Report of the investigation into the feasibility and consequences of banning interactive gambling

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NOIE

The National Office for the
INFORMATION ECONOMY

Contents

ACKNOWLEDGMENTS

EXECUTIVE SUMMARY

This report makes the following findings.

1. There are several technical methods that could potentially be used to implement a ban on interactive gambling based on Internet content control. These include packet filtering, content filtering, router filtering and detection-response filtering. However:

    - all of these methods can potentially degrade general Internet performance;

    - none would be 100 per cent effective in preventing Australians' access to interactive gambling services; and

    - implementation would take at least six to twelve months and would require consultation with the gambling industry, telecommunications carriers and Internet service providers.

    Content control options are only relevant to gambling services provided from overseas. Implementing a ban on domestic interactive gambling service providers or on interactive gambling services delivered via digital broadcasting or mobile telephony would require legislative change only.

2. The Commonwealth has clear constitutional and enforcement powers to ban interactive gambling within Australia. Any banning legislation would probably not involve an acquisition of property requiring the provision of just terms compensation.

3. A ban via financial controls is not feasible.

4. Interactive gambling is a rapidly growing e-commerce industry. However, a ban would be consistent with the Commonwealth's e-commerce strategy, which calls for appropriate legal and regulatory measures to protect consumers.

5. Economic modelling commissioned for the study indicates that a ban may have modest or small economic benefits for Australia in terms of restricting access to a harmful activity and possible aggregate benefits for State and Territory taxation revenue. There is also a need for further regulation impact analysis of the costs and benefits of options for implementing any ban. In particular, the Econtech study did not factor in potential costs to Government and industry of implementing a ban.

6. The growth of interactive gambling has the potential for negative social consequences in Australia because of increased accessibility of gambling services.

7. A ban would be consistent with Australia's current obligations in the context of the General Agreement on Trade in Services, but would need to take into account the Australia-New Zealand Closer Economic Relations Agreement.

While this initial report provides an overview of technical options and their implications, NOIE was not able to research options in sufficient depth to make a finding as to the most effective. This is because data on the effects of various methods is treated by Internet service providers and telecommunications carriers as commercial in confidence. For this reason, further study would be required.

INTRODUCTION

NOIE, in consultation with the Department of Family and Community Services (FaCS) and the Department of the Treasury, has investigated the feasibility and consequences of banning interactive gambling in Australia. The following report sets out the findings of the study in relation to the feasibility of technical and other methods for implementing a ban and the economic and social consequences of such a ban.

TERMS OF REFERENCE FOR THE STUDY

On 7 July 2000, Senator the Hon Richard Alston, Minister for Communications, Information Technology and the Arts, announced that the Government would conduct a study into the feasibility and consequences of banning interactive gambling with the following terms of reference:

> NOIE, in consultation with FaCS and the Treasury, will investigate the feasibility and consequences of banning the provision of, and access to, interactive gambling services within Australia and report to the Minister for Communications, Information Technology and the Arts, Senator Richard Alston, by 30 September 2000. Interactive gambling services covered by this investigation include those provided via various interactive media including broadcasting, radio-communications and Internet services.
>
> The investigation will examine the feasibility of identified banning options from technical, legal and practical perspectives. The investigation will also examine direct consequences that may arise following implementation.
>
> A number of possible social consequences need to be examined as part of the investigation into the banning of interactive gambling. These include: the potential for, and size of, the population that will seek to access unregulated gambling sites; the need for adequate consumer advice about the risks associated with interactive gambling; and an examination of how a ban on interactive gambling might contribute to a change in attitudes towards gambling more generally.
>
> The investigation will examine a range of banning options based on:
>
> - player/provider transactions;
> - Australia-hosted gambling service providers; and
> - Australian residents' access to offshore-hosted gambling sites.
>
> The investigation will consider each identified banning option in light of:
>
> - technical and practical considerations;
> - potential economic impacts;

- potential liability and compensation issues;

- potential social consequences;

- Australia's international obligations;

- Australia's electronic commerce strategy;

- legal considerations; and

- enforcement issues.

The reporting date was subsequently extended to allow a thorough analysis to be conducted.

DEFINITIONS OF GAMBLING

What is gambling?

Encyclopaedia Britannica defines gambling as:

> [T]he betting or staking of something of value, with consciousness of risk and hope of gain, on the outcome of a game, a contest, or an uncertain event whose result may be determined by chance or accident or have an unexpected result by reason of the bettor's miscalculation.

While satisfactory for most purposes, this broad definition could also include other speculative activities, such as share trading. From a public policy point of view, it is inappropriate to include investment activities in any definition of gambling.

The main point of difference between gambling and other forms of speculative activity is that gambling is inherently consumption-based. While individual gamblers have a chance of winning on any particular bet or wager, on average and over time losses will outweigh winnings. Unlike gambling, share trading is an investment activity, which involves the acquisition of some kind of property or contractual rights. While it is possible for investors to lose money, there is no reason to expect to lose money. Moreover, unlike gambling, the chance an investor will lose money on a particular investment is not directly related to the amount or frequency of investments.

What is interactive gambling?

S. 5(1) of the *Interactive Gambling (Moratorium) Act 2000* (the Act) defines interactive gambling as:

> …a gambling service where:
>
> (a) the service is provided in the course of carrying on a business; and
>
> (b) the service is provided to customers using any of the following:
>
> > (i) an Internet carriage service;
> >
> > (ii) any other listed carriage service;
> >
> > (iii) a broadcasting service;
> >
> > (iv) any other content service;
> >
> > (v) a datacasting service …

This report will use the term interactive gambling in a way that is broadly consistent with this schema.

RECENT DEVELOPMENTS IN AUSTRALIA

The Productivity Commission's report on gambling

Terms of reference

On 30 April 1998, the Treasurer, the Hon Peter Costello MP, announced that the Productivity Commission (the Commission) would investigate the economic and community impacts of gambling in Australia.

The Treasurer's terms of reference for this inquiry required the Commission to examine and report on the:

- nature and definition of gambling and the range of activities incorporated within this definition;

- participation profile of gambling;

- economic impacts of the gambling industries, including industry size, growth, employment, organisation and interrelationships with other industries such as tourism, leisure, other entertainment and retailing;

- social impacts of the gambling industries, the incidence of gambling abuse, the cost and nature of welfare support services of government and non-government organisations necessary to address it, the redistributional effects of gambling and the effects of gambling on community development and the provision of other services;

- effects of the regulatory structures—including licensing arrangements, entry and advertising restrictions, application of the mutuality principle and differing taxation arrangements—governing the gambling industries, including the implications of differing approaches for industry development and consumers;

- implications of new technologies (such as the Internet), including the effect on traditional government controls on the gambling industries;

- impact of gambling on Commonwealth, State and Territory Budgets; and

- adequacy of ABS statistics involving gambling.

The Commission's main findings

The Commission found that gambling accounts for approximately 1.5 per cent of Australia's gross domestic product, employs over 100 000 Australians in approximately 7 000 businesses, and contributes $3.8 billion in State and Territory taxes. The Commission noted that estimates of the net contribution of gambling industries to Australian society range from a net loss of $1.2 billion to a net benefit of $4.3 billion.

While 80 per cent of the adult Australian population participate in gambling, a significant number of Australians were also concerned about excessive gambling.

Over 70 per cent of people surveyed by the Commission believed that gambling did more harm than good. Perhaps a major factor in the negative view on gambling has resulted from the rapid expansion of electronic gaming machines (EGMs, commonly known as poker machines). Over 90 per cent of people did not want to see any further increase in the number of EGMs in Australia.

The report also found that over 290 000 people, or 2.1 per cent of the adult Australian population, were problem gamblers, with about 130 000 Australians experiencing severe problems with their gambling. These problem gamblers, while only 15 per cent of the regular non-lottery gambling population, accounted for a third of the gambling industry's market. This is because of the significant losses problem gamblers experience compared with other gamblers. Problem gamblers lose on average around $12 000 each per year, compared with $650 for other gamblers.

Problem gambling creates significant social problems in Australia. The social costs of problem gambling include financial and emotional impacts on both gamblers and others, with between five and ten other people affected by problem gambling to varying degrees.

The Commission identified a number of problems with the current regulatory environment for gambling in Australia, including inconsistency between jurisdictions' regulatory approaches and unclear harm minimisation and revenue objectives.

The Commission reasoned that governments should regulate gambling activities, including interactive gambling, because such regulation:

- promotes consumer protection;
- minimises criminal and unethical activity; and
- reduces the risks and costs of problem gambling.

The Commission also briefly examined the impact of new technology on gambling. It identified a number of costs and benefits associated with new technology, and focused on improving the regulation of interactive gambling in order to maximise consumer benefits while minimising risks.

The Commonwealth Government's response to the Commission's report

On 16 December 1999, the Prime Minister released the Commission's final report. In its response to the report, the Commonwealth Government expressed concern about problem gambling and announced the establishment of a Ministerial Council on Gambling. Given its constitutional powers in relation to telecommunications and broadcast services, the Government also announced its intention to investigate the feasibility and consequences of banning interactive gambling. Commonwealth social programs were also re-evaluated to ensure that funding arrangements appropriately reflected problem gambling as a high priority.

Ministerial Council on Gambling

Following the Prime Minister's release of the Productivity Commission report, the Commonwealth Government via the Department of Family and Community Services established a new Ministerial Council to deal with gambling issues. The Council comprises Commonwealth, State and Territory Ministers, and includes Norfolk Island representation. It met for the first time on 19 April 2000. The Commonwealth Minister for Family and Community Services, Senator the Hon Jocelyn Newman, chaired the meeting.

The Council agreed to aims and objectives towards a national approach to the negative impacts of problem gambling. It was agreed to exchange information on responsible gambling strategies, and to provide a forum for discussing common issues, with the objective of developing suitable regulatory approaches.

In November 2000, the Council of Australian Governments (COAG) considered the issue of problem gambling. It reached agreement on the immediate implementation of a set of harm minimisation measures by State and Territory Governments, mostly focused on electronic gaming machines, and agreed that the Ministerial Council would consider a number of more far-reaching measures. This agreement will form the basis for the future work of the Ministerial Council. Interactive gambling was not discussed by COAG.

The Senate IT Committee's NetBets inquiry

On 25 June 1999, the Senate Select Committee on Information Technologies resolved to inquire into 'online gambling' in Australia. The Committee wanted to look specifically at the:

- nature, extent and impact of online gambling in Australia;

- feasibility of controlling access to online gambling, especially by minors;

- adequacy of State and Territory regulations in relation to online gambling; and

- need for federal legislation.

The Committee released its report in March 2000. The report contained five recommendations, broadly aimed at improving the regulatory environment for interactive gambling:
- developing national regulations that address player protection and harm minimisation concerns;

- improving information available to gamblers, including providing contact details of counselling services and information about the odds and rules of the betting products on offer;

- funding a national education campaign on the potential dangers of regular gambling, as well as groups helping problem gamblers;

- developing a national code of conduct for online gambling advertising, including limits on advertising and warnings about problem gambling; and

- reassessing the recommended policy changes in light of their effectiveness and the implications of new interactive technology such as digital television.

The Government is yet to respond to the Netbets report.

The online content framework

In 1999, the Commonwealth Government amended the *Broadcasting Services Act 1992* to establish a new regulatory framework for offensive online content. The new regime commenced on 1 January 2000. The Government designed the scheme to meet the legitimate needs and concerns of the community, while ensuring that industry development and competitiveness were not stifled by draconian laws or inconsistent and unpredictable requirements.

The Act does not apply to private or restricted distribution communications such as Intranets. Nor does it apply to communications in an unstored or digital form, such as Internet telephony, chat rooms or ordinary emails (except for newsgroup postings). Existing criminal sanctions (s.85ZE of the *Crimes Act 1914*) dealing with offensive or harassing use of a telecommunications service continue to apply generally to communications that are not in a stored form.

A central feature of the scheme is the operation of a code of practice developed by the Internet Industry Association (IIA) in consultation with industry, the Australian Broadcasting Authority (ABA), interested community groups and members of the public.

Under the scheme, any Australian resident or business operating in Australia may complain to the ABA about online material that they believe falls within a prohibited or potentially prohibited category. For overseas content, this means material that the Office of Film and Literature Classification (OFLC) has refused classification (RC) or rated X. For Australian hosted material, this means it is rated R and is not protected by adult verification procedures, or is RC or X. It is also possible to make complaints about breaches of industry codes and ABA standards.

While the scheme is predominantly complaints-based, the ABA has the power to initiate investigations. The regulatory scheme does not impose any requirement on ISPs to monitor content or to engage in universal blocking of content.

The second tier of the regulatory framework is uniform State and Territory legislation regulating content providers in Australia. This tier complements the Commonwealth legislation, providing for a regulatory framework at the industry level. It ensures that those who have prime responsibility for content are accountable.

The Government's approach does not rely on regulation alone. An important component of the framework is to educate and advise the public about managing the

use of the Internet and, in particular, its use by children. To this end, the Government has established NetAlert, an independent community advisory body. NetAlert is responsible for running national awareness campaigns to promote a safer Internet experience and researching new access management technologies.

What other inquiries have said about banning

A number of recent reports have briefly examined the feasibility of banning interactive gambling.

NetBets and the Productivity Commission report on gambling

Both the Senate Information Technologies Committee and the Productivity Commission touched on the feasibility of enforcing a ban on interactive gambling. However, neither report examined this issue in any depth. Both relied heavily on previous work commissioned by NOIE on the feasibility of blocking or filtering offensive content.

CSIRO reports dealing with offensive content

As part of the Government's earlier examination of dealing with offensive online content such as pornography, NOIE commissioned the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to undertake research into the feasibility of blocking technology.

CSIRO examined technical options for blocking or filtering content at both the 'application' level (based on the blocking of identified services through the use of proxy servers to monitor data flows) and 'packet' level (based on examining the source address of packets of data in the Internet). It found that while blocking and filtering of offensive Internet content was feasible, most of the options available at the time would impact on Internet performance and, in most cases, be bypassed relatively easily. It also found that packet level blocking was less vulnerable to bypassing by users, but was less discriminating than application blocking, in that it might prevent access to non-offensive content.

CSIRO considered application level blocking was a more practical technology for blocking offensive content. However, it was more easily circumvented than packet level blocking. It also noted that by mandating application blocking, the Government would be establishing a restricted list or blacklist. While CSIRO concluded that the blocking of offensive content was feasible, it also judged it likely to be ineffective in preventing offensive content from entering Australia via the Internet. Instead of technical blocking, CSIRO recommended that the Government encourage ISPs to offer differentiated services.

The CSIRO report focused on technology suited to blocking offensive content on the Internet and did not specifically address blocking interactive gambling content. As

shown in Table 1, there are a number of significant differences between interactive gambling content and more general offensive content like pornography. While generally informative on options for blocking content, the CSIRO reports are not directly applicable to the technical feasibility of banning interactive gambling.

Table 1
Comparison of Interactive Gambling and Offensive Content

Interactive Gambling	Offensive Content
Standard 'known' products and services.	Varied, non-standard set of images, products, services and words.
Limited known lexicon of gambling phrases—'blackjack', 'bet', 'punt' and 'wager'.	Unlimited number of informal phrases and concepts, which are evolving all the time.
Thousands of sites—possibly with tens of thousands of pages.	Millions of pages.
Commercial providers and hosts.	Mixed commercial, non-commercial and 'underground' providers and hosts.
Static, well advertised addresses.	A significant number shift addresses to avoid detection.

Key points: what other studies have found about blocking content

- *Previous studies found that filtering or blocking content on the Internet is problematic. However, the most definitive recent report prior to this inquiry was the CSIRO's work on filtering pornographic material and other offensive content. CSIRO found that filtering and blocking is difficult but possible.*

- *Dealing with interactive gambling is slightly different to dealing with offensive content, as there is less gambling content. Unlike pornographic material, most gambling content is commercial, uses fixed addresses and a standard lexicon of phrases.*

GLOBAL DEVELOPMENTS

Current and future growth of the interactive gambling industry

The precise size of the global interactive gambling industry is unknown. Estimates by industry analysts vary as widely as US$11 billion and $110 billion in annual turnover. However, the most reliable estimates suggest that turnover is near the lower end of this range.

There are currently about 20 major companies involved in developing interactive gambling software. Most of these major software developers, such as Atlantic International, Microgames, Cyberoad and Cryptologic, are based in the United States and Canada. However, there are a small number of Australian companies, such as Global Entertainment Technology, which appear to be well placed to become major players in the international interactive casino software market.

Most analysts anticipate interactive gambling, like other forms of e-commerce, is set to expand rapidly over the next few years. It has been estimated that the number of interactive gamblers worldwide could be as high as 50 million by 2002. The main drivers of this growth include increasing levels of consumer confidence in e-transactions and the variety of gambling products available. In many countries, bookmaking and casino games are not easily accessible offline, and new forms of gambling are being developed and integrated with rapidly advancing communications technology, such as wireless applications and digital television.

What other jurisdictions are doing about interactive gambling

A number of offshore jurisdictions have Internet gambling licensing and/or regulatory regimes, including:

- Antigua and Barbuda;
- Austria;
- Belgium;
- the Cook Islands;
- Costa Rica;
- Curaçao, part of Netherlands Antilles;
- Dominica;
- the Dominican Republic;
- Finland;
- Germany;
- Grenada;
- Honduras;

- the Republic of Kalmykia in the Russian Federation;

- Liechtenstein;

- Mauritius;

- Saint Kitts and Nevis;

- Saint Vincent and the Grenadines;

- Trinidad and Tobago;

- the Turks and Caicos Islands;

- Vanuatu; and

- Venezuela.

It is likely that smaller Carribean and Central American jurisdictions will predominate only as long as developed nations like Canada, the United States, South Africa and the States of the European Union remain out of the market. It is also likely that both consumers and providers will have more confidence in licences from major countries.

The social impact study undertaken by FaCS revealed a general concern among Australian consumers about the reliability of interactive gambling sites. Consumer confidence is not assisted when it is recognised that a number of the jurisdictions, including Dominica, Saint Kitts and Nevis, Saint Vincent and the Grenadines and the Russian Federation, are the subject of US Treasury warnings about money laundering and other illicit financial practices.

United States of America

Following the release of a major report on gambling undertaken by the National Gambling Impact Study Commission (NGISC) last year, a number of State and Federal legislatures in the United States began actively considering options for banning interactive gambling.

The NGISC found that over 5.4 million Americans were 'pathological gamblers,' with a further 15 million at risk of pathological gambling. The report directly linked gambling problems to increased accessibility, and expressed concern about the potential for highly accessible Internet gambling to create serious harm. For this reason, the report recommended that governments examine options for prohibiting interactive gambling.

Congress responded to the report's findings by encouraging,

> all Federal, State, local, and tribal governments to review the findings of the National Gambling Impact Study Commission, and to consider the implementation of its recommendations as an appropriate response to the many concerns brought about by the rapid acceleration of gambling in our society.

Senator John Kyl was the first Congressman to introduce legislation to ban interactive gambling. The Internet Gambling Prohibition Act of 1999 (S.692) seeks to prohibit various forms of interactive gambling. Senate consideration of this Bill has resulted in a number of amendments broadening the range of exemptions provided for in the draft legislation. The Senate is still considering this bill.

Representative Bob Goodlatte introduced the Internet Gambling Prohibition Act of 1999 (HR.3125) as companion legislation to Senator Kyl's Bill. On 17 July 2000, the Bill failed to obtain the two-thirds majority required. A motion to reconsider the legislation at a later stage was passed.

On 10 May 2000, Representative James Leach introduced the Internet Gambling Funding Act of 2000 (HR.4419; later called the Unlawful Internet Gambling Funding Prohibition Act of 2000). This Bill seeks to prevent the use of certain bank instruments for Internet gambling. It was referred to the House Banking and Financial Services Committee and the House Committee on the Judiciary, and is awaiting further consideration by the House of Representatives.

On 8 August 2000, Representative John Conyers introduced into the House the Comprehensive Internet Gambling Prohibition Act of 2000 (H.R.5020). This Bill is broader in its coverage of interactive gambling than either the Kyl or Goodlatte Bills. The Senate referred this Bill to the House Committee on Crime, which is yet to report.

At a State level, the situation is more complex. Some States such as New York have aggressively policed unauthorised interactive gambling providers. Other States are considering legalising interactive gambling. Some Native American Reservations are considering using their special sovereign status to legalise interactive gambling.

New Zealand

New Zealand does not have any special legislation covering interactive gaming. However, various Acts cover the operation of gaming activities, and some of these may apply to Internet-based games. Casino gaming is only permitted in New Zealand if explicitly authorised under the *Casino Control Act 1990*. Casino gaming activities therefore cannot be run on the Internet as this legislation relates only to land-based casino premises. The New Zealand Government has recently extended a moratorium on the consideration of casino licence applications until 2003.

The *Racing Act 1971* allows only Totalizator Agency Boards (TABs) to accept bets through the Internet. Bookmaking by anyone other than the TAB by any means, including the Internet, is illegal.

Under the *Gaming and Lotteries Act 1977*, Internet casinos and Internet betting are illegal in New Zealand. However, licensed promoters can run fundraising gambling activities on the Internet as long as they are working on behalf of a non-commercial 'society.' This allows them to obtain a licence to raise money for 'authorised purposes' that are charitable in nature and of benefit to the community.

In June 2000, New Zealand's Minister for Internal Affairs, the Hon Mark Burton MP, announced a comprehensive review of gaming in New Zealand. The review will inform legislative changes aimed at simplifying and strengthening New Zealand's gaming legislation, including the Gaming Law Reform Bill 2000, which is currently before a Parliamentary select committee. This Bill addresses some matters affecting the regulation of casinos and gaming machines. The gaming review will address, *inter alia*, cross-border electronic and Internet gambling, and strategies to deal with problem gambling.

United Kingdom

The British Government announced earlier this year that it would undertake a major public inquiry into gambling. The team undertaking this review is led by academic Sir Alan Budd. The review team's terms of reference include recent technological developments, international trends, and the current state of the industry. One of the first actions of the review team was to invite written submissions. The team is currently assessing the 175 submissions received, and heard oral evidence during October and November 2000. The report is due in mid-2001.

South Africa

There is limited information available from the Government of South Africa about interactive gambling initiatives. However, NOIE understands that South African jurisdictions are considering ways of developing interactive gambling as a source of foreign exchange.

In 1999, the South African National Gambling Board investigated interactive gambling and found regulating interactive gambling could generate tax revenue of up to US$140 million in two years. The chief executive of the Board, S'fiso Buthelezi, recommended that the Government move quickly to regulate interactive gambling. The South African media has reported that the Government is working on amending the 1996 *National Gambling Act* to facilitate interactive gambling.

Mr Buthelezi recently visited Australia in order to look at the regulatory regimes adopted by a number of Australian jurisdictions, including Queensland and the Australian Capital Territory.

Canada

Canadian law on interactive gambling is uncertain, but appears not to authorise interactive gambling within Canada. However, Canada is now home to some of the world's largest interactive gambling companies and software developers. Like the Australian Government, the Canadian Government has expressed concern about the potentially harmful effects of interactive gambling. Legislation before the Canadian Parliament seeks to prohibit interactive gaming and bookmaker services in Canada. Although widely supported at the time of introduction, the Bill has not progressed in the Parliament.

Key points: international perspective

- *Analysts believe interactive gambling will grow rapidly over the next few years.*

- *The international situation is not clear.*

- *A number of jurisdictions such as South Africa are considering legalising interactive gambling, whereas jurisdictions such as the United States are considering bans.*

- *There is broad international recognition that gambling is harmful and that problem gambling is a serious issue.*

WHY THE COMMONWEALTH GOVERNMENT IS CONCERNED ABOUT INTERACTIVE GAMBLING

In the Explanatory Memorandum to the *Interactive Gambling (Moratorium) Act 2000*, the Commonwealth Government outlined its concern about the interactive gambling industry's growth. This concern is also applicable to consideration of a ban. The Government is fundamentally concerned that new interactive communications services will give interactive gambling service providers (IGSPs) new opportunities to expand the gambling industry in Australia and to attract new players.

Australia already has one of the largest per capita gambling industries in the world. The Productivity Commission found that, on average, adult Australians currently spend, or lose, at least twice as much on legalised gambling as people in North America and Europe. The negative social impacts associated with this industry, such as family breakdown and crime, impact on many Australian families and communities, with associated costs to support services funded by all levels of Government and community organisations.

Australia is also at the forefront of the information economy. It is one of the top ten nations in terms of Internet access in homes, and in terms of the percentage of the population with Internet access. The Australian Bureau of Statistics has found that by August 2000, 2.4 million households, or 34 per cent, had access to the Internet. This is projected to rise to over 45 per cent by August 2001. In the twelve months to August 2000, 48 per cent of adults in Australia, or 6.6 million adults, accessed the Internet. Just under a third accessed the Internet from home. This huge increase in connectivity and use raises concerns about Australians' access to gambling services on the Internet.

However, gambling on the Internet is not the only concern. Within the next year, new interactive broadcasting, datacasting, and telecommunications services such as wireless application protocol (WAP) services could provide new platforms for gambling. Australians are also increasingly comfortable with conducting electronic transactions online. In the twelve months to August 2000, 780 000 Australian adults purchased goods or services on the Internet.

These two factors underlie Government and community concern about the potential for interactive gambling to exacerbate the negative social impacts of excessive gambling. Access to interactive services over various communications platforms potentially enables casino or bookmaker services to reach every Australian home. This gives users at least theoretical access to gambling 24 hours a day. The Productivity Commission has described this as a 'quantum leap' in accessibility, which could contribute to an associated growth in problem gambling.

Of particular concern is the presence of gambling in the home. Households with children have been early adopters of new interactive technology such as the Internet. Table 2 illustrates the high level of uptake of the Internet in households with children.

Table 2
Breakdown of Households with Internet Access

	Nov 1998	Nov 1999
Couples with children	27%	39%
Single parent families	15%	19%
Couples with no children	15%	23%
Single person	9%	10%
Other	22%	25%

While parents may take reasonable precautions to prevent their children from accessing gambling within the home, it is possible that parental gambling within the home may encourage children to learn and rehearse gambling activities and behaviours. An increase in gambling from the home could result in younger people taking up gambling and a corresponding increase in younger problem gamblers.

New interactive technology gives developers the ability to include highly attractive, rich multimedia content in game and site development. Internet gambling sites already offer sophisticated graphics, music, virtual casino walk-throughs and live, streamed broadcasts of events such as horse racing. Improvements in bandwidth, accessibility and processor technology will give developers new opportunities to create new gambling products. As early adopters of digital technology, young people may be particularly attracted to using high-tech gambling products. This may create a new population of gamblers and, possibly, problem gamblers. Although technology offers new opportunities for verifying the identity and age of a gambler, the Government is concerned that savvy users—particularly younger, computer-literate users—may still find ways around these measures and access gambling from the home. The growth and impact of the EGM market in Australia is an example of how new gambling products can attract new gambling populations, and create new problem gambling.

The Government is aware of broad community concern about gambling. The Productivity Commission found that while most Australians gamble, around 70 per cent of Australians, including a substantial majority of regular gamblers, consider that gambling does more harm than good to the community. A significant proportion of the submissions made to the Senate Select Committee on Information Technologies inquiry into Internet gambling expressed concern about the potential for interactive gambling to exacerbate problem gambling in Australia. Finally, a telephone survey commissioned by FaCS found that 68 per cent of respondents supported a ban on Internet gambling in Australia.

Problem gambling in Australia

Problem gambling is already a significant issue in Australia. One of the Productivity Commission's main findings was that 2.1 per cent of the adult Australian population were problem gamblers. The Commission used a variant of the South Oaks Gambling Screen (SOGS) to test the incidence of problem gambling in Australia, as well as various other tests and sources of information to augment the primary study of harm and to verify its results.

The Commission findings confirmed that about 130 000 Australians, or about one per cent of the adult population, have severe problems with gambling. A further 163 000 adults are estimated to have moderate problems. On the basis of a self-assessment questionnaire, the Commission estimated that 250 000 adults (or 1.8 per cent of the adult population) experienced significant difficulties and harm as a result of gambling over a 12 month period.

The Commission also found that:

- problem gambling varied according to the mode of gambling, with gaming machines having the highest rate of problem gambling and lotteries the lowest rate; and

- changing patterns in problem gambling—particularly the much greater representation of women with problems controlling their use of gaming machines—are particularly strong evidence of a link between accessibility and overall problem gambling rates.

Accessibility

One of the most important findings was the identification of the correlation between the prevalence of problem gambling and the accessibility of gambling services. The Commission demonstrated the more accessible modes of gambling such as EGMs are associated with the highest rates of problem gambling.

The Commission also found factors such as cost, availability, entertainment value and a gambler's proximity to gambling all contribute to the increased accessibility of gambling.

Key points: why the Commonwealth is concerned about interactive gambling

- *Interactive technology provides an unprecedented level of access to gambling— bringing gambling into the homes of Australian families.*

- *Young people may be directly affected by the increased accessibility to gambling.*

- *Accessibility to gambling is the single largest factor contributing to problem gambling.*

- *Australia already has one of the largest gambling industries in the world.*

- *As a nation of early adopters of new technology and conducting transactions online, Australia is a prime location for a rapid expansion of interactive gambling.*

- *New interactive technology could attract new cohorts of gamblers and result in new problem gamblers and forms of problem gambling.*

OBJECTIVES OF THE COMMONWEALTH GOVERNMENT

The Commonwealth's primary objective is to prevent interactive gambling from exacerbating problem gambling in Australia.

The Government recognises that many Australian families and communities are already experiencing substantial harm caused by problem gambling. It also notes that accessibility to gambling is a major contributor to this harm. Given that interactive technology has the potential to make gambling highly accessible in Australia, the Government wants to know whether it is feasible for it to enforce a ban on interactive gambling. The Government also wants to know what the consequences of such a ban might be.

Key points: the Commonwealth's objectives

- *The Government wants to prevent interactive gambling from exacerbating problem gambling in Australia.*

- *The Government wants to know whether it is feasible to enforce a ban on interactive gambling and what are the consequences of such a ban.*

THE COMMONWEALTH'S RESPONSE TO INTERACTIVE GAMBLING

Talking with States and Territories

Following the release of the Productivity Commission report on gambling, officials from NOIE, FaCS, Treasury and the Department of the Prime Minister and Cabinet met with officials from State and Territory Governments. At these meetings the Commonwealth expressed its concern about problem gambling and the potential impact of interactive gambling. It also discussed the possibility of establishing a new Ministerial Council on Gambling. The Council had its first meeting in April 2000, where a Commonwealth proposal for a voluntary 12-month moratorium on interactive gambling services was rejected by the majority of States and Territories.

On 3 November 2000, the meeting of the Council of Australian Governments (COAG) agreed to the development of a strategic framework to deal with problem gambling, to be pursued cooperatively by the Commonwealth and States and Territories under the auspices of the Ministerial Council on Gambling. It was agreed in principle that the strategic framework would include jointly funded national education and research programs and other harm minimisation measures, mostly focused on electronic gaming machines.

The Constitution does not give the Commonwealth jurisdiction over gambling in Australia. This responsibility has traditionally fallen to the States and Territories. The Constitution does give the Commonwealth responsibility for telecommunications, however, including the use of telecommunications services to provide interactive gambling. Despite these separate jurisdictions, the Commonwealth Government is keen to work closely with States and Territories in the context of the Ministerial Council on Gambling to develop the strategic framework in relation to all forms of gambling.

12-month moratorium on the introduction of new services

On 17 August 2000, the Government introduced the Interactive Gambling (Moratorium) Bill 2000 into the Senate. The Senate referred the Bill to the Senate's Environment, Communications, Information Technology and the Arts Legislation Committee. The Committee recommended that the Bill should proceed. However, Labor and Democrat members of the Committee produced minority reports. The Senate debated the Bill on 9 October 2000. The President of the Senate negatived the Bill when a majority of Senators failed to support it.

On 5 December 2000, the Government recommitted the Bill at the Committee stage in the Senate and moved amendments to exclude certain forms of wagering from the coverage of the moratorium. The Bill was passed by the Senate on 6 December 2000, by the House of Representatives on 7 December 2000, and was granted Royal Assent on 21 December 2000.

The *Interactive Gambling (Moratorium) Act 2000* imposes a 12-month moratorium on the development of the interactive gambling industry in Australia by making the provision of a new interactive gambling service a new criminal offence. The new offence prohibits a person from providing an interactive gambling service unless the person was already providing the service when the moratorium period commenced on 19 May 2000. Consistent with the Government's decision to impose a moratorium for 12 months, the offence ceases to have effect at midnight on 18 May 2001.

The Government intends the moratorium to pause the development of the Australia-based interactive gambling industry while it investigates the feasibility and consequences of banning interactive gambling.

The Act defines interactive gambling service as having the following four essential elements:

- the service is a gambling service;

- the service is provided in the course of carrying on a business;

- the service is provided to customers using any of the following communications services:

    - an Internet carriage service or any other listed carriage service; or

    - a broadcasting service or any other content service; or

    - a datacasting service provided under a datacasting licence; and

- the service is linked in a specified way to Australia.

The Act applies to all interactive gambling services that have one or more of a series of specified links to Australia, irrespective of whether the service is intended to be provided to Australian residents.

The Act specifically excludes:

- telephone betting;

- services relating to the entering into of contracts that, under the Corporations Law, are exempt from a law relating to gaming or wagering;

- services relating to betting on a horse race, harness race, greyhound race or sporting event or series of these races and events, and betting on any other event, series of events, or contingencies, except those relating to a sporting event after the event has begun; and

- services that the Minister determines are exempt services.

Futures contracts and options contracts are the most common forms of contracts exempt under the Corporations Law from gaming and wagering laws. Online share trading would also not have been covered by the moratorium on interactive gambling. Such activities involve the acquisition of contractual rights and are not gambling services.

The Act provides IGSPs with a defence in relation to any gambling services provided prior to 19 May 2000. The defence allows IGSPs to continue to provide pre-19 May 2000 interactive gambling services without expanding into new services.

The defence makes it clear that whether or not an interactive gambling service comes within the moratorium depends on the date on which the interactive gambling service was first provided, rather than the date on which the service was licensed. The effect of the defence is to exclude from the moratorium an interactive gambling service that the defendant proves was provided before 19 May 2000. To do so, the defendant is required to demonstrate that:

- the service was the same or substantially the same as the service provided before 19 May 2000;

- the service was provided under the same name as the service provided before 19 May 2000; and

- the service had at least one arm's length paying customer before 19 May 2000.

ISPs are not guilty of the offence of intentionally providing an interactive gambling service under the moratorium legislation unless they themselves provide the content of an interactive gambling service. In practice, the ISP and the IGSP will almost always be different entities. ISPs are responsible for the carriage of the service rather than the provision of the content of the service. Other ancillary services such as bill payment services would not ordinarily face prosecution unless the providers of these ancillary services also provide the gambling content.

The Government intends the moratorium to provide a break in the further expansion of interactive gambling in Australia while the Commonwealth thoroughly investigates banning this new form of gambling. The Act is not intended to address problem gambling.

CONTROLLING INTERACTIVE GAMBLING WITHIN AUSTRALIA

The Commonwealth has clear constitutional and enforcement powers to ban interactive gambling within Australia. This report assumes that a ban on interactive gambling could be virtually 100 per cent effective at preventing interactive gambling services from operating *within* Australia.

Legal issues

Constitutional power to ban

The Commonwealth has the power to ban interactive gambling under s.51 (v) (the telecommunications power) of the Constitution, in so far as it relates to the use of media of communications covered by that power. A ban in part could also have other constitutional heads of power, including the corporations power (s.51(xx)), the trade and commerce power(s.51(i)), and the Territories power (s.122).

Acquisition of property

Legislation imposing a permanent ban on interactive gambling would probably not involve an acquisition of property requiring the provision of just terms compensation under s.51(xxxi) of the Constitution.

Key point: legal issues

- *There is no legal impediment to the Commonwealth banning interactive gambling in Australia.*

Coverage issues

All providers 'linked to Australia'

Any ban on interactive gambling should apply to all services with a link to Australia. The *Interactive Gambling (Moratorium) Act 2000* defines a link to Australia as being a service:

- provided in the course of carrying on a business in Australia; or

- the central management and control of which is in Australia; or

- provided through an agent in Australia.

This prevents Australian gambling providers from simply relocating critical parts of their operations offshore to avoid a ban. Australia's international reputation could suffer if Australian firms continued to play a significant role in international gambling activities, despite the Government's attempts to enforce a ban.

It may also be the case that some connections with Australia other than those provided for in the Act would be capable of practical enforcement. For example, it could be made an offence for an Australian resident to have any economic interests in a company which offered interactive gambling services to Australians.

Key point: linkage to Australia

- *Any ban should cover those services that are 'linked to Australia.'*

Offering versus providing

During the development of the moratorium on interactive gambling, the Government decided to base the offence on the *provision* of an interactive gambling service rather than *offering* an interactive gambling service. It took this decision in part because it wanted to maintain consistency with other offence provisions in Commonwealth telecommunications, radiocommunications and broadcasting legislation.

As part of this inquiry, the Australian Federal Police (AFP) raised the possibility of focusing any banning option on the offering of a service rather than on service provision. The AFP suggested that it would make any prosecution easier if it needed to prove that a service was 'offered' rather than 'provided.' While it is open to take the view that a gambling service is 'provided' simply by offering a person the ability to gamble, it is however possible that in the context of a criminal proceeding a court may hold that, for a gambling service to be 'provided', there must be evidence that a person has made use of the service that is offered.

Any banning legislation would need to make clear the kind of evidence that would be required for a conviction.

Key points: offering versus provision

- *The moratorium offence focuses on service provision and not on offering. This is consistent with other communications and content-related legislation.*

- *The AFP has suggested any future ban could focus on offering rather than provision, as this may be easier to prove.*

Enforcement issues

NOIE has held preliminary discussions with the AFP about enforcing a possible ban on interactive gambling. The AFP has indicated it may need to reprioritise and augment its electronic crime resourcing in order to police a ban on interactive gambling. However, the level of AFP resourcing required to enforce a ban within Australia is dependent on the nature of a ban itself—although the AFP's enforcement of a ban would be marginal to its main policing role. The AFP noted that, while it could probably enforce a ban on interactive gambling *within* Australia, a ban may result in a number of Australian providers relocating to offshore jurisdictions. Given this, the AFP is keen for any future ban to clearly use a 'linkage to Australia' provision (similar to the one in the *Interactive Gambling (Moratorium) Act 2000*). This would prevent Australia-based providers from circumventing the legislation by relocating their servers to offshore locations while maintaining most of their operations in Australia.

The AFP has noted that s.313 of the *Telecommunications Act 1997* requires carriers to give officers and authorities of the Commonwealth and of the States and Territories such help as is reasonably necessary in enforcing the criminal law and laws imposing pecuniary penalties. Notwithstanding this provision, the AFP may require additional powers of search and seizure to enforce a ban on interactive gambling. The AFP is confident that, given adequate resourcing and powers, it should be able to enforce a ban within Australia effectively.

Key points: enforcement issues

- *With adequate resourcing and powers, the AFP should be able to enforce a ban effectively.*

- *The AFP is concerned about Australian providers relocating key services to offshore locations to avoid a ban.*

NON-TECHNICAL OPTIONS FOR ENFORCING A BAN ON INTERACTIVE GAMBLING FROM OFFSHORE PROVIDERS

Extending Australian law to operators with no Australian connection

The Commonwealth could consider extending any banning law to apply to providers of gambling services with no connection to Australia whose services can be accessed over the Internet by Australian residents. This could potentially discourage offshore providers from accepting bets from Australians because of the risk of prosecution.

There is no legal impediment preventing the Commonwealth from enacting a law that makes it an offence for a person outside Australia to offer a prohibited service to a person in Australia. In fact section 9 of the present Act gives it extra-territorial operation (although only in relation to businesses linked to Australia as provided in s.5(1)(c)).

However, there are a number of practical limitations in relation to such a provision, including:

- enforcement issues;
- Australia's international obligations and diplomatic position; and
- resource issues.

Moreover, it is unlikely that the threat of prosecution under Australian law would act as a sufficient deterrent for offshore providers. These providers may consider that the risk of prosecution under Australian law is minimal. It is also likely that a significant number of providers would be unaware of liability under Australian law.

Enforcement

Enforcement difficulties are perhaps the most serious concern about extending the coverage of a ban to overseas jurisdictions. It would not be permissible to proceed with an Australian prosecution for a criminal offence subject to a heavy maximum penalty if the defendant was not present before an Australian court.

Unless the defendant resides in or visits Australia, extradition may be required to proceed with a prosecution. In this case, it may be necessary for an extradition treaty to be in place. Most extradition treaties require 'double criminality' and are only available in relation to offences carrying a penalty of imprisonment of more than one year or a more severe penalty. Therefore, the extraditable offence must be punishable in both jurisdictions by imprisonment of more than one year (or more severe). Given that most countries have unclear laws on interactive gambling, it is unlikely that an offender would be subject to extradition.

Diplomatic concerns

The Government would need to carefully consider the international implications of any action seeking to extend its jurisdiction to foreign territories and citizens. Other governments may express concern about such extraterritorial application.

Resourcing

Extending the coverage of a ban would increase the number of persons who could potentially commit the offence. This has direct resource implications for enforcement agencies and the courts. It is not clear what kind of resourcing the AFP would require for policing and enforcing a ban that extends its coverage offshore.

Key point: legal options

- *Applying jurisdiction to service providers who have no relevant connection with Australia is not an effective option for enforcing a ban on offshore interactive gambling services.*

Australia's international obligations

General Agreement on Trade in Services

Australia has not made any market access or national treatment commitments on gambling services under the General Agreement on Trade in Services (GATS). In other words, Australia has retained the capacity to restrict the access of foreign suppliers of gambling services, or to discriminate against them in favour of domestic suppliers. The only obligation of the Australian Government under GATS is that it must extend most-favoured nation treatment to any World Trade Organisation (WTO) Member (with the exception of New Zealand).

CER Protocol on Trade in Services

The 1988 Protocol on Trade in Services to the Australia-New Zealand Closer Economic Relations Trade Agreement (CER) obliges Australia not to introduce any measures that would discriminate against New Zealand services suppliers, or that would act as a disguised restriction to trade. This includes gambling services. Any move by the Commonwealth to ban or regulate interactive gambling will need to take into account Australia's obligations to New Zealand under the CER Services Protocol.

Using financial transactions for controlling gambling

Several groups concerned about the level of gambling have suggested that the Government could prohibit credit card transactions for gambling purposes. They argue that this would effectively prevent Australians from accessing offshore interactive gambling service providers.

Other jurisdictions, notably the United States, have also mooted the idea of enforcing a ban on gambling through financial transactions. In 1997, the Florida State Government came to an agreement with Western Union to cease providing certain money transfers between Florida residents and 'known gambling sites.' It is not clear how successful this approach has been.

Some international credit providers have also recently withdrawn their services for interactive gambling transactions. This is in response to questions about the legality of gambling contracts. In 1998, United States resident Cynthia Haines's bank sued her for large, unpaid gambling debts. Haines countersued, alleging that credit card companies had profited from unlawful gambling. In July 1999, Haines and her credit card company reached an out-of-court settlement. However, as a result of the Haines case, MasterCard announced new rules requiring gambling merchants to post warnings on their websites that interactive gambling may not be legal in all jurisdictions, and that it is the responsibility of the consumer to find out and act in accordance with local gambling laws. Visa International was also considering a similar requirement.

NOIE discussed the possible use of financial transactions to control interactive gambling with the financial industry's peak body, the Australian Bankers' Association. While the Australian Bankers' Association did not have a position on whether the Government should ban interactive gambling, it was sensitive to, and supportive of, the Government's concern about consumer protection measures in the developing new economy. However, it expressed concern about any measure that relied almost solely on monitoring activity via payment systems. It suggested that such measures would ultimately prove ineffective. Moreover, it was the Australian Bankers' Association's view that the impact on the rights of consumers may outweigh the protection provided.

It is possible for credit and debit card issuers to develop payment systems that track specific merchant codes in order to identify likely gambling transactions. Once identified, a financial institution can take an appropriate action, such as refusing to authorise the charge. However, for this system to be effective:

- transactions must occur directly with the interactive gambling merchant—not through an intermediary; and

- merchants must apply the appropriate service code correctly.

Given that responsibility for implementing appropriate card scheme merchant codes rests with the merchant and the acquirer, there is scope for code abuse or error. It is also possible that such a financial control system could adversely affect non-gambling

services, even if correctly applied. The merchant code for a gambling provider could cover non-gambling products and services, such as food or accommodation from an offline casino affiliate.

Other payment types such as cheque, direct debit or credit systems and cash—as well as new forms of online direct payment systems—do not identify merchants by type of service, and therefore would not be covered by such a measure.

Gambling providers and gamblers could avoid such controls by operating through intermediaries or by using alternative payment systems. The Australian Bankers' Association stated that it was aware of recent research showing a number of offshore interactive gambling merchants had already begun to adjust their operations to avoid proposed US regulation of Internet gambling transactions. These providers are using offshore banks as intermediaries to enable consumers to establish offshore betting accounts. Such a process effectively takes the transaction between the gambling provider and the gambler outside of one single national jurisdiction, making the application of regulations more difficult.

The Australian Bankers' Association suggested that it is likely the Government would need to develop regulations to enable contracts between card issuers and consumers in order to allow card issuers to decline transactions and avoid trade practice issues. Card issuers would also need to change their own rules to enable interactive gambling transactions to decline authorisation for non-standard reasons.

The Australian Bankers' Association expressed concern about the possibility that the Government may use this kind of measure in the future to cover a range of other services that it considers socially undesirable. This could affect the credibility and acceptance of Australian issued credit cards overseas.

While the cost of implementing any additional financial transaction tracking and control systems is unclear, the Australian Bankers' Association opposes any option placing the financial burden of controlling interactive gambling on the financial sector. It is therefore likely that cardholder and merchant fees would have to rise to cover additional compliance costs, should measures of this type be favoured.

The Australian Bankers' Association also pointed out that there are some good social reasons for encouraging the use of credit cards for activities such as interactive gambling. It argues that credit cards generally have manageable limits, unlike other forms of payment.

There is a variety of payment options available to gamblers, and most interactive gambling sites require gamblers to establish betting accounts with cleared funds. Therefore, simply banning credit cards from use for gambling purposes is unlikely to be an effective way of preventing interactive gambling. Moreover, the absence of transaction tracking systems for non-credit card transactions and the inability to intervene in real-time to cancel gambling transactions means that it is not possible to prevent other payment systems from being used for gambling purposes. The cost of developing and maintaining such systems would place a significant costs on the

financial sector. It is not reasonable to expect the financial sector and its customers to bear the price of regulating interactive gambling.

Enforceability of interactive gambling transactions

It has been argued that if an IGSP is legally unable to enforce a player's debt, and players take advantage of this situation to repudiate losses, this may discourage the provision of interactive gambling services to Australians. It has been suggested that this could result in a self-policing ban.

While it would be possible to provide that interactive gambling is unlawful and unenforceable in Australia, a number of practical issues may prevent this from being an element of an effective banning strategy. First, IGSPs generally require the commitment by players of sufficient cleared funds to cover losses in advance. These funds are often committed to an account held by the IGSP itself. For this reason, a player may be powerless to reclaim funds committed as consideration for a transaction that is subsequently regarded as unlawful and unenforceable in the player's jurisdiction. Secondly, Australians wishing to participate in interactive gambling may not be willing to terminate their access to an interactive gambling service by undermining the legal basis of the gambling transactions. This may especially be the case with problem gamblers. Thirdly, the problems attending control of financial transactions such as credit card payments—discussed above—would also apply.

Key point: financial transactions

- *The financial transaction option is not an effective option for enforcing a ban on interactive gambling.*

TECHNICAL OPTIONS FOR ENFORCING A BAN ON RESIDENTS ACCESSING OFFSHORE PROVIDERS

While the provision of interactive gambling services can be banned through legislation where the provider of the service has a connection with Australia, measures to prevent Australians from accessing other interactive gambling services on the Internet would require the application of technical measures. The purpose of this chapter is to investigate the feasibility of some of the technical methods that are available for applying general controls to Internet content.

NOIE commissioned the information technology consulting firm ComTech to:

- identify practical technology and techniques the Government can use to effectively prevent Australian residents from accessing offshore-hosted interactive gambling services;

- evaluate the effectiveness of each option in preventing Australian residents from accessing offshore-hosted gambling service; and

- identify and quantify potential impacts associated with each option including impacts on communications performance, security and implementation issues.

The ComTech report demonstrates that the Commonwealth has options for restricting access to Internet content, ranging from measures that are effective but have serious negative consequences to those that are less effective but have a lesser negative impact. It also demonstrates, however, that all of these options have consequences in terms of their costs of implementation, their impact on general Internet performance, and possible unintended effects on access to legitimate services.

Table 3 sets out options the Commonwealth could consider. Blocking access to the Internet entirely or routing all Internet traffic through a single point of entry are not considered to be viable options, and are included only for the sake of completeness.

Table 3
Options for Restricting Access to Internet Content

Option	Feasible	Comment
Blocking all Internet access to Australia.	✘	**This is not an option**
Enforcing a single point of entry into Australia and blocking at that point.	✘	Some countries channel Internet access through a single point and blocking at that point. However, given the considerable amount of data coming into and going out of Australia via satellite and submarine cable, a single point of entry would act as bottleneck on the Internet and slow Internet services unacceptably. **This is not an option.**
Blocking services from *known* overseas gambling sites at a selected enforcement point	✓	Internet address blocking is an appropriate option.
Blocking services from *unknown* overseas gambling sites at a selected enforcement point.	✓	Content-based filtering is an appropriate option.

ComTech found that there are technologies available to implement a ban on interactive gambling. The Government could deploy these technologies at various 'enforcement points' in the Australian Internet infrastructure to improve effectiveness and minimise possible circumvention. However, none of the technologies identified would be 100 per cent effective at preventing access to offshore interactive gambling services and all would have negative consequences for Internet performance.

The level of effectiveness of a particular option or set of options depends on the following factors:

- the location of the technology;

- the technology's inherent capacity and functionality;

- the means by which the technology can be circumvented;

- the cost of the technology; and

- the impact upon general Internet performance and the provision of other services.

The point at which the technology is located—the enforcement point—will have a direct impact on Internet performance. Enforcement points include the backbone service provider (BSP), primary and secondary ISPs, telecommunications carriers and the devices used by Australian end users to access interactive gambling services (for example, personal computers).

Telecommunications carriers provide the infrastructure to send and receive voice and data nationally and internationally. BSPs purchase communication services from the telecommunications carriers and sell wholesale Internet services to primary Internet

service providers (PISPs). PISPs in turn sell services to the secondary ISPs (or SISPs). Australian consumers obtain their Internet services from either PISPs or SISPs.

ComTech found that technology implemented at the highest layer of the Internet in Australia, the BSP, had the potential to screen large amounts of Internet traffic. Because of the large amount of data flowing through BSPs at any particular time, fewer devices are required than would be the case at lower layers of the Internet hierarchy. However, any intervention at this level would have a marked impact on the performance of the Internet, and may also require significant modification of Australia's Internet infrastructure.

ComTech also examined the implementation of blocking or filtering devices at lower levels of the Internet in Australia. This could operate at the PISP or SISP level, requiring more devices to block content at a greater number of enforcement points. ComTech found that maintaining such a large network of devices would be a major task.

All of the technologies identified in the ComTech report rely on a list of sites and/or rules that identify or define restricted content. This so-called 'restricted list' would require ongoing maintenance as well as secure distribution to each of the enforcement points. The size of the restricted list and the work involved in keeping it up to date would be likely to increase dramatically over time, in line with the anticipated proliferation of interactive gambling services.

Advantages and disadvantage of filtering technologies

ComTech identified the following specific technologies:

- packet filtering;
- content filtering;
- router filtering; and
- detection-response filtering.

Packet filters

Packet filters work by examining the numerical Internet Protocol (IP) address of a web site (for example, 192.168.2.20). Access to that site can be restricted if it is has been identified as containing restricted content. Using packet filtering to block interactive gambling services would be both fast and efficient. However, it is possible that packet filtering would also block any other non-gambling content hosted on the same web server.

Advantages of packet filtering

- *Packet filters are generally faster than other filtering technologies because they perform fewer evaluations.*

- *Packet filters can be implemented as hardware solutions, providing a performance advantage.*

- *Packet filters do not require client computers to be configured in a specified manner – the packet filters do all of the work.*

Disadvantages of packet filtering

- *Packet filters do not understand higher-layered protocols and hence cannot restrict access to protocol subsets for even the most basic services, such as the commands in Hyper Text Transfer Protocol (HTTP).*

- *Packet filters do not offer value-added features, such as HTTP object caching, Uniform Resource Locator (URL) filtering, and authentication, because they do not understand the necessary protocols and consequently cannot discern one attribute from another.*

- *This means that packet filtering tends to be indiscriminate, and can block access to legitimate services. If the IP address of a gambling service is blocked, other services within the same IP address are also blocked.*

Content filters

Content filters examine the information contained in Internet traffic, such as the URL of the actual website (for example, http://www.gamblingservices.com/poker.htm) or keywords such as 'gambling' or 'poker.' URL-based filters are more precise than packet-based filters, and minimise the problem of blocking non-gambling content hosted on the same server. However, both packet and URL filtering use restricted lists, which require continuous development and maintenance. These methods are hence only as effective as the restricted list itself. Keyword-based content filters are also likely to block access to sites providing services and information to problem gamblers, since these sites will normally feature many of the same keywords as gambling sites.

Advantages of URL filtering

- *URL filters allow for more specific filtering than packet filters.*

- *URL filters can be implemented at any level of enforcement point.*

- *A number of vendors already maintain restricted lists for URL filters.*

Disadvantages of URL filtering

- *URL filters have an impact upon Internet performance. As every packet needs to be examined, it is necessary to 'route' all data though the URL filter. These devices are currently efficient when examining traffic up to speeds of 100 Mbps (megabits per second). Therefore, it would be difficult to implement a URL filter as a single device at each PISP without significantly impacting the general performance of the Internet.*

- *URL filtering is expensive to implement, as each service provider would be required to deploy and maintain at least one physical device.*

Another type of content filter uses keywords or other rules to identify restricted content. Once the rules for filtering have been established (for example, restricting any site that contains the words 'gambling,' 'poker' and 'bet'), a keyword filter can operate independently to identify restricted material. However, it is possible for these keyword filters to restrict sites that contain content that may use gambling-related words, while not actually providing a gambling service. The interactive gambling policy pages of NOIE's website, for example, contain words such as 'gambling,' 'wagering' and 'betting.' This problem can be minimised by making the filter's rules more sophisticated. However, increasing sophistication may correspondingly slow the filtering process.

Advantages of keyword filtering

- *Keyword filtering allows for more enhanced filtering of websites based upon the number of occurrences of particular keywords.*

- *Most commercial keyword filters also offer URL filtering functionality. Both content filtering methods can be used in combination.*

Disadvantages of keyword filtering

- *Keyword filtering is slower than packet filtering, as all data must be examined.*

- *Keyword filtering cannot be effective when data is encrypted. It should be noted that most interactive gambling services encrypt their data.*

- *Keyword lists are likely to prevent access to any sites that have information pertaining to gambling, rather than just interactive gambling service providers. This scenario may be unacceptable.*

Because content filtering delves into data on the Internet to examine information other than the IP address, more time is required to perform content filtering than packet filtering. Accordingly, this has a greater impact on Internet performance. Content filtering is also generally more expensive to implement than packet filtering.

Router filters

Router filtering uses IP address filtering in a similar way to packet filtering. Each website has a specific IP address and a 'route' that allows the site to be located on the Internet. This information is stored in a tabular form on devices called routers. ComTech found that router filtering could allow for the blocking of online gambling sites, although it suffers the same disadvantages as packet filtering.

Router filtering requires modifications to Australia's Internet routing infrastructure. By modifying the router tables with the IP addresses of restricted sites, a router filter can redirect a user's attempt to access a restricted site to a site informing the user that their access has been denied.

One of the main advantages of this approach is that it is hierarchical. Routers are located throughout the Internet at all layers. Because of this hierarchical arrangement, router filtering can rely on some redundancy in the system. If a particular router fails to detect a request for a restricted site, the router at the next layer up will potentially detect it.

However, routing is a fundamental aspect of the Internet's operation. Great care would be required to update the router tables to avoid disrupting the operation of the entire Internet. Incorrect or malicious changes to the routing infrastructure could result in a severe impact on the performance and stability of the Internet.

Unless an ISP has implemented carrier-grade routing equipment, ISPs will probably need to undertake the following upgrades to support router filtering:

- TFTP (Trivial File Transfer Protocol) server. The TFTP Server will be required to allow the router to download its configuration every time it is restarted. The number of routes prevents the configuration from being stored in its programmable memory.

- Memory. Most routers would require memory upgrades to support the increasing number of routes.

Advantages of routing table modifications

- *There is minimal impact on the performance of the Internet because a routing table lookup takes minimal time.*

- *It is relatively inexpensive to upgrade existing router infrastructure to accommodate this solution. The largest expense will be the maintenance and distribution of the restricted list, as this process is likely to be targeted by activists. Additional costs include memory upgrades for all routers to handle the increased number of routes to be stored and, where required, a TFTP server for the issuance of the router configuration files.*

- *This solution is hierarchical. If a router is not updated with the restricted-list but the service provider in the level above has been, then access to the site on the restricted list can still be blocked.*

Disadvantages of routing table modifications

- *Currently there can be minimal entries in the routing tables of Internet service providers. With the addition of all restricted list sites, there will be thousands of entries making any routing problems difficult to diagnose.*

- *There are high overheads associated with maintaining the list and ensuring its integrity during distribution and implementation.*

- *This solution is unlikely to scale to support tens of thousands of sites, and therefore is not an ideal solution for restricting additional services.*

- *Valid sites that are co-located with gambling services will also inaccessible.*

- *When modifying the router tables there is a high possibility that Internet routes can be deleted or changed if care is not taken. This could sever access to the Internet for gambling and non-gambling sites until any problems are rectified.*

Detection-response filters

ComTech examined detection-response technology as a potential means for identifying and dealing with restricted content. A detection-response filter examines Internet traffic for predefined content known to be associated with gambling sites. This content may include the IP address or a keyword. If the filter identifies that a user is attempting to access restricted content, the filter can respond by 'resetting' the connection between the user and the restricted site, thus preventing further access. Unlike other filters that operate by managing the flow of Internet data, detection-response technology operates alongside the flow of data. This means that it has virtually no impact on Internet traffic. However, ISPs may need to alter their infrastructure to take advantage of detection-response filtering.

Another feature of detection-response filtering is that it is sufficiently flexible to reset connections to both known and unknown gambling services on the Internet.

Advantages of detection-response technology

- *Detection-response has virtually no impact on network performance assuming data volume is within manageable limits.*

- *Commercially available products exist from a variety of vendors.*

- *The detection-response technology is located on a physical device separate to the Internet router.*

Disadvantages of detection-response technology

- *Detection-response technology currently operates only at a maximum of 100 megabits per second. This is due primarily to the limitations of both software and hardware. Research and development to improve performance is under way.*

- *Detection-response technology must be located in a position on the network that provides a view of all packets that are transmitted. This must exist within the infrastructure before the connection to a BISP or an international ISP can be made.*

- *Detection-response technology is not guaranteed to capture all packets; hence multiple devices may be needed to ensure adequate coverage.*

ComTech also examined carrier-level filtering, such as restricting connections to specific destinations, such as telephone numbers. However, because this option does not involve any kind of analysis of Internet traffic (it is effectively a toll-bar system) ComTech considered that it is not a viable blocking option.

Although these filters may prove relatively effective at preventing access to restricted content, there are a variety of methods that motivated and/or skilled users can use to circumvent each technology. ComTech found that some of the technologies were

more easily circumvented than others. Relatively simple methods such as dialling an overseas service provider from Australia could circumvent most blocking mechanisms, and are almost impossible to prevent without significantly more invasive powers of detection. However, accessing an overseas ISP from Australia would result in significant toll calls, as well as a sluggish Internet connection. These factors could deter most potential gamblers. However, it is likely that overseas gambling service providers and others who wish to promote circumvention of these techniques would develop and publicise methods to minimise such problems.

Another fairly easy circumvention technique involves using relay services to 'anonymise' the identity of the gambling site from the blocking technology. Gambling sites can also take steps to circumvent IP and URL filters. One method involves shifting the address details of the gambling service. However, given the considerable cost and complexity of establishing a new interactive gambling site or restructuring an existing site and the small size of the Australian market, it is unlikely many offshore providers would go to these lengths in order to avoid an Australian ban.

ComTech also identified the following supporting technologies needed to augment filtering options:

- proxy services;

- developing, managing and distributing restricted lists; and

- Internet Content Adaptation Protocol (iCAP).

Packet and content filtering use a proxy service to manage traffic for a specific protocol, such as Hyper Text Transfer Protocol or File Transfer Protocol.

Advantages of proxy services

- *Proxy services 'understand' and can enforce rules at high-level protocols, such as HTTP and FTP.*

- *Proxy services can be used to deny access to certain network services, while permitting access to others.*

- *Proxy services are capable of processing and manipulating packet data.*

- *By providing transparency, proxy services provide users with the appearance that they are communicating directly with external servers.*

- *Proxy services can route services elsewhere (for example, they can route services to an HTTP server on another computer).*

- *Proxy services can provide value-added features, such as HTTP object caching, URL filtering and user authentication.*

Disadvantages of proxy services

- *Proxy services introduce performance delays—inbound data has to be processed twice: once by the application and once by its proxy.*

- *Proxy services often require modifications to clients or client procedures—an overhead on the configuration process.*

- *Proxy services are able to be by-passed if the ISP does not enforce their use.*

- *Proxy services may require additional passwords or other validation procedures that introduce delays and can irritate users.*

Most of the filtering options considered by ComTech require a restricted list (or a 'black list'). A restricted list can be made up of IP addresses (for example, 147.243.54.230), domain names (for example, noie.gov.au), specific URLs (for example, http://www.noie.gov.au/projects/gambling.htm) or keywords and rules (for example, block sites featuring the words 'poker' and 'gambling').

ComTech points out that restricted lists need to be developed and regularly maintained. This is particularly so for lists targeting interactive gambling sites. These sites have grown rapidly over the past few years and will continue grow at a considerable rate.

Restricted lists would need protection from attacks by crackers or other unauthorised tampering. Without adequate protection, unauthorised persons could amend a list to undermine its effectiveness, or could add important non-gambling sites, thereby crippling access to these sites. Because of the increasing sophistication of cracker technology, sophisticated security is required to protect the integrity of restricted lists. Furthermore, security is required at all stages of the development, storage and distribution and use of the restricted lists.

ComTech reports that the Internet industry is becoming more aware of the need to monitor and control web content. The industry may use a protocol called Internet Content Adaptation Protocol (iCAP) to control content. iCAP enables communications between devices such as web caches and application servers, and allows ISPs to vary content in real-time. ComTech suggests that some providers could adapt this technology to create differentiated services to filter out certain content such as gambling content. The iCAP Forum plans to present its model soon to the Internet Engineering Task Force, which sets many of the technical standards for Internet technology.

Cost of implementing the technology options

The ComTech report provides some preliminary estimates of the industry-wide implementation and maintenance costs associated with each of the technology options identified for enforcing a ban on interactive gambling.

ComTech analysis shows the costs associated with each option vary considerably, depending on where the technology is deployed; that is, at which enforcement point the technology is implemented. Based on this analysis we can estimate the cost of implementing the various options is as illustrated in Table 4.

Table 4
Estimated Costs Associated With Filtering and Blocking Technologies

Technology	Cost Range
Packet filter	
Up-front purchase of hardware and software	< $100 000 to $1 million
Implementation	$100 000 to $1million
Ongoing maintenance costs	< $100 000 to $500,000 per year
URL filter	
Up-front purchase of hardware and software	$1 million to $2 million
Implementation	$1 million to $2 million
Ongoing maintenance costs	$500 000 to $1 million per year
Routing list	
Up-front purchase of hardware and software	< $100 000 to $1 million
Implementation	$100 000 to $1 million
Ongoing maintenance costs	< $100 000 to $500,000 per year
Detection-response (known)	
Up-front purchase of hardware and software	$1 million to $ 2 million
Implementation	$500 000 to $2 million
Ongoing maintenance costs	$100 000 to $ 1 million per year
Detection-response (unknown)	
Up-front purchase of hardware and software	$1 million to $ 2 million
Implementation	$1 million to $2 million
Ongoing maintenance costs	$500 000 to $1 million per year

The costs of detection-response filtering are broken down into 'known' and 'unknown' in this table. A list of known sources of interactive gambling services can be targeted with this method, as well as unknown sources through the examination of

Internet data for defined features. The cost of applying detection-response filtering to known Internet sites is thus a subset of applying it to both known and unknown sites.

To the yearly maintenance costs for each solution should be added the cost of maintaining the restricted list, which requires personnel and secure facilities. ComTech estimated the yearly industry-wide cost of restricted list maintenance to be between $100 000 and $1 million.

All of these yearly maintenance costs are based on the current size of the interactive gambling industry worldwide and presently available circumvention methods. Growth in the industry and more aggressive circumvention efforts would result in corresponding growth in cost for most solutions, with no cap on cost growth.

In other words, ComTech's estimate is that the cheapest solution would cost approximately $200 000 to implement and approximately $200 000 per year to maintain under present circumstances (rising uncapped as time passes). This would involve packet filtering at the backbone enforcement point. This estimate does not include costs to the Internet industry and the Australian community of slower Internet access and the unintended blocking of access to legitimate services. Packet filtering is also relatively easy for users with even moderate skill levels to circumvent, and would become easier over time as circumvention methods become more widely known.

In the upper range of cost would be an implementation of a detection-response technology that can block access both to known and unknown gambling sites. This would cost between $3.5 million and $8 million to implement and between $700 000 and $3 million to maintain initially (rising uncapped as time passes), with relatively low flow-on costs in terms of Internet performance and collateral impact on legitimate sites. Detection-response technology, however, is even more vulnerable to circumvention than packet filtering, requiring virtually no skill on behalf of the user. It is also not yet sufficiently advanced to monitor all Internet traffic.

In order to identify an optimal solution, the Government would need to balance factors such as effectiveness, how and where the technology is implemented, its effect on Internet performance, and the cost of implementation and ongoing management.

Bearing the costs of enforcing a ban

Given that the cost of implementing and maintaining any of the technological options is likely to range in the hundreds of thousands or millions of dollars according to ComTech's estimates, the Commonwealth will need to consider whether it is appropriate for PISPs, SISPs and/or BISPs to bear the cost of enforcing a ban on interactive gambling, or whether some other arrangement is appropriate.

Since responsibility for supervision of any banning option would fall to a Government agency, additional costs would also need to be borne by the Commonwealth in relation to the implementation and maintenance of technical measures. The cost of this supervision would be likely to rise with the growth of the interactive gambling industries and the corresponding complexity of the required technical measures.

If the Commonwealth does require service providers to bear the cost of enforcing a ban, it is likely that providers will ultimately pass these costs onto consumers. This could in turn adversely affect Australia's role as a leading nation in the uptake of e-commerce. Furthermore, given the highly competitive nature of the Internet industry in Australia, it is possible that carrying additional costs of this magnitude could adversely affect the competitiveness of smaller businesses such as SISPs. The Commonwealth should further consult with the Internet industry on how the cost of enforcing a ban on interactive gambling could be borne.

How easily are these technology options circumvented by users?

The ComTech report demonstrates that determined and/or skilled users can circumvent all of the technology options identified as being suitable for supporting a ban on interactive gambling. However, some of the options are more susceptible to circumvention than others.

ComTech identified the following methods that determined users could currently employ to circumvent a ban on interactive gambling:

- encryption;
- relay (or 'anonymiser') services;
- direct dial-up;
- incomplete restricted list;
- IP spoofing; and
- flooding.

It should be noted that Internet user culture is such that other methods are likely to evolve and become simpler to use if a ban is implemented.

Encryption

Encryption is a useful means of protecting personal and private information. Encrypted messages are decipherable only by a nominated recipient with corresponding decryption technology. Encryption technology is becoming cheaper and more readily available to all Internet users. Users can employ encryption to mask their activities in order to circumvent a ban on interactive gambling.

Relay services

Relay services such as http://www.anonymizer.com/ give users the ability to 'bounce' requests for prohibited sites from a third-party server located offshore. In other words, the user appears to be connected to the Internet via the relay service, rather than the ISP with which the original Internet connection was made. Similarly, content requested by the user from an IGSP would appear to be originating from the relay service, rather than the IGSP itself. The filtering technology would be unable to prevent access to this content.

Direct dialup to overseas ISPs

An obvious and relatively easy means of circumventing an Australian-based ban would be to direct dial an overseas ISP or use the 'international roaming' access option offered by some local ISPs. Users will however face significant delay in connection speed, as well as the cost of an international toll call. These factors would probably discourage all but the most determined gamblers from using this option.

Restricted sites not listed

As new gambling sites continue to emerge, it is possible that temporary gaps would appear in restricted lists. Users could exploit these gaps by identifying interactive gambling sites that are not included on restricted lists. While difficult and time consuming, it is possible that once identified, the user could disseminate this information to others seeking to circumvent a ban.

IP spoofing

IP spoofing is a highly sophisticated means of evading detection on the Internet. Essentially, it involves masking or altering IP address information in order to fool filtering or blocking technologies. It is likely that, for the immediate future, IP spoofing, will remain an option for crackers and other technically proficient users only.

Flooding

Flooding is a means for evading detection response technology. It involves deliberately flooding a packet filter with a large amount of data, thus making it more difficult to detect the transfer of data from a prohibited site.

Table 5 provides a summary of the various circumvention techniques available to those users who are determined to circumvent a ban on interactive gambling.

Table 5
Circumvention Methods

Circumvention method / Technology	Relay service	Encryption	Non-listed	Flooding
Packet filter	Challenging	✖	Difficult	✖
URL filter	Challenging	Simple	✖	✖
Routing	Challenging	✖	Difficult	✖
Detection-response known	Challenging	✖	Difficult	Complex
Detection-response unknown	✖	Simple	✖	Complex

Where a 'simple' method exists, a home user could circumvent the solution with little effort. A 'challenging' method could be implemented by a regular user of information technology and the Internet with several hours of effort. A 'difficult' method would require a working knowledge of information technology and the Internet, access to a range of resources, and several days of planning. A 'complex' method would require a thorough understanding of the Internet and associated technologies and require several weeks of activity. However, once circumvention methods are known they can be widely and quickly circulated to interested users.

ComTech's analysis shows that any ban on interactive gambling is susceptible to circumvention. The various techniques range in sophistication and likely effectiveness. However, it is clear that no blocking technology will be 100 per cent effective at preventing determined and/or skilled users from circumventing a ban.

Delivery of interactive gambling services involving radiocommunications spectrum

Digital broadcasting

It has been suggested that digital radio and television broadcasts and datacasting might serve as a platform for the delivery of interactive gambling services in the future. There is, for example, the potential for real-time gambling to accompany live broadcasts of sporting events, such as ball-by-ball wagering on cricket fixtures.

Interactive gambling would be made possible not by a broadcast alone, but by the combination of the broadcast with an accompanying 'backchannel,' which allows the viewer to respond to or interact with elements of the broadcast via a return transmission. Backchannelling can theoretically occur via the radiocommunications spectrum (for example, a signal from a terrestrial dish back to a satellite from which the broadcast originates) or via the public switched telephone network in the form of an Internet communication, for example.

Commercial domestic broadcasting in Australia is governed by the *Broadcasting Services Act 1992*. A decision to ban certain types of content or services—such as interactive gambling—from being offered in conjunction with domestic broadcasts could take the form of a legislative change affecting the licence conditions of broadcasters. The *Interactive Gambling (Moratorium) Act 2000* covers interactive gambling services 'provided to customers using … a broadcasting service [or] a

datacasting service.' The Act adopts definitions of 'broadcasting service' and 'datacasting service' from the *Broadcasting Services Act 1992*.

However, some datacasting services in the future may also act as Internet service providers. In this case, the licensee will not be the provider of all of the content that could be accessed through that service. Such Internet content would not necessarily be specifically covered by the conditions of the datacasting licence. For this reason, any ban seeking to cover domestic and foreign interactive gambling services, including those made available via datacasting services, would need to be technologically neutral.

Under a ban, a datacasting licensee that provided both its own content and an Internet carriage service may have obligations both as an interactive gambling service provider and an Internet service provider. The licensee may be required to discontinue gambling services that it provides directly (if any), and in addition take measures to block gambling services available through its Internet carriage service.

It is also possible for Australian viewers to receive 'fortuitous' signals intended for other jurisdictions. The radiocommunications spectrum is regulated globally by the International Telecommunication Union (ITU) in consultation with national radiocommunications regulatory authorities. The ITU ensures that an ITU Member State has control of the radiocommunications spectrum within its territory, effectively allowing governments to license domestic broadcasters. However, broadcasts delivered to one jurisdiction can result in weak signals to neighbouring jurisdictions without contravening ITU rules. These are known as fortuitous signals and can be received by viewers with specialised equipment. Corresponding backchannel facilities and interactive services could theoretically also be accessed.

It is thus possible that interactive gambling services could be accessed by Australians from broadcasters that fall outside the jurisdiction of Australia's broadcasting licensing regime. The ITU framework also does not provide for management of these fortuitous signals by domestic governments. However, the specialised nature of the required equipment and the marginal coverage of fortuitous signals make it likely that this will never be more than a hobbyist activity.

Wireless Application Protocol and interactive mobile telephone services

Existing second generation mobile telephones support Wireless Application Protocol (WAP) technology, which allows users of mobile telephones to access basic interactive services and information services, including some Internet services. Third generation (3G) mobile telephones will support more advanced interactive services. WAP and 3G therefore have the potential for the delivery of interactive gambling services via mobile telephones.

As is the case with datacasting, any would need to be technologically neutral. Under the *Telecommunications Act 1997*, all providers of telecommunications services are either carriers or carriage service providers, regardless of whether the service uses

mobile or fixed technology, or analog or digital signals. For this reason, providers of WAP or 3G mobile telephony services could be covered by a ban in one of two ways.

Firstly, if such a carriage service provider was also an interactive gambling service provider, then a ban could prohibit its gambling activities without reference to its specific telecommunications technology or platform. This would be the case if, for example, a mobile telephone company bundled its own gambling service with the purchase or rental of the telephone.

Secondly, if the carriage service provider could be used by an Australian consumer to access interactive gambling services via the Internet, then it could be treated as an Internet service provider. This would be the case if a 3G telephone company, for example, bundled Internet access with the purchase or rental of a telephone, and Australian users accessed Internet-based interactive gambling services with it. The service provider could be required to implement whatever measures were required of any Internet service provider to block Internet content, irrespective of the technology of the service.

Key points: technology options

- *There are various means of circumventing each of the technologies identified as being able to support a ban on interactive gambling.*

- *These options range from being fairly simple workarounds to technically complex methods.*

- *Given the availability of these circumvention options, a ban on interactive gambling will not be 100 per cent effective.*

- *Interactive gambling services provided through digital television broadcasts or third generation mobile telephony could be banned through legislative change.*

IMPACT ANALYSIS

The economic impact of a ban

NOIE commissioned Econtech to model the economic benefits and costs of banning interactive gambling.

The Econtech report concludes that there may be modest economic benefits from banning online gambling. These benefits result principally from the impact that a ban could have on limiting gambling online. Econtech concludes that any ban should apply to imports. Econtech also points to the inconsistent tax treatment of interactive and traditional gambling in States and Territories, and suggests that banning the lower-taxed form of gambling service would be expected to increase State and Territory revenues.

Because interactive gambling is simply a segment of the total gambling market, the economic benefits and costs of banning online gambling are small relative to the economic benefits and costs of the gambling industries generally. The Productivity Commission's conservative estimate of the social costs of gambling on an annual basis was in the billions of dollars, whereas the most favourable of Econtech's scenarios for a ban on interactive gambling yields a potential gain of less than $100 million.

The Productivity Commission, in its major report on gambling warned that quantification of the costs and benefits of the gambling industry is 'hazardous'. Modelling of the costs and benefits of banning interactive gambling is highly sensitive to the broad range of assumptions required for such an exercise. The Econtech report also carries caveats and it is recognised that the results of this study need to be treated with caution. Nonetheless, the Econtech study provides important information to shape debate on this issue.

Econtech was not asked to include in its analysis the possible costs to industry and Government to implement and enforce a ban, because the technical and economic studies were concurrent. A broader analysis of economic costs and benefits of a particular option—incorporating the findings of the Econtech study but extending beyond the scope of the Econtech study—would need to be undertaken in regulatory impact analysis of any proposed ban.

An overview of the Econtech methodology and findings follows.

Overview of Econtech's findings

Econtech modelled four banning scenarios. Under each scenario, the ban applies to the interactive equivalents of all forms of gambling including wagering, casinos, electronic gaming machines and lotteries.

Econtech developed an Interactive Gambling Model (IGM) specifically for its report. The model covers the entire economy, but has a special emphasis on gambling, both

interactive and traditional. It should be noted that this model represents only one attempt to predict the economic impacts of a ban on interactive gambling services. Its findings are not definitive.

Banning scenarios

Econtech's baseline scenario assumed that the interactive gambling industry, while currently small, will grow to a mature size many times larger than its present size. Econtech used the IGM to model the following four banning options by calculating the effects of each ban compared with the baseline scenario:

1. *a narrow ban*: a ban only on local companies supplying interactive gambling to Australian residents;

2. *a partial (60 per cent effective) ban on imported gambling services*: a ban extended to imports, with 60 per cent effectiveness on offshore providers;

3. *a total import ban*: an import ban assumed to be totally effective (for the purposes of computer modelling, totally effective means 90 per cent effective); and

4. *a complete ban*: a ban covering both imports and exports, including the provision of gambling services by Australian companies to foreign residents.

Chart 1
Assumed changes in local sales, imports and exports of interactive gambling services under alternative banning scenarios
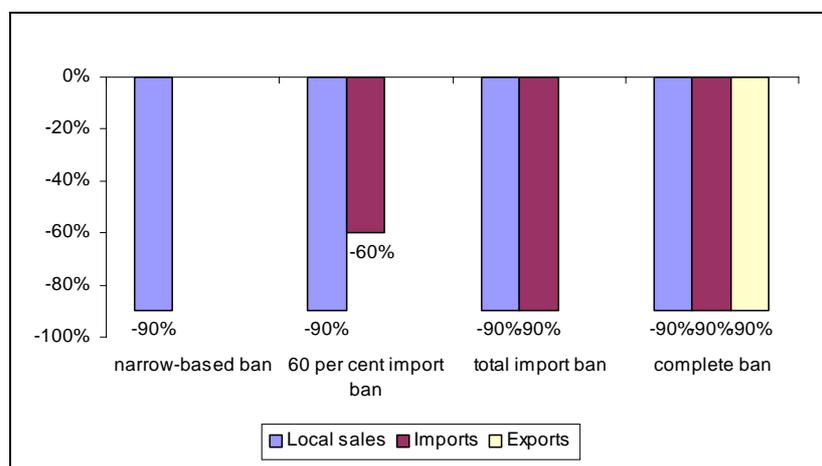
Note: for technical modelling reasons, total bans are modelled as 90 per cent bans.

Benefits and costs of gambling

The Productivity Commission report on gambling divides gambling into two categories, recreational and problem gambling. Recreational gambling is no different from other consumer products in that it provides consumers with benefits. Problem gambling is different because it incurs specific social costs beyond the costs of producing the gambling services. For example, problem gamblers and those affected by problem gambling are often also consumers of social services.

To accommodate a wide range of views, the IGM allows for three alternative assumptions about the level of specific social costs from traditional and interactive gambling:

1. *gambling is not harmful*: gambling involves no specific social costs;

2. *gambling is harmful (PC)*: gambling involves social costs similar in magnitude to those estimated by the Productivity Commission; and

3. *interactive gambling is more harmful than other forms of gambling*: the specific social costs for interactive gambling are assumed to be 30 per cent greater than for traditional gambling.

The third assumption is based on the idea that users of interactive gambling services may be more prone to problem gambling because of greater accessibility.

Effects of bans on economic welfare

Chart 2 shows the estimated economic welfare effects of the four alternative bans under each of the three alternative assumptions about the social costs of gambling.

Chart 2
Annual effects on economic welfare of alternative gambling bans under alternative assumptions about the harm from gambling ($ million)
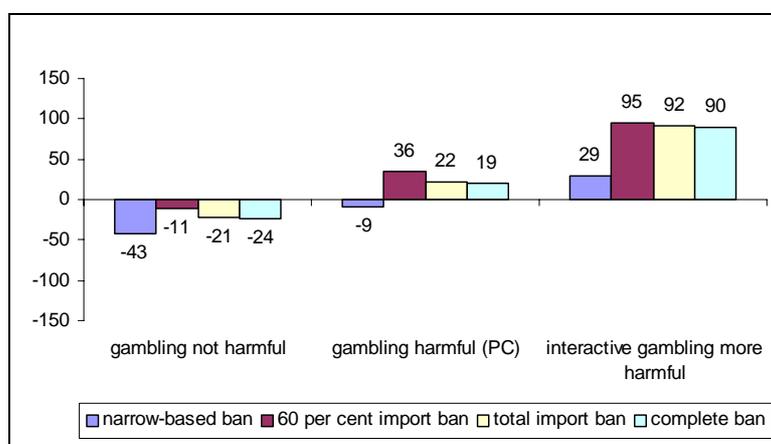
The results in Chart 2 address two questions. First, if the Government does decide to ban interactive gambling, what should be the nature of the ban? Secondly, should interactive gambling be banned at all?

Econtech's results suggest that if the Government did want to ban interactive gambling, it should apply the ban to imports. The chart shows that whatever assumption is made about the social costs of gambling, the outcome for economic welfare, while moderate, is higher under a wider ban (which includes imports) than under a narrow ban (which is confined to local providers). Compared with the wider bans, the narrow ban distorts consumer choices by favouring imported services over locally produced interactive gambling.

Equally, the model suggests that there is no direct benefit to national economic welfare from including exports in the ban, as in the complete ban. This is because exports of interactive gambling do not impose any social costs on Australian residents. However, the Commonwealth may need to take into account non-economic considerations such as concerns of foreign governments about their citizens consuming Australian gambling services.

Econtech proposes that, if the Government's objective is to maximise national economic welfare, and if it intends to ban interactive gambling, the ban should cover interactive gambling supplied to Australian residents. It should be applied to both local and offshore providers, but should not cover the supply of interactive gambling to foreign residents.

This means that the most beneficial ban, according to Econtech's modelling, corresponds to the second scenario ('60 per cent import ban') or the third scenario ('100 per cent import ban'), depending on the effectiveness of the import ban.

Econtech modelled a number of scenarios about the social cost of gambling. The first assumption modelled was that gambling generally has no specific social costs ('gambling not harmful'). If this was the case, any ban on interactive gambling, no matter how narrow or wide, would involve a loss in economic welfare. Econtech's findings suggest that, under this unrealistic assumption, any ban lowers economic welfare by restricting the choices available to consumers. As shown in Chart 2, Econtech's estimate of the annual loss under this form of ban is $11 million to $21 million depending on the effectiveness of the import ban.

Econtech modelled a second assumption: that all gambling had social costs similar to those estimated by the Productivity Commission ('gambling harmful (PC)'). Under this assumption, it is suggested that a ban may modestly raise economic welfare. As shown in Chart 2, the estimated annual gain under the recommended form of ban is $22 million to $36 million depending on the effectiveness of the import ban. Econtech's report suggests that it is there is little economic rationale for banning interactive gambling while not banning traditional, offline gambling, unless there are differential social costs for each form of gambling.

Econtech found that most jurisdictions tax interactive gambling less than they do traditional gambling. On the imports side, interactive gambling completely escapes

Australian gambling taxes. On the local production side, interactive gambling is prone to tax competition between States and Territories because providers can operate from any State or Territory and provide services Australia-wide. Thus, most interactive gambling sites are licensed in States or Territories with low gambling taxes, such as the Northern Territory or Tasmania, or those that offer specific tax breaks to the interactive gambling industry. For example, the Australian Capital Territory applies a lower tax rate to interactive casinos than to its traditional, bricks and mortar casino.

The report argues that the best way of dealing with any problems associated with concessional tax treatment of interactive gambling would be to eliminate tax concessions. This would require unifying gambling tax rates across the country, across both types of gambling, and across locally provided and imported supplies. However, in view of tax competition between States and Territories, this is unlikely. Assuming interactive gambling has social costs, a ban provides a 'second best' way of responding to the artificial encouragement given to interactive gambling by its concessional tax treatment.

Econtech tested a third assumption in the model: that the specific social costs for interactive gambling are 30 per cent greater than for traditional gambling ('interactive gambling more harmful'). Under this assumption, the model suggests that a ban on interactive gambling modestly raises economic welfare. As shown in Chart 2, the estimated annual gain under the recommended form of ban is $92 million to $95 million, depending on the effectiveness of the import ban. In addition, a ban appears to provide a rough correction to the effects of the concessional tax treatment for interactive gambling.

One of Econtech's more surprising findings was that, whatever assumption is made about the social costs of gambling, a 60 per cent effective import ban is somewhat better for economic welfare than a 100 per cent effective import ban. It argues that a severe restriction on access to interactive gambling would yield stronger economic benefits than a total ban.

Effects of bans on State revenues

Another Econtech finding is that a ban on interactive gambling may actually have a positive effect on State revenue. Interactive gambling sites are concentrated in the smaller States and Territories (Tasmania, the Australian Capital Territory and the Northern Territory), which offer low tax rates for interactive gambling. These sites will, in part, attract gambling dollars away from the mass markets for traditional, highly taxed gambling in the larger States. This will result in a significant net loss in State and Territory gambling tax revenue.

By averting this leakage from high-taxed traditional gambling, an interactive gambling ban may boost State gambling tax revenue (the wider the ban, the larger the boost). Under the recommended form of ban, the model suggests that the annual gain in gambling tax revenue ranges from $34 million to $42 million, depending on the effectiveness of the import ban.

Effects of bans on industry activity

A ban on interactive gambling would reduce economic activity in the interactive gambling industry, with the extent of the reduction depending on the nature of the ban. Chart 3 shows a loss of 3 800 jobs from the interactive gambling industry under the complete ban

That is, industry policy affects the industry mix of jobs rather than the total number of jobs, which depends on labour market policies. Industry policies need to be judged on their effects on economic welfare, as in the above assessment of the various banning options.

Chart 3
Industry Effects on Employment of the Complete Ban ('000s)
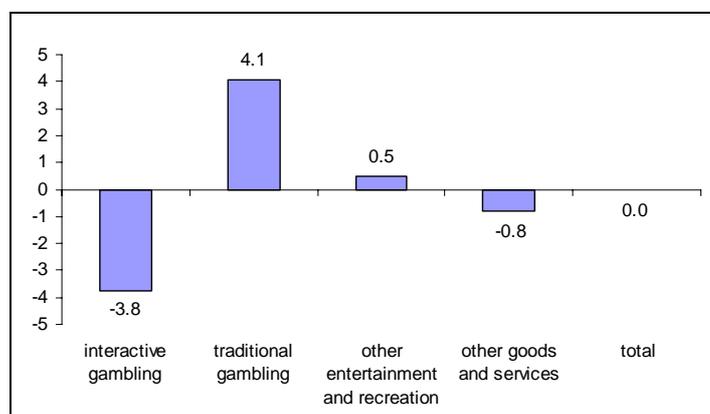
However, this result is subject to two important qualifications. First, this employment decrease is hypothetical. It compares a situation in which the interactive gambling industry is banned with a situation in which it is allowed to grow to maturity with about 4 000 jobs. At its present formative stage, there are few people employed in the Australian interactive gambling industry, and the actual job losses from imposing a ban now would be measured in the hundreds rather than thousands.

Secondly, and more importantly, this job loss is offset by job gains in other industries, particularly traditional gambling. This reflects a more general point that unemployment levels in Australia depend on the efficiency of the Australian labour market, not industry policy issues such as whether or not interactive gambling is banned.

Effects on trade

Finally, Econtech found that while import and export bans would result in lower trade flows, none of the banning scenarios show a significant effect on the trade balance. This is because, in the long-term, the real exchange rate adjusts to achieve a sustainable trade balance. Furthermore, export and import values are not measures of economic welfare.

Key points: economic impact

- *Econtech's modelling suggests that if interactive gambling generates any social costs, then a ban will generally lead to a modest annual gain to the Australian economy. Possible costs to industry and Government in implementing a ban were not considered by Econtech.*

- *From an economic standpoint, any ban does not have to be 100 per cent effective to be economically beneficial.*

- *Econtech also found little economic rationale for banning the export of interactive gambling to offshore consumers while minimising the negative social impact of imported gambling by banning it.*

- *In economic terms, banning would not have a significant impact on the balance of trade or the labour market. However, because interactive gambling is, on average, a low-taxed activity, banning interactive gambling may boost State and Territory tax revenues;*

- *These findings, however, are the result of a single attempt at economic modelling, and should be regarded as subject to qualification.*

The social implications of a ban

The key social concerns that have emerged in the debate on interactive gambling are as follows:

- Internet gambling will greatly increase the accessibility of gambling. Research shows a significant relationship between accessibility and the prevalence of problem gambling.

- the special attributes of interactive gambling, such as its ease of use and the type of products available may exacerbate the prevalence of problem gambling.

- interactive gambling will expose new audiences, such as young people to gambling, thereby increasing the potential for an overall increase in problem gambling.

- early intervention and support to problem gamblers may be more difficult to provide via the Internet than in current gambling venues.

- interactive gambling may have a further negative impact on the community through the narrowing of leisure choices, an increased 'gambling mentality' with wider acceptance of gambling and the potential for increased isolation of individuals.

Social implications of a ban on interactive gambling

Since interactive gambling represents an increase in the accessibility of gambling services, a ban would potentially prevent a new cohort of problem gamblers from emerging.

It is widely anticipated that interactive gambling has the potential for significant growth over the next five years. However, the survey into the impact of banning interactive gambling services commissioned by FaCS suggests that there is currently relatively little use of the Internet for gambling, and that predicted rates of Internet access (and the possibility of accessing interactive gambling services) are not very high. Moreover, only six per cent of respondents felt that having gambling sites on the Internet was a good thing, and 96 per cent of respondents said they had no, or very little interest in accessing gambling on the Internet.

This would suggest there would be very little actual or perceived detriment to the Australian population if interactive gambling was banned. Further, 68 per cent of respondents supported the imposition of a ban, and only one per cent of respondents said they would play banned sites if they came across them. Another nine per cent said they would look at a site if they came across it, and 60 per cent said they would just avoid the site.

Consistent with the findings of the Productivity Commission, the survey also showed 72 per cent of respondents agree that there is too much gambling. Proposing a ban on interactive gambling services may serve to communicate to the community that this concern about the quantity of gambling is being addressed, alongside concerns about the negative social consequences of problem gambling. As the survey indicates, 60 per cent of respondents are five minutes or less away from an offline gambling venue. Banning a new, and relatively little-used form of gambling is unlikely to disadvantage anyone wishing to be able to gamble.

Banning the use of interactive gambling

The findings of the FaCS survey suggest that there may be a strong deterrent factor for users in a Government move to ban interactive gambling. A ban that made illegal the use of interactive gambling may be worth examining. Although ostensibly difficult to enforce, it may act as a means of deterring Australian Internet users from accessing interactive gambling services.

Consumer advice

There may be a need for a consumer advice campaign to complement a ban on interactive gambling. Such a campaign could inform the community of the potential risks and dangers of gambling online and be targeted at potential new groups of gamblers emerging with the increased accessibility of interactive gambling services.

Key points: social impact

- *There is currently very little use of the Internet for interactive gambling, and the FaCS survey found that few people expressed interest in interactive gambling.*

- *68% of respondents to the FaCS survey supported a ban on interactive gambling, and most would avoid a banned gambling site if they came across it.*

Other potential impacts of a ban

Potential impact on new economy development

Aside from the economic and social impacts, a ban could also negatively impact on Australia's position as a leading player in the developing new economy.

Recent research including NOIE's *Current State of Play*, reports by consultancies Merrill Lynch and Goldman Sachs, and a study by the Organization for Economic Cooperation and Development (OECD) confirm Australia's position as a leading new economy. However, representatives from the gambling and Internet industries have argued that, should Australia attempt to block or filter certain e-commerce activities (such as interactive gambling), it could develop a reputation as an 'old economy,' struggling to come to terms with new economy developments. No other developed country has attempted to implement a technical program of any scale for controlling Internet content, with the partial exception of Singapore. This reputation could deter investment in e-commerce activities and infrastructure in Australia.

The *Strategic Framework for the Information Economy* (released in January 1999) provides a vision statement and sets a national direction for Australia's future in the information economy. It does so by identifying key issues and priorities for action. The *Strategic Framework* makes it clear that the development of Australia's information industries is a national priority. However, it is also clear that the social consequences of certain types of online service are to be taken into account in the framing of an appropriate legal and regulatory environment for the information economy. While interactive gambling is a rapidly growing e-commerce industry in Australia, and a ban would curtail investment within this industry, the Government has also committed itself to protecting the Australian community from socially harmful aspects of the online environment.

Impact on gambling-related, ancillary services

It is possible that a ban on interactive gambling will not only affect gambling providers, but also a range of ancillary industries that are directly or indirectly supported by the developing interactive gambling industry in Australia. The interactive gambling industry supports a number of ancillary industries including specialist software development, secure transaction services, high volume web hosting services and network engineering services. IGSPs are early (and successful) adopters of e-commerce technology, and any ban on interactive gambling providers could compromise the immediate development of these ancillary services as well. It is equally possible that companies such as gaming software developers might simply provide their services to offshore interests.

Key points: other potential impacts

- *Banning interactive gambling might be perceived or represented as an 'old economy' solution for 'new economy' developments.*

- *Banning interactive gambling might also affect a range of ancillary services that depend on interactive gambling services, such as software development.*

Conclusion: impact analysis

- *An economic model indicates that a ban may result in a moderate net benefit to the Australian economy.*

- *Because interactive gambling is a low tax activity, it is possible that State and Territory revenues would increase if interactive gambling is banned.*

- *A FaCS survey has found that very few people currently gamble online and, if it were banned, almost all would respect that ban. The survey also identified strong public support for ban on gambling.*

- *Banning interactive gambling may have deleterious effects on Australia's reputation as a leader in the global information economy, and may also adversely affect IT investment and parts of the IT industry associated with the interactive gambling industry.*

CONSULTATION

Throughout the investigation, the Commonwealth has maintained close contact with industry, consumer groups, and other interested parties. The Commonwealth also called for public submissions and facilitated an interactive gambling forum to discuss the feasibility and consequences of a possible permanent ban.

Submission Process

NOIE received 59 submissions in response to public advertisements. Of these, 70 per cent favoured regulation rather than a ban. Just under a quarter favoured banning. The remaining seven per cent expressed other views. Copies of submissions are available on the NOIE website at http://www.noie.gov.au/gambling. A list of submissions is appended to this report.

On negative social impacts

Submissions were evenly divided on the potential for new interactive gambling to create negative social consequences. Most argued that there were probably limited negative social consequences in a properly regulated environment. A number of wagering providers sought to differentiate wagering from gaming as a source of harm.

On economic impacts

About a third of the submissions expressed concern about the damage that a ban would cause the developing interactive gambling industry. Many submissions claimed that interactive gambling is a model e-commerce business. Approximately a third of the submissions also expressed concern about the economic impacts of a ban, centred on the effect on State and Territory tax revenues and export earnings.

Roughly a fifth of the submissions were concerned about the social costs of interactive gambling, and considered that the offsetting of social security outlays resulting from a ban would outweigh the cost of implementing such a ban. Other issues raised included the costs of a ban for ISPs and employment in the gambling industry.

On the feasibility of a ban

Over half the submissions argued that a ban would not be technically feasible. Nine submissions suggested that a ban is technically feasible, but four of these said that a ban would probably be costly to implement and enforce.

On financial transactions

Over half the submissions made no comment on the possibility of using financial transactions to enforce a ban. The remaining submissions were evenly split between those who suggested that targeting financial transactions was a workable option and those who considered such an approach unworkable.

Contrary to Australia's e-commerce strategy

More than half the submissions made no comment on this issue. However, of those submitters that did comment, well over a third thought that a ban would be contrary to Australia's e-commerce strategy. Only a two submitters thought that a ban would have negligible effect on the industry, and only one thought this issue irrelevant.

Compensation and liability issues

The majority of submissions did not comment on the potential liability issue. However, just under a quarter of the submissions thought that the Commonwealth would need to consider compensating providers.

Enforcing a ban

Three quarters of the submitters did not comment on whether law enforcement agencies could enforce a ban. Of those who commented, just over half thought that law enforcement agencies would not be able to enforce a ban. However, a significant minority thought either that law enforcement agencies could enforce a ban effectively, or that it did not matter whether the ban was 100 per cent enforceable.

'A ban will expose gamblers to more harm'

Nearly half of the submitters commented on the potential for a ban to expose Australian gamblers to harm. Of these, the clear majority thought that a ban would expose Australian gamblers to harm (generally because of the perceived limitations of technical measures for blocking access to unregulated foreign sites coupled with the absence of a regulated domestic alternative). A small number of submitters considered that a ban would protect Australians from harm by blocking access to unregulated offshore sites.

Interactive gambling forum

On 17 October 2000, the Commonwealth Government hosted an interactive gambling forum in Melbourne. The forum was attended by representatives from the gambling industry, social coalition and church groups, State governments and academia. Attendees were invited to build on written submissions to the Government's study.

Discussion focussed on:

- banning, regulation and mixed approaches;

- the social harm associated with interactive gambling;

- issues that require further research;

- existing legal frameworks in States and Territories;

- the possibility of regulatory uniformity across Australian jurisdictions;

- distinctions between wagering and gaming;

- the technical implementation of a ban;

- measures that could be applied to financial transactions; and

- enforcement issues.

Mr John Dalziel from the Salvation Army and Professor Jan McMillen from the Australian Institute for Gambling Research argued that further research was needed before a proper assessment of the scale and social impacts of interactive gambling could be made. The Hon Nick Xenophon MLC (South Australia) suggested that the widespread accessibility of Internet services made harm minimisation measures very difficult to implement. Mr John Mortimore of Tattersall's suggested that, historically, illegal gambling has been eliminated by the introduction of regulated alternatives such as TABs, and that properly regulated interactive gambling will be no different. Mr David Charles from TABCORP suggested that it was important to make a policy distinction between wagering and gaming, since wagering involved a third party event and a time delay. Mr Stephen Carroll from the Australian Bankers' Association suggested that a ban on gambling transactions would be difficult to police because gambling service providers employ a number of different methods to allow players to transfer funds. The proceedings of the forum are available on the NOIE website at http://www.noie.gov.au/gambling.

Key points: forum

- *Participants at the Interactive Gambling Forum were divided in their views on an appropriate response to interactive gambling. Some supported a ban while others supported regulation.*

- *There was broad agreement that further research into the scope and effects of the interactive gambling industry would be appropriate.*

CONCLUSION: WHAT DOES THIS TELL US?

Can the Commonwealth ban interactive gambling?

It is feasible in a strict technical sense for the Commonwealth to pursue a ban on interactive gambling. However, such a ban would have negative consequences that are primarily technical in nature.

ComTech's report identified some technological options for supporting a ban on interactive gambling. However, ComTech also indicated that these options have drawbacks, including:

- the cost of implementation and maintenance;
- negative effects on Internet performance in Australia; and/or
- unintended restrictions on Internet access.

In addition, ComTech confirmed that determined users would be able to evade technological options for enforcing a ban on interactive gambling. This means that any ban that relies wholly on technology to prevent users from accessing offshore gambling would never be 100 per cent effective.

Econtech's economic modelling suggested that a heavy restriction on interactive gambling could have modest benefits for the Australian economy generally and for State and Territory revenues in particular. This conclusion remains hypothetical, however.

If the Government decides to proceed with a ban on interactive gambling, it will need to conduct rigorous regulation impact analysis to assess carefully the various technical options described in the ComTech report in order to identify an optimal option. Such an assessment would need to take account of a range of issues including:

- cost of implementation;
- potential negative impacts on Internet performance;
- coverage issues;
- optimal configurations and enforcement points;
- security;
- manageability;
- the need for supporting initiatives such as education campaigns;
- the views of carriers and service providers; and
- unintended consequences.

It is estimated that it would take at least six months to conduct this assessment, and at least a further six months to implement an optimal solution.

Implementation and review

During the implementation period, the Commonwealth would need to:

- identify both an optimal technology option or options and an implementation strategy or strategies;

- engage in further consultation with the Internet industry, the gambling industry and consumer groups about implementation and funding issues;

- draft any legislation required to enforce a ban;

- develop an effective enforcement strategy that supports Australia's broader law enforcement objectives;

- consider the need for, and possibly develop, educational campaigns aimed at supporting a ban;

- pursue international coordination necessary to support a ban on interactive gambling; and

- ensure that the approach to interactive gambling interfaces with any broader gambling strategy.

Any scheme could be reviewed one year subsequent to the completion of the implementation period.

APPENDIX: PUBLIC SUBMISSIONS TO THE STUDY INTO THE FEASIBILITY AND CONSEQUENCES OF BANNING INTERACTIVE GAMBLING

1. Mr David A. Freemon
2. Mr J.R. Hardman
3. Mr Marshall Perron
4. Dr Jonathan Boymal
5. Ms Nerilee Hing
6. TAB Limited
7. Access Gaming Systems
8. Office of Regulation Review
9. The Salvation Army, Australian Eastern Territory
10. Gamblers Help Line Inc
11. Mr Melville Hedges Dale
12. lllawarra Forum Inc
13. Mr Alexander Rosser
14. Wesley Community Legal Service
15. Worldwide Wagering and Gaming Consultants
16. Golden Casket Lottery Corporation
17. TAB Queensland
18. BreakEven Central
19. Ministry of the Premier and Cabinet, Western Australia
20. Women's Health Victoria
21. Financial and Consumer Rights Council of Victoria
22. The Federal Group
23. Best Bookies Price Pty Ltd
24. Presbyterian Women's Association of Australia in New South Wales
25. ACTTAB
26. Council of Social Service of New South Wales
27. Tattersall's Holdings Pty Ltd
28. BreakEven Eastern Problem Gambling Service
29. Consolidated Gaming Corporation Ltd
30. TABCORP
31. Baptist Community Services (South Australia) Inc
32. M & L Castellari Management Pty Ltd
33. Prof. Jan McMillen
34. The Hon Nick Xenophon MLC
35. Amity Community Services
36. Centrebet Pty Ltd
37. Norton Gledhill Commercial Lawyers
38. The Toneguzzo Group Pty Ltd
39. Australian Gaming Council Ltd
40. NSW Thoroughbred Racing Board
41. PBL Gaming Management Pty Ltd
42. Relationships Australia (South Australia) Inc
43. The Hon Paul Lennon MHA
44. Prof. John Quiggin
45. Enright Hendy & Partners
46. GOCORP Ltd
47. Cable & Wireless Optus
48. Australian Racing Board
49. Australian Casino Association
50. Mr Christopher Samuel Cullen
51. National Council of Women, New South Wales Inc
52. Australian Registered Bookmakers Advisory Council
53. Norfolk Island Gaming Authority

54. Lasseters Online

55. ACT Council of Social Service

56. Internet Industry Association

57. InterChurch Gambling Task Force

58. Mr Gary Humphries MLA

59. Queensland Office of Gaming Regulation

ABBREVIATIONS

ABA	Australian Broadcasting Authority
AFP	Australian Federal Police
BSP	Backbone Service Provider
CER	Australia-New Zealand Closer Economic Relations Agreement
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EGM	Electronic Gaming Machine (Poker Machine)
FaCS	Commonwealth Department of Family and Community Services
FTP	File Transfer Protocol
GATS	World Trade Organization General Agreement on Trade in Services
HTTP	Hyper Text Transfer Protocol
iCAP	Internet Content Adaptation Protocol
IGM	Interactive Gambling Model
IGSP	Interactive Gambling Service Provider
IIA	Internet Industry Association
IP	Internet Protocol
ISP	Internet Service Provider
Mbps	Megabits per second
MHA	Member of the House of Assembly
MLC	Member of the Legislative Council
MP	Member of Parliament
NGISC	United States National Gambling Impact Study Commission
NOIE	National Office for the Information Economy
OECD	Organization for Economic Cooperation and Development
OFLC	Office of Film and Literature Classification
PC	Productivity Commission
PISP	Primary Internet Service Provider
RC	Refused Classification
SISP	Secondary Internet Service Provider
SOGS	South Oaks Gambling Screen
TAB	Totalizator Agency Board
TFTP	Trivial File Transfer Protocol
URL	Uniform Resource Locator
WAP	Wireless Application Protocol