The impacts of a reduction in gambling activity on Aristocrat's production, employment and profit are therefore reflected in the modelling results.

However, a limitation (and an advantage) of economic models is that they are a simplification of reality. In this regard, models such as FHORANI are unable to capture some of the more complex interactions between a firm such as Aristocrat and the wider economy. These interactions include Aristocrat's:

- R&D activity; and

- human resource policies.

R&D activity

The nature of Aristocrat's business is such that continual innovation is necessary for it to sustain growth and R&D activity is a key driver of this innovation. During the 1997-98 financial year Aristocrat spent $25 million on R&D activity mainly in the areas of electronic engineering and game design.

While Aristocrat attempts to appropriate the full benefits of its research, there are some spillover benefits to the community as a whole. A key research area has been in the development of Random Number Generators (RNGs) which are the key element of Aristocrat's machines. A RNG has to be approved by each jurisdictional authority. Due to the complexity of the mathematics of new RNGs that Aristocrat has developed, Aristocrat commissioned studies by the Australian Graduate School of Management (AGSM) to identify the properties of these RNGs. These studies involved both staff and PhD students of the AGSM and, in Aristocrat's view, pushed the limits of the theoretical science.

Human resource policies

Aristocrat employs approximately 1500 permanent staff and a further 150 staff on short term/casual contracts. Chart 3.3 illustrates the composition of this staff across broad activity groups. Sales and service and manufacturing account for over three quarters of the Aristocrat's labour force. Approximately, 260 staff are involved in R&D encompassing activities such as electronic engineering, software engineering, game design (mathematical combinations), graphics design, mechanical engineering and systems R&D).

Approximately 95 per cent of manufacturing staff are from non-English speaking backgrounds. Aristocrat has provided in-house English training for these employees. While this training has obvious benefits for Aristocrat in terms of improving productivity within its business, it also has spillover benefits for the community as this training improves the ability of these workers to interact with the wider community.

Aristocrat spends approximately $1.3 million in formal training of employees, although this figure is an underestimate of the full costs as it does not include costs such as the salaries of trainees and trainers. Aristocrat understands that its training budget (as a proportion of total

3.3 **Aristocrat employees by activity group**

Finance and Administration 6%
Marketing 2%
R & D 16%
Sales and service 31%
Manufacturing 45%
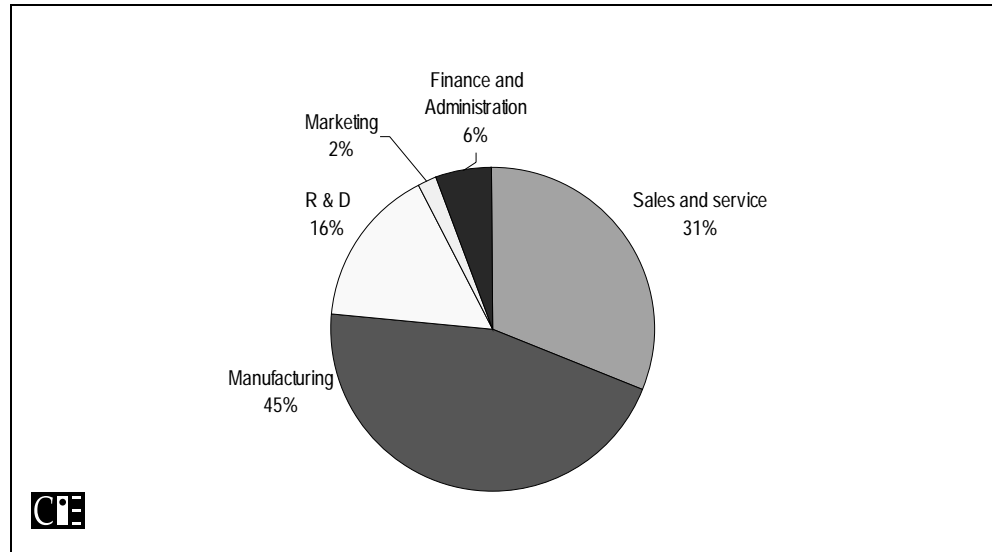
Data source: Aristocrat

base salaries) is at the high end of the range of manufacturing firms in Australia. This investment in human capital is not reflected in the FHORANI model results.

Downstream impacts in the gaming machine sector

The majority of expenditure on gaming machines occurs with registered clubs. Chart 3.4 illustrates the proportion of gaming machine expenditure by venue and shows that clubs capture approximately 67 per cent of total gaming machine expenditure. Together with hotels, these two venue types

account for nearly 90 per cent of consumer expenditure on gaming machines.

The concentration of gaming machines within the club sector has reflected a traditional approach to gaming machine regulation which has recognised, in New South Wales in particular, the contribution of registered clubs to the communities in which they are based. On this matter, the New South Wales government and Registered Clubs Association of New South Wales (RCA) note, in their joint industry policy framework paper:

'It is in recognition of clubs' contributions to their members and local communities that governments have granted the right to provide liquor and gaming services on a concessional basis…'(NSW Premier's Department 1998, p6).

These community benefits are sizeable. In their submission to the recent Independent Pricing and Regulatory Tribunal gaming inquiry, the RCA quotes the results of a study, prepared by a consultant to a joint government and RCA working party, which estimated the value of community support by the club industry in New South Wales to be approximately $155 million in 1996-97. A further $280 million was reinvested by clubs in non-gaming related buildings, facilities and equipment. The consultant's study also noted:

'…one point remains clear: the type of community support which Clubs provide to the residents of New South Wales are broad ranging in their scope and affect important minority groups including the least privileged members

3.4 Expenditure of gaming machines by venue
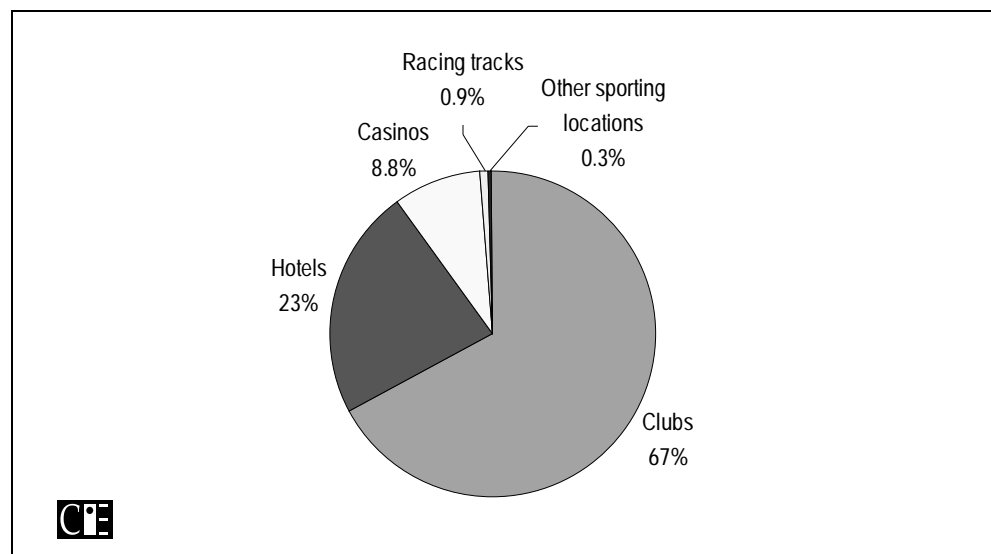
Data source: ABS Gambling Industries 1994-95 Cat. No. 8684.0

of society' (RCA 1998, p12).

It is important to highlight these downstream benefits from gambling activity because these distributional impacts are not readily captured in an economic framework such FHORANI. Furthermore, FHORANI does not readily capture the extent to which the community activities of clubs substitute for state or local government expenditure. In the absence of club support for community facilities, or with a contraction of it, the burden of providing such services is likely to fall on state or local governments who would have to raise funds through increases in payroll taxes or other distorting state taxes or may not fund the supply of the service at all. Either way, these changes would tend to reduce community welfare.

Over recent years, regulation has been broadened to allow the operation of gaming machines in hotels. As we discussed in chapter 2 (tables 2.9 and 2.10), these for-profit venues are typically taxed at higher rates compared with club venues and often are required to make additional contributions to community benefit funds. This differential taxation arrangement can be seen as an attempt by governments to ensure similar benefits accrue to the community through taxes and levies on hotel-based gambling as occurs through the non-profit club sector.

Additional social benefits and costs

Assessments of the net benefits of any economic activity face the formidable hurdle of determining the social, as opposed to economic, costs and benefits of that activity. The economic costs of a good or service are, from the supply side perspective, the largely measurable costs incurred in producing and selling the product. They are input related costs. From the demand, or consumption, perspective, economic costs (per unit) are the purchase prices paid by the consumer. They represent the opportunities to consume other things that are surrendered in favour of the good or service in question. Voluntary purchases are usually assumed to be accompanied by corresponding private benefits to the purchaser — benefits which are *at least as large* as the outlay. When consumers are willing to pay more than the market price, private benefits to the consumer also include an element of consumer surplus as explained earlier.

In the economy wide analysis of the impacts of gambling presented above, private net benefits (benefits minus costs), excluding consumer surplus, have been the focus. However, as discussed in the modelling section of this submission, the loss in consumer surplus suffered should the gambling industry be forced to contract can be approximated. The relevant figure is

not just the loss in consumer surplus in the gambling industry. It should include similar losses in other sectors that suffer consequential contraction (and gains in expanding sectors).

Beyond these economic costs and benefits, production or consumption can have other social costs and benefits — those not reflected in production or purchase values and not therefore picked up in economic models that rely on recorded market transactions.

Social costs of *production* can exceed economic costs when the outputs of one industry inflict harm on other industries, as in the familiar case of pollution. Social benefits from production occur when, for instance, the training imparted by one firm to parts of its workforce lower the costs of other firms when labour turnover occurs or when the R&D by one firm or industry has spillover effects for others. Both of these manifestations of social benefits of production are likely to be present in gaming machine manufacture as has been discussed above.

Social costs and benefits of *consumption* are also present and it is the social costs of consumption of the production of gambling services that have received the greatest attention. Where the enjoyment of one person engaged in an activity is enhanced by the participation of others — common in the case of entertainment activities like gambling — a social benefit arises. The enjoyment of individual members of the group is raised by the consumption of others as well by their own consumption.

Conversely, where individual consumption inflicts harm on others, a social cost of consumption occurs that must be set against the economic and social benefits created.

Some critics of liberalised access to legal gambling by adults have attempted to associate declines in retail takings in certain localities with increased gambling expenditure at the local community level. This phenomenon has in turn been characterised as an instance of a social cost of gambling. However, it should be observed that any such shift in expenditure patterns does not constitute a social cost in the sense defined above.

Changing expenditure patterns are a fact of economic life, reflecting changes in tastes, leisure availability and disposable incomes as well as consumption opportunities. It is not usually accepted that the growth in one industry that accommodates consumer demand and prospers, while less expenditure (or a reduced share) flows to another, constitutes a social cost. It would be a different matter if contraction were caused by increased

costs imposed on the retail sector through expansion of gambling but this is not supported by evidence. Nor is this the critics' point, which is one about expenditure shifts.

Research has largely been preoccupied with these social costs of consumption, with little focus on the social benefits of either the production or consumption of gambling services. There has been significant effort directed at defining circumstances in which social costs of gambling consumption arise — consumption behaviour identified as 'problem gambling'. If the incidence of problem gambling can be established in terms of the proportion of consumers displaying this behaviour then some approximation of the accompanying social costs can be attempted.

Problem gambling

One feature of the numerous attempts to quantify the adverse socio-economic effects of gambling, and within that, gaming, is the wide dispersion in estimates of the population classified as problem gamblers across studies of different jurisdictions. Depending on choice of definition these range from findings of: 4.3 per cent of Manitobans experiencing symptoms of problem gambling in one study of the province, 1.9 per cent in another for the same province (Manitoba Lottery Policy Review Working Group Report 1995, p.31 and Dickerson et al 1997, p47), 5.417 per cent for the US and Canada based on the study by Shaffer (1994, using a clinically directed approach based on those having experienced gambling associated problems at some time in their lives), compared to typical findings of 3 percent or less for various US and Australian states when the South Oaks Gambling Screen (SOGS) method of identifying 'at risk' and 'problem' gamblers is used. This latter method avoids the clinically based approach which characterises problem gambling as pathological behaviour.

When comparisons are restricted to studies reporting SOGS scores and using a definition of a score of 5 or more as a critical value, this variation is reduced. State by state comparisons for Australia reported in Dickerson et al (1997) range from 0.5 per cent for Western Australia to 2.8 per cent for Tasmania.

However, even this approach has interpretational difficulties and Dickerson et al adopt a further distinction between 'at risk' gamblers (scores of 5 to 9) and problem gamblers (10 and over). Based on the latter definition New South Wales has the highest state incidence.

The 1997 Study 2 Update by the Australian Institute of Gambling Research (1998) funded by the Casino Community Benefit Fund of New South Wales, examines the socio-economic effects of gambling on individuals and the community in the state commonly designated as having the highest incidence of problem gamblers. It found only a slight increase over 1995 in the number of regular gamblers considered at risk of problem gambling and put the economic costs of the negative aspects of gambling (including gaming) in the state stable at $50 million. This represented 1.3 per cent of the value of output of the gambling sector to the state economy in 1996-97 as estimated in the study. These costs included estimates of the litigation — related costs of bankruptcy and divorce attributable to problem gambling as well as the costs to the community of funding counselling and related services.

The increase in those at risk was attribute largely to increases in that category among those identified as regular participants in lotto/lottery type activities rather than in EGM or wagering activity.

In their study for the Victorian Casino and Gaming Authority, Dickerson et al (1997) make the following points (p28):

- there are no standard, uniformly accepted definitions of the terms 'problem gambling', 'excessive gambling', 'compulsive gambling' and 'gambling addiction';

- use of the term 'problem gambling' to encompass all degrees and characteristics of the problem from mild to severe or pathological, has contributed to confusion;

- the Australian social context not only is typified by a community acceptance of, and participation in, gaming and wagering but by broad based preventive and harm minimisation strategies to address problem gambling; and

- the validity and interpretation of the most frequently used key measure of problem gambling, the South Oaks Gambling Screen (SOGS), remains uncertain in the Australian context (p58) and its sensitivity in culturally diverse settings is not known.

The Dickerson study adopted a definition of 'problem gambling' which referred to the situation in which a person's gambling activity gives rise to harm to the individual player, and/or to his or her family, and may extend to the community. As a result, the *context* may determine the extent to which an impact from gambling is harmful, diminishing the usefulness of any one single measure to assess the problem.

Dealing with social costs

This focus on the minority of cases in which harmful impacts arise rather than on single measure, clinically orientated, definitions of pathological behaviour, underscores the need for enhanced research into wider aspects of gambling. A 'harm minimisation' approach has been flagged by the Minister responsible in New South Wales in an address to a conference in 1998.

The need to pursue a better understanding of the place of gambling and its societal impacts has been recognised by Aristocrat as demonstrated by the establishment in 1996 of the Aristocrat Chair of Gaming at the University of Western Sydney. Aristocrat's objectives in funding the professorial position are:

- philanthropic;

- to increase the quality of information, research and debate in the field of Gaming;

- to establish links with the University which benefit both parties; and

- to enhance public perceptions of Aristocrat and the Gaming industry generally.

Aristocrat has assured the absolute independence of the position through contractual guarantees. Aristocrat also supports research in the United States.

According to the New South Wales Minister for Gaming and Racing (1998), research undertaken on behalf of the Trustees of the Community Benefit Fund, which surveyed the community as to which body should have primary responsibility for funding services to help problem gamblers and their families, respondents most frequently identified gambling operators and venues as the group which should contribute. In that state the Fund is presently financed by the casino exclusively, with monies directed at researching the social and economic impact, promoting industry and community awareness of problem gambling, offering counselling services, offering treatment and rehabilitation services and to otherwise benefit the community.

Since May 1998 registered clubs in New South Wales with more than 1 million dollar earnings have also been levied 1.5 percent on their gaming profits above 1 million dollars. These revenues are not directed into the Benefit Fund but into other community welfare and development projects. Hotels are not levied in this way.

In the state with the second largest gaming industry, Victoria, the safety net features are developed through the Department of Human Services with its statewide mandate for planning and management of services to problem gamblers.

The ACT is one example of a jurisdiction where the venues and operators have collectively endorsed a Voluntary Code of Practice. It is aimed at, among other things, enabling gaming licensees to provide information and assistance to those patrons with gambling problems. It is modelled on similar codes of practice for responsible gaming in Victoria and South Australia.

This approach, which provides social safety net and support services at the community level and pro-active behaviour on the part of venues which provide the services, may be the most cost effective way of maximising the net social benefits from gambling activity.

Game designs and characteristics tend to be demand driven responses to player preferences. Limited opportunities exist for technologically based solutions to problem gambling. In the case of gaming, 'slowing down the game' has been proffered as one possible way of reducing the incidence of problem gambling. While technically feasible, any benefits from this approach in reducing aggregate losses and attendant problems for the small minority of problem gamblers would have to be set against the reduced entertainment value for the great majority of players. Many of these have been shown to prefer small denomination games where they can maximise the amount of playing time for a given entertainment budget.

Some conclusions on the net benefits of gambling and related activities

It is vital that the likely relative magnitudes of benefits and costs of gambling be appreciated. This chapter has cited our estimate of the social costs of problem gambling at approximately $50 million for New South Wales economy. If this were scaled up by a factor of 2.5 to reflect New South Wales share of gambling in the Australian economy, an estimate of $125 million would be obtained.

While allowing for the fact that this only covers roughly measurable social costs associated with problem gambling, it is still less than the loss in economic benefits estimated to be associated with only a one per cent reduction in gambling. It should be emphasised that a one per cent

reduction in gambling is unlikely to have a significant effect on the incidence of problem gambling in Australia.

4 *Policy issues*

The overall objective in regulating the gambling industry is to maximise the net benefits from gambling activity. This necessarily involves simultaneously maximising the social and economic benefits from an industry which represents a significant component of the Australian economy, and minimising the social and economic costs such as those generated by problem gambling.

The previous chapter examined the likely magnitudes of the social benefits and costs generated by legal gambling activity in Australia. In that analysis it was established that the social benefits derived from the gambling industry are likely to exceed social costs, at least as they are currently identified in the available literature, by a significant margin. This result, in part, is likely to be reflect the present regulatory regime in Australia.

The importance of continuing regulation is recognised. It is crucial, however, that this regulation be efficient in terms of the cost of compliance and the incentives it offers to industry participants. In this chapter, Aristocrat would like to emphasise two aspects of the current regulatory regime where improvements may be possible. These are:

- the cost of different regulation across the various Australian jurisdictions; and
- the issues relating to regulation of gambling products based upon new and emerging technologies.

Regulation across jurisdictions

Chapter 2 described the various economic regulations governing gaming machine operation in Australia. These requirements, along with various different technical requirements across jurisdictions, mean that multiple versions of the same game have to be developed and tested.

Much of the effort in developing a game for a particular jurisdiction lies in the development of game software. Box 4.1 describes the process involved

in the development of software for a new game. The key message from box 4.1 is that the development of software to meet the standards of different jurisdictions effectively doubles the time required to develop (from concept stage to software) a game which can be sold to all jurisdictions.

Aristocrat has developed market specific base software upon which all games for a particular jurisdiction are based. These could take between 6-12 person months to develop. Changes such as the development of a new communication protocol in response to say the introduction of a central

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4.1 Game software development

A new game is initially developed for one market. During this process, development of game design and its entire personality comprising theme, screen graphics and associated sounds are finalised. The game software base is developed to comply with regulatory guidelines in the base market, including:

- communications protocols to connect to a centralised computer management system;

- market specific security of gaming machines in terms of significant events, and procedures;

- capacity to handle any fault conditions;

- meters to record transactions;

- permissible denominations and return to player percentages; and

- connectivity to peripheral equipment such as those supporting player promotions.

When an existing base game is required to be released in another market, game software is changed to comply with regulations in the new market. In some cases, new artwork and graphics are also required to comply with market specific requirements.

As a guideline, it takes 6-9 months (typical 50 – 70 man-weeks effort) for development of a new game from concept stage to software. It would take, in general, 6-8 weeks to develop an existing game for another market.

As an example, porting of a game Penguin Pays from New South Wales to Queensland Casino would involve the following changes.

Effort required to port a base game to a new market:

Software porting	4 – 6 weeks
Testing	2 – 3 weeks
Total Effort	**6 – 9 weeks**

In this case, base game software development for New South Wales took about 12 weeks to develop and 4 weeks to test — total effort 16 weeks).

In Australia there are currently 10 different sets of regulatory guidelines to comply with. Using Penguin Pays as an example again it would require an additional 60-90 person weeks to rollout the game to all jurisdictions — about the same time required to develop the original base game from concept to software.

monitoring system or a new game platform could, in the extreme, mean 5-10 person years of additional software effort due to differing regulatory guidelines.

The confidential annex contains estimates of the costs to Aristocrat of non-uniform regulation across Australian jurisdictions.

Aristocrat urges the Productivity Commission to consider a means of achieving greater uniformity of regulation across the various Australian jurisdictions. The avoidance of these unnecessary costs might be achieved through:

- **the establishment of a single national regulatory standard developed by an intergovernmental working group; and/or**

- **extension of mutual recognition to cover gaming machine standards.**

The regulation of gambling based on new technologies

Aristocrat has chosen not to involve itself with emerging internet based gambling activities. There are several concerns with respect to such activity that are driving this decision. These include the fact that:

- differences in regulatory approaches internationally could jeopardise Aristocrat's ability to obtain and retain licences for its core business activity — selling gaming machines; and that

- Aristocrat does not believe that certain important issues related to data security have been satisfactorily resolved.

While Aristocrat has no plans to take up a role in internet gambling, given what it sees as formidable difficulties at present, it nevertheless remains interested in policy debates that could influence the future development of this form of gambling.

Technology based gambling

Traditionally, gambling has been limited to location-based activities characterised by fixed, physical points of sale and production. This made regulation relatively straight forward with regulators able to focus their efforts on well defined points in the 'production' chain. Telephone betting is one area where regulations such as those intended to grant exclusivity for an operator in a particular jurisdiction have been circumvented. It is impossible for regulators to prevent gamblers from accessing interstate

service providers via telephone account betting. Increased access to, and the development of the internet has further increased this leakage.

The expansion of the internet and broadband networks has opened up opportunities for consumers to access not only existing services but also new services such as virtual casinos offered by service providers interstate and internationally. The nature of the internet and broadband networks is such that regulation of these activities by any one jurisdiction acting alone is difficult, if not impossible. In recognition of this, Australian governments are working toward the development of a national regulatory model for these home gambling products. In this section we examine the extent of gambling based upon these new technologies, the regulatory responses and some concerns that Aristocrat has with the proposed regulatory framework.

Gambling on the internet and broadband networks

The size and usage of the internet is growing at a considerable rate. A reasonable measure of the size and growth in the internet is the number of internet hosts. Chart 4.2 illustrates the growth in these hosts over the last ten years, which has seen their number increase from approximately 33 000 in 1988 to over 36 million in 1998.

Surveys of users suggest that the number of internet users may be as many as 130 million worldwide with around 70 million users in the United States and Canada alone. In Australia, the ABS reports the number of users of the

4.2   **Growth in the number of internet hosts**
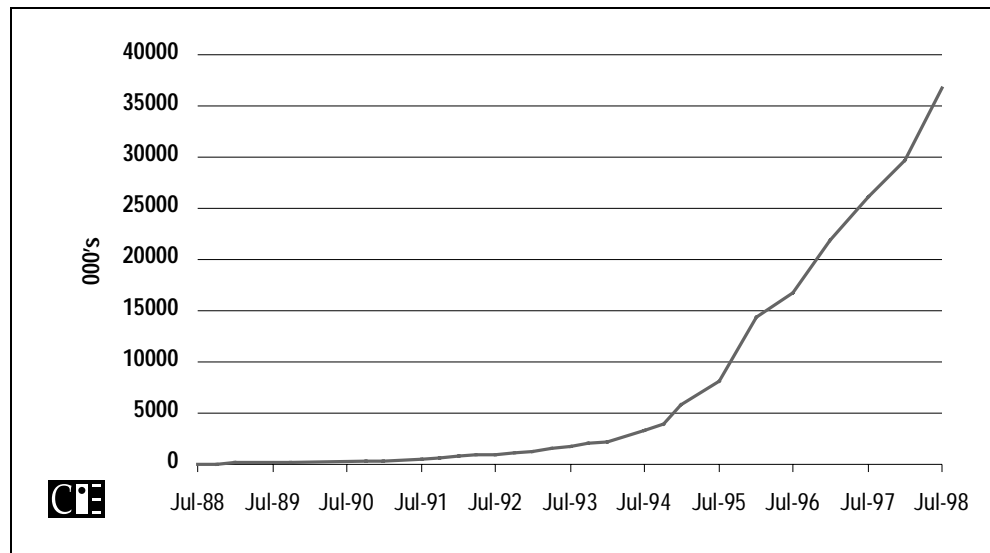
Data source: Internet Wizards

internet as doubling every year since 1996.

Figures on the extent of gambling activity on the internet are relatively scant. ACOSS (1997) noted that there were approximately:

- 60+ racecourse sites;

- 300+ casino sites;

- 100-200 bingo/keno/lotto-type sites; and

- about 10 virtual casino sites — operating mostly off-shore US.

Given the growth of the internet, the number of gambling related sites is likely to have increased significantly since then. Aristocrat understands there may now be over 20 virtual casino sites currently operating. Bell (1998) reports research which estimates that the internet gambling industry generated US$1 billion in revenues worldwide in 1997, US$600 million of this originating from the United States. This measure, which represents net player loss (expenditure) may be overly optimistic in light of other industry estimates which put *turnover* at between US$1—2 billion.

There are no legal 'pay for play' sites operating in Australia at the present time although, as discussed above, a number of agencies such as Centrebet and TAB Ltd offer internet account betting.

The roll out of broadband networks such as those offered by Telstra and Optus offer the potential to deliver gambling services into the home. Such services would utilise simple controllers giving it an advantage over internet services which would required access and use of computing equipment in the home. According to a study by Arthur D. Little to the Broadband Services Expert Group in 1994 (quoted in CIE 1997), gambling over broadband networks is likely to be a significant source of competition for traditional location based gambling.

That study estimated the potential revenue from such broadband-based gambling could reach $16 billion by 1999. The passage of time has shown these estimates to be unrealistic. The absence of a framework for the licensing and regulation of these services is one of the barriers. While, as is discussed below, a national regulatory model for home gambling products is under development, a number of other barriers may limit the penetration of broadband services in the gambling market. These include:

- Australia's relatively small and dispersed population;

- low take up rates for Pay TV services; and

- limited network roll out (not independent of the size of the population).

In Aristocrat's view, security is a major obstacle in the development of a successful internet gambling industry globally. The encryption technology that is available in Australia is vulnerable to breaches. While superior encryption technology is available in the United States and Israel, this has yet to be exported. Until such time as encryption is improved, internet gambling providers face security issues arising from the ability of 'hackers' altering such things as account balances, payout rates, etc.

Proposed regulation

A working party of state and territory gaming regulation officials (1997) has identified the need for a cooperative approach to regulating interactive home gambling at a *national* level. A Draft National Regulatory Model has been produced by the working party. It 'seeks to minimise the impact of products provided from overseas or illegal sources by maintaining (and creating) obstacles to their advertising and marketing and by providing alternative products where the entitlements of players are protected'.

Aristocrat draws the attention of the Commission to difficulties that would remain for international suppliers of games and machines, notwithstanding any benefits of such a cross-jurisdictional national approach. Aristocrat's concerns need to be seen in the following context.

- Aristocrat has the software potential to be a significant supplier to licensed gaming venue operators wishing to offer interactive home gaming where it is legal to do so.

- Aristocrat sees data security as one area where further development is required before a sound global gambling industry based on the internet could emerge. The Draft Regulatory Model fails to address this issue.

- Aristocrat has not sought to develop its software potential at this point, with the United States prohibition being an important factor. The current and future status of Aristocrat's gaming supply licences are a primary concern.

- Australia may well take a different path to the United States with the Draft National Regulatory Model offering one approach whereby;

  – internet and pay TV based home gambling is legalised when transactions are with authorised operators;

- tax revenue from such gambling transactions would be split between jurisdictions on the basis of customer origin except for players resident outside the participating jurisdictions in which case tax would be retained by the jurisdiction where the gaming service provider is located; and

- there is no proposed cap on the number of authorised operators offering their gambling products.

Alternative Approaches

In line with Aristocrat's interest in the policy debate concerning the regulation of internet based gambling, the submission offers the following comments on alternatives to the proposed Draft Regulatory Model.

The approach suggested in the Draft Model would generate regulating costs, whose likely magnitude would need to be established. These include the costs which might be incurred in establishing the probity of potential entrants where these are other than already established gaming operators and the costs of conducting monitoring of the successful ones. References to mutual recognition in the report of the Working Party suggest a way forward for participating *Australian* jurisdictions in minimising some of these costs. Just how a prospective foreign-based service provider could effect entry is problematic. It would seem that a foreign based operator would need to establish a domestic presence to be licensed in an Australian participating jurisdiction but it is not clear just what this would entail.

Alternatives to the Draft Model approach which might help to contain regulatory costs could include:

- restricting licensed operators to existing venues/operators; or

- capping the number of operators and allowing bidding for licences.

An approach which deviated from the open entry approach of the Draft Model might be justified in terms of the additional regulatory costs that would be avoided by these modified approaches. These avoided costs might be substantial but there is little available evidence on which to form a view. But even if significant benefits in terms of avoided costs could be demonstrated, there are still problems with these alternatives.

There is a danger that the 'licence existing operators only' approach is one that would arbitrarily deliver benefits from limiting the number of authorised suppliers into the hands of existing operators and exclude

potential entry of new operators regardless of their capacity to demonstrate product quality, efficiency and probity. Under this approach the so called quota rents (returns to restricting supply) are captured by a few fortunate suppliers and not by the community at large.

The bidding approach is not without its problems.

- On what basis would the appropriate number and life of licences be determined?

- Given that the bidding for the licences would depend on expected future revenues earned from customers in a variety of jurisdictions, what would be an appropriate basis for sharing licence fee revenue among the states?

This latter approach is, however, broadly in line with existing regulatory stances with respect to other gambling products in a number of states (for example, casinos, TAB licences etc.).

Regulatory risk

Even if these difficulties of implementing a national regulatory model for internet gambling can be overcome, there are further potential impediments to firms which enjoy licensed status in the present US gaming market participating elsewhere in an activity which is illegal in the US.

While ever US legislation continues to maintain legal barriers to internet home gambling, licensed gaming suppliers such as Aristocrat, which operate in American jurisdictions, face unacceptable risks in participating in what is a globally based activity without a globally agreed regulatory framework.

Until such time as a regulatory framework can be established which satisfies the requirements of the major *international* jurisdictions, firms like Aristocrat will continue to face unacceptable regulatory risk in participating in an Australian scheme.

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