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SOCIAL AND ECONOMIC
IMPACTS OF GAMBLING IN NEW
ZEALAND

Final Report

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This report has been prepared by Helen Masterman-Smith, Samalinda Martin and Jan McMillen (AIGR-UWS). Raja Junanka (UWS) provided consultancy advice.

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Australian Institute for Gambling Research, University of Western Sydney
Postal Address: PO Box Q1287 QVB Post Office Sydney NSW 1230
Location Address: 11th Floor, 263 Clarence Street, Sydney
Telephone: 61 2 8255 6200 Facsimile: 61 2 8255 6222
Email Address: aigr@uws.edu.au URL Location: <http://www.aigr.uws.edu.au>

Table of Contents

EXECUTIVE SUMMARY	5
INTRODUCTION.....	11
Requirement for the Study	11
Object of the Study	11
Terms of Reference.....	11
Conduct of the Study	12
Research Methodology	12
Literature Review and Summary	14
Analysis of Relevant Social and Economic Impact Studies in Australia and Elsewhere.....	14
Analysis of the Private and Public Costs of Gambling in New Zealand	14
Analysis of Consumer Protection Legislation and Financial Market Regulatory Regimes.....	15
Principal Steps in the Research Strategy	15
Research Team.....	15
Independence of the Research	16
NZ SOCIO-ECONOMIC BACKGROUND AND RELEVANT GAMBLING ISSUES.....	17
Structure and Nature of the New Zealand Economy	17
Profile of the NZ Population.....	17
Australian and NZ Regulatory Environments.....	18
Types and Availability of Gambling Venues and Products.....	19
Gambling Consumption in New Zealand	20
REVIEW OF ANALYTICAL METHODS.....	21
Cost-Benefit Analysis	22
Macroeconomic Modelling Methods.....	23
General Equilibrium Modelling Methods.....	30
Employment Studies	33
Social Survey Research/Psychological Studies	35
Participation Studies	35
Gambling research and New Zealand sub-populations.....	38
Problem Gambling Studies	42
Expenditure Studies	52
Ethnographies and Community Studies.....	53
Multi-method Studies.....	57
IMPACT ANALYSIS	60
Measuring Social and Economic Impacts.....	60
New Zealand research.....	61
Australian national research.....	66
Queensland research	68
Victorian research.....	71
Summary: Social and Economic Impacts	72
Problem Gambling Impacts	73
New Zealand research.....	73
Australian national research.....	77
Queensland research	80
Victorian Research.....	80

Summary: Problem Gambling	82
Crime	83
New Zealand research.....	83
Australian national research.....	87
Queensland research	89
Victorian research.....	89
Summary: Crime.....	90
Local Community Impacts	90
New Zealand research.....	90
Australian national research.....	93
NSW research	95
Queensland research	96
Summary: Local Community Impacts	97
Employment	97
New Zealand research.....	97
Australian national research.....	99
Queensland research	100
Summary: Employment	101
Tourism	101
New Zealand research.....	101
Australian national research.....	102
Queensland research	102
Victorian research.....	104
Summary: Tourism	106
Environment	107
New Zealand research.....	107
Australian national research.....	107
Queensland research	108
Summary: Environment.....	108
FUTURE DIRECTIONS	109
Introduction.....	109
Gambling costs and benefits	109
Existing Frameworks	110
Australian Productivity Commission.....	110
United States – National Gambling Impact Study Commission	112
Other US studies of gambling impacts.....	113
Canada – Whistler Symposium.....	117
A Gambling Impact Framework for New Zealand.....	119
Impact assessment frameworks – some methodological problems.....	119
Implications for NZ gambling impact studies.....	120
A gambling impact framework proposal.....	121
Gambling Impact Analysis - Research Framework.....	123
Appendix 1 Data Needs - Community Impact Studies.....	151

EXECUTIVE SUMMARY

- No comprehensive national study has examined and compared the social and economic costs and benefits of all forms of gambling in New Zealand in the manner of the Productivity Commission's inquiry into gambling in Australia. While the New Zealand studies have provided useful information on the nature and prevalence of problem gambling (measured primarily by SOGS-R and DSMIV clinical criteria), they do not address the varied and complex issues identified as social and economic costs and benefits in Australian, United States and Canadian studies.
- Available data on New Zealand gambling are not reliable and complete. There is limited information on some forms of games (eg. housie); and inconsistencies and irregularities in some data sets (eg. gaming machine expenditure) give cause for concern.
- Much more extensive research is required in the study of social and economic impacts upon local communities in New Zealand before accurate findings can be discussed.
- The frameworks for measuring gambling costs and benefits in the United States, Australia and Canada have also been less than adequate to date. Two main dilemmas continue to challenge gambling researchers and policy makers: how should gambling costs and benefits be defined and how should they be measured?
- The DIA's consultation document for the current Review of Gaming identifies some of the areas in need of further examination.
- **Gambling participation and expenditure:** DIA research in 2000 suggests that a large majority (87%) of the New Zealand population took part in some form of gambling during the past twelve months. This participation rate is higher than that found in Australia by the Productivity Commission's 1999 national survey (82%).
- Maori people gamble more often than the national average while Pacific Islander peoples gamble less than the national average.
- While the large majority of the New Zealand population have taken part in at least one gambling activity in the past twelve months, the numbers involved in 1-3 gambling activities has reduced, while the number participating in seven or more gambling activities has increased.
- Participation rates are escalating particularly in the areas of casino gaming and sportsbetting and potentially in the area of internet gambling. Other more traditional and community-based forms of gambling are on the decline.
- National gambling expenditure data in New Zealand derives from two sources: the Household Expenditure Survey (HES) and DIA's calculations from industry data. Gambling expenditure figures from the most recent HES suggest that New Zealanders gambled (ie. lost) \$422.23 million in 1997, or 1.04% of household disposable income. However, data from DIA's industry reports provides a different picture, with total expenditure more than double the 1997 HES figures. DIA data indicate that gambling expenditure has increased by more than 50% between 1996 and 2000. However, problems with the way both data sets are compiled indicate that the data are unreliable.

- With the exception of Telebingo, distinctive to New Zealand, the most popular forms of gambling undertaken (lotto, instant lotteries and gaming machines) and the highest expenditure rates on specific gambling products (gaming machines, casinos, racing and lotteries) were similar in Australia and New Zealand.
- Development of reliable and consistent expenditure data for all forms of New Zealand gambling are essential for impact analysis and for adequately informed policy development. These data should be compiled regularly at the national level (eg. by DIA) and released publicly (eg. on the DIA's website) as soon as they have been compiled.
- **Economic impacts:** Coopers and Lybrand's analysis of the economic impact of gaming in New Zealand found that lack of accurate data imposed significant constraints on their ability to make any assessment.
- In 1996 Reid and Perez examined the disbursement of profits by gambling operators in New Zealand. They found that the main recipients of grants were sport/physical activity organisations, clubs for their own purposes, and social and community organisations, especially schools and health and disability support agencies. Smaller multi-sites and hotel-based trusts contributed disproportionately higher grants to social and community services compared to other societies. North Islander organisations received 74.6% of expenditure with the bulk of expenditure concentrated in the metropolitan regions around Auckland, Wellington and Canterbury.
- The AIGR's 1996-98 casino impact study found that New Zealand casinos complemented rather than substituted other gambling forms. Although its focus was limited to the Auckland and Christchurch casinos, it is the most comprehensive impact study of any in New Zealand. The AIGR study found that economic impacts of the two casinos failed to fulfil predictions in many respects. The impacts also varied in many respects, reflecting the relative 'fit' between the casino and the community.
- Utilising econometric modelling and extrapolating from findings of the Australian Productivity Commission inquiry, the BERL Report more recently estimated economic benefits and social costs from New Zealand gambling. However, we believe the estimates provided by the BERL Report of the benefits of gaming in New Zealand are overestimates because of assumptions built into their model.
- Economic simulations and the research literature in general suggest that industries which accommodate or complement gambling grow as a result of an increase in gambling. For example, hotel accommodation, sports clubs, cafes and restaurants associated with a gambling venue are estimated to expand with an increase in gambling. On the other hand, industries that compete with gambling are estimated to experience economic contraction.
- We have reviewed a range of equilibrium models to shed light on the impacts of gambling. However, there are a number of problems with such econometric analyses for the DIA's objectives. For several reasons detailed in our report, we do not consider that economic simulation models and equilibrium modelling are suitable for analysis of the impacts of gambling on local communities.
- **Social impacts:** The Productivity Commission's Australian research identified the major social benefit of gambling as 'consumer surplus', the entertainment value that people derive from their gambling. However, application of the concept of consumer surplus to measure the benefits of gambling is suspect for several reasons, principally because consumers (arguably with the

exception of people who bet on racing or sportsbetting) often do not have an idea of the "price" of the gambling activity and hence cannot derive a surplus.

- Some international studies have indicated that gambling provides an overall net benefit to the nation. Despite these findings and increasing expenditure and participation in some forms of gambling, the Productivity Commission found that nearly three-quarters of the Australian community believe gambling does more harm than good.
- The changing nature and extent of gambling and problem gambling in Australia, Canada and the United States, for example, has led to increasing emphasis being placed on the government's role as a pro-active regulator to minimise public and private harm. Whether this would be appropriate in the New Zealand context requires further research on economic impacts, problem gambling prevalence, comparative community impacts and community attitudes to gambling.
- **Problem gambling impacts:** The literature review indicates that problem gambling is now recognised as a major social cost associated with gambling.
- The Productivity Commission's analysis of Australia's gambling industries found a significant social cost to problem gamblers, their families and society as a whole. The Commission observed that problem gambling impacts spread beyond interpersonal networks and into the public health domain and the public legal system. On the other hand, Australian problem gamblers contributed approximately \$1 billion to state government revenue through their gambling activities. The Commission found that Australian state/territory governments benefit financially from gambling, including problem gambling.
- Unlike other jurisdictions, New Zealand has had the advantage of Abbott and Volberg's replication studies that have allowed analysis of problem gambling prevalence trends as gambling has been expanded and made more accessible over a decade. More recently, Abbott's studies of prison populations have given valuable insights into two minority groups in the New Zealand population.
- Even so, there has been little systematic research into problem gambling in cultural and ethnic communities. The question of gambling impacts and problem gambling for the Maori and Pacific Islander peoples, and for other ethnic groups in New Zealand requires specific attention.
- However, the literature also indicates that there is growing debate about the basis upon which problem gambling impacts can be assessed. Australian and Canadian researchers have been increasingly critical of the SOGS clinical measures for problem gambling. Several new screening tools are being developed that aim to be more sensitive to social and cultural factors, for example, the Canadian Problem Gambling Index (CPGI).
- **Crime impacts:** While New Zealand research has found no significant evidence to directly link crime with gambling it should be noted that precise statistical data has not been available. However, analysts agree that gambling is indeed susceptible to crime, be it major crimes such as fraud and money laundering or less major crimes such as cheating and begging.
- In Australia, the Productivity Commission has found that Australian legislation inhibits access to criminal behaviour. Nevertheless, the Commission's report indicates criminal activity amongst problem gamblers. The Commission also notes a parallel between increased gaming venues and increased pawnbroking and second-hand dealing. The most significant finding from the literature review is that there is a lack of data or evidence to inform valid assessment of levels of gambling related crime.

- **Local community impacts:** Various New Zealand studies found ambivalent attitudes to gambling impacts on the local community. On one hand, gambling is seen in positive light as a source of much-needed funding for community groups. The potential for casinos to generate economic development and employment in the local community is also seen as a benefit. On the other hand, the potential for problem gambling is perceived as a serious negative community impact. The general view has been that the overall social impacts were more negative than positive.
- The Productivity Commission's study in Australia did not examine gambling impacts at the local community level. The most significant finding in the Productivity Commission report, however, does have an important message for studies of local communities. Respondents, when asked whether they thought gambling did more harm than good for the community, overwhelmingly replied that they thought it did.
- Since that PC report a number of research initiatives in Victoria and New South Wales have conducted comparative studies of the impacts of gaming machines at local area level that have shown significant inequalities between communities. In both states, layered statistical mapping has shown that gaming machine gambling impacts more severely and negatively on already disadvantaged communities.
- It is recommended that computerisation of all gaming machines linked to a centralised monitoring system (CMS) be undertaken as soon as practicable. This will allow more accurate audits of gaming machine expenditure and regular compilation of expenditure trends (eg. monthly, quarterly). It will also enable a more accurate and complete register of the spatial distribution of gaming machines throughout New Zealand.
- **Tourism impacts:** While the Productivity Commission stated that 'gambling liberalisation enables Australia to offer new or better tourist packages,' research conducted in Australia and New Zealand indicates that the impacts on tourism are difficult to detect and demonstrate.
- In Queensland gambling expenditure is generally higher in regions with casinos; however this is most likely due to their location in existing popular tourist centres. Moreover, the AIGR found that the majority of casino expenditure comes from locals. Research conducted on New Zealand casinos in 1996-98 returned similar findings with less than 20% of international tourists visiting a casino.
- The KPMG study of gambling impacts in six Victorian regions found that on average people travel only 2.5km to visit a gaming venue. However, the survey examined only the respondents' travelling patterns for their last visit and thus did not determine regular travelling patterns. Distance categories can also be misleading; regional gamblers who travel over 10km to reach a venue may still be within their local council area.
- In New Zealand, the AIGR found that an absence of reliable data prevented the casino study from adequate assessments of tourist attitudes, expenditure and the beneficiaries of such expenditure.
- More accurate analysis of tourism impacts would require periodic patron surveys at a regional level and detailed information on tourist travel and spending patterns.
- **Environmental impacts:** Very little research has been done on the environmental impacts of the gambling industry apart from the AIGR's consideration of impacts of two casinos in New Zealand and casinos in Queensland. These studies found both positive and negative impacts. Most negative impacts are felt during the construction phase and most positive impacts develop after construction is completed. Close monitoring of environmental impacts can be achieved with effective negotiations between local councils and developers.

- **Framework for impact analysis:** The Productivity Commission warned that ‘[q]uantification of the costs and benefits of the gambling industries is hazardous’ and stressed the tentative nature of its own estimates.
- Methodological problems and data gaps suggest that existing gambling impact studies must be treated with a degree of caution.
- Accurate cost-benefit analyses of gambling in New Zealand are frustrated by lack of systematic gambling data, lack of social and economic data that will allow reliable and valid analysis of impacts, and methodological problems such as the quantification of intangible social costs.
- Attempts to calculate a net cost-benefit ratio from existing New Zealand data would produce incomplete, and possibly misleading, results.
- International studies that have attempted cost-benefit analysis have faced similar problems. For example, in the Australian Productivity Commission’s research the impacts of gambling at the regional or local level were not adequately examined; investigation of problem gambling sub-populations was not undertaken; some impact dimensions like the environment and crime were omitted or given minimal attention because of lack of existing data.¹
- No single method or data set can reliably and validly measure gambling impacts. Each method has limitations; however, rarely do researchers fully acknowledge those limitations or their preferences for one approach over another.
- For example, although the Productivity Commission’s national study of gambling in Australia used a variety of methods and gave a deal of consideration to qualitative data such as submissions and interviews, in its final analysis the Commission accorded particular weight to quantitative data such as calculations of ‘consumer surplus’ and problem gambling prevalence.
- On its own, these kinds of quantified and aggregate data contribute little to our understanding of causal relationships, links between gambling impacts and attribution issues. Gambling impacts are experienced most profoundly and variously at the level of communities, families and individuals.
- A common theme in emerging gambling impact studies is the need for a **multi-disciplinary and multi-layered impact assessment framework** that avoids downward looking research paradigms and facilitates genuine community involvement.

Recommendations:

- Review of the available research literature highlights the need for **multi-method research** which incorporates qualitative, quantitative, primary and secondary data in order to properly examine the extent of the costs and benefits of gambling. It also emphasises the importance of compiling systematic data sets that will allow the social and economic impacts of gambling, and the relationships between them, to be measured over time.
- It is recommended that the Department of Internal Affairs identify and develop the specific data sets needed for New Zealand to undertake such impact studies. The data should be collected on a regular basis to allow longitudinal studies of impacts and trends. A framework for such data sets is proposed in Appendix 1.
- It is also recommended that the Department of Internal Affairs develop a comprehensive, coordinated and cooperative **national gambling research strategy** that would encompass all social-spatial levels in conjunction with a full range of gambling impact dimensions. Such a strategy should include qualitative, quantitative and participatory research methods, and include triangulated cross-checking of data. Where applicable, longitudinal studies should be undertaken.
- A multidisciplinary **public health framework** for gambling impact analysis is currently being developed by a team of international researchers who convened for this purpose at a Whistler Symposium in September 2000. Based on the preliminary outcome of that Symposium, a **Framework for Gambling Impact Analysis** in New Zealand is proposed in the final section of this report. Note however that the Whistler initiative is ongoing and subject to future refinement.

¹ For the Commission’s own summary of ‘information gaps’, see Productivity Commission (1999) *Australia’s Gambling Industries*, Productivity Commission, Canberra, pp.23.4-23.21.

- The development of a national research program should include an extensive process of **public consultation** including at the community level. It should particularly ensure that sub-populations and culturally diverse groups are able and encouraged to participate in the design phases.
- A key issue to be resolved concerns the **definitions and measurement of problem gambling**. Psychological/psychiatric instruments such as DSMIV and the SOGS have been criticised as being insensitive to cultural and social diversity. These screens also tend to ‘pathologise’ gambling and can exclude from consideration gamblers who may experience problems not included in the clinical screens. Consultation with stakeholders and experts is required to determine whether to persist with these tools for the purposes of replication and comparison with past studies, or to introduce one of the more culturally sensitive measures currently under development, such as the CPGI, and how this might be done.
- It is recommended that Department of Internal Affairs consider the transition to a method of monitoring the prevalence of problem gambling that are more sensitive to cultural and social factors than the clinical screens used in the past (eg SOGS-R). To assist its deliberations the Department could also review the results of studies currently being conducted in Queensland (a statewide prevalence study currently using both the CPGI and SOGS, and needs analysis research), the Australian Capital Territory (a participation and prevalence study, and needs analysis research), and Canada.

INTRODUCTION

Requirement for the Study

In June 2000 the New Zealand government announced that a national review of gaming would be conducted in response to increasing levels of gambling turnover, products, participation rates and problem gambling. The Department of Internal Affairs was given responsibility for managing the core review team who are to report to the Minister for Internal Affairs by June 2001.

Object of the Study

The aim of this study is to provide independent information on the private and public costs and benefits of gaming (both social and economic) in New Zealand. This information will:

- assist the Department of Internal Affairs to assess the public and private impacts (both social and economic) of gaming in New Zealand;
- assist the Department of Internal Affairs to advise the Minister on a range of policy issues relating to the public and private impacts of gaming (both social and economic) in New Zealand; and
- assist in the development of gambling impact assessment policy as part of the New Zealand government's overall approach to gaming.

Terms of Reference

The scope and breadth of the study is defined by the Terms of Reference for the gaming review, in particular:

to take into account (inter alia) the public costs and benefits of gaming (both social and economic), [and] the private costs and benefits of gaming', and to review 'the nature and extent of the social and private costs of gaming, including the potential for organised crime, fraud, and problem gambling (especially the extent and nature of the social costs of gambling in Maori communities), and make recommendations on the means of containing them and how to fund such interventions (DIA, 2001, 2).

Five key tasks were determined from the study's Terms of Reference for specific attention (DIA, 2001, 6):

1. Review, summarise and critique the theoretical approaches relevant to the private and public costs and benefits of gaming (both social and economic);
2. Review, summarise and critique the available material relating to the private and public costs and benefits of gaming (both social and economic) in New Zealand;
3. Review, summarise and critique those parts of the Australian Productivity Commission report that relate to the private and public costs and benefits of gaming (both social and economic);
4. Describe and distinguish the political, social, economic and regulatory environments for gaming in Australia and New Zealand as those environments

- impinge on the private and public costs and benefits of gaming (both social and economic); and
5. To the fullest extent practicable using the existing information and the Productivity Commission method or another method, if such an alternative method is preferable and feasible, determine and quantify the private and public costs and benefits of gaming (both social and economic) in New Zealand as a whole, and separately for sub-populations (eg. Maori and Pacific Peoples and by region, gender and age).

Conduct of the Study

This study aims to provide a balanced assessment of the public and private costs and benefits of gaming (both social and economic) in New Zealand. The research investigates both the advantages, such as claims about employment creation, and disadvantages, such as the prevalence of problem gambling, associated with all forms of gambling. Further, the interconnections between different impacts are explored through the examination of a wide and diverse range of information sources.

The objectives of research are to address the key tasks as specified in 5.1 of the Invitation to Tender (p.5). The report will inform the Department of Internal Affairs' Gaming Review and guide policy recommendations. It is our understanding that this report is an important first step in the development of a framework for such a study and, as far as possible with existing data, in the identification of current impacts.

Research Methodology

Given the short time frame for the study, the conduct of primary research has not been possible. Instead, the research draws upon an expansive collection of existing resources concerning gambling impact assessments in New Zealand and elsewhere. The research strategy builds upon the Australian Productivity Commission's impact assessment framework and other impact studies conducted since the public release of the Productivity Commission's Final Report.² From this basis we present an improved analytical framework and discuss it within the New Zealand context.

The research methods include, but have not been limited to:

- Comparative analysis of the political, social, economic and regulatory environments in Australia and New Zealand;
- An examination of relevant methodologies;
- a literature review of gambling impact studies and other related material, incorporating an analysis of the Australian Productivity Commission's methodologies and findings; and
- Statistical analysis of available gambling and socio-economic statistics.

A collaborative research strategy was adopted to ensure suitable expertise was available for each stage of the study. The study was informed by principles of independent and impartial consideration of all source material. Central aspects of the research strategy were:

- All research was undertaken with the Terms of Reference providing the central organising principles;

² Productivity Commission (1999) *Australia's Gambling Industries*, Productivity Commission, Canberra.

- Suitably qualified and experienced team members led each stage of the project;
- Researchers sought out data (qualitative and quantitative) to identify both costs and benefits (social and economic) as stipulated in the Terms of Reference;
- The study was subject to a peer reviewing process by parties nominated by the Department of Internal Affairs to comment on draft papers prior to their final revision and submission; and
- A senior policy officer from the Department of Internal Affairs was nominated to assist in the procurement of available data and answer specific queries.

The first section of this report reviews the methodologies used for measuring gambling impacts, emphasising those most useful for understanding the public and private social and economic impacts of gambling in New Zealand.

The section beyond that on methodologies examines the specific impacts as they affect each of the interested parties. These interested parties include:

- the New Zealand government
- the gamblers and their families
- gambling corporations
- other industries
- general community
- cross-national interests

The variables for impact assessment examined in this literature review, as they impact upon each of the interested parties, include:

- macroeconomic implications of the gaming industry including key economic indicators and levels of foreign ownership;
- microeconomic effects such as ramifications for other local and regional businesses, contributions of community benefit schemes and costs of regulating the industry;
- participation levels in gambling activities, including expenditure and accessibility factors;
- problem gambling prevalence, implications for community services and costs to individuals, families and the whole community;
- gambling-related criminal activity;
- community life changes including the nature of entertainment and recreational facilities, possible market targeting of low income areas, quality of life and demands on other community services, and the general sense of community cohesion;
- employment consequences including the nature and actual levels of job growth, employees' wages and conditions, and industrial relations issues;
- tourism trends directly or indirectly related to gambling, including the levels, nature and economic contribution to the sector; and

- the environment and the implications of gambling related development.

Literature Review and Summary

A review, summary and critique of available material, including previous gambling studies, examines the theoretical approaches to the study of gambling impacts in New Zealand and identifies as far as possible the public costs and benefits (both social and economic).

A literature review presents background social and economic information on New Zealand and on relevant gambling issues identified in the tender objectives (5.1). This includes development of a profile of the socio-economic composition of the population, the types and availability of gambling venues and products, the regulatory structures relating to gambling in New Zealand, patterns of gambling participation and social and economic impacts that have been identified in previous studies. This information provides background details as to the unique nature of the New Zealand community and the various communities within New Zealand to assist with development of relevant issues for further analysis.

Analysis of Relevant Social and Economic Impact Studies in Australia and Elsewhere

This part of the study critically analyses the methodology and findings of the Productivity Commission study and other relevant social and economic impact studies in Australia and overseas, and assesses their relevance for the study of gambling impacts in New Zealand. For example, since the Productivity Commission completed its national research, other Australian studies have adapted that methodology for local area and regional impact studies. Moreover, several recent studies in Canada have investigated the social and economic impacts of gambling in various communities, including First Nation and other ethnic communities.

Analysis of the Private and Public Costs of Gambling in New Zealand

A modified version of the Australian Productivity Commission's impact assessment model (1999) provided the general framework for multi-disciplinary analysis of the social and economic effects of gambling in New Zealand. The Productivity Commission's approach was identified by the Department of Internal Affairs as a useful and feasible method for assessing gambling impacts. The framework employed in that study was re-shaped to take into account characteristics specific to gambling in New Zealand.

Comparative analysis of the political, social, economic and regulatory environments for gaming in Australia and New Zealand describes and distinguishes how they impinge on the public and private costs and benefits of gaming (both social and economic). This analysis will include the potential for organised crime, fraud and problem gambling. From the existing data, it attempts to identify the costs and benefits for New Zealand as a whole and separately for sub-populations, especially the extent and nature of the social costs and benefits of gambling in Maori communities.

The report identifies where relevant data are inadequate or missing and suggest further areas for improvement in the research framework and methodology.

Analysis of Consumer Protection Legislation and Financial Market Regulatory Regimes

The DIA decided to commission a consumer law specialist to complete the task indicated in the Terms of Reference to “analyse the extent to which New Zealand’s existing consumer protection legislation and/or financial market regulatory regimes might be workable when applied to gaming”. To assist the DIA and the legal consultant in that task, the AIGR contributed a Summary Paper outlining the main consumer protection developments in the Australian states.

Principal Steps in the Research Strategy

The research activities involved in this research project involved the following key stages:

- using available New Zealand government statistics, a current socio-economic profile of the national population was developed to identify broad trends and sub-population characteristics and locations;
- a brief summary of the structure and nature of the New Zealand economy was developed;
- available data on gambling venues and products were compiled to produce an industry profile;
- a brief overview of the New Zealand gambling regulatory system was constructed;
- an evaluation of the strengths and weaknesses of available data and methodologies used in New Zealand and elsewhere was developed;
- patterns of gambling participation were abstracted from available secondary resources;
- an inventory of previously identified social and economic impacts of gambling in New Zealand were identified;
- a theoretical framework for assessing available New Zealand material on gambling impacts was determined through an examination of existing models and applied;
- analysis of New Zealand quantitative and qualitative data relevant to gambling impacts was conducted; and
- a gambling impact framework (social and economic) was developed in order to make policy recommendations.

Research Team

The study employed an interdisciplinary research team comprising experts in gambling, economic and impact assessment research:

Professor Jan McMillen
Executive Director
Australian Institute for Gambling Research (AIGR)
University of Western Sydney (UWS)

Professor Raja Junankar
Professor of Economic and Finance
School of Economics and Finance
University of Western Sydney

Ms Helen Masterman-Smith
Project Manager
Australian Institute for Gambling Research (AIGR)
University of Western Sydney

Research assistance was provided by Samalinda Martin and Rachael Wilson.

Independence of the Research

The independence and impartiality of research are an integral component of the principles and practices of the Australia Institute for Gambling Research (AIGR). As a university-based research centre, the AIGR is bound by the ethical standards and procedures of the *Research Policy* of the University of Western Sydney (UWS), and of the Australian Vice Chancellor's Committee. The project is administered through the UWS Research Office as contracted research and is subject to UWS Research Policy and Ethics approval. The research team also comply with the AIGR Code of Practice and Research and Publications Policy (see <http://www.aigr.uws.edu.au>).

NZ SOCIO-ECONOMIC BACKGROUND AND RELEVANT GAMBLING ISSUES

Any assessment of the public and private costs and benefits of gambling in New Zealand must also take account of the particular context within which gambling occurs: the socio-demographic characteristics of New Zealand society; the nature of the economy; and the policy context.³

Structure and Nature of the New Zealand Economy

New Zealand's small economy is heavily dependent on overseas trade. In the past 20 years, New Zealand has adapted to a changing world so that Asia is now a dominant market with Australia, USA and Japan the largest merchandise export markets. New Zealand has developed its agriculture and manufacturing industries to suit the needs of niche markets. This has meant that New Zealand has moved away from its dependence on dairy, meat and wool exports as forestry, horticulture, fishing, manufacturing and tourism have become more significant.

However, there are considerable variations between regional economies. For example, the relatively industrialised regional economy of Auckland differs markedly from that of Wellington (predominantly a service economy dominated by administration) and Christchurch (which services a rural regional economy and tourism). New Zealand has a relatively high unemployment rate (7.5%) and average weekly earnings of NZ\$658.

The importance of gambling in New Zealand society has gained greater prominence since the shift in national economic policy in the mid-1990s. In particular, the claw back of welfare provisions, the adoption of 'low tax' policies, technological developments, and the buoyancy of leisure and recreation consumption and culture have contributed to gambling popularity and profits.⁴

Comparatively, Australia is rich in natural resources and is a major exporter of agricultural products, minerals, metals and fossil fuels. Commodities account for over 50 per cent of the value of total exports. Australia has a lower unemployment rate (6.8%) and higher average weekly earnings (AUD\$803) than New Zealand. Similar to the situation in New Zealand, Australia has seen a rapid increase in gambling opportunities over the past decade with total expenditure almost doubling since 1992.⁵

Profile of the NZ Population

New Zealand has particular social and economic characteristics that affect the ways the community and gambling interact. New Zealand has an estimated population of 3.8 million people, the majority of whom (2.88 million) live in the North Island.⁶ The ethnic composition of the population is varied, a product of successive migration policies introduced by the New Zealand Government. Three-quarters of New Zealand's population specified that they belonged only to the European ethnic group. This group not only declined as a proportion of the population between 1991 and 1996 but also fell in numbers. Over the same period the other major ethnic groups increased in size and as proportions of the population. Maori people comprise 15 percent of the population, with Pacific Islands people and

³ <http://www.stats.govt.nz>

⁴ McMillen, J. (2001) 'New Zealand's gambling policy: comparative reflections' forthcoming in Curtis, B. (ed.) *Gambling in New Zealand*, Dunmore Press.

⁵ PC (1999), op. cit., p. 8.

⁶ <http://www.stats.govt.nz>

Asian people each making up five percent. The highest rate of growth between 1991 and 1996 was among the Asian population which grew by 71 percent, primarily due to increased immigration. Residents of New Zealand are predominantly Christian, although more people are identifying with the major non-Christian religions; over a quarter of the population in 1996 were non-religious.

Comparatively, according to 1996 census data, Australia's population is almost 18 million with the largest numbers living in New South Wales and Victoria. Australia has a more multicultural composition than New Zealand but a much smaller indigenous component with 2.1 per cent of Australia's population identifying as Aborigines or Torres Strait Islanders. Residents of Australia are also predominantly Christian with only 3.4 per cent of residents identifying with non-Christian religions. Over 16 per cent of Australian residents are non-religious.

Australian and NZ Regulatory Environments

There are significant similarities between the Australian and New Zealand political systems as a result of their common British legacy. However, the most obvious and significant difference between the political structures is the unitary two-tier system of government in New Zealand and the federated three-tier system of government in Australia. As such, responsibility for gambling policy and regulation differs markedly between the two countries, being predominantly vested in the eight Australian state and territory governments and in the national government in New Zealand.

In both contexts it is the local government level that is politically and economically the weakest, having no clearly defined role in either national constitution. Local councils are largely confined to local planning regulations, legal challenges, public lobbying and political party affiliations in their attempts to influence gambling policy. The two key non-government actors in conflicts over gambling policy have come from industry and problem gambling support organisations, usually emphasising the economic benefits and social costs respectively.

There are significant differences between the regulatory frameworks operating in each Australian state and territory.

New Zealand

Since the 1930s most forms of gaming in New Zealand have been state regulated for the purposes of 'community benefit', that is, as a source of funding for community activities and to protect the community from harm or undue risk including gambling related criminal activities.⁷ Today gaming in New Zealand is regulated under four key statutes: the *Gaming and Lotteries Act 1977*, the *Casino Control Act 1990*, the *Racing Act 1971* and the *Gaming Duties Act 1971*.

The six key government bodies responsible for regulating aspects of the gambling industry in New Zealand are the Lotteries Commission, the Lottery Grants Board, the Department of Internal Affairs, the Totalisator Agency Board, the Racing Industry Board and the Inland Revenue Department. Along with other government departments concerned with welfare provisions, they are collectively responsible for a range of sometimes competing roles in respect to gambling activities including regulation, administration, protection, operation and promotion. Moreover, the government faces the increasingly difficult challenge of minimising the public and private costs of gambling while simultaneously promoting the economic, state revenue and leisure benefits often identified with the industry.

Over the past two decades there has been a noticeable move away from a traditionally interventionist policy approach towards neo-classical economism and a minimalist government perspective that emphasises the merits of industry privatisation and market competition.⁸ This ideological shift has been informing policy initiatives in many industrialised nations for some time, including Australia and

⁷ New Zealand Department of Internal Affairs (2001) *Gaming Reform in New Zealand: Towards a New Legislative Framework*, DIA, Wellington, p. 20.

⁸ This section is drawn from McMillen, J., op. cit.

Canada.⁹ Both public policy and administration have undergone fundamental transformations in their philosophical and ethical orientations during this period. More specifically, in New Zealand the TAB and the Lotteries Commission have adopted commercial principals and strategies in response to the raft of economic rationalist public reforms introduced under the auspices of the oft-quoted 'New Zealand experiment'. In emphasising the economic objectives of government policies these changes have contributed to the gradual devaluation of social policy imperatives.

Australia

Under the Australian Constitution, gambling in Australia is regulated by state legislation as a 'residual power'. The Commonwealth historically has not been involved directly in gambling legislation or regulation.¹⁰ As explained in the Productivity Commission Report 1999:

Each jurisdiction has a department or office with responsibility for administering a range of gambling legislation, responsible to a Minister who has the major responsibility for gambling policy and regulation – in several cases, within the Treasury portfolio. But a number of other agencies (for example, departments of health or community services, racing clubs and the police) may also have particular responsibilities.¹¹

Australian gambling regulations vary greatly from state to state and are seen by the Productivity Commission and others as in need of reform.¹² Australian governments, like those in New Zealand, face the increasingly difficult challenge of balancing harm minimisation with promotion of the leisure and revenue benefits that can be derived from gambling. The Productivity Commission identified serious flaws in gambling regulations in Australia, including:

- conflicting objectives;
- inconsistency of approaches;
- lack of transparency; and
- the inadequacy of consultation processes.

The Productivity Commission noted that regulators face difficulties maintaining an independent stance when negotiating regulatory outcomes which often reflect the changing preferences of different Ministers and governments. The Commission also argued that large revenues from the gambling industry could bias some governments towards an unwillingness to tackle the resulting social problems caused by gambling.

Types and Availability of Gambling Venues and Products

Markland provides a description of the contemporary New Zealand gaming sector and its growth, plots the drivers for change and discusses policy formation.¹³ Rapid growth of New Zealand's gambling industry during the 1990s saw the introduction of four legal casinos (Christchurch, Auckland, Queenstown and Dunedin); an increase in the number of gaming machines in clubs and hotels (by 1998 15,500 machines were operating on 2,200 sites); the introduction of new products by the New Zealand Lotteries Commission and growth in lottery sales; refurbishment of racing clubs and expansion of TAB

⁹ *ibid.*, p. 3.

¹⁰ There have been two attempts by the Commonwealth to be involved in gambling regulation. The first was a failed attempt in 1903 to prevent lottery tickets being sold through the post. The second was legislation passed in 2000 to impose a twelve month moratorium on internet gaming. A current proposal to ban internet gaming will be debated in Parliament in June 2001.

¹¹ PC (1999), *op. cit.*, p. 22.5.

¹² *ibid.*, p. 22.4. The Productivity Commission cite the works of McMillen and reports such as that by the Independent Pricing and Regulatory Tribunal [IPART] (1998), *Report to Government: Inquiry into Gaming in NSW*.

¹³ Markland, J. (2001) 'Gaming policy in New Zealand' forthcoming in Curtis, B. *op. cit.*

betting options, including telephone and internet betting; and the continued popularity of housie, especially among Maori and Pacific Island peoples.¹⁴

Markland comments that in the 1980s New Zealand offered only horse racing, a nation-wide lottery and (at a community level) housie as legal forms of gambling. By 2000 the environment had radically changed with numerous casinos, gaming machine venues and various lotto style choices.

Comparatively, Australia has had a strong tradition of legalised gambling since white settlement.¹⁵ Yet Australia has also seen a rapid expansion in the types and availability of gambling venues and products over the last ten to fifteen years. Prior to the 1980s, lotteries and racing were the most common forms of gambling in most states, with the exception of New South Wales which has had an established club gaming machine industry since 1956. Gambling expenditure in Australia by 1999-2000 had reached over AUD\$13 billion.

Gambling Consumption in New Zealand

Gambling consumption, or expenditure, figures for New Zealand are available from both the Household Economic Survey data and the New Zealand Department of Internal Affairs statistics. However, these data sets show major differences. According to the latest available HES figures (March 1998), New Zealand had an annual gambling expenditure of NZ\$391.9 million. DIA statistics for 1998 indicate that total annual gambling expenditure is over NZ\$1 billion. For 2000 this figure had risen to NZ\$1.3 billion.

The methodologies used to obtain these different figures are critically reviewed in the 'Review of Analytical Methods – Expenditure Studies' section of this report. A discussion of the Australian HES methodology can also be found in the 'General Equilibrium Modelling methods' section under Victorian research.

¹⁴ *ibid.*

¹⁵ Australian Institute for Gambling Research (2000), *Australian Gambling. Comparative History and Analysis*. Report prepared for the Victorian Casino and Gaming Authority.

REVIEW OF ANALYTICAL METHODS

The following section examines the methods used in gambling studies we have selected as relevant to this report. The reviews are grouped by their different methods of analysis in order to show the strengths and weaknesses of each research approach.

In 1999 **Abbott and Volberg** offered a broad review of methodologies used in gambling research to date. They nominated a number of gambling studies as ‘culprits in experimental inadequacy.’¹⁶ Abbott and Volberg urge awareness of the following research shortcomings or inadequacies when considering the results of *quantitative studies*:

- selection of theoretically irrelevant hypothesis or issue;
- use of a sample that is very small or unrepresentative of the population to which generalisations are to be drawn;
- the absence of random allocation to the various experimental conditions (in the case of between-subjects designs, where experimental and control groups are compared);
- poor specification of the independent variables;
- inadequate standardisation, assessment, or description of how the independent variable was implemented;
- inadequate control for factors other than those of immediate experimental interest;
- inadequate replication of the cause-effect relationship;
- poor choice, specification, or assessment of all relevant dependent variables;
- inadequate data representation; and
- conclusions or interpretations that are not logically warranted by the experimental procedures.¹⁷

Abbott and Volberg also discuss the prevalence of *qualitative methods* used in mainstream social and health sciences. Their major concern with qualitative methods is that these studies give little attention to the reliability, validity and representativeness of data. Advocates of the triangulation or multiple methods approach, however, argue that this approach can improve validity and ensure greater confidence in overall findings.¹⁸

We now move on to a more detailed examination of methodologies, broken down into the categories of: cost benefit analysis; macro-economic modelling methods; general

¹⁶ Abbott, M. & Volberg, R. (1999) *Gambling and Problem Gambling in the Community: An International Overview and Critique*, New Zealand Department of Internal Affairs, Wellington, p. 11.

¹⁷ *ibid.*

¹⁸ For example, see Layder, D. (1993) *New Strategies in Social Research*, Polity Press, UK.

equilibrium modelling methods; social survey research and psychological studies (incorporating studies on participation and problem gambling); ethnographies and community studies; and multi-method studies.

Cost-Benefit Analysis

Cost-benefit analysis is a branch of welfare economics. It tries to put monetary values on all the costs and benefits to society of (say) a new road, airport, etc. It is also used to study the costs and benefits to society of legalising gambling (or particular forms of gambling). The basic premise of cost benefit analysis is that individuals evaluate their costs and benefits appropriately using market prices as reflecting marginal costs of production. For some products it is difficult to evaluate the benefits of some activity since there are no obvious prices. In such cases economists use so-called contingent prices.

An element of subjective valuation goes into cost benefit analysis. Often it is advisable to use a range of so-called ‘shadow prices’ to provide a range of alternative net benefits of an activity. Another significant difficulty in cost benefit analysis is determination of what interest rate to use in the evaluation of present values (the value of a future benefit or cost discounted to make it comparable to today’s valuations). these decisions are critical as future values are substantially affected by the choice of discount rate. There is currently considerable debate among economists surrounding these so-called social discount rates or shadow interest rates.

So, what is a cost/benefit? An economic cost involves the *use of real resources* in the economy, but it is crucial to note which level of society or government is being considered. For example:

- If there is unemployment in a community and we introduce gambling which leads to increased employment, then the real cost of providing gambling services is (in general) less than the wages paid out to the workers;
- Taxes that are levied on gambling activities are simply a transfer of resources from consumers and producers to the government. Except for the real resource costs involved in collecting taxes for the government (and the real resources used by society to not pay these taxes) they are simply a transfer payment; and
- Payments made by the gambling provider to charities are not a benefit but simply a transfer payment from the profits of the gambling provider to the charity – there are no additional resources being produced.

New Zealand and Australian research

The **Australian Institute for Gambling Research** has applied, in two studies, a multi-disciplinary and comparative methodology to measure the impacts of Auckland and Christchurch casinos and Queensland’s Treasury and Reef casinos.¹⁹ The AIGR’s method in both of these projects utilised and cross-checked numerous sources of data to provide as complete and reliable a picture of casino impacts on a regional/local area as possible. In particular, the studies sought to establish and compare impacts during casino construction and the later stage of operations. For example in the Queensland casino study, employment surveys in both casinos were supplemented with additional workforce data

¹⁹ Australian Institute for Gambling Research 1998, *The Impacts of New Zealand Casinos 1996-97*, report prepared for the NZ Casino Control Authority; McMillen, J., McAllister, G. & Tremayne, K. (2000) *Comparative Study of the Impacts of the Brisbane and Cairns Casinos 1996-98*. Australian Institute for Gambling Research.

provided by the casinos, unions, the Australian Bureau of Statistics (ABS) and the Commonwealth Employment Service (CES) to examine the local content of employment. Both the Brisbane and Cairns casinos had an initial program to recruit staff from the long-term unemployed registered with the local CES.

The Queensland impact study had the added advantage of being conducted over a three-year period (1996-98), providing longitudinal data for trend analysis of construction to operational stages of development. In the Queensland study:

- letters were sent to Treasury and Reef casinos and their subcontractors to request information about the origin of companies working in the construction phase (that is, if they were local, state or interstate companies) and the number of people they employed. Neither operator provided this information;
- the casinos provided annual data on the employment profile and salaries of their respective workforces;
- local residents' perceptions of employment impacts were recorded through a series of community surveys in Brisbane and Cairns, both prior to and following the opening of the casinos (1995-98);
- interviews were conducted with casino representatives, casino construction subcontractors, relevant unions and the CES in Brisbane and Cairns;
- community reference groups were established in both cities and consulted at regular intervals during the study for advice, information and feedback on the research;
- the study utilised survey data from businesses in and around the casino precincts as well as detailed analysis of tourism to the area; and
- the Queensland Treasury was also able to provide information on the multiplier value of the Brisbane and FNQ regions.²⁰ However, an acknowledged flaw in this analysis concerned methodological limitations in the use of multipliers to calculate the flow on benefits of casino employment.

The Queensland casino impact research provides some important lessons in the conduct of gambling impact assessment studies. The framework aimed to be as inclusive of all available forms of data as possible, be they: qualitative; quantitative; primary; or secondary. Some of the limitations experienced included the lack of locally sensitive industry statistics and the inability or unwillingness of some sections of the local gambling industry to cooperate in the provision of relevant material. Further, the commercial and industrial sensitivity of some of the material requested, such as employee information, must be considered.

Macroeconomic Modelling Methods

Australian national research

²⁰ If using multipliers, care has to be taken to use multipliers that best reflect an up to date profile of the region and of the relationships between the industry sectors to improve the quality of the estimates derived from the multiplier process.

The **Productivity Commission's** 1999 national inquiry into *Australia's Gambling Industries* used a relatively balanced, interdisciplinary approach that combined quantitative and qualitative data with information provided in consultations and submissions by community and industry representatives (see below). The Commission examined the available literature and research on Australian gambling, using cross-data triangulation and community consultation. It also conducted its own national population survey, surveys of counselling agencies and their clients, and testing of various economic measures and models.

Social impact methodology

Three surveys conducted in 1999 on behalf of the Productivity Commission (PC) generated valuable and revealing information about the gambling patterns of Australians and the profile of gamblers, adding substantially to the findings of previous Australian research. These included: population surveys; surveys with Counsellors; and surveys with clients in counselling.

Based on the national population survey, the Commission compared different measures for assessing problem gambling to arrive at their general conclusion that 2.1% of Australians surveyed experience problems with their gambling (measured using SOGS5+). Significantly, 9.27% of respondents who play gaming machines reported having gambling problems, a rate significantly higher than other forms of gambling.

However, the Commission acknowledged that there is strong disagreement between researchers about the validity of the different problem gambling measures commonly in use. Often these differences have a national dimension reflecting different cultural perspectives. For example, many researchers in the United States and New Zealand have tended to view gambling as a 'mental disorder' and thus prefer more sensitive, psychiatric measures than those used in Australia, resulting in higher prevalence rates.

The PC also expressed reservations about the SOGS and DSMIV instruments given the cultural diversity in Australia. However, the Commission recognised the benefit of such screening measures for providing 'guides' to the prevalence rates and impacts of problem gambling.

Several major criticisms can be made of the Productivity Commission's assessment of gambling impacts, including:

- At the outset, the PC briefly discusses gambling in terms of being a merit 'bad' (as opposed to a merit 'good' like compulsory education).²¹ It is clear from the national population survey that the Australian community in general is concerned about the growth of gambling and would like some constraints imposed on gambling. Just as society imposes controls on smoking, alcohol and other drugs the community may perceive it important to control and restrict gambling as well. These issues warrant greater policy consideration.
- The Commission's Report on this issue is contradictory in many regards. On one hand the Commission is critical of state and territory governments for lack of policy rationale, identifying governments' reliance on gambling revenue as a factor in the rapid expansion of legal gambling with its associated social costs.²² On the other, the Commission suggests that hotels should have similar access to gaming machines as clubs so that they might compete.
- The Commission concentrated on aggregate data and impacts (ie at the level of the nation and states/territories). Coverage of impacts at the regional level is neither comprehensive or representative, yet as noted in the PC's Final Report

²¹ *ibid.*, p. 4.16, *fn.* 3.

²² *ibid.*, Chapter 22.

The Productivity Commission's study showed that patterns of gambling are not uniform across the nation, or between rural and urban dwellers.²³ While the report's weighted analysis and interstate comparison of 'accessibility' has made a valuable contribution to the understanding of the impacts of gambling at a state/territory level, Australians experience social life and gambling impacts at the level of local communities.

There are inadequacies in the surveys conducted by the Productivity Commission that limit their capacity to provide a baseline understanding of the extent of gambling problems in the Australian community. For the purpose of providing a detailed picture of gambling in the community, the surveys commissioned by the Productivity Commission were limited by:

- The small sample size of residents of each state/territory in the national population survey of 10,500 people;
- Under-reporting in the national survey of people with gambling problems. Telephone survey data on gambling participation is particularly problematic. For example, the Productivity Commission's national survey has an acknowledged under reporting of expenditure on gambling in 1997-98 of over 30% when compared to data officially collected by the Tasmanian Gambling Commission.²⁴ However, this compares well with the Household Expenditure Survey (HES) conducted by the ABS, which under reported Australian gambling expenditure by over 73% in 1993-94;
- The PC's survey of support agencies only sampled agencies with designated gambling services and not other more general community services. In some states/territories (eg the ACT) there is only one such agency. Research suggests that people with gambling problems access a wide range of community services. Without diminishing the important findings of the Commission's survey of clients of counselling services, it is significant that the sample was not genuinely representative of Australians who seek support for gambling-related problems. By surveying clients only in designated gambling services the survey did not access a representative cross-section of people with gambling problems or obtain a full picture of the nature of gambling problems in individual states or local communities;
- The Productivity Commission national survey asked a short list of questions on help-seeking behaviour.²⁵ However, the reported prevalence for problem gambling help-seeking was small (0.32% of the adult population), with less than half of those respondents wanting help actually trying to get help of any kind.²⁶ The small number of help-seekers identified in the national survey (19) prevents meaningful conclusions on this aspect of the Commission's research. Other research suggests that people who choose not to attend gambling services often seek help from friends and relatives, general practitioners and other health care professionals or generic counselling and family service agencies. Private counsellors and financial counsellors have been identified as alternative treatment interventions. There is a need to obtain accurate data on the proportion of community members identified as problem gamblers accessing, or expressing an intention to access, professional treatment. Evidence from the PC survey and international studies suggest that at any one point in time, approximately 10 per cent of the population of problem

²³ *ibid.*, Chapter 10.

²⁴ *ibid.*, p. 9.4.

²⁵ *ibid.*, Appendix F, F. 16.

²⁶ *ibid.*, p. 6.46.

gamblers are in treatment. Based on Melbourne University research the numbers of people seeking assistance could be much higher. More precise information is needed to direct cost-effective policy and funding decisions for treatment services.

- By its design, the PC's national survey failed to include underage adolescents in its sampling population. Despite legislated restrictions, surveys have revealed that 24% to 40% of adolescents gamble weekly, 10% to 15% appear at-risk, and 2% to 9% meet diagnostic criteria for problem gambling.²⁷ In distilling current findings, Shaffer, Hall and Vander Bilt conducted a meta-analytic study of 120 North American prevalence studies to calculate a reported lifetime rate of 3.9% (95% confidence interval 2.33–5.43), and a twelve-month rate of 5.8% (95% confidence interval 3.17-8.37), for adolescent disordered gambling.²⁸ The estimated median prevalence rate of up to 6% for adolescent 'pathological' gambling is generally three to four times greater than the median figure of 1.5% reported for adults.²⁹ Little comparable data are available for the prevalence of problem gambling in Australian adolescent populations, although Melbourne University research suggests that 8% of underage adolescents were gambling in three or more ways.³⁰ However, this issue requires complex and sensitive methodologies which, although used to investigate other issues, that have not yet been applied to gambling.
- The PC's national survey instrument fails to address the cultural diversity and meanings of gambling for people from culturally different backgrounds. Little is known about the differential impact of gambling on specific ethnic communities. With a few exceptions most prevalence studies conducted overseas or in Australia either exclude respondents with no English language skills or fail to provide a breakdown of statistical analyses by country of birth or ethnic background.³¹ Where ethnic data are provided, data describe global group comparisons, for example, Caucasian versus non-Caucasian.³²

²⁷ Derevensky, J.L., Gupta, R. & Cioppa, G.D. (1996) 'A developmental perspective of gambling behavior in children and adolescents' in *Journal of Gambling Studies*, 12, pp. 49-66; Fisher, S. (1993) 'Gambling and pathological gambling in adolescents' in *Journal of Gambling Studies*, 9, pp. 277-288; Gaboury, A. & Ladouceur, R. (1993) 'Evaluation of a prevention program for pathological gambling among adolescents' in *Journal of Primary Prevention*, 14, pp. 21-28; Griffiths, M. (1996) *Adolescent gambling*, Routledge, London; Wynne, H., Smith, G., & Jacobs, D.F. (1996) *Adolescent gambling and problem gambling in Alberta*, Edmonton, Alberta, Alberta Alcohol and Drug Abuse; Ladouceur, R., Dubé, D., & Bujold, A. (1994) 'Gambling among primary school students' in *Journal of Gambling Studies*, 10, pp. 363-370; Lesieur, H.R., & Klein, R. (1987) 'Pathological gambling among high school students' in *Addictive Behaviors*, 12, pp. 129-135; National Research Council (1999) *Pathological gambling: a critical review*, Washington DC, National Academy Press; Shaffer, H.J., & Hall, M.N. (1996) 'Estimating the prevalence of adolescent gambling disorders: a quantitative synthesis and guide toward standard gambling nomenclatures' in *Journal of Gambling Studies*, 12, pp. 193-214.

²⁸ Shaffer, H.J., Hall, M.N., & Vander Bilt, J. (1997) *Estimating the prevalence of disordered gambling in the United States and Canada: a meta-analysis*, Boston MA, Harvard College.

²⁹ National Research Council, op. cit.

³⁰ University of Melbourne Problem Gambling Research Program (2000) *The Impacts of Gambling on Adolescents and Children*, Human Services Department.

³¹ Walker, M.B., & Dickerson, M.G. (1996) 'The prevalence of problem and pathological gambling: A critical analysis' in *Journal of Gambling Studies*, 12, pp. 233-249.

³² Volberg, R.A. (1994) 'The prevalence and demographics of gamblers: implications for public health' in *American Journal of Public Health*, 84, pp. 237-241.

- Census statistics indicate that Australia is a multi-cultural society with 23.0% of its population being born overseas, half from non-English speaking countries.³³ Health service utilisation studies suggests that residents of non-English speaking backgrounds have difficulty in understanding and accessing health care systems resulting in their low utilisation of main stream health services.³⁴ Therefore prevalence estimates of problem gambling based on the general population samples may not accurately reflect the extent of the problem within smaller ethnic groups.
- The Commission obtained only a ‘snapshot’ of the situation as it was in 1999, providing little indication of general trends or changed circumstances over time;
- Assessment of the correspondence between estimated impacts and *actual* impacts was not possible given the paucity of essential data that would allow such analysis. For example, in relation to the effects of gambling on criminal activity the Productivity Commission only surveyed clients in counselling. The Commission’s estimates based on this method cannot be seen to be an accurate representation of the extent of gambling related crime; and
- A range of cultural and disciplinary assumptions are reflected in the gambling definitions employed in the Commission’s research agenda and ultimately in the types of information sought and obtained. For example, the Commission used the concept of ‘consumer surplus’ to try to measure the economic value of the pleasure and social benefits gamblers obtain from their gambling. The priority given by the Commission to economic measures over sociological or cultural concepts pervades the Final Report. The PC’s economic concept of consumer surplus has become the focus of intense but as yet unresolved debate among Australian gambling analysts. This issue will be discussed further in this report (p. 30, p.74).

More generally, there is a heavy reliance on population sample surveys in prevalence studies. Common weaknesses of population surveys in gambling research include:

- hard to measure issues (such as experience with excessive gambling) are reduced to a statistical object, or number. This approach neglects the ongoing dynamics between issues, and, instead, favours the study of linear associations or correlations rather than deeper explanation;
- questionnaires are often of poor design. Telephone questionnaires used in several VCGA studies offer pre-determined selections for responses. The implication is that a brief factual answer is all that is required. There is also an inherent power relationship based on the rapport between interviewer and respondent in the telephone questionnaire environment; and
- there is a subjectivity inherent in survey data. ‘Surveys can encourage a type of ‘accounting’ approach to research and social enquiry and can mask the qualitative

³³ Australian Bureau of Statistics (1996) *Population Census*, Commonwealth Government Printing Office, Canberra.

³⁴ Tseng, W., Lin, T., & Yeh, E. (1995) ‘Chinese societies and mental health’ in *Chinese Societies and Mental Health*, Hong Kong, Oxford University Press; McDonald, B., & Steel, Z. (1997) *Immigrants and Mental Health: An Epidemiological Analysis*, Transcultural Mental Health Centre, Sydney.

and/or subjective nature of questions asked and the selection of response options on offer.³⁵

Telephone surveys can prove useful for perception studies but this method can be considered inconclusive, if not invalid, when attempting to accurately gauge prevalence rates of problem gambling within small sample groups.

Widely recognised concerns with telephone surveying include:

- obviously only households with telephones can participate. This excludes members of the population, most significantly, people from low socio-economic backgrounds;
- there are sampling biases. For example, surveys will be undertaken by people who are willing to discuss personal issues via the telephone and generally are the household member who most commonly answers the telephone. An example of this is the Victorian study by Hames Sharley (1997), which appeared to over-represent both females, and persons in the 30-39 year age category, while under-representing respondents in the 50 plus age groups and non-native born residents;³⁶
- NESB community member response numbers are low due to a number of factors: interviews are conducted in English; the possible lack of cross-cultural communication skills of the interviewer; and an inhibition to discuss personal experiences due to cultural barriers;
- surveys not accompanied by prior notification (ie: cold calling) imply an intrusive nature to the methodology; and
- surveying which takes place either in the presence of other family members, or at a time when the respondent is not prepared to provide detailed responses may bias results.

Self-reporting of information, particularly in an area as sensitive as gambling, is also open to distortion or misinformation. Questions that ask respondents to recall past events are notoriously subject to error; and value judgements can also shape the replies. Some respondents are likely to adjust their answers to present a more positive (or negative) light. As previously discussed, a significant proportion of interviewees to the Productivity Commission's national survey appear to have under-reported their spending on certain forms of gambling when cross-checked with official statistics for that state.

Telephone survey data should, wherever possible, be cross-checked and supplemented with data accessed via other research methods. These methods should include such things as: focus groups; stakeholder consultations; client data from counselling agencies; and community support services.

As previously noted by Abbot and Volberg, qualitative research methods have also been criticised for lacking rigour and reliability.

Economic impact methodology

From the perspective of conventional economics, some problems associated with economic aspects of the Productivity Commission's methodology include:

³⁵ Borrell, J. (2000) *Gambling Research Newsletter*, VLGA, October Issue.

³⁶ Hames Sharley (1997), *Impact of Electronic Gaming Machines on Small Rural Communities*, Victorian Casino Gaming Authority, Victoria, p. 17.

- The basic concept of ‘expenditure’ used by the PC assumes that individuals treat a win as equivalent to a negative loss, that is, the utility function is such that the marginal utility of income is symmetric for increases or decreases. Although this assumption appears to be common in gambling studies, it may be that gamblers will value a win of \$100 much more than a loss of \$100.
- In aggregating the costs and benefits some attempt has to be made to allow for the distributional impacts: the poor spend proportionately more of their income on gambling and their marginal utility of income is higher than for the rich. Aggregating ‘consumer surplus’ to calculate a community’s consumer surplus requires strong assumptions about the constancy of the marginal utility of income. Note that the PC seems to sidestep the issue of aggregation by referring to ‘consumer surplus’, not consumers’ surplus.³⁷
- If we treat gambling choice as being rational utility maximising choice (and hence use concepts like consumer surplus) this notion seems inconsistent with the fact that 59% of respondents (and 66% of regular gaming machine/casino gamblers) say they gamble because of the ‘dream of winning’.³⁸ The PC raises questions about the fundamental basis for measuring the benefits of gambling for consumers.³⁹
- It is suggested by the PC that the consumer surplus by recreational gamblers ‘represents a *genuine* addition to the welfare of consumers.’⁴⁰ However, the estimates of consumers’ surplus are an over-statement as they include some displaced consumer expenditures from other sectors.⁴¹ If there is a reduction in savings rates as the result of gambling there are long run costs for future economic growth.
- The Commission argues that the impact on employment is over-estimated since most of the expenditures on gambling would be displaced from other goods and hence lead to a reduction in employment elsewhere. Transfers of consumer expenditures from their local community (regional or rural) to more city based corporations like Australian casinos suggest that impact studies should consider the regional/rural shifts of expenditures and hence employment.
- It is important to note that any tax revenue collected by state/territory governments is simply a transfer and not an economic benefit. The PC argues that the tax revenues are part of the consumer surplus, but if there is a shift of consumer expenditure from other goods to gambling presumably there is a decrease in taxation from those goods. The PC does not account for this shift.
- Since the state provides monopoly rights to casinos and other gambling venues (TABs, lotteries) it is reasonable from an economic viewpoint to tax the economic rents that are being derived by these corporations.
- Costs of advertising, promotions and marketing by gambling operators should be included in calculations of social costs insofar as they do not provide adequate consumer information.

³⁷ PC (1999), op. cit., p. 5.9.

³⁸ *ibid.*, p. 5.5 (Table 5.1).

³⁹ *ibid.*, p. 5.13 (Box 5.8).

⁴⁰ *ibid.*, p. 5.17.

⁴¹ For some qualifications see *ibid.*, p. 5.29.

General Equilibrium Modelling Methods

Microeconomic methods are concerned with individual consumers and producers, and examine the demand for a particular commodity and supply for that commodity. Partial equilibrium micro models can be used where we can use notions of consumers' surplus; general equilibrium micro models can be used where we can consider the inter-relatedness of individual markets.

Welfare economics is a sub-set of microeconomics. It tries to evaluate how society's welfare changes in response to some change in a variable. For example, it can be used to estimate the impact of introducing a new tax (or increasing/decreasing a particular tax) on the welfare of consumers, producers and society in general. Concepts of consumer surplus are often used in microeconomics, but that is neither necessary nor sufficient. For example, in tax analysis we would always study the impact on consumers' surplus but also examine producers' surplus to get a more complete picture.

In general, there are some implicit or explicit value judgements required. For instance, the user of consumers' surplus makes the value judgement that the consumer knows what is best for her/him and that society accepts that valuation. Note that in talking about consumers' surplus (that is the aggregate of individual consumer's surpluses) we make the implicit value judgement that the value of income (money) is identical for each individual, which is a very doubtful assumption.

Victorian research

In 1997 the **National Institute of Economic and Industry Research** (NIEIR) examined the impact of gambling on the retail sector in Victoria using both quantitative and qualitative methods. In part, the quantitative investigation analysed official retail figures, gambling expenditure and savings figures on a state-by-state basis from 1990 to 1996. The trend analysis of aggregate Victorian data suggested that whilst the growth in gambling expenditure in Victoria between 1990 and 1996 was stronger than the growth in expenditure on retail goods and services, at the state level this appears to have been funded through a reduction in savings.⁴²

This finding was based on analysis that compared trends in gambling expenditure, retail consumption and savings rates, a methodology that has been strongly criticised by numerous economic analysts.⁴³

The Productivity Commission also noted subsequently that it 'does not believe that this result can be generalised to suggest that an expansion in gambling comes at no cost to other retail activity'.⁴⁴ Significantly, the most recent VCGA study, the *Longitudinal Community Impact Study* conducted by KPMG Consulting, adopts the Productivity Commission's approach and not that of the earlier VCGA-sponsored research which uses the NIEIR methodology. The KPMG study manifestly does not use the HES. Instead it makes the following point forcefully in its executive summary:

... it is difficult to disentangle the effects of the expansion in gaming venues on local businesses from other economic factors affecting businesses ... however, inevitably, growth in consumer

⁴² National Institute of Economic and Industry Research (NIEIR) & Spiller Gibbins Swan Pty Ltd (1997), *The Impact of the Expansion in Gaming on the Victorian Retail Sector*, Victorian Casino and Gaming Authority, Melbourne, p. i.

⁴³ Doughney, J. & Kelleher, T. (1999), *Preliminary local area gambling research: economic effects*. Commissioned by the councils of Brimbank, Greater Dandenong, Maribyrnong and Moreland, pp. 26-33.

⁴⁴ PC (1999), op. cit., p. 10.31.

expenditure on gaming and investments in gaming venues have drawn resources away from other industries, reducing the size of these industries – relative to what they would have been if the gaming industry did not exist.⁴⁵

Further to the NIEIR study, in submissions to the Productivity Commission inquiry, several national firms of economic analysts (ACIL, CIE, ECONTECH) applied equilibrium models to estimate the impacts of an expansion/contraction in gambling on other sectors of the economy.⁴⁶ For example:

- the CIE model simulation suggests that with a 10 per cent increase in gambling, the retail sector will contract by about 1.6 per cent.⁴⁷ Industries that lose the most are sport and recreation (2.1 per cent), wine and spirits (1.9 per cent) and beer and malt (1.8 per cent);
- the ECONTECH simulation suggests that for a 26 per cent increase in gambling activity the retail sector will contract by about 0.5 per cent.

These economic simulations and the research literature in general suggest that industries which accommodate or complement gambling grow as a result of an increase in gambling. For example, hotel accommodation, sports clubs, cafes and restaurants associated with a gambling venue are estimated to expand with an increase in gambling. On the other hand, industries that compete with gambling are ‘chasing fewer dollars on the ground’ and are estimated to experience economic contraction. These industries include active recreation, organised sport, furniture and household purchases, all of which were claimed to be the biggest losers from a rise in gambling associated expenditure.

We have reviewed these equilibrium models to shed light on the impacts of gaming machines at the local level (below). However, there are a number of problems with such econometric analyses for the DIA’s objectives, including:

- a slight change in the assumptions used in the model will change the estimated impact of gambling. Equilibrium models depend entirely on, and are highly sensitive to, the potential contentious assumptions (parameters) made regarding gambling, saving and consumption, etc., in their construction. At this point the reasoning can become circular. Only evidence from outside the model can shed light on the parameters used in it. Hence, for example, NIEIR based their modelling on inferences drawn from the Australian HES. In rejecting the validity of HES gambling data, several analysts, including the Productivity Commission, have looked at other economic and gambling information, including field and qualitative research and case studies of gamblers’ behaviour;
- the estimates provided by general equilibrium modelling do not take into account the actual impacts of gambling at a local level. Some researchers argue that gambling impacts are experienced most acutely at the level of the local community.⁴⁸ Equilibrium models aggregate the impacts of gambling that may vary across the diverse range of social and economic communities in Australia; and

⁴⁵ KPMG Consulting (2000), *Longitudinal Community Impact Study: 1999 Report Vol 1*, A report prepared for the VCGA, p. 2.

⁴⁶ ACIL (1999), *Benefits and costs of gambling: a framework into Australia’s gambling*, submission to the PC (1999), op. cit.; Aristocrat Leisure Industries (1998) *Inquiry into Australia’s gambling industry*, submission to the PC (1999), op. cit.; ECONTECH (1999), submission to the PC (1999), op. cit.

⁴⁷ Aristocrat, *ibid.*

⁴⁸ AIGR (1999), Submission 49 to the Productivity Commission’s ‘Inquiry into Australia’s Gambling Industries’.

- they require specialist expertise with econometric modelling and detailed statistical data on industry and consumption patterns that are not normally available.

To address the issue of local impacts, **NIEIR** has more recently (2000) estimated the regional impact of gambling in Victoria, using such indicators as investment in the gaming industry, the level of displaced expenditure, taxation of gaming and the profits that accrue to TABCORP and Tattersalls.⁴⁹ This study estimated the statewide impact of gambling at \$3,028 million in net present value terms over five years and identified a high degree of variability between the regions.⁵⁰

Factors assumed by NIEIR to affect variability in the regional economic benefits of gambling were the level of household indebtedness (which impacted on whether gambling came from other consumption or savings), differences in share ownership, differences in household spending and in the composition of the local economy.⁵¹

To develop their estimates, NIEIR spent substantial effort reworking, validating and re-analysing the HES database on gambling expenditure. The study partitioned the HES sample into households that have reported playing in the previous two weeks and households that have not played in the previous two weeks. NIEIR acknowledge that this sample could lead to observation bias in the results.

To identify complements and substitutes of consumption, NIEIR used ‘a household expenditure model derived by adjustment of the HES.’⁵² To do this NIEIR used a multiple regression model in which:

- expenditure drivers other than gambling participation (i.e. incomes and household composition) were taken into account; and
- reported gambling expenditures were taken into account.⁵³

The second point involved two steps. Firstly, the HES unit records were adjusted to make ‘wins’ into ‘losses’.⁵⁴ While in the long run it is certain that the great proportion of winners will become losers it is uncertain as to the extent that they will lose. Secondly, all reported losses were adjusted to match industry statistics. This means that they were, in aggregate, multiplied by a factor of about 10.

Based on these adjusted HES data, expenditures identified by the linear multiple regression as complements to gaming machine expenditure were alcohol, tobacco, restaurant meals and take-away food. Savings and ‘other expenditures’ were identified as consumer substitutes for machine gambling.⁵⁵

The adjusted HES was also used as the basis for NIEIR’s simulation model. In an additional step, data on the expenditure and socio-economic characteristics of households and individuals collected from VCGA surveys were then applied to the HES expenditure data. In place of the HES gambling loss data that is, a new set of losses were grafted on to the other HES data based on population distribution characteristics. The aim here was to ‘simulate the economic adjustments that households make to

⁴⁹ National Institute of Economic and Industry Research (2000), *The Economic Impact of Gambling*. Report prepared for the Victorian Casino and Gaming Authority, pp. 79-82.

⁵⁰ Net present value, or NPV, is a way of accounting for changes in the value of the dollar over time. The value of the dollar and the affect of interest rates over time. It allows dollar figures from different years to be added.

⁵¹ These assumptions are quite different from those of the Productivity Commission report in which the main benefit derived was the extra consumer surplus derived from gambling (as opposed to consuming another good) and the major cost was assumed to be the social cost to problem gamblers, their families and society as a whole.

⁵² NIEIR (2000), op. cit., p. 45.

⁵³ *ibid.*

⁵⁴ The HES unit records document total wins/losses for each individual surveyed over the two week period.

⁵⁵ NIEIR (2000), op. cit., p. 47.

gambling expenditures' over time.⁵⁶ In particular the model is designed to simulate asset and debt adjustments.

This 'dynamic micro-simulation model' may offer a new approach to measure some impacts of machine gambling at the household level. However, we consider NIEIR's models to be seriously weakened by assumptions of the model and flaws in the data used. For example:

- it is now generally recognised that gambling expenditure is systematically and massively underestimated in the HES. This presents a significant problem for the model and limits the validity of its findings. The ABS itself counsels against using the HES in gambling research;⁵⁷ and
- the level of under-reporting in the data cannot be simply re-adjusted as the NIEIR model has done. People/households under-report for a variety of reasons. For example, it might be that frequent gamblers under-report and falsely report more than infrequent gamblers; or one cultural group may report less than others for various reasons. We simply do not know enough about this phenomenon, although the PC and the AIGR have shown that false and under reporting problems also apply to telephone surveys.

We consider that quantitative analyses such as the NIEIR simulation model are not suitable for analysis of the impacts of gambling on local retail and other industries. Factors that influenced our decision not to recommend this method were:

- no suitable national or regional databases on gambling expenditure at the household level exist for New Zealand other than HES or survey data from reports commissioned by the DIA. The degree of under-reporting and false reporting at the household and individual level is unknown, which precludes any statistical adjustment of the HES (and some data in DIA surveys); and
- statistical estimates of benefits and costs are sensitive to the underlying assumptions of the model used. For example, the different methodologies adopted by the Productivity Commission and the NIEIR study resulted in large differences in the estimated impacts of gambling.

Employment Studies

Victorian research

NIEIR's 1997 study examined the employment impacts in the operational stage of gaming venues.⁵⁸ The fundamental position adopted by NIEIR is that gaming machine expenditure in Victoria was financed by savings in 1995-96; thus any gaming machine expenditure largely represents stimulatory expenditure to the economy. According to this calculation, the estimated total direct employment in the Victorian gambling industry in 1996 was 11,564 people.⁵⁹ This consisted of new gambling employment (8,672 people) and the existing gambling employment (2,892 people). This figure has been subsequently used as the basis of calculations in a number of VCGA reports and applied (via an employment/ ratio) to the estimates of employment impacts in a number of Victorian regions.⁶⁰

⁵⁶ *ibid.*

⁵⁷ Australian Bureau of Statistics (1998), Submission to the Productivity Commission's *Inquiry into Gambling Industries*.

⁵⁸ NIEIR (1997), *op. cit.*

⁵⁹ *ibid.*, p. 64.

⁶⁰ Melbourne Institute of Applied Economic and Social Research, Deakin Human Services Australia, National Institute of Economic and Industry Research (1997) *Impact of Gaming Venues on Inner City*

As mentioned above, we have major criticisms of the assumptions in the NIEIR model and its application:

- it is based on the assumption that gambling losses do not displace other consumption spending, such as retail;
- the NIEIR methodology implies that the employment/gaming machine ratio is similar across all venues and areas of Victoria. Yet it is probable that larger venues will have a lower employment/gaming machine ratio than smaller venues due to economies of scale;⁶¹
- the methodology did not differentiate between local area employment impacts. It is likely that impacts will vary between areas with high/low levels of unemployment, rural areas, regional towns such as Ballarat, and border tourist towns such as Echuca;
- NIEIR's calculation assumes that the growth in traditional gambling expenditure (in the previous 10 years) is directly related to traditional gambling employment. This trend is then compared with actual traditional gambling employment to calculate the displaced employment as a result of new gambling expenditure. However, the net increase in employment includes only displaced employment from traditional gambling (a questionable assumption) without taking into account other employment that may be displaced from other sectors of the economy. In this regard, NIEIR's model is based on the findings of their own previous Retail Study, which has been criticised (correctly in our view);⁶² and
- the net increase in employment is thus grossly over-represented. This inflated figure is then used to calculate the total wages and salaries, Gross Operating Surplus (by applying an Input-Output Table for 1993-94 to the total wages and salaries) and the net inter-industry demand. These variables are then inserted into the structure of the IMP Model of the Victorian and Australian economy. This results in a calculated increase in employment of 20,200 for operational Victorian gaming venues in 1995-96 (excluding the construction effects). In our view this NIEIR methodology is seriously flawed as it assumes that growth in new gaming employment is primarily new growth that is stimulating otherwise idle resources (with the exception of the questionable displaced traditional gambling employment). Thus it is likely that the NIEIR model overstates the employment effects of gaming venue activity. Only if the person employed was not previously employed and was not likely to be employed in another industry would the gains from gaming employment and the associated multiplier effect be of any real value.⁶³

Municipalities, Report prepared for the Victorian Casino and Gaming Authority, p. 160-161; Melbourne Institute of Applied Economic and Social Research, Deakin Human Services Australia, (1997) *Social and Economic Effects of Electronic Gaming Machines on Non-Metropolitan Communities*. Report prepared for the Victorian Casino and Gaming Authority, p. 283.

⁶¹ Indeed, economies of scale are part of one reason why panel regressions were carried out in NIEIR's longitudinal study.

⁶² NIEIR (1997), op. cit.; Doughney & Kelleher (1999), op. cit.

⁶³ Some practical and theoretical limitations of the multiplier process are outlined in the AIGR's NZ casino impact study. Using data provided by the gaming operators and CES, McMillen et al's impact study of Queensland casinos did examine the recruitment of long-term unemployed local residents into casino work.

We suggest the NIEIR methodology is not valid for analysis of employment impacts of gaming in the operational stage for several reasons, including:

- the particular characteristics and dynamics of a local economy are not taken into account;
- assumptions made about the net employment effect of new gambling outlets are highly questionable, especially for regions with lower unemployment rates⁶⁴; and
- the specific nature of employment within gaming outlets is not factored into account.

Social Survey Research/Psychological Studies

In the examination of social survey research and psychological studies methodologies the material has been separated into specific categories. We begin with an examination of participation studies, then problem gambling studies, community studies and finally general studies such as the Household Economic Survey (New Zealand).

Participation Studies

New Zealand research

In response to the rapid growth in NZ gambling since the 1980s the **Department of Internal Affairs** (DIA) commissioned a series of national studies to identify gambling participation, community attitudes and the extent of problem gambling in the community.⁶⁵ More recent studies have examined the pattern of gambling in particular sub-populations (eg prisoners) that are vulnerable to problem gambling.⁶⁶ The government, through the Casino Control Authority, also commissioned research into the impacts of the Auckland and Christchurch casinos.⁶⁷ The Racing Industry Board, a statutory body, has previously commissioned research into the impacts of racing.⁶⁸ However, no comprehensive national study has examined and compared the social and economic costs and benefits of all forms of gambling, in the manner of the Productivity Commission's inquiry into gambling in Australia.

The DIA surveys into people's participation in and attitudes towards gambling in New Zealand were conducted in 1985, 1990, 1995 and 2000. Each of the surveys used a similar methodology. In each case the survey involved face-to-face interviews with a sample group (1200 in the 1990 and 1995 studies and 1500 in the 1985 and 2000 studies) of randomly selected households (people aged 15 and over). Showcards were used for most of the questions to avoid interviewee discomfort on sensitive questions. In the details below we show some of the results most relevant to participation. In this type of survey results are reweighted by age, gender and household size.

⁶⁴ Department of Employment, Workplace Relations and Small Business (2000) Small Area Labour Markets, June Quarter 2000, Canberra, pp. 13-16.

⁶⁵ Abbott, M. & Volberg, R. (1991), *Gambling and Problem Gambling in New Zealand*, DIA, Wellington; Abbott, M., Williams, M. & Volberg, R. (1999), *Seven Years On: A follow-up study of Frequent and Problem gamblers*, DIA, Wellington.

⁶⁶ Abbott, M., McKenna, B.G. & Giles, L.C. (2000), *Gambling and Problem Gambling Among Recently Sentenced Males in four New Zealand Prisons*, New Zealand Department of Internal Affairs, Wellington. Abbott, M. & McKenna, B.G. (2000), *Gambling and Problem Gambling Among Recently Sentenced Women Prisoners in New Zealand*, New Zealand Department of Internal Affairs, Wellington.

⁶⁷ AIGR (1998), op. cit.

⁶⁸ New Zealand Institute of Economic Research (1994), commissioned by NZTAB.

The following Table shows the percentage of respondents in each survey who had not participated in any form of gaming for the previous twelve months.

Table 1 Proportion of respondents who had not participated in any gaming activity in the previous twelve months

YEAR	MALE %	FEMALE %	TOTAL %
1985	13	17	15
1990	8	11	10
1995	8	11	10
2000	15	11	13

Source: *People's Participation in and Attitudes Towards Gambling: Preliminary Results from the 2000 survey*, DIA, 2000.

As the above data indicates, this means that a large majority of the New Zealand population take part in some form of gambling. Significant data not shown in this Table are the percentages for Maori and Pacific peoples. Maori people gamble more often than the national average with 9% not participating in gambling during the previous twelve months while Pacific peoples gamble less than the national average with 18% of respondents not having taken part in any gaming activity. The frequency of participation is examined in the following Table 2.

Table 2 Number of gaming activities participated in over a twelve month period, as shown in each DIA survey

NUMBER OF ACTIVITIES	1985 %	1990 %	1995 %	2000 %
None	15	10	10	13
1-3	70	51	49	49
4-6	14	34	34	27
7+	1	6	7	10

Source: *People's Participation in and Attitudes Towards Gambling: Preliminary Results from the 2000 survey*, DIA, 2000.

So, while the large majority of the New Zealand population (87% in 2000) has taken part in at least one gaming activity in the previous twelve months, the numbers involved in 1-3 gambling activities has reduced, while the number participating in seven or more gambling activities has increased. These figures must be considered within the context of the increased number of gaming options available by 2000. In the 1985 survey respondents were asked to indicate their participation from a list of 10 gaming activities. By 2000 this list included 17 activities. Nevertheless, this Table shows a marked increase in the number of people in the 7+ range.

Looking further, the following Table shows the types of gaming activities respondents had to choose from and the participation percentages.

Table 3 Types of gaming activities in which respondents participated in the previous twelve months

RESPONSE OPTION	1985 %	1990 %	1995 %	2000 %
Bought a Lotto ticket	3 ^a	78	80	75
Bought ticket in NZ raffle/lottery	71	62	67	67
Bought an instant Kiwi/scratch ticket	N/A	66	58	48
Made bets with friends	19	23	30	24
Bought a TeleBingo ticket	N/A	N/A	N/A	20
Played gaming machine (not at a casino)	N/A	28	24	18

Bet money on a horse or dog race	25	23	23	17
Casino ^b	N/A	N/A	5	16
Played a gaming machine at a casino	N/A	N/A	N/A	14
Played a Table game etc at a casino	N/A	N/A	N/A	6
Attended a "casino" evening-fundraising	8	9	10	10
Bought an overseas raffle/lottery ticket	N/A	N/A	N/A	10
Bet money on sporting event at TAB	N/A	N/A	1 ^c	8
Bought a Daily Keno ticket	N/A	N/A	11 ^d	6
Played card games for money	10	12	9	5
Played housie for money	8	5	6	4
Played 0900 games	N/A	N/A	4	3
Played dice games	3	4	3	2
Internet-based betting	N/A	N/A	N/A	1%

Source: *People's Participation in and Attitudes Towards Gambling: Preliminary Results from the 2000 survey*, DIA, 2000.

^aLotto was not available in New Zealand in 1985. These tickets would have to have been purchased overseas. ^b"Casino" includes all respondents who played Table games and/or gaming machines at a casino. ^cSports-betting was not available in New Zealand, this was asked about bets placed with an Australian betting agency. ^dDaily Keno had been operating for about 3 months at the time of this survey.

Some of the trends emerging from the New Zealand data indicate that participation rates are escalating particularly in the areas of casino gaming and sportsbetting and potentially in the area of internet gambling. Other more traditional and community-based forms of gambling are on the decline. Non-casino gaming machine participation recorded a surprisingly low rate in the latest national survey despite having the highest expenditure levels.

While the DIA survey data as a whole usefully highlights the forms and demographic features of gambling most prevalent in New Zealand, conducted in isolation from other research methods this kind of survey has limited policy value. In this case the national survey reveals little about how the statistics translate into gambling impacts as experienced publicly and privately. There is no specific analysis, for example, of whether and to what extent the demographic trends reported represent a social or economic cost warranting government attention.

In 1998 **AIGR** analysed and compared the social and economic impacts of the Auckland and Christchurch casinos.⁶⁹ The multiple research methods used were similar to those used in the AIGR's Queensland casino study: literature reviews, preliminary impact study appraisals; identification, compilation and analysis of available quantitative and qualitative data; industry, community, government, local business and resident interviews; surveys and statistical analysis; and consideration of relevant gaming legislation.

Primary research on the impacts of Sky City and Christchurch casinos found that New Zealand participation in the casino industry had contributed to an overall growth in gambling.⁷⁰ Many of the predicted economic benefits from casino development have not been fully realised and many of the predicted social costs have not emerged.

- A randomly sampled telephone survey (n=1000) found that Christchurch and Auckland residents report a significant increase in overall participation in gambling above that reported in the 1995 national survey. Participation in casino gambling was a significant factor in this general trend.
- Only 10.2% of respondents in Auckland and 6.5% of Christchurch respondents reported that they do not gamble. This reflects a continuing decrease in the numbers of non-gamblers, which was identified in the 1995 national survey.
- Most Auckland and Christchurch residents participated in only 1-3 gambling activities despite the introduction of several new gaming products in recent years.

⁶⁹ AIGR (1998), *Study of the Social and Economic Impacts of New Zealand Casinos*, (Executive Summary).

⁷⁰ *ibid.*, p. 19.

- As in 1995, Lotto (77% in Auckland, 78% in Christchurch), raffles (73% in Auckland, 82% in Christchurch) and Instant Kiwi (40% in Auckland, 54% in Christchurch) were the gaming activities in which most people had participated. Since 1995 there appeared to have been an increase in participation in poker/slot machines in clubs and pubs, and a decline in participation in housie.
- Casino gambling had effected a significant change in gambling participation in these two cities. In Auckland, 17% of respondents had played table games and 36% had played gaming machines in a casino; in Christchurch, 20% of respondents had played table games and 42% had played gaming machines in a casino.
- Estimates by Auckland and Christchurch residents of their annual expenditure on gambling were significantly above those reported in the 1995 national survey. A large proportion (34.5% in Auckland, 37.5% in Christchurch) estimated that they spend less than \$200 per year; a smaller number of residents (17% in Auckland, 19.1% in Christchurch) spent between \$200 and \$500; and 17.7% of Auckland respondents and 14.3% in Christchurch spent between \$500 and \$1000. But the most significant shift since 1995 has been an increase in the number of gamblers reporting annual expenditure over \$1000 (20.1% in Auckland, 22.4% in Christchurch). This compares with 9% reported in the 1995 national survey.
- The mean annual expenditure on gambling was \$2,355 for Auckland residents, with a median expenditure of \$299; the mean for Christchurch residents was \$970, with a median of \$301. This compares with a national mean in 1995 of \$413 and a national median of \$145.
- The overall national trend was that men spend more than women, evident in both Auckland and Christchurch. Both men and women reported an increase in estimated spending above the 1995 national figures.
- In both Auckland and Christchurch, the highest reported gambling expenditure was by residents aged 36-55 years.
- In Auckland, Pacific Island/Polynesian residents spent significantly more per person on gambling than other groups. Maori, Asian and other non-European groups also spent more per person on gambling than European/Pakeha residents.
- This pattern was repeated in Christchurch, although the estimated amounts spent are much lower and the Asian population does not report high gambling expenditure.⁷¹

Given the brief operational lives and different contexts of the two casinos studied by the AIGR, some of the conclusions reached were of a tentative nature. The main problems reported concerned inadequate quantitative data sources and difficulties ensuring the inclusion of Maori and Pacific peoples, despite efforts to that end. In addition to the particular research protocols for Maori people, quantitative research techniques by their very nature may thwart the participation of indigenous populations and marginalised social groups in impact studies. Sufficient time and resources must be allowed for the development of culturally sensitive research strategies in consultation with these social groups.

Gambling research and New Zealand sub-populations

⁷¹ *ibid.*, pp. 21-22.

Some of the New Zealand research provides information on the impact of gambling on Maori, Pacific peoples and other sub-populations. More specifically, the National Prevalence Surveys suggest a higher than average incidence of problem gambling among younger Maori men and higher participation rates in housie, traditionally an important source of community funding for Maori people. The AIGR's 1996-98 casino impact study also indicated higher expenditure rates among Maori and other non-European social groups. However, service usage data did not support concerns that Maori people were over-represented among problem gamblers seeking help. However, this finding may indicate that existing services do not meet the cultural needs of Maori people. In general the available research has tended to be inconclusive. There is currently no comprehensive research program being undertaken which adequately accommodates Maori and Pacific peoples or other sub-populations in participation or problem gambling prevalence studies.

In a forthcoming book, Dyall contends

... that in relation to gambling, the Crown or its agents have never considered its full obligations of implementing the principles embodied in the Treaty of Waitangi. Nor has Maori been really considered as a key stakeholder who should be involved in the determining the role and place gambling plays in Maori communities and New Zealand society.⁷²

She argues that despite recommendations made to acknowledge and implement the expectations of the Treaty of Waitangi, in the DIA Review of Gaming 1995 and by the Lottery Grants and Trust Board in 1997, this has not occurred in policy developments or in respect to Crown contracted research to date. Indeed the AIGR's casino study in 1998 did not effectively address these concerns and, in effect, this report stumbles on the issue as well. Though the terms of reference for this project explicitly call for a critical analysis of gambling-related research which includes the experiences of Maori and Pacific Islander peoples and other sub-populations, these groups had no input into the design or conduct of the research task itself, largely due to time and resource constraints.

Clearly more effort is needed in this area of gambling research. The Canadian impact framework and CPGI have made important advances in the inclusion of First Nations and other marginalised sections of the community that may be of some value in the New Zealand context. Research methodologies which are sensitive to the experiences of people from diverse cultural backgrounds in New Zealand must be included as part of any broad gambling impact assessment framework. Moreover, sub-populations should be included in the design stage of specific methods and the overall framework proposal, not just the implementation stages.

'Up-front' and transparent community consultation is an essential part of effective impact assessment procedures in many jurisdictions. Further, participatory and social action techniques can produce research which is empowering as well as richly informative. These models have been mainly used in the social science disciplines such as sociology, anthropology and community welfare/development.

Australian national research

Productivity Commission research into Australian gambling participation indicates that while there can be some discrepancies in calculating total gambling expenditure, the figures for 1997-98 show that Australians gamble about \$760 per adult or over three per cent of household disposable income. This is a significant increase from the 1972-73 figures of \$300 (in today's prices) or 1.6 per cent of household disposable income.⁷³

There appears to be a link between the introduction of gaming machines and a rise in gambling expenditure. In Victoria, after the introduction of gaming machines in the early 1990s, state gambling expenditure more than doubled. Similarly, in South Australia there were sharp increases after 1994-95 when gaming machines were legalised in hotels and clubs. In New South Wales, a state which has had gaming machines for 40 years, the gambling expenditure rise in the same period of the 1990s was only 40 per cent, compared to the national average of 75 per cent.

⁷² Lorna Dyall, 'Maori, Treaty of Waitangi and gambling', forthcoming in B. Curtis (Ed.), *Gambling in New Zealand*, Dunmore Press.

⁷³ PC (1999), op. cit., p. 3.2.

Approximately 80 per cent of Australians participate in some form of gambling, however the majority participate less than once a week. Gaming machines attract one of the highest rates of gamblers (39 per cent) with a demographic 'biased towards middle income earners and those aged between 18 and 24.'⁷⁴ While there is no gender bias with irregular gamblers, regular gamblers are most likely to be male, from lower socio-economic areas, welfare dependant, poorly educated and from non-metropolitan regions.

Leisure time entertainment is the key reason for gambling in Australia. Gaming venues, in particular, provide not just entertainment, but also a social setting in which the gambler can meet people. In a recent survey by Roy Morgan Research (1999), it was found that most gaming machine gamblers combine their gambling with other social activities.⁷⁵ Gaming venues are not just appealing because of their social setting. Most non-problem gamblers are attracted to the 'lucky winner' aspect of gaming, especially gaming machines. They offer the gambler a chance to 'dream' of the big win, the one that will pay for a new car, a holiday or even the mortgage.

Queensland research

Based on regional community surveys in 1995, 1996 and 1998, the AIGR's impact assessment research into Brisbane and Cairns casinos revealed the following findings in relation to the nature of participation in gambling activities:

- On average, Cairns residents visited casinos to gamble more frequently than Brisbane residents did although they spent less per visit than Brisbane residents.
- The average total amount spent on gambling at casinos by Cairns residents was higher than for Brisbane residents in each survey period. However, between 1996 and 1998, the average annual amount spent by Cairns residents fell while the amount spent by Brisbane residents rose.
- Occupation and income were not significant determinants of gambling activity. However, across the study period people in full-time work were more likely to have played table games at a casino than people not in the workforce or those in part-time work.
- Although gender differences were not evident in the 1996 surveys, by 1998 women were significantly more likely than men to have played poker machines in a club or hotel. Across all surveys, males aged between 18 and 24 years were more likely to have played table games at a casino.
- For the majority of residents of Brisbane and Cairns, casino gambling is not a regular activity and involves only modest amounts of money. However, the surveys show that there was a small group of very heavy spenders at each casino.

The AIGR's research suggests that local conditions play a significant role in gambling participation trends depending, for example, on accessibility to alternative leisure and recreational options. The longitudinal approach taken allowed for observation of changing gender patterns in participation with evidence emerging to support the Productivity Commission's concerns that 'the feminisation of problem gambling appears strongly associated with the spread of gaming machines.'⁷⁶ On the whole, however, the Cairns and Brisbane casinos did not appear to create the same degree of problems experienced, for example, by communities nearby the American casino strip developments.

⁷⁴ *ibid.*, p. 3.1.

⁷⁵ *ibid.*, p. 3.13.

⁷⁶ *ibid.*, p. 8.31.

Summary: Participation

The literature reviewed above reveals some interesting parallels and differences between gambling participation rates and attitudes in New Zealand and Australia. Around 80% to 85% of surveyed residents in each country undertake some form of gambling each year. With the exception of Telebingo, distinctive to New Zealand, the most popular forms of gambling undertaken (lotto, instant lotteries and gaming machines) and the highest expenditure rates on specific gambling products (gaming machines, casinos, racing and lotteries) were similar across the two countries.

It must be noted that the Productivity Commission excluded 'minor gaming' (raffles, bingo/housie etc) from its analysis of gambling participation and problem gambling. The Commission's study also excluded lottery-style gambling from its measures to identify problem gamblers from the non-regular target group to significantly lower the likelihood of false positive results. In contrast to New Zealand, where 'housie' and Lotto are popular among certain social groups, minor gambling attracts relatively small expenditure in Australia.

The amounts spent or lost on gambling in the two countries vary significantly, however. Australians spent \$13.2 billion on gambling in 1999-2000 averaging \$931.64 per adult and equalling 3.5 per cent of household disposable income. In New Zealand the national gambling expenditure figure for 1999-2000 was \$1.3 billion.⁷⁷ This averaged out to \$436 per adult (based on the population aged 15 and over at 2,971,730).⁷⁸ It is noteworthy that the AIGR's 1998 regional surveys in Christchurch and Auckland revealed far higher participation and expenditure levels than the national surveys.

Similar factors are at play in motivating people to gamble in Australia and New Zealand, that is, the entertainment and socialising aspects of the activity. The latter view would seem to pertain to those forms of gambling involving social interaction such as gaming at clubs, pubs and casinos and race meetings.

The methodologies employed in the gambling participation literature, however, leave considerable room for improvement. Population surveys in both Australia and New Zealand have been commonly used as the most cost-effective research tools but they have been less than adequate. More specifically, national surveys produce aggregate data which explains little about the experiences of gambling at the individual or community level. They also tend to produce an homogenised impression of gambling participation by overlooking culturally or historically specific meanings or practices which may alter the impact of gambling both personally and publicly. Moreover, these top-down approaches to social and economic research hamper access to valuable local knowledge that could facilitate more effective policy-making.

In recognising these shortcomings, the Australian Productivity Commission sought to complement their surveys with public hearings, roundtables, and interviews with key stakeholders. Even so, their terms of reference and national focus did not allow them to target regional or minority populations to ensure their views were adequately canvassed.

Regional casino impact studies conducted by the AIGR in Queensland and New Zealand also adopted a wide range of methods to create the most inclusive and comprehensive research framework possible with the given resources. As a result they were able to detect local variations in gambling participation rates across a number of population cross-sections including gender and cultural backgrounds. Even so, in the New Zealand study, the researchers were dissatisfied with the degree of Maori participation, notwithstanding their efforts and expressed concern that the short research time frames were detrimental to achieving that objective. Finally, many of the casino impact findings remained inconclusive due to the lack of suitable data with which to measure them.

The New Zealand surveys and casino study produced some circumstantial evidence of higher gambling expenditure among Maori and Pacific peoples than the rest of the population. More thorough and culturally sensitive research into the gambling experiences of minority groups and sub-populations is needed before any conclusive comments can be made.

⁷⁷ DIA (2001), *Peoples' Participation in and Attitudes Towards Gambling: Preliminary Results from the 2000 Study*, New Zealand Department of Internal Affairs, Wellington, p. 15.

⁷⁸ <http://www.stats.govt.nz>

The impacts of changing gambling participation patterns on New Zealand society are felt at both the private and public level. Individuals have obviously taken up the new forms of gambling with enthusiasm and are spending more money on them. In this respect new gambling products (particularly gaming machines and casinos) have enhanced the entertainment and recreational facilities available and possibly generated greater social interaction within the community. At a public level the increased participation has economic benefits for industry and government revenue, which are readily measurable from DIA and other government statistics. However, the decline in participation in traditional community-based forms of gambling, such as housie, may indicate a loss of local resources, community interaction and social cohesion. These intangible but important social impacts have defied quantification in previous cost-benefit analysis. Any evaluation of the net effects of changes in participation levels would therefore require a combination of quantitative and qualitative measures, preferably within a longitudinal framework.

Problem Gambling Studies

With regard to the issue of problem gambling, it can be said that,

... taken as a whole the evidence suggests that most adults exhibit growing maturity. They may be spending more annually, and may be trying more forms, but they do not gamble regularly, other than on Lotto. On the other hand, a significant minority seems to be spending much more, more frequently and on those forms of gambling that are a source of concern.⁷⁹

It is these people to whom we now turn in our study.

New Zealand research

Measurement of problem gambling in New Zealand has its foundations in the field of psychiatric epidemiology. **Abbott** has noted that pathological gambling has been recognised by health authorities as a serious form of mental disorder.⁸⁰ The South Oaks Gambling Screen (SOGS-R measure), developed from the diagnostic criteria for pathological gambling as set out by the American Psychiatric Association DSM – 111, has been used in New Zealand to estimate the current state of gambling related problems.⁸¹

In their prevalence studies **Abbott and Volberg** define problem gambling indicators as ‘...patterns of gambling behaviour that compromise, disrupt or damage health, personal, family or vocational pursuits.’⁸²

Abbott and Volberg identified perceived flaws in several early diagnostic techniques used internationally, before proposing the SOGS-R lifetime measure as the most reliable and accurate diagnostic tool for problem gambling assessment, provided that interviewers are clinicians with many years’ experience. Due to the popularity of the SOGS-R amongst researchers particularly in the United States, this measure was also seen to be useful from a comparative perspective.

Thus 1990 **Abbott and Volberg**’s prevalence surveys in their definition internalise the problem with the gambler. Moreover, New Zealand problem gambling research tends to categorise problem gamblers by

⁷⁹ Markland, J. (2001), op. cit., p. 10.

⁸⁰ **Abbott, M. & Volberg, R.** (2000), *Taking the Pulse on Gambling and Problem Gambling in New Zealand: A Report on Phase One of the 1999 National Prevalence Survey*, New Zealand Department of Internal Affairs, Wellington, p. 12.

⁸¹ *ibid.*, p. 9.

⁸² **Abbott & Volberg** (2000), op. cit., p. 11.

using medicalised terms such as ‘pathological’ or ‘compulsive’ gambling. A sociological and culturally sensitive approach to assessing the nature and extent of problem gambling is absent in this model.

Note that the lifetime SOGS-R measure also can produce higher scores of problem gambling than the SOGS5+ measure commonly used in Australia.

from this approach, Abbott and Volberg have identified risk factors for problem gambling in New Zealand, which include:

- youth; gender (males are at higher risk);
- psychiatric co-morbidity;
- a history of anti-social behaviour;
- unemployment; and
- being of Pacific Island or Maori descent.

More arguable risk factors include:

- the availability of gambling outlets;
- a family history of problem gambling; and
- coming from a lower socio-economic background.⁸³

Problem gambling has been acknowledged in all NZ prevalence studies as a contributor to social problems. Links have been found between hazardous alcohol use, depressive symptoms, minor mental disorders and problem gambling.⁸⁴

Further to their assessment of measurement tools, Abbott and Volberg have criticised data from other New Zealand surveys. They cite, for example, figures from Christchurch showing 3.6% of all residents having at some stage considered themselves problem gamblers. In their view, the flaw in these data is that the survey asked few questions such as those used in the SOG-R measure.⁸⁵

In all their prevalence studies Abbott and Volberg have continued to use the six month version of the SOGS-R, in part because they argue that their research has shown it to be a relatively accurate and reliable tool, and that it is useful as it replicates the method used for the 1990 New Zealand National Survey. This comparative aspect of their studies provides valuable data over ten years on impacts of the changing climate of gambling in New Zealand.

Results of their 1995 DIA survey indicated a high level of ‘pathological’ gamblers in New Zealand (between 19,000 and 32,000 currently and between 47,000 and 69,000 people who had once been pathological gamblers).⁸⁶ Interestingly, the findings of their most recent study on ‘lifetime problem’ and ‘lifetime probable pathological’ prevalence rates show a *reduction* in overall numbers, despite the increase in gambling opportunities in New Zealand during the 1990s.⁸⁷ Similarly, reductions are noted for ‘current problem’ and ‘current probable pathological’ prevalence rates.

An estimated 0.8% of the adult population were defined as ‘problem gamblers’ in the six months preceding the 1999 survey and a further 0.5% of the adult population were defined as ‘probable pathological gamblers.’

⁸³ *ibid.*, p. 108.

⁸⁴ *ibid.*, p. 113.

⁸⁵ Diagnostic Interview Survey (1986) cited in *ibid.*, p. 105.

⁸⁶ *ibid.*

⁸⁷ *ibid.*, p. 17.

Given the 86% population participation, however, the results suggest that most people gamble without adverse effects.⁸⁸

It is significant, however, that Abbott and Volberg have consistently found lower socio-economic groups present with higher rates of problem gambling. These social groups 'represent subcultures where gambling is a socially sanctioned activity that gives status to the participants.'⁸⁹

They have identified certain types of gaming as being associated with problem gambling. These include: 'continuous' games, which allow repeated plays immediately after winning or losing; games that, to players, appear to allow a degree of skill or decision making; and games that foster emotional engagement, for example through the size of the stake and/or prize.

Abbott and Volberg suggest that issues such as whether or not gambling availability causes an increase in the prevalence of problem gambling requires extensive longitudinal, time series and quasi-experimental research before conclusive analysis can occur. As gaming machines represent 'the fastest growing segment of gambling markets internationally',⁹⁰ further specific impact research is essential.

Abbott has also conducted research in four New Zealand prisons to assess the nature of gambling and problem gambling among recently sentenced males, including their pre-incarceration gambling behaviour and histories, and to identify any relationships between gambling and crime.⁹¹

Methodology for this study involved data collection, interviews and questionnaires. It followed the methodology applied by the 1999 National Prevalence Survey (Phases 1 and 2) and the Longitudinal Follow-up of the 1991 Phase 2 National Survey participants. This replication brought considerable benefit in terms of comparability between the studies. Questions posed included: participation levels; self-assessed gambling expenditure; use of the problem gambling section in the screening instrument, SOGS-R; type of gambling preferences; self-assessed gambling attitudes (problem, regular or irregular gambler); more extensive questions for respondents who acknowledged having a problem with gambling; relationships with problem gamblers; general questions regarding levels of life-satisfaction; socio-demographic questions; an edited version of the General Health Questionnaire (GHQ-12); and questions regarding alcohol, tobacco, marijuana and other substances used previous to incarceration.⁹²

In addition, specific components were developed for this study: an examination of criminal activity and gambling prior to incarceration; questions regarding gambling habits while in prison; further questions regarding the impact upon relationships with gamblers; use of the Antisocial Personality Scale of the PDQ-4+; and an open-ended discussion regarding gambling, including problem gambling.⁹³

Respondents who had served less than twelve months of their current sentence were eligible for inclusion in the study. The initial sample size of the study was approximately 150 inmates from each of the North Island prisons and 150 inmates combined from the two Christchurch prisons. Of the total 437 names selected for participation, 357 were interviewed.

Using the SOGS-R scores, the study assessed 21% of respondents as 'lifetime pathological gamblers' and 16% as 'probable pathological gamblers' during the six months prior to their incarceration. The highest rates were at Paparua and the lowest at Waikeria prisons. In addition, 10% were classified as 'lifetime problem gamblers' (these gamblers are seen to have less serious problems than probable pathological gamblers) and 7% were classified as 'current problem gamblers'.⁹⁴

⁸⁸ *ibid.*, p. 34.

⁸⁹ *ibid.*, p. 112.

⁹⁰ *ibid.*

⁹¹ Abbott, McKenna & Giles (2000), *op. cit.*, p. 29.

⁹² *ibid.*, pp.30-31.

⁹³ Abbott, McKenna & Giles (2000), *op. cit.*, p. 31.

⁹⁴ *ibid.*, p. 4.

Using identical methodology, **Abbott** has also investigated gambling and problem gambling among recently sentenced women prisoners. While the male prisoner survey had 357 respondents, the female survey had only 94 respondents which represents a 62% response rate from eligible participants.⁹⁵

Statistically, a higher proportion of surveyed female prisoners fell into problem gambling categories; 31 of the 94 respondents were classified as 'lifetime probable pathological gamblers', and 21 were assessed as 'problem pathological gamblers' during the six months prior to their incarceration. A further eleven were classified as 'lifetime problem gamblers'. Overall, 45% female prisoner respondents were assessed as having had a gambling problem at some point in their lives, while 34% were current problem gamblers.⁹⁶ While these figures are among the highest recorded in problem gambling surveys in New Zealand, they mirror figures from a recent unpublished survey of male prisoners in Australia.

In 1999 **Gruys, Hannifin et al.** compiled sets of client data of people who sought counselling for gambling related problems.⁹⁷ The results for each year show that the great majority of problem gamblers who sought assistance from counselling services scored SOGS 5+ or more. In 1997, 67.3 per cent of these problem gamblers scored SOGS 11+, in 1998, 67 per cent scored SOGS 11+, and in 1999, 44.9 per cent scored SOGS 11+.

The authors explore outcome indicators which, although representative of only a small number of respondents, show a lowering of SOGS scores when tested six months after seeking counselling.

However, in a recent paper **Lloyd** presents a strong critique of SOGS-R and DSM-III-R criteria for diagnosing pathological gambling. Lloyd discusses the sociological issues surrounding diagnosis of problem gambling and the pitfalls of medicalisation of pathological gambling, a term which he says was coined by 'medico-psychiatric experts.'⁹⁸

His thesis is that with the labelling of behaviour comes a basis upon which to study the 'pathology' of such behaviour but, because there appears to be no proven 'causal/biological bases of problem gambling' such labelling is premature.⁹⁹

Australian national research

In contrast to the medical disorder definition of problem gambling that prevails in the US, in Australia problem gambling is now recognised as a social, cultural, financial, and health problem, affecting individuals, families and communities.¹⁰⁰ The Australian Medical Association, for example, has adopted AIGR's definition of problem gambling as 'gambling activity which gives rise to harm to the individual player, and/or to his or her family; such harm may extend into the community'.¹⁰¹

The **Productivity Commission** endorsed this broad definition, and found that problem gambling can occur along a continuum, from relatively moderate and occasional problems to severe and chronic problems (see below).

The Commission also reviewed the numerous instruments that have been developed to measure the incidence and extent of problem gambling. Of these instruments, various modifications of the SOGS have been most widely used in Australia, New Zealand, the USA and Canada.

⁹⁵ Abbott & McKenna (2000), op. cit., p. 3.

⁹⁶ *ibid.*

⁹⁷ Gruys, Hannifin et al. (1999) *Problem Gambling Counselling in New Zealand 1997-1999*

⁹⁸ Lloyd, M., 2001, 'Sociological reflections: problem gambling and its medicalisation' forthcoming in Curtis, op. cit.

⁹⁹ *ibid.*, p. 19.

¹⁰⁰ McMillen, J. (1998), 'When gambling is a problem - implications for public health' in *Consumer Rights Journal*, Vol. 1, No. 3, pp. 10-14; PC (1999), op. cit.; AusInfo, Canberra, Ch. 7; AIGR submissions to the Productivity Commission 1999-2000.

¹⁰¹ Australian Medical Association (1999), *Position Statement on the Health Effects of Problem Gambling*.

However, the Productivity Commission acknowledges criticisms regarding the use of SOGS as a research tool. Essentially these criticisms stem from a growing dissatisfaction within the Australian research and service communities with the ability of SOGS to accurately assess problem gambling as manifest in the Australian community. The key issue appears to be whether problem gambling can be adequately assessed using a psychiatric/psychological framework with an emphasis on behavioural responses or whether criteria that are more sensitive to cultural and environmental factors should also be included. In this latter regard, the Productivity Commission noted that the Canadian Problem Gambling Index (CPGI) was ‘highly promising’ (the CPGI is discussed below, p.58).

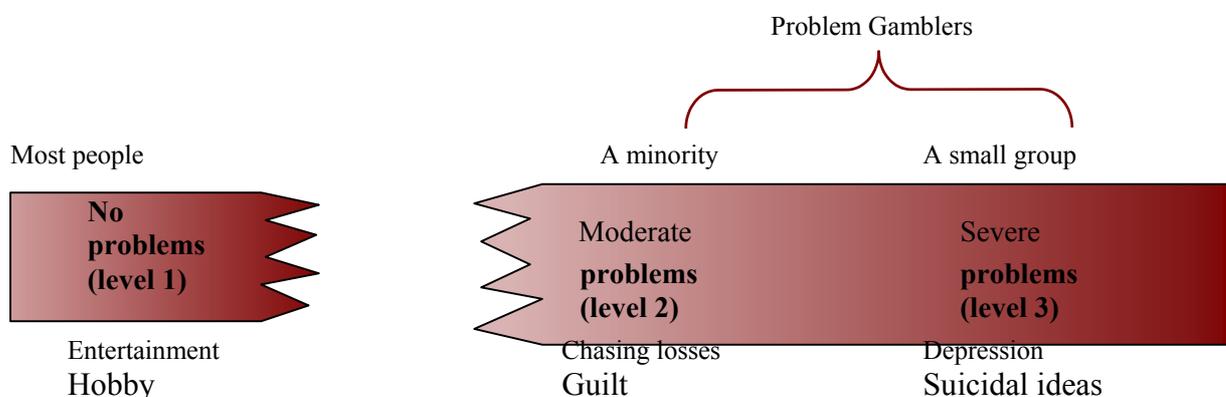
For the purpose of replication and comparison with previous studies, however, the Productivity Commission continued to use SOGS as the primary screening tool and included self-assessed measures of HARM. The overall opinion of the Productivity Commission is that there is plenty of room in the field for the development of more appropriate measures and methods to recognise problem gambling. For the present, however, SOGS5+ continues to be the ‘most popularly used international test’,¹⁰² therefore providing researchers all over the world with comparative figures.

In response to criticisms of SOGS, the Commission argued that it made better use of SOGS in its national survey by deliberately selecting that section of the target group who gambled weekly on non-lotto forms of gaming for SOGS testing. Numerous Australian studies have shown these forms of gambling to be the most significant indicator of likely problems. While this research design limited the ability of the Commission’s study to identify problem gamblers from the non-regular target group, it also significantly lowered the likelihood of false positive results.

As described by the Productivity Commission,¹⁰³ the health and social costs of gambling can include:

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

Research in the United States and much of the literature has been dominated by a medical disease paradigm that views problem gambling in terms of individual pathology, that is, a mental disorder. Australian researchers have questioned the validity of the medicalised model that identifies the condition as originating in the individual gambler in interaction with environmental and biological factors. Recent Australian research, including that of the AIGR, considers problem gambling as a social and public health issue subject to a broader range of environmental, socio-cultural, political and economic factors.



¹⁰² PC (1999), op. cit., p. 6.43.

¹⁰³ *ibid.*, pp. 9.1-9.2.

Social activity	Arguments	Divorce
Pleasant surroundings	Concealment of gambling	Debt/poverty
	Some depression	Crime
	High expenditures	

The Productivity Commission argues that problem gambling is a continuum ranging from social gamblers at one end, people who experience moderate problems in the middle and those experiencing severe problems or excessive gambling on the other end.¹⁰⁴ The illustration above indicates the range of problems experienced at either end of the gambling spectrum.¹⁰⁵

The Productivity Commission estimated that about 130,000 people have severe problems with their gambling, or about 1 per cent of the adult population. Whilst a further 163,000 people are estimated to have moderate problems which may not seek or require ‘treatment’ but do warrant policy concern.¹⁰⁶ It is therefore important to distinguish between those people with gambling problems who require treatment, those who require but do not seek/want treatment and those whose level of problem do not warrant formal treatment or counselling.

In this regard, it is critical to note that the development of problem gambling may follow multiple pathways. In some cases, social gamblers exercise a series of repeated poor judgements that result in excessive losses and associated harmful consequences. The resulting harm may be a one-off episode, intermittent and/or of short duration. This harm may be interpreted to meet the criteria for a gambling-related problem but it does not necessarily mean that the individual is suffering a gambling problem or that formal assistance is warranted or needed. These individuals are able to quickly recognise the potential for the development of further problems if they persist and therefore cease or reduce levels of gambling of their own volition, with information and advice from family members, through self-help educational material or through brief assistance from community support agencies.

Others form an emotional dependence on gambling and gamble persistently as a means of dealing with external difficulties, personal distress and depression, or gambling forms part of a biologically-based impulsive personality. Such individuals experience immense difficulty in controlling their urge to gamble and require intensive and continued counselling.

In a proportion of cases, the problem gambling is a secondary manifestation of another psychological or psychiatric disorder, for example, a manic-depressive illness. In these situations, treatment for problem gambling is not warranted or needed on the assumption that the management of the primary psychiatric diagnosis will lead to a reduction in patterns of excessive gambling behaviour.

In planning for service needs it is important to estimate the population who at any given time not only need, but also express the desire for or are attempting to seek treatment. For example, the Productivity Commission’s (1999) inquiry found a prevalence rate of 1% for severe gambling problems, but their *National Gambling Survey* noted that 0.78% of the adult population expressed a desire for help, 0.32% attempted to obtain help and 0.2% received help. Notably, one-third of those with a SOGS score of 10 or more did not express a desire for help. These figures support Volberg’s (1997) estimate that only about 3% of problem gamblers are in ‘treatment’ at any one time.

Consequently, some counsellors/therapists argue that services should be developed only for the estimated proportion of the total population pool of problem gamblers who are likely to utilise treatment facilities at any given time. Others emphasise the need for early intervention and support for the full range of people with gambling problems. They advocate a more holistic approach that includes a variety of support services (eg: financial and family counselling, emergency relief, public health services). They recommend that appropriate resources and training also be provided to general community support agencies likely to experience additional demand for services as the result of gambling problems.

¹⁰⁴ *ibid.*, p. 6.20.

¹⁰⁵ *ibid.*, p. 19.

¹⁰⁶ *ibid.*, Chapter 6, p. 1.

Victorian research

Victorian research has generated quantitative data on the changing demand and use of gambling related support services. **University of Melbourne's** Client and Service Data Analysis Project provides a profile of users of problem gambling services and the treatment offered by the counselling service.¹⁰⁷ This information is generated by Break Even support agencies that are required to routinely complete a Minimum Data Set (MDS) as part of their funding agreement with the Department of Human Services (DHS).

The MDS provides a source of ongoing information concerning prevalence of gambling related problems and demand for community support services. However, the data have been widely criticised for design deficiencies and for flawed and inconsistent data collection procedures.

There is also strong evidence that only a minority of people with gambling problems (gamblers and their families) access Break Even services. Many seek assistance from other community support agencies or health practitioners (e.g. financial counsellors, social workers, ethnic community workers or general practitioners.) These agencies often collect limited or no data on the demand for gambling support. For many people, appropriate services are not available (e.g. in remote rural areas or for specific cultural groups).

The most recent Client and Service Analysis Report¹⁰⁸ includes demographic information (e.g. 52% of new clients who present to BreakEven are women, 23% of all clients were born overseas, problem gamblers were twice as likely to be unemployed and divorced or separated), the nature of client's gambling activity (primarily gaming machines) and the impact problem gaming has on clients. The report describes problem gamblers as presenting with a range of issues including financial, interpersonal and intrapersonal problems and indicates a need for 'multifaceted and multimodal interventions'.¹⁰⁹

The report also acknowledges that:

One cannot make firm inferences from the data in this report as to the general community incidence of gambling and problem gambling behaviour or impact of problem gambling behaviour in Victoria. The clients of the problem gambling counselling services may not be typical of the total population of problem gamblers in Victoria because many gamblers ... do not necessarily avail themselves of support services ... or may use other types of support services ...¹¹⁰

As mentioned previously, however, there are a number of problems with the Victorian MDS itself, including design and collection procedures. Of greatest concern is that data are not analysed at a regional level nor broken down to the local government level. This has serious implications for local authorities and services who may wish to use the MDS in submissions for other research, policy or planning functions.

MDS data should be complemented with:

- regional survey data;
- data from the regional interviews and focus groups; and
- evidence from financial counselling, material aid and other generalist community services that give support to people with gambling related problems.

¹⁰⁷ University of Melbourne (2000), *Analysis of Clients Presenting to BreakEven Problem Gambling Services*, University of Melbourne, Victoria, p. 9.

¹⁰⁸ *ibid.*

¹⁰⁹ *ibid.*

¹¹⁰ *ibid.*

While existing Victorian research and client data sets might not provide the optimal data sources on which to base a local area analysis, they can contribute to a better understanding of existing demand for gambling related support services in the community. However, a number of difficulties in the existing methodologies should be recognised:

- the determination of causality. For example, the number and accessibility of support services in the local area, or the promotion of these services, may influence the demand for service;
- problem gamblers may not seek services in the same region. For example services in Melbourne may be more attractive to problem gamblers; people in rural areas may travel outside the area for problems for which they fear being stigmatised;
- spillover effects. Victorians may play gaming machines in regions other than where they live, but seek support from agencies in their home locality; and
- inequalities in service agency resources. Some services may have better resources than services in areas where there are higher client rates. This may especially be the case where there are satellite services.¹¹¹

Coventry and **Brown** completed a study of Victorian women gamblers for the Financial and Consumer Rights Council which used a multifaceted methodology including: a literature review; collection and analysis of secondary data; observation of gaming venues; organisation of a state-wide phone-in for women who gamble; and collations of case study material from financial counsellors across the state and thorough personal interviews.¹¹² Some of the key findings included:

- women tend to visit local gambling venues due to a sense of safety and belonging;
- they gamble with money budgeted for household purchases;
- women who gamble come from a broad cross-section of society, have family commitments, have low incomes and work in traditional areas of female employment; and
- women tend not to access services until they reach crisis point.

The study exposed difficulties in gathering both quantitative and qualitative data related to problem gambling from generalist support agencies and community services, such as housing services and Credit-Helpline whose primary service delivery focus is not on problem gambling.¹¹³ The study also had problems engaging women from non-English speaking backgrounds and the need for more research in this area was highlighted.

Follow up research undertaken by **Brown** for Women's Health West in 1999 focussed on the issues and dilemmas for services providing mainstream support to women affected by gambling in Melbourne's Western Metropolitan Region.¹¹⁴ The research was a two-stage action research project undertaken over two years. The project method for Stage One included:

- surveys with service providers;

¹¹¹ *ibid.*, pp. 8-9.

¹¹² Coventry, L. & Brown, S. 1997, *Queen of Hearts*, a research project for the Financial and Consumer Rights Council, Part One.

¹¹³ *ibid.*, Part Three.

¹¹⁴ Brown, S., 1999, *Who Picks Up the Tab? Issues and dilemmas for services providing mainstream support to women affected by gambling in Melbourne's Western Metropolitan Region*, Victorian Women's Health Services.

- a community survey;
- focus groups and interviews with service providers; and
- focus groups and interviews with clients, particularly women from different cultural backgrounds.

Participants and respondents were asked about the general impacts of gambling and in particular the impact of gambling on women's health and support services. In line with action research principles, participants were also asked to give suggestions about possible interventions which would minimise the health impacts of gambling on women.

The final research report included a comprehensive overview of specialist gambling support services (eg: financial counselling, problem gambling services, Gamblers Anonymous, Gam-Anon) and generalist services (eg: community support agencies, drug and alcohol support, culturally specific services) and provided details of issues relevant to women affected by gambling.

The researchers acknowledged a number of limitations with the method adopted in the study:

- low survey response rate from service providers;
- difficulties recruiting focus groups of service providers; and
- problems engaging specific groups of service providers (e.g. Department of Human Services child protection workers and greater numbers of mental health professionals).

Research findings included:

- people with gambling related issues may present at an agency and not identify gambling as their main issue;
- those working in the problem gambling field estimate that only three per cent of people with problems seek assistance;
- workers believe that gambling contributes more to their workloads even though women do not necessarily disclose that gambling is a factor contributing to the presenting issue; and
- '[m]ost community agencies who have clients with gambling-related issues do not keep statistics hence it is difficult to estimate the size of gambling-related workloads'.¹¹⁵

Agencies were said to be reluctant to record information about gambling due to concerns about client confidentiality. It was noted that there is no universal understanding about confidentiality 'nor agreement about the need for gambling-related client statistics'.¹¹⁶

In general, community agencies reported there had been increased demand for services since the introduction of gaming machines to Victoria in 1992. The nature of this demand was described as very complex and often involved interventions from a number of agencies. For example, there were often links between people experiencing problems with gambling, substance abuse and domestic violence. The study noted that there are 'severe shortcomings' in the nature of service delivery and under-utilisation of services by women of non-English speaking backgrounds (NESB). The main causes of this were said to be communication barriers, ethnocentric cultural practices and alienating and

¹¹⁵ *ibid.*, p. 14.

¹¹⁶ *ibid.*, p. 15.

inhospitable structures of service delivery.¹¹⁷ These issues mean that data and research about service use by women from different cultural backgrounds may not reflect the true extent of gambling impacts in NESB communities. Additionally, it was said to be difficult to establish how many of the state-funded Financial Counselling Program's clients present with gambling related issues. Although data are kept on the causes of clients' financial difficulties, this is not publicly available at a regional or municipal level.

In summary, Brown states that it is difficult to gauge the extent to which those affected by gambling access general community services as data are often not collected or is not made available. Clearly any actions to remedy these information problems would be very useful.

International research

Ferris and Wynne's *The Canadian Problem Gambling Index (CPGI): Final Report* is an overview of the work conducted on developing a new measurement tool, one that provided a 'more meaningful measure of problem gambling for use in general population surveys, one that included more indicators of the social and environmental context of gambling and problem gambling'.¹¹⁸ Essential to the development of this measure was its ability to be used as a comparative tool with established research that had used SOGS and DSM-IV.

The methodology used for the pilot study involved data collection via telephone surveys. Three different groups were targeted: respondents from a regular gambling group who responded to a newspaper advertisement; a random sample group; and a self-designated problem gambler group. For a higher response rate, respondents from the self-designated problem gambling group were paid a CA\$20 honorarium. No other payments were made.

The methodology for the general population survey was a random telephone survey with a target of 3000 respondents (3120 were actually surveyed). Respondents were not pre-grouped, although the survey was stratified by region. A random digit dialing followed by most recent birthday method was used to determine respondents.

Rather than these tests simply being a gambling assessment tool, they were conducted in order to examine the values and costs of the new testing format. The results discussed in this document examine section by section the benefits and failings of the new system. Few significant findings specifically on problem gambling are discussed. The authors, in fact, note that despite the attempts to develop a more extensive research tool, results of the pilot studies specifically surrounding problem gambling mirrored earlier research that showed that 'regardless of the measure used, problematic gambling is a fairly robust concept that can be readily captured'.¹¹⁹

This instrument has been reviewed positively by the Productivity Commission and is seen by the AIGR as a progressive improvement on existing measures of problem gambling such as SOGS. At least one Australian state government plans in the near future to conduct a prevalence study that compares SOGS5+ with the CPGI.

In this regard, a definitive statement on screening measurements by Abbott and Volberg is relevant:

We are of the opinion that rather than seek an elusive or illusory gold standard, investigators are better advised to triangulate by using two or more instruments in their surveys, either in combination or in two-phase designs.¹²⁰

¹¹⁷ *ibid.*, p. 17.

¹¹⁸ Ferris, J. & Wynne, H. (2001), *The Canadian Problem Gambling Index: Final Report*, Canadian Centre on Substance Abuse, p. i.

¹¹⁹ *ibid.*, p. 38.

¹²⁰ Abbott & Volberg (1999), *op. cit.*, p. 85.

Expenditure Studies

New Zealand research

National gambling expenditure data in New Zealand derives from two sources: the Household Expenditure Survey (HES) and DIA's calculations from industry data. As calculated by the New Zealand Department of Statistics, the New Zealand Household Economic Survey data (below) provides an indication of the growth in total expenditure on gambling in New Zealand between 1989 and 1997. The HES survey is conducted using a home-visit questionnaire method involving a sample of approximately 3000 eligible responding households. Collected data are weighted in order to obtain a national average. The HES suggests that New Zealand gambling expenditure, after a decline during the 1990s, had risen in 1997 above the 1990 levels.

Table 4 Household expenditure on gambling in New Zealand 1989-97

DESCRIPTION	YEAR ENDING MARCH	ANNUAL EXPENDITURE BY ALL HOUSEHOLDS \$ (mill)	AVERAGE WEEKLY EXPENDITURE BY HOUSEHOLD \$	EXPENDITURE AS A PERCENTAGE OF TOTAL %	SAMPLING ERROR
Total	1989	330.464	5.8	1.04	10
Gambling (Gross)	1990	415.094	7.2	1.18	14
	1991	355.937	6.3	1.04	10
	1992	364.486	6.0	1.10	12
	1993	354.777	6.0	1.03	10
	1994	363.748	6.2	1.06	12
	1995	369.263	6.1	0.97	10
	1996	362.299	6.1	0.91	11
	1997	422.230	6.9	1.04	16

Source: NZ Department of Statistics, Household Economic Survey 1996/97.

In contrast, DIA figures on gambling expenditure, as shown below in Table 5, are significantly higher. DIA expenditure data are calculated using industry figures reported by the gambling modes: racing; NZ Lotteries Commission; gaming machines (outside casinos) and casinos, excluding the expenditure on licensed forms of gaming such as housie and raffles.

Table 5: Total annual New Zealand gambling expenditure

YEAR	TOTAL GAMBLING EXPENDITURE \$ (mill)
1989	426
1990	482
1991	575
1992	563
1993	567
1994	614
1995	695
1996	807
1997	973
1998	1 045
1999	1 167
2000	1 297

However problems in the self-report survey method used to compile these data raise significant doubts regarding the efficacy of the HES data. As commented upon in previous sections of this report, AIGR has serious concerns about the accuracy of Australian HES data; the above information raises the same concerns regarding New Zealand's HES data. The discrepancy between HES and DIA data is even more pronounced when the fact that the DIA excludes housie, raffles, etc from its calculations is taken into account.

Yet the methods used for compilation of most industry data in New Zealand indicate that DIA's data also may not be reliable and complete. There is limited information available on some forms of games (eg. housie) and inconsistencies and irregularities in some data sets give cause for concern. For example, DIA data on gaming machine turnover in clubs and hotels is calculated from self-reported returns provided by the venues. This data may contain errors and inaccuracies, as electromechanical gaming machines in New Zealand clubs and hotels require individual site audits. Some clubs (eg. chartered clubs) have installed networked electronic machines, but others operate older-style machines which require meter reading. In contrast, all gaming machines in the casinos are computerised and networked to an on-site monitor, allowing accurate centralised auditing of machine performance, player spending and payouts.

Computerisation of all gaming machines linked to a centralised monitoring system (CMS) will achieve more accurate audits of gaming machine expenditure. This will also enable a more accurate and complete register of the spatial distribution of gaming machines throughout New Zealand.

Development of reliable and consistent expenditure data for all forms of gambling are essential for impact analysis and for adequately informed policy development. These data should be compiled regularly at the national level (eg by DIA) and released publicly (eg on the DIA's website) as soon as they have been compiled.

Ethnographies and Community Studies

Victorian research

As a methodology, longitudinal studies are particularly beneficial when one considers that changes over time are likely to affect community impacts and the perception of these impacts. The most productive and meaningful research into the community impacts of gambling has emerged from the VCGA's research program in Victoria. This program has been funded from gaming machine revenues since their introduction in 1992. Local authorities in Victoria concerned at the impacts of gambling in their communities have also funded local area research.

In 1998 the VCGA commissioned **KPMG Consulting** to undertake a longitudinal community impact study of six Victorian regions. This study built on the three previous studies commissioned in 1997 that focused on specific regions in inner city municipalities and rural regions of Victoria.¹²¹

There were five stages in the methodology of the study:

- regional profile development;

¹²¹ KPMG (2000), op. cit.

- a consultation process which included public forums, discussions with gaming and non-gaming venues, community support agencies, other relevant organisations, and local government;
- community attitude surveys which incorporated issues covered in previous surveys as well as expanding on previous studies with questions in the areas of gaming and lifestyle related issues;
- based on panel data regression analysis, an econometric study was undertaken; and
- the final reporting process.

The study developed a model to examine/measure how the local municipality is affected by gambling, as perceived by the residents. A number of factors were explored:

- problems facing the suburb/region were assessed in general terms;
- the local economy was examined to see if it was ‘good’;
- a study to determine whether there was a sense of community; a low crime rate; good employment opportunities; available recreational pursuits; and
- whether gaming had been good for the suburb, ie: the impact of gaming on suburban life in terms of individual assessment.

Only variables of significance to the model were discussed. The fact that the regional location of the respondent did not affect the results is implied when it is noted that the variable ‘region’ was omitted.

The study’s conclusion argued that people’s perception of their community was that gambling was not considered to be a major issue:

While many respondents are opposed to gambling, this is not related to discussions in either their own lives or perceptions of the suburb. For most respondents, gambling is part of an entertainment mix – respondents choose to gamble or not and this is not related to their quality of life.¹²²

The views of local residents, community representatives, stakeholders and local government must be given considerable importance in an analysis of the impacts of gambling on community life. Independent and VCGA commissioned studies have explored the perceptions of residents and stakeholders regarding the impacts of gaming machines on the nature and feel of community life in Victoria.¹²³

In another VCGA commissioned study of three small rural communities, **Hames Sharley** conducted community workshops in each region.¹²⁴ Council authorities, individuals and organisations active in the local areas participated in the workshops and were asked a number of questions in relation to gaming machines which concerned:

- the difference to lifestyles in the community and surrounding communities had gaming machines *not* been introduced;
- the impact on entertainment patterns since the introduction of gaming machines;

¹²² *ibid.*, p. 100.

¹²³ MIAESR, DHS & NIEIR (1997) *op.cit.*; MIAESR & DHS (1997) *op. cit.*; Hames Sharley (1997) *op. cit.*

¹²⁴ Hames Sharley, *ibid.*

- the impact on shopping patterns;
- the impact on social, sporting and leisure activities; and
- the impact on levels of support and social functions previously forthcoming from sporting clubs.¹²⁵

Study results indicated that 72 per cent of respondents saw gaming machines as having a negative *economic* impact and that 63 per cent of respondents saw a negative *social* impact on the community. The study also found that while there was some increased employment associated with the gaming machine venues; there was also a decrease in employment opportunities in retail and leisure/entertainment venues. Similarly, while there was some increase in domestic tourism, there was a potential loss of expenditure due to leakages from the local economy. The impact on communities without gaming machines was a loss of gaming expenditure and employment opportunities to neighbouring communities that had gaming machine venues.

The multiple methods used for the project included an initial consultation with council authorities, a literature review, development of community profiles from ABS data and a series of structured interviews with active individuals and organisations in the local areas. Stakeholder consultations also raised a number of critical issues. These were subsequently explored in community workshops and a telephone survey covering the three study areas.

This study provided valuable information about the effects of gaming on rural communities. Equally valuable were focus group discussions which specifically considered effects of gaming machines on community life. Nevertheless, the research methodology has a number of shortcomings:

- although the practice of conducting a number of research approaches and testing of hypotheses can deliver robust findings, it is labour intensive, time-consuming and costly;
- the attempt by researchers to examine economic and social issues over a four year period (from 1992 to 1995) limits accuracy as individuals are unlikely to reliably recall their activities over the previous four years. More importantly, the methods used make little allowance for a change in behavioural patterns and attitudes over time;
- self-assessment and self-reporting information brings the reliability of the data into question. As previously mentioned, it is commonplace for respondents to non-report and under-report gambling related activities. It also may be that rural community research is more likely to produce a high level of under-reporting:

... in small towns...there is a reluctance to be open about problem issues such as gambling. The reason given is that in such close-knit communities, news travels very fast and it is difficult to maintain privacy.¹²⁶

In 1997 two additional VCGA commissioned studies used similar methodological approaches to the Hames Sharley (1997) study, but with several important differences.¹²⁷ The methodological approaches adopted by **Carter and Johnson** in these studies included:

- analysis of secondary data – examination of internal data of relevance held by the VCGA;
- identification and examination of relevant local sources of data;

¹²⁵ *ibid.*, p. 78.

¹²⁶ *ibid.*, p. 35.

¹²⁷ MIAESR, DHS & NIEIR (1997) *op.cit.*; MIAESR & DHS (1997) *op. cit.*

- primary data collection on social and economic effects of gaming machines through a telephone survey of individuals in those communities;
- issues considered in consultation with key regional individuals and bodies;
- local groups including key stakeholders, business and others involved in qualitative discussion groups; and
- a questionnaire via mail to community service agencies.

The non-metropolitan communities study also included:

- observation of venues and interviews with proprietors and managers; and
- consultation with the Child Protection Services and Police.

This study's methodology was much more thorough and comprehensive than the Hames Sharley (1997) study. There was a specific strategy for consultation with local community agencies, and the results were rich with local knowledge. Significant sections of both reports were allocated to qualitative findings and evidence. Telephone survey responses paralleled census community profiles. Significantly, the results acknowledged the shortcomings inherent in attempting to discuss recalled behaviour and activities in previous years.

All three studies found, in general, that local residents and community representatives perceived as more negative than positive the impact of gaming machines in their communities:

- distribution and accessibility of gaming machines were of concern to local businesses; and
- gambling related issues raised by community agencies included welfare dependency, depression, neglect of children, family conflict and family breakdown.

A key methodological issue has been highlighted by these studies. Study regions in the three research projects commissioned by the VCGA in 1997 were defined with either Local Government Area (LGA) or Statistical Local Area (SLA) boundaries. While LGA and SLA boundaries are useful geographic definitions since they correlate with ABS Census community profiles and other government department data. Despite the data practicalities, these boundaries do not necessarily accurately define community areas. The ramifications of this can be significant, most importantly in regional areas where large local government areas encompass many towns. These boundaries are also significantly larger than the 2.5km radius that KPMG has subsequently demarked as the distance generally travelled to use gaming machines in metropolitan Melbourne.¹²⁸

There were marked similarities in gambling impacts between the regions in the non-metropolitan study. The scale and scope of gaming machine activity differences were minimal from region to region. It is however, important to note that different region demographics restrict comparative analysis. While focusing on diverse geographic communities encompassing inner city areas, suburbs, regional cities and small rural towns, the studies did not specifically address the social diversities, such as NESB, indigenous people or specific age groups. Importantly, while these studies provide useful information for the local areas researched, they are area-specific and cannot necessarily be considered to contain transferable data.

Local area gambling impact studies funded by Victorian local councils have supplemented the VCGA's commissioned research. The most comprehensive of these in terms of social impact analysis was the Boroondara Gambling Impact Study, undertaken by the **Borderlands Cooperative** in 1999. The key focus of this study included the social impact of gambling on the community and an examination of the extent to which gambling is considered an alternative to other forms of recreation.

¹²⁸ KPMG (2000), op. cit.

The methodology included a literature review, a clustered random sample survey of the municipal population, a series of community workshops and reflective discussion in consultation with a gambling working group. The study found an ambivalence in the attitude of the Boroondara community towards gambling. While local residents appreciated the improvement to social and cultural facilities financed by venues with gaming machines, the general perception was that gambling problems had increased, often leading to family breakdowns and negatively impacting on children. The study also found that respondents were concerned about the diversion of household spending away from local businesses.

Some significant findings were:

- migrants, in particular Chinese people, were identified as being more susceptible to problem gambling;
- many public housing tenants in Boroondara were experiencing difficulties with their gambling; and
- for reasons of anonymity and accessibility, people with disabilities were often attracted to the gaming machine venues.

Good Shepherd Youth and Family Services undertook a municipal impact study in the Mornington Peninsula Shire in 1999. The shire, which comprises urban, semi-urban and rural settings, includes a number of diverse townships, from the affluent areas of Mt Eliza and Flinders to the economically disadvantaged area of Rosebud. Hastings, Mornington and Rosebud were targeted for the 'Peninsula on Pokies' study due to the concentration of gaming machines in these areas and the associated socio-economic disadvantage.

An action research method was used for this project which included interviews with community workers, retailers, venue operators and local residents who frequent gaming machine venues and observation at venues as well as a community survey. Socially and economically, individuals, families, businesses and the local community were found to be affected in 'overwhelmingly negative' terms.¹²⁹ A significant number of participants believed that the Mornington Peninsula required either a reduction in numbers of gaming machines or a restriction of trading hours. Relevant information for local government and support services was provided by grouping negative impacts into social, economic and overall impacts. Consistent findings were evident across both the geographical areas and across respondent groups. The majority of community members surveyed indicated a personal knowledge of a problem gambler. Furthermore, half indicated that they knew more than one person with difficulties.

For many of the community members the impetus to participate in the research may have stemmed from this personal knowledge. While this 'personal interest' may imply a 'sample bias', the issue is acknowledged by the authors and it is relevant to note that with such research there is no claim to have addressed a representative population sample. In fact, this action research specifically focused on problem gamblers. This produced an excellent starting point from which community awareness could be raised, leading to community participation and action.

Multi-method Studies

International research

As mentioned above the Productivity Commission's research incorporated a range of qualitative and quantitative methodologies. Preceding the Productivity Commission's 1999 report, the United States government attempted to measure gambling impacts on a national scale in 1996. In both cases the need to pursue a multi-methods approach became abundantly clear. Similarly, gambling experts at the 2000 Whistler symposium sought to create an internationally applicable gambling impact assessment

¹²⁹ Good Shepherd Youth and Family Services (1999), *Peninsula on Pokies*, submission to the PC (1999), op. cit., p. 71.

framework that also rested upon a complex multi-disciplinary foundation. The latter two undertakings are discussed in more detail below.

In 1996 the US **National Gambling Impact Study Commission** (NGISC) was established to ascertain the full effects of gambling in that country. It adopted a range of methodologies including an extensive literature review of existing studies, a range of public consultations and a national survey of gambling behaviour including a problem gambling component using DSMIV criteria. This survey involved a relatively small sample size of 3481 interviews by telephone and in person. It also examined the impact of gambling in 100 communities using a range of social indices such as financial health, crime, and social problems. In ten of these locations case studies were conducted where seven or eight community leaders were interviewed about their attitudes on these issues.¹³⁰

Despite these efforts, research and detailed knowledge of US gambling remain weak, to the extent that the NGISC was unable to provide any firm conclusions on the impact of gambling in American society. Among the central recommendations to arise from the NGISC's research were:

- the need for a multi-disciplinary research plan that extends to the community level;
- studies which explore the experiences of sub-populations and minority groups;
- longitudinal research;
- help-seeking studies; and
- treatment evaluation programs.¹³¹

However, US gambling research continues to rely on clinical models of pathological-problem gambling which do not adequately account for diverse socio-cultural gambling definitions or practices. Moreover, little mention is made of the need to conduct comparative research at a range of social-spatial levels across different communities, or the need to ensure public participation in the development of a research agenda.

More recently in 2000, leading gambling researchers and policy-makers from Canada, USA, the United Kingdom, Europe and Australia met at a **Whistler Symposium** (Canada) to discuss development of a research model for gambling impact studies. The main outcome from the Symposium was a preliminary proposal for a gambling assessment framework that was internationally acceptable and practical. Though development of the framework is in its infancy and highly debated, some general agreements were reached about key aspects of such a proposal.¹³²

As with the NGISC recommendations, the need for a multi-disciplinary and multi-method approach was a central consideration. The model proposed is drawn from the fields of economic theory, national income accounting, welfare economics (genuine economic well-being measures), social impact analysis and public health frameworks.

The framework synthesises relevant and compatible methodologies employed to date in gambling impact research, organised according to socio-spatial domains (household economy, community/workplace, macro economy and environment).¹³³ Particular emphasis is given to broad public health measures of individual and community wellbeing, rather than reliance on econometric modelling or an emphasis on a 'medicalised' and pathologised measures of problem gambling.

One of the more compelling components of the Whistler framework is the utilisation of a Genuine Progress Indicator (GPI) instead of GDP statistics. These sustainable well-being accounting systems are being researched and developed in Canada, the United States, Australia and elsewhere. The proposed gambling impact model would measure the costs and benefits of gambling in physical, qualitative and monetary terms. Qualitative socio-cultural measures are aimed at including 'quality of

¹³⁰National Gambling Impact Study Commission (NGISC) 1999 *National Gambling Impact Study Commission Final Report*, NGISC, Washington DC, p. 4.1-4.3.

¹³¹ *ibid.*, pp. 8.2-8.5.

¹³² Smith, G. J. and Wynne, H. J. (2000) *A Review of the Gambling Literature in the Economic and Policy Domains*, Alberta Gaming Research Institute, Alberta, pp. 19-20.

¹³³ Wynne, H. J. and Anielski, M. 2000 *The Whistler Symposium Report*, Whistler, Canada, p. 21.

life' indicators in addition to the usual economic formulations. Similar constructs also underpin the United Nation's regular *Human Development Report*.¹³⁴

As with any research the viability and effectiveness of the impact framework will dependent on data availability and accuracy. A fundamental problem facing this initiative is the difficulty, or even desirability, of quantifying intangible social or emotional costs.¹³⁵ The Whistler report notes:

The impact analysis [of this framework] requires a system for understanding how the various indicators combine to form a composite picture of gambling's personal, societal, economic, and environmental impacts. Issues of weighting and tradeoffs of the importance of one indicator over another or how to aggregate indicators to create a composite impact indices will require more work and debate.¹³⁶

These comments also raise questions about the appropriateness and arbitrariness of cost-benefit or positive-negative dichotomies of gambling impacts, given the contradictory and interconnected relationships that exist between them. As this report has previously noted, there are significant primary research gaps and problems with existing data sets in New Zealand that need to be addressed before a comprehensive understanding of gambling impacts could be produced using this model. The general data needs for a gambling impact framework identified for the Whistler Symposium have been adapted for the contemporary New Zealand situation and are attached as Appendix 1.

Also, the dimensions of gambling impact have yet to be delineated in the Whistler model. In its current preliminary form, the Whistler framework still contains conceptual and methodological inconsistencies and ambiguities. Further research and collaboration between the Whistler Symposium participants aim to build upon these valuable beginnings.

In sum, we recommend that a multi-disciplinary and multi-method research framework as is being developed from the Whistler Symposium is the most valuable approach to adopt for gambling impact assessment. Essentially, a framework of this type captures the complexity of the issues at hand by including a diverse range of analytical techniques. By juxtaposing studies that investigate gambling impacts from a variety of standpoints and dimensions, and by triangulated cross-checking of data, a more holistic and more accurate understanding of the overall effects of gambling can emerge. These points are taken up further in the final section of this report.

¹³⁴ United Nations Development Program 1998 *Human Development Report*, Oxford University Press, New York.

¹³⁵ For example see, Hamilton, C. 1997 *The Genuine Progress Indicator: a New Index of Changes in Well-Being in Australia*, Discussion Paper No. 14, Australia Institute, Canberra.

¹³⁶ Wynne and Anielski, op. cit.

IMPACT ANALYSIS

This section examines the impacts of gambling as they are presented in the results of the most relevant studies beginning with New Zealand research and reviews.¹³⁷ In each section the New Zealand material is followed by reviews of other literature including: the Australian Productivity Commission's 1999 *Inquiry into Australia's Gambling Industries*,¹³⁸ other Australian state-based studies; and relevant international research. In particular, we provide a detailed analysis of the Productivity Commission's inquiry into the costs and benefits of Australian gambling in accordance with the DIA's Terms of Reference.¹³⁹ Further, under each impact category, an overview of the public and private costs and benefits of gambling identified in each review is provided.

Measuring Social and Economic Impacts

As we have indicated in earlier sections of this report, estimates of the costs and benefits of gambling are subject to large errors due to problems of data measurement, sampling problems and to various key assumptions that are made by the researchers. Any estimate should be treated with the utmost caution. Apparent indications of net benefits are also subject to question. With different assumptions about key parameters a net economic benefit can become a net economic loss.

From a conventional economic perspective, questions that are central to any estimates of the economic and social benefits of gambling include:

- Does the introduction of gambling lead to a diversion of expenditures from other commodities? If it is a diversion of expenditures from other activities then there is no net increase in demand and the impact on employment would depend on the relative labour intensity of production in the gambling industry compared to the other industries from which there has been a diversion.
- Does the introduction of gambling in a particular state or region lead to a shift of resources from another state or region?
- Does the introduction of gambling lead to an increase in aggregate consumption (at the expense of aggregate saving)? If so there may be short term benefits but long term losses of economic growth. The trade off between the short and long run would be difficult to estimate.
- Does the introduction of gambling lead to a net increase in overseas tourism? If so, there is a net addition to the resources of the domestic economy.

Externalities are an important sub-set of economic impact analysis. An externality is defined as the impact a certain activity has on another consumer or producer *through a non-market process*. In the gambling context, if there is an increase in the expenditures on gambling by a particular individual it may lead to an increase in crime by this individual (to satisfy his/her gambling needs) which impacts on other households. Note that the harm to the other households (individuals) is not through a market process (like increasing the price of gambling). Actions of one member of a family gambling that affect other members of that family (not through the fact that less income is being spent on other goods) is a

¹³⁷ This review is by no means exhaustive; for example, we have not reviewed studies that were included in the Productivity Commission's report. We have selected those additional studies we considered most relevant for the DIA's purposes.

¹³⁸ PC (1999), op. cit., pp. 4.1-4.23.

¹³⁹ For the Productivity Commission's framework for impact analysis, see Part 3 of *ibid*.

negative externality. Hence problem gambling (for example) that affects the mental state of the gambler would affect the whole family negatively.

Macroeconomic methods use aggregate analysis to study the impact of changes in (for example) monetary or fiscal policy on GDP, employment, unemployment, inflation, the balance of payments, etc. Macroeconomic models include Keynesian, new Keynesian, neoclassical, new classical, and monetarist theories and measures. Macroeconomic models can be used to analyse the impact of (for example) the introduction of gambling on the whole economy or a region or state of the economy.

New Zealand research

In 1995 **Coopers and Lybrand** were commissioned by the DIA to report on the economic impact of gaming in New Zealand.¹⁴⁰ They analysed existing gambling indicators and applied them to four scenarios of the industry: more restrictive, status quo, less restrictive and liberal. It was stated that minimal availability of reliable and comprehensive industry data and a short time-frame meant 'any assessment of the true impact of the gaming industry is constrained.'¹⁴¹ Each scenario estimates turnover (gross revenue), expenditure items, financing costs and taxes, profits, contribution to GDP, fiscal contributions (largely taxes paid), and distributions for community purposes and to proprietors. These indicators are recorded for various sectors of the gambling industry including TAB, racing clubs, the New Zealand Lotteries Commission, casinos, and electronic gaming machines.

In relation to the regulatory scenarios, the report found that moving 'from a restrictive to a more liberal gaming environment leads to an increase in the turnover from gaming and the gaming industry's contribution to GDP'.¹⁴² Other key findings of the analysis included:

- an inverse relationship between the rate of duty and the contribution to GDP;
- the least restrictive scenario facilitated the highest financial distribution to the community;
- the tax to gross win ratio varies significantly across the gaming sector;
- the rate of duty is highly influential on the level of gaming activity, yet not as important producing corresponding fiscal contribution levels;
- price elasticity in the gaming industry is relatively low so that price reductions do stimulate demand significantly;
- a trade off tends to occur between levels of fiscal contribution and distributions to the community; and
- adjusting duty rate and other regulatory aspects can dramatically alter the industry's contribution to GDP. Positive effects can be induced through lower duty levels, increased numbers per site and age restriction changes.

In drawing these conclusions Coopers and Lybrand appear to assume that all expenditures are additional to existing expenditure in other areas of activity such as leisure. In other words, there is no displacement of other expenditures by changes in gambling expenditure.

In 1996 **Reid** and **Perez** surveyed New Zealand gambling operators on the use of profits for community purposes over a twelve month period involving 944 respondent organisations (a 74.4%

¹⁴⁰ Coopers and Lybrand Consultants (1995), *The Economic Impact of Gaming in New Zealand: A report prepared for the Review of Gaming*, Department of Internal Affairs, Wellington.

¹⁴¹ *ibid.*, p. 15.

¹⁴² *ibid.*, p. 8.

reportage rate).¹⁴³ Total expenditure for all 'societies' (a non-profit organisation licensed to operate gaming machines to raise money for 'authorised purposes') was estimated to be between \$68 million and \$86 million over a full year. Most of the respondents were clubs, with less than one fifth comprising trusts and other types of operations. Hotel based trusts and others were noticeably under-represented. The general findings of this study were:

- the three major multi-site trusts contributed almost half of the \$17 million distributed to community/club purposes in April-June 1996;
- around a third of respondents recorded nil expenditure in the six month period mainly due to insufficient profits or saving up for a specific purpose/time;
- key grant recipients were sport/physical activity organisations (46.6%), clubs for their own purposes (34.3%), and social and community organisations (13.7%);
- of social and community organisation recipients, schools received 21.3% and health and disability support agencies received 10.5%;
- commercial organisations received 13.5% of profits under the 'other recipients' category even though they are intended for non-commercial activities and groups;
- smaller multi-sites and hotel-based trusts contributed disproportionately higher grants to social and community services compared to other societies;
- the bulk of expenditure was concentrated in the metropolitan regions around Auckland, Wellington and Canterbury; and
- North Islander organisations received 74.6% of expenditure.

That same year the DIA called for submissions in response to policy proposals stemming from its Gaming Review. The contribution by the **New Zealand Lotteries Commission** [NZLC] outlined its serious doubts about implementation problems and the long-term consequences for the viability of the industry.¹⁴⁴ Part of NZLC's concerns involved the accuracy of the Coopers and Lybrand study discussed above 'given that the key elasticity for generating the scenarios was based on overseas data and did not take into account different types of gaming and gambling.'¹⁴⁵ In general the Commission believed that the study overstated the benefits of a more 'liberal' framework and under-emphasised the shortcomings of a more restrictive regime. They advised against a policy move to either extreme, preferring gradual market expansion as a more controllable and viable option. Other recommendations by the NZLC included:¹⁴⁶

- the establishment of a single policy framework for gaming and gambling;
- that gaming profits be primarily used for community benefit;
- continued government ownership of the NZLC;
- limited statutory monopolies to regulate competition and protect community benefit revenue sources;
- consumer protection policies and regulations directed at preventing gambling related criminal activity;
- socially responsible gambling operations;

¹⁴³ Reid, K. and Perez, E. (1996) *Where Do Profits Go? A Survey of the Use of Proceeds for Community and Club Purposes*, Policy Research Unit, New Zealand Department of Internal Affairs, Wellington.

¹⁴⁴ New Zealand Lotteries Commission (1996), *Responsible Gaming: A Commentary*, Submission to the Review of Gaming (432b, Volume 12 of 13), Wellington, NZLC.

¹⁴⁵ *ibid.*, p. 45.

¹⁴⁶ *ibid.*, pp. 2-7.

- that problem gambling should be addressed as a public health issue;
- prohibition on overseas gaming proprietors operating in New Zealand;
- that gambling should not be operated for commercial gain;
- maintaining the role of the New Zealand Lottery Grants Board;
- establishing community distribution systems that reflect the impartiality and integrity of the Board;
- entry checks for gambling operators;
- that participation age limits should be product specific;
- the opinion that provision of credit to gambling customers is socially irresponsible;
- that advertising should be self-regulated;
- the need for consistent regulatory structures across gaming sectors where practicable;
- the suggestion that enforcement and policy-making should be solely the DIA's responsibility;
- establishing an independent appeal authority to handle operators' complaints;
- revising the existing gaming duty as a 'reasonable tax contribution' on the industry;
- that the government should be responsible for policy formation, enforcement and research;
- that the government as gambling operator should continue; and
- that the separation of government's ownership, policy and regulatory role should continue.

From a very different perspective, in a recent review **Easton** questions the difference between gambling and share market/insurance activities, with the price system as one of social coordinating mechanisms.¹⁴⁷ Easton argues that gambling is essentially economically regressive under a capitalist system as it is a mechanism for transferring wealth into the hands of a few, notwithstanding any off-setting benefits which may flow or trickle down from that private accumulation. The question Easton raises is whether this process and the related 'externalities' warrant state regulation.

In early 2001 the **DIA** produced a consultation document to solicit public opinion on how gaming in New Zealand should be regulated.¹⁴⁸ Some of the observations made in the document highlight the microeconomic impacts of New Zealand gambling. For example, DIA notes the contribution of gaming to rural and economic development and the important role played by race meetings in supporting rural communities.¹⁴⁹ Casinos are often seen as potential sources of growth in tourism, employment, government taxation and economic development. Alternatively, negative aspects of gaming have been noted including reductions in personal savings, diversionary spending from other business sectors, and uneven regional development as some areas prosper while others decline.

Another important issue raised in the consultation document concerns the impacts of cross-border gaming. Some of the possible implications might include a shrinking and therefore increasingly

¹⁴⁷ Easton, B. (2001) 'Gambling in New Zealand. An economic overview', forthcoming in Curtis, op. cit.

¹⁴⁸ DIA (2001), op. cit., p. 9.

¹⁴⁹ *ibid.*, p. 21-22.

competitive domestic gambling market, reduced gaming profits for distribution in New Zealand, reduced government revenue sources, and possible export of gaming benefits while social costs are borne domestically.¹⁵⁰

The most comprehensive impact study of New Zealand gambling has been a report in 1998 by **AIGR** to the Casino Control Authority analysing and comparing the social and economic impacts of the Auckland and Christchurch casinos.¹⁵¹ This research involved literature reviews, preliminary impact study appraisals, data identification, compilation and analysis, industry, community, government, local business and resident interviews. Surveys and statistical analysis and relevant gaming legislation were also given consideration.

A central concern of the study was the impact of casinos on the gambling industry as a whole. Though further updated research is needed, the AIGR found that casinos seem to have complemented existing gambling forms rather than substituted them. Nevertheless there was evidence in 1998 that 'some trade diversion has occurred between different forms of gambling.'¹⁵² With the opening of the first two New Zealand casinos, there was a shift in the relative share of the 'gambling market' away from community-based operations. Housie, for example, was subject to a substitution impact by casinos. This is especially important given the traditional social significance of housie as a community-funding source for Maori and Pacific Island people. Other forms of gambling such as lotteries had stagnated in performance 'raising fears about a rise in private profit-taking, as against a decline in public funding for certain vital areas of social concern, eg: education [and] health research.'¹⁵³

Since the introduction of casinos the gambling industry as a whole has taken on a more competitive, commercial and expansive dimension including an increase in the number of products and quality of facilities available to the public. New business strategies have been adopted in this more competitive market such as joint ventures, technological advancements and the merging of gambling and other forms of entertainment. Legislative changes have also been introduced which clubs and pubs claim have unfairly advantaged casino operators.

On a regional level, the construction phase of Sky City casino created additional demand in the Auckland regional economy worth approximately NZ\$387.76 million.¹⁵⁴ Many suppliers to both casinos are locally or regionally based, though there is no information on the proportion of casino expenditure directed to them. At this stage no research has been conducted to determine any connection between local and regional business performance and casino operations. However, qualitative data suggests that vehicular and pedestrian traffic in the vicinity of the casinos has 'generated an increase in turnover for some nearby businesses ... [especially] ... restaurants, bars and cafes.'¹⁵⁵ Some nearby hotels have also reported an increase in trade, 'particularly from casino staff after they finish shift work.'¹⁵⁶ On the other hand, some licensed operations and general retail outlets seem to have suffered a decline in trade or not benefited from casino operations as anticipated.

Within the casinos the highest expenditure levels were recorded on gaming machines well in advance of table games. Both casinos far exceeded financial projections with significant flow-on effects throughout the economy. The most prominent income source for Sky City Casino was gambling (80%) with the remaining revenue being generated through its restaurants, bars, car park and hotel.¹⁵⁷

Contributions to community services consisted of NZ\$572,000 through the Christchurch Charitable Trust and NZ\$1,351,045 through the Sky City Community Trust.¹⁵⁸ NZ\$450,000 of the latter was paid to the Committee on Problem Gambling Management while the Auckland City Mission, the Starship Foundation of Auckland Children's Hospital, and the New Zealand Special Olympics Foundation have

¹⁵⁰ *ibid.*, p. 27.

¹⁵¹ AIGR (1998), *op. cit.*

¹⁵² *ibid.*, p. 36.

¹⁵³ *ibid.*, p. 39.

¹⁵⁴ *ibid.*, p. 36.

¹⁵⁵ *ibid.*, p. 37.

¹⁵⁶ *ibid.*

¹⁵⁷ *ibid.*, p. 36.

¹⁵⁸ *ibid.*, p. 37.

also benefited from Sky City funding. Christchurch Casino has assisted problem gambling services and other community agencies.

More recently in the context of the current review of gaming, **Business and Economic Research Limited's** (BERL) report on *Assessing the Economic and Social Impacts of Gaming in New Zealand* claims that it follows the Productivity Commission methodology to derive estimates for the benefits of gambling in New Zealand. However, the BERL analysis is based on very limited data (significantly more limited than the PC study) and makes some questionable assumptions. In particular, the price elasticities are in general very low (something that the PC suggests may be underestimates) and no standard errors are provided to get a range of estimates.

We understand that this report was commissioned for submission within 2-3 months, as opposed to the Productivity Commission's study which took eighteen months and engaged a large team of national researchers. To provide better estimates for New Zealand would require a longer time frame and substantial resources as well as significantly better data than are available at present. With available data, we do not believe it is possible to provide any estimates at this stage that would be reliable.

We also believe the estimates provided by BERL of the benefits of gaming in New Zealand are *overestimates* for various reasons. Some of these reasons are listed below:

- The estimates of BERL's attempts to measure consumer's surplus are subject to the same criticisms that we have made of the Productivity Commission Report (see p.30 and below). In particular the expenditure on gambling must have shifted from other commodities in which case there is a loss of consumer's surplus for those commodities. Whether there is a net increase in consumer's surplus depends on the relative elasticities of the substitute goods and gambling activities. It may be positive since we would expect that gambling has a relatively inelastic demand compared to other leisure activities. However, if Blandy and Hawke's arguments are accepted and problem gambling costs are removed, the 'surplus' becomes negative in aggregate.
- As noted previously, a major problem with the consumer's surplus concept as applied to gambling is that the gambler often has no clear notion of a price so that it is not clear what surplus s/he derives.
- Funding of community activities by gaming corporations are transfer payments and hence not an economic benefit.
- The idea that gambling would increase labour productivity is a red herring - there is no convincing evidence that supports this claim.¹⁵⁹
- It is possible that legalised and regulated gambling does lead to a decrease in illegal gambling and hence it could lead to a social benefit. But again, reliable evidence is required to demonstrate the extent to which this does occur.
- The section of the Report that estimates costs of problem gambling involves several doubtful assumptions to calculate estimates of 'problem gamblers'. It may be that New Zealanders manifest different gambling behaviours and problems to Australian gamblers. Indeed, to some degree this is more likely than not, given the different gambling options and cultural groups in the two countries.
- Estimates of GDP contribution of gambling in section 5 of the Report (Economic Effects) assumes that all the expenditures are additions to aggregate demand (ie. there is no consumption expenditure switching from other products) which is not

¹⁵⁹ Business and Economic Research Ltd (2001), *Assessing the Economic and Social Impacts of Gaming in New Zealand*, Wellington, p. 24.

possible.¹⁶⁰ If the expenditures on gambling simply led to a reduction in some other consumption activity then there would be an (almost) equivalent fall in GDP, and hence no net impact on the GDP of gambling.

- As mentioned earlier, taxes (and contributions to community organisations from gambling revenues) are a *transfer* and hence not an economic benefit.
- Employment estimates also assume no decrease in employment in other activities where there would have been a reduction in expenditure.¹⁶¹ As the Productivity Commission emphasises, employment benefits of Australian gambling are ‘illusory’ because of the effects of such job displacement.
- As mentioned above, the BERL report lists some estimates of price elasticities of demand for gambling activities.¹⁶² However, they do not provide any standard errors (nor if they are statistically significant estimates).

Australian national research

The **Productivity Commission**’s analysis of Australia’s gambling industries uses ‘consumer surplus’ to measure the main benefits from participating in gambling (as opposed to consuming another good). The major cost was assumed to be the social cost to problem gamblers, their families and society as a whole. The Commission, to its credit, does subtract estimates of the costs associated with problem gambling from the gains and warns that ‘[q]uantification of the costs and benefits of the gambling industries is hazardous’.¹⁶³

However, the Commission calculated that ‘consumer surplus’ estimates of between \$0 and approximately \$5 billion were possible. By this it was meant that the dollar value calculated is an abstract estimate of the ‘extra value’ or enjoyment gamblers get from their losses, notwithstanding discounts for problem gambling. Importantly, it is not a measure of actual economic activity with any bearing on local economies or jobs.¹⁶⁴ The Commission stressed the tentative nature of these estimates in all of its public presentations and reports.

The Productivity Commission also observed that problem gambling impacts spread beyond interpersonal networks and into the public domain.¹⁶⁵ Specific examples of these effects included job losses leading to social security advances, related ill-health placing demands on public health resources and counselling services, and related financial difficulties sporadically involving the services of charities. In their discussion of gambling-related crime, the Productivity Commission also noted costs borne by the public legal system including demands on police services, the courts and penal institutions.¹⁶⁶

On the other hand, Australian problem gamblers contributed approximately \$1 billion to state government revenue through their gambling activities.¹⁶⁷ On balance, therefore, the Commission found that Australian state/territory governments benefit financially from gambling, including problem gambling.

There are a number of limitations in the approach used by the Productivity Commission in its inquiry. These include failing to take into full account the production and distribution aspects of the industry, such as the costs and benefits associated with related industries such as manufacturing. The regional and international flow of taxation, consumer spending and employment are also overlooked. Moreover,

¹⁶⁰ *ibid.*, p. 40.

¹⁶¹ *ibid.*, pp. 43-44, especially the last sentence on page 44.

¹⁶² *ibid.*, p. 20.

¹⁶³ PC (1999), *op. cit.*, p. vi.

¹⁶⁴ *ibid.*, p. 33.

¹⁶⁵ *ibid.*, p. 7.56-7.58.

¹⁶⁶ *ibid.*, p. 7.62.

¹⁶⁷ *ibid.*, p. 7.58.

levels of foreign ownership in gambling related industries are often not examined. Nor are the public costs of policy failure or market failure given adequate consideration.

In effect, an arbitrary line between direct and indirect impacts of gambling activity was delineated and subsequently the broader social, economic and regulatory context within which gambling operates became somewhat obscured.

Overall, the PC's research was driven by a frame of reference that focussed on impacts specifically related to gambling participation – ie the consumption of gambling and the resulting impacts.

Importantly, as previously mentioned (p. 28) the PC's application of the concept of consumer surplus to measure the benefits of gambling is suspect for several reasons, principally because consumers (arguably with the exception of people who bet on racing or sportsbetting) often do not have an idea of the "price" of the gambling activity and hence cannot derive a surplus:

- The assumption behind measuring the consumer's surplus (for an individual) is that 'price' measures what a person is willing to pay for a commodity. For price the Productivity Commission substitute the rates of return of a particular form of gambling. In the case of poker machines, for every dollar put in the slot (gross expenditure or outlay) some is returned as winnings (gross return). The difference between gross expenditure and gross return is net expenditure (i.e. losses). Loss rates, or losses as a percentage of gross outlays, may be adjusted, from the 13 per cent maximum permitted in Victoria to the lower rates that occur in practice. These rates are stylised as 'prices'. However, for most gambling products the 'price' is not known to the buyer (gambler) and its derivation as an ex post facto concept does not help in measuring the consumer's surplus. The Productivity Commission acknowledged the difficulty of knowing the price.¹⁶⁸
- There are problems of assuming a linear demand curve and assuming a constant price elasticity of demand: a linear demand curve has different elasticities at each price. Again the Productivity Commission is aware of this but assumes it away.¹⁶⁹
- There are severe aggregation problems involved especially where the incomes of different gamblers are likely to be very different: the marginal utilities of money (income) are very different for different individuals.
- The conceptual framework of neo-classical economics from which the demand curve is derived, and with it measures of consumer benefit (or utility), depends crucially on the assumption of rational choice by consumers in maximising their (individual) utility from their spending decisions. If we assume, reasonably, that gamblers aim individually to win when they gamble then we face a contradiction. Some do win, but we know that collectively they will lose. Machine games and casino games, for example, are designed to secure a house 'edge' so that gamblers will necessarily lose in the aggregate. In moving from an individual possibility to a collective inevitability the calculation becomes illogical.
- In making corrections for problem gamblers the Commission is assuming that these individuals are not "rational" in which case the concept of consumer's surplus is irrelevant. They make some assumptions about altering the demand curve for this group, as if they had "false consciousness".
- Several economists have argued that any estimate of consumer's surplus depends on the assumed price elasticity of demand for gambling.¹⁷⁰ That is, it relies on

¹⁶⁸ *ibid.*, see page C5 and D1.

¹⁶⁹ *ibid.*, see p. D2.

how responsive (elastic) changes in amounts gambled will be in the face of price changes (for poker machines the proportion of each bet retained by the machine). Blandy and Hawke, for example, use alternative elasticities which give a vastly different range for consumer's surplus. Blandy and Hawke conclude that if problem gambling costs are removed, the 'surplus' becomes negative in aggregate.

There are also problems calculating tax revenues from gambling as a benefit as it involves double counting. As consumers include the tax in their estimate of the benefits (assuming rational behaviour) it should not be treated as a net benefit but simply a transfer from gamblers to the governments. It can be argued that any increased tax revenues from gambling are a *transfer* and hence not an economic benefit, although it may help the government in power.

Similarly, payments made by the gambling operators to charities and community organisations are not a net benefit but simply a transfer payment from one organisation to another. Again, including these payments as a benefit is double counting.

Queensland research

The AIGR's impact study into Brisbane and Cairns casinos revealed the following findings in relation to gambling taxation in Queensland:

- As real expenditure on gambling has increased in Queensland, gambling taxation revenue also has risen in real terms.
- The legalisation of previously prohibited gaming machines in clubs and hotels in 1991-92 and the opening of Treasury and Reef casinos were main factors in the increase in Queensland gambling revenues. Revenue from gambling in Queensland as a proportion of total state taxation revenue increased from 8.5% in 1990-91 to 11.7% in 1997-98. Queensland casino revenue increased from \$34 million in 1990-91 to \$80 million in 1997-98. The importance of casino revenue for Queensland was reflected in the increased proportional contribution of these revenues to state finances from 1.3% in 1990-91 to 1.7% in 1997-98.
- In the period of the study (1996-98), Reef Casino paid \$10.1 million taxation. The amount of tax paid by Treasury was not known, as its payments are combined with tax from Jupiters Casino at the Gold Coast. Such tax payments contribute to the Queensland Government's consolidated revenue, which may or may not be expended on the region that paid these taxes.
- Analysis of the gambling spending patterns of local residents (1996-98) showed that gambling taxes in Brisbane and Cairns are highly regressive, particularly for lotteries, racing and poker machines in clubs and hotels.¹⁷¹
- Overall, casino taxes levied on local patrons to Treasury and Reef casinos range from regressive for low income groups and proportional to progressive for middle to upper income groups.¹⁷²
- High spending casino gamblers contributed a large proportion of total casino expenditure in the Brisbane and Cairns surveys. The distribution of gamblers and

¹⁷⁰ Blandy and Hawke (1999, 1999b), submissions to the PC (1999), op. cit.

¹⁷¹ Tremayne, K. (2000) in McMillen, J. & Laker, L. (Eds.), *Developing Strategic Alliances*.

Proceedings of the Ninth NAGS Conference. AIGR.

¹⁷² *ibid*.

their losses are different for machine games and table games. Possible reasons for this are the higher costs of entry to table games and different patron characteristics compared with machine gamblers.

- The up-front fees that were paid to the Queensland government provided exclusive rights to Treasury and Reef casinos to operate casino gambling in their respective regions for a limited time period. These fees funded construction of convention centres in Brisbane and Cairns. The up-front fees thus represent a significant public asset contribution and a benefit to the community, to the local tourism industry and to the Queensland Government, which did not have to raise funds by other means.
- In the period of this study (1996-98) the Jupiters Casino Community Benefit Fund (JCCBF) which includes levies from both Treasury Casino and Jupiters Casino on the Gold Coast, allocated grants that totalled \$9.4 million while the Reef Hotel Casino Community Benefit Fund (RHCCBF) allocated \$1.1 million in grants. These funds are not specifically targeted to the negative consequences of gambling but rather contribute to the social infrastructure across Queensland as a whole.
- The gross estimated value added to the economy of SEQ as a result of the construction of Treasury Casino complex was between \$240.5 and \$350.7 million. The gross estimated value added to the Queensland economy was between \$257.2 and \$394.1 million.
- The gross estimated value added to the economy of FNQ as a result of the construction of Reef Casino complex was between \$171.6 and \$255.2 million. The gross estimated value added to the Queensland economy was between \$169.4 and \$259.6 million.
- The operation of Treasury Casino complex in 1997 was estimated to have a gross value added to the SEQ economy of between \$138.9 and \$190.1 million. The gross estimate of value added to the Queensland economy was between \$149.9 and \$212 million. However, it should be noted that these are estimates of the gross effects on the regional and state economies. Due to a lack of data, it was not possible to calculate net economic impacts.
- The operation of Reef Casino (less hotel) was estimated to have a gross value added to the FNQ economy of between \$28 million and \$38.8 million in 1997/98. The gross estimated value added to the Queensland economy for the same period was between \$27.7 million and \$39.2 million. However, as noted above, these estimates may overstate the impacts of the casino on the regional and state economies.
- Information about the provenance of suppliers to Treasury Casino was not made available to the project.
- Reef Casino's upstream purchases of goods and services from local suppliers were 16.17% and 25.22% respectively. The rest were purchased nationally.
- Local gamblers at Treasury Casino spent on average \$326.94 in 1996 and \$342.46 in 1998.
- Local gamblers at Reef Casino spent on average \$555.84 in 1996, \$329.62 in 1997 and \$570.51 in 1998.

- Cairns residents gambling at Reef Casino on average spent more on table games and machine games (in 1996 and 1998) than Brisbane residents at Treasury Casino.
- Cairns residents who gambled at Reef Casino spent less per occasion on table games and machine games, but played more often than Brisbane residents gambling at Treasury Casino.
- Expenditure per occasion increased for machine games in both casinos but table game expenditure remained relatively unchanged between 1996 and 1998.
- Residents surveyed in Brisbane who gambled at Treasury Casino reported they would have otherwise spent their money on entertainment (restaurants and films), other forms of gambling, household costs (food and clothing) or saved.
- Table games at Treasury Casino displaced a greater proportion of expenditure from other forms of gambling, than machine games. Conversely, machine games displaced a greater proportion of expenditure from household expenditure than table games.
- Residents surveyed in Cairns who gambled at Reef Casino reported they would have otherwise spent their money on entertainment (restaurants and films), other forms of gambling, household costs (food and clothing) or saved. This pattern did not change over the period of study, although in 1998 a significant proportion of casino gambling expenditure would otherwise have been spent on alcohol.
- Table games at Reef Casino displaced a greater proportion of expenditure from entertainment (ie restaurants and films) than machine games. Conversely, machine games displaced a greater proportion of expenditure from household costs (ie food and clothing) than table games.
- The opening of Treasury and Reef casinos impacted on hotels and clubs in the immediate area, with gaming venues located in the outer areas of Brisbane and Cairns seemingly less affected. This impact has varied from venue to venue; however the severity of the impact appears to have diminished over time with clubs and hotels attracting patrons back to their venues.
- Causal factors other than casinos, such as numbers of machines, management policies, intrasectoral competition and redevelopment, also have impacted on the performance of gaming machines in clubs and hotels.
- The economic impacts of Treasury and Reef casinos on local businesses do not appear to have been of great significance during the casino construction phase. General inconvenience caused during casino construction was no different to those problems associated with most large-scale developments.
- A large proportion of surveyed business respondents in Brisbane and Cairns who reported a fall in profits in 1996-98 indicated that the local casino had affected their trade. Respondents indicated that the casino had 'reduced late night trading', there were 'fewer impulse buys' and generally less money to be spent by shoppers.
- Business respondents in Brisbane and Cairns had mixed views about the impact of the Treasury and Reef casinos on their respective central business districts (CBDs). While most business respondents moderately agreed that the casino facilitated the tourist enhancement of the region and provided a social point of

interaction, nearly all positive responses were tempered by negative remarks about the impacts on local retail.

- Most businesses surveyed in Brisbane and Cairns reported they had not developed initiatives to manage the influence of casinos.
- A minority of businesses surveyed in Brisbane and Cairns suggested the casinos had had a negative influence on their staff. These influences had been reflected in thefts and problem gambling.
- Contrary to initial concerns, the development of Reef Casino does not appear to have had a negative impact on either the price or availability of housing in Cairns.

In relation to contributions to the community, the study also found that grants made by the casino community benefit funds (CBFs) provide generalised support for non-profit community service organisations. However, the community impacts of the two funds are diffused and are not directly targeted at minimising or addressing the social costs of casino gambling.

Victorian research

Several Australian and overseas reports have provided qualitative evidence indicating that local traders have noticed a fall in retail expenditure as a consequence of gambling expenditure. Studies have provided both qualitative and quantitative data on the impact of gambling on other sectors of the economy; however for the most part qualitative data have been accorded less validity than quantitative analysis. However, if the aim of the DIA research is to understand the impacts of gambling on local residents and the community, then focus groups and in-depth interviews can provide a greater understanding of the interaction between gamblers and other sectors of the economy.

Relevant qualitative data available in existing Australian research reports include:

- The 1997 NIEIR retail study, which conducted interviews with participants from the retail and leisure sectors and representatives from other sectors in metropolitan and the non metropolitan areas (Central Victoria and Gippsland).¹⁷³ The views expressed by representative shopping centres and retail chains were quite different from those expressed by representatives of small businesses. While there was a general feeling that increased gambling was one factor among many to influence the consumers spending of disposable income, small businesses were more willing to 'ascribe a significant influence to increased gambling than the former who viewed other forces operating within the community as of greater importance.'¹⁷⁴

Interviewees suggested that some of these reasons might include:

increased floor space;

- lower consumer sentiment;
- lifestyle changes; and
- direct marketing (such as mail order);

- Subsequent research was conducted on inner-city, non-metropolitan and small rural areas of Victoria.¹⁷⁵ The methodological approach involved in the qualitative research of these three studies was more inclusive than the 1997 NIEIR study and

¹⁷³ NIEIR (1997), op. cit.

¹⁷⁴ *ibid.*, p. 98.

¹⁷⁵ MIAESR, DHS & NIEIR (1997) op. cit.; MIAESR & DHS (1997) op. cit.; Hames Sharley (1997) op. cit.

involved consultations with a broad range of stakeholders that included householders, local government, venue operators, community groups, government agencies, retailers, and other industry groups that may have been affected by the introduction of gaming machines;¹⁷⁶ and

- Qualitative research into the impact on other businesses was conducted in a more recent study of six Victorian regions by KPMG.¹⁷⁷ Interviews in each region were conducted with a wide range of stakeholders that included gaming venues, non-gaming venues, community support agencies and local government. Consultations were also held with industry players (such as TABCORP and Crown Casino) and public forums were held in each region. This consultation process helped define the issues that were explored in resident surveys, which had a sample size of 160 per region.

The qualitative data obtained from the above studies provide insights into the local impact of gambling on other businesses. These data can be utilised to assess the potential impacts on local business.

However, these studies must also be treated with a degree of caution. The findings from qualitative research reflect the researcher's interpretation of the stakeholder's view. It is possible that the stakeholder may hold views that may not be accurate or that the researcher has been selective in giving weight to certain information and not to others.

It is also important that data derived from qualitative methods such as interviews are cross-checked with other available data sources. This is also true of quantitative data. To explain quantitative data and causality, for instance, we cannot rely on the data alone. In the KPMG longitudinal study in Victoria, for example, which we regard as the stronger of the four community impact studies cited in this study, the issues identified by the stakeholders were canvassed further in community workshops and public forums. The consultation process further informed the issues addressed in the community surveys.¹⁷⁸ The hypotheses of the qualitative research were compared to the information that was provided from the community survey. Similar research based on triangulation of methods has been conducted successfully by the AIGR in Queensland and New Zealand.

Summary: Social and Economic Impacts

As there has, to date, been very little attempt to accurately and systematically assess the social and economic costs and benefits of gambling. The above literature presents the findings of an ad hoc collection of studies from Australia and New Zealand. Listed are the key findings of these studies:

- Coopers and Lybrand's analysis of the economic impact of gaming in New Zealand found that lack of accurate data imposed significant constraints on their ability to make any assessment. Any conclusions Coopers and Lybrand do make are made on the basis that there is no displacement of other expenditure by changes to gambling expenditure. On the basis of emerging Australian research, we strongly contest this conclusion.
- Reid and Perez have examined the disbursement of profits by gambling operators in New Zealand. They found that key grant recipients were sport/physical activity organisations, clubs for their own purposes, and social and community

¹⁷⁶ MIAESR, DHS & NIEIR (1997) *ibid*.

¹⁷⁷ KPMG (2000) *op. cit*.

¹⁷⁸ Similarly, triangulation of method was used in some other reports commissioned by the VCGA, eg. MIAESR & DHS (1997) *op. cit*; AIGR (2000) *The Impact of the Expansion of Gaming on the Tourism, Entertainment and Leisure Industries*. Report prepared for the VCGA.

organisations, especially schools and health and disability support agencies. Smaller multi-sites and hotel-based trusts contributed disproportionately higher grants to social and community services compared to other societies. North Islander organisations received 74.6% of expenditure with the bulk of expenditure concentrated in the metropolitan regions around Auckland, Wellington and Canterbury.

- The AIGR's 1996-98 casino impact study found that New Zealand casinos complemented rather than substituted other gambling forms. The most comprehensive study of any in this section, the AIGR study found that local impacts of the Auckland and Christchurch casinos varied in many respects, reflecting the relative 'fit' between the casino and the community.
- Further to the NZLC's policy recommendations discussed above, the DIA called for submissions in early 2001 for public opinion on gaming regulations in New Zealand. Their consultation document identifies some of the areas in need of further examination. Our Report's final section will make suggestions on how this may best be achieved.
- Utilising econometric modelling and extrapolating from findings of the Australian Productivity Commission inquiry, the BERL Report (above) estimated economic benefits and social costs from New Zealand gambling. However, we believe the estimates provided by the BERL Report of the benefits of gaming in New Zealand are overestimates for reasons stated above.
- The Productivity Commission's analysis of Australia's gambling industries found a significant social cost to problem gamblers, their families and society as a whole. The Commission observed that problem gambling impacts spread beyond interpersonal networks and into the public health domain and the public legal system. On the other hand, Australian problem gamblers contributed approximately \$1 billion to state government revenue through their gambling activities.¹⁷⁹ The Commission found that Australian state/territory governments benefit financially from gambling, including problem gambling. The major social benefit was identified as 'consumer surplus', the entertainment value that people derive from their gambling. The Commission warned that '[q]uantification of the costs and benefits of the gambling industries is hazardous' and stressed the tentative nature of its estimates.
- As previously stated, methodological problems and data gaps suggest that all of these studies must be treated with a degree of caution.

The above literature, above all, highlights the need for multi-method research which incorporates qualitative, quantitative, primary and secondary data in order to properly examine the extent of the costs and benefits of gambling. It also emphasises the importance of compiling systematic data sets that will allow the social and economic impacts of gambling, and the relationships between them, to be measured over time.

Problem Gambling Impacts

New Zealand research

¹⁷⁹ *ibid.*, p. 7.58.

In 1995 **Connell Wagner Ltd** prepared a synopsis of submissions to the DIA's review of gaming.¹⁸⁰ The 'pattern of opinion' showed that there was limited agreement on who should be responsible for dealing with the social costs associated with gambling (government, industry or individuals); or whether government taxation or industry levies should be used to address the social costs of gaming, including treatment of problem gambling, education and monitoring.

DIA attempted to develop 'an appropriate policy and regulatory framework against which current and new forms of gaming can be assessed'.¹⁸¹ On the issue of problem gambling the Department found that there were then likely to be at least 12,000 adults who currently have a serious gambling problem in New Zealand and were likely to:

- Prefer continuous types of gambling
- Prefer race betting or gaming machines or casinos where available
- Spend longer at gambling sessions
- Bet alone
- Gamble for excitement, challenge or to win rather than for entertainment
- Say gambling is beyond their control
- Gamble more frequently
- Have gambling related debts
- Be more often young, male, unemployed, Pacific island or Maori
- Have higher rates of mental health problems eg depression and alcoholism
- Have started younger.¹⁸²

It was also suggested by the Department of Internal Affairs that:

- Problem gamblers are likely to have higher rates of problems with smoking and other addictions.
- Have higher rates of being sexually abused in childhood.
- Take part in a wider variety of gambling activities.
- Have other family members with gambling problems.¹⁸³

However, DIA stressed that there was a lack of research evidence in the field of problem gambling and thus it was difficult to form conclusions.¹⁸⁴

subsequently, in 1998, **Abbott et al** conducted follow-up interviews with 143 people who were original participants in the 1991 national survey:¹⁸⁵

The 1998 follow-up study was primarily concerned with furthering knowledge about the nature of gambling in the general adult population, particularly with respect to the definition and

¹⁸⁰ Connell Wagner Ltd (1995), *Synopsis of Submissions to the 1995 Review of Gaming Discussion Document*, DIA, Wellington, p. 2.

¹⁸¹ New Zealand Department of Internal Affairs (1995), *The Social Impact of Gaming in New Zealand*, Wellington, p. 1.

¹⁸² *ibid.*, p. 8.

¹⁸³ *ibid.*

¹⁸⁴ *ibid.*, p. 7.

¹⁸⁵ Abbott, Williams & Volberg, (1999), *op. cit.*, p. 1.

measurement of gambling and problem gambling, to the stability and change over time in these behaviours and the identification of factors that are associated with this stability and change.¹⁸⁶

This study was limited by a reduced the sample size due to participant attrition and the aging of the participants (all participants were now 25 years of age or older).¹⁸⁷

On problem gambling Abbott found a consistent decrease in gambling participation and problem gambling behaviours amongst those respondents classified as probable pathological and problem gamblers in 1991.¹⁸⁸

The next attempt to measure the impacts of problem gambling in New Zealand was the AIGR's 1998 study of the social and economic impacts of the Auckland and Christchurch casinos. However, this was merely one of many impacts examined in this study, which had a more specific research focus on casino impacts.

The AIGR accepted DIA's definition of problem gambling as 'occasional or regular gambling to excess to the extent that it leads to problems in other areas of life, particularly with finances and interpersonal relationships'.¹⁸⁹ The AIGR found:

- Caseload data from various service providers in New Zealand showed the number of clients seeking assistance with gambling-related problems had increased since casinos were introduced;
- All the service providers agreed that the reported increase in problem gambling was associated with a general increase in the availability of gambling opportunities in New Zealand, not casinos alone;
- Casinos had affected this general increase in the numbers of people with gambling problems, attracting new gamblers (eg. women) who may experience problems, and increasing the access and availability of gambling;
- Machine gambling in casinos, clubs and pubs were frequently cited as a particular form of gambling which is likely to cause problems;
- It was not known to what extent the increase in client referrals and presentations is a result of casino gambling per se or of increased public awareness of problem gambling and the support services that have been established;
- From the service agency data, people most likely to seek help with problem gambling were European/Pakeha males, although some agencies reported a growing number of female and Maori/Pacific Island clients;
- Service agency data did not support arguments about Maori and Pacific islanders being at risk. The proportion of the population reporting to problem gambling agencies was lower for these groups than would be suggested by the demographic mix of Christchurch and Auckland. However, it was suggested that an important factor may be that these groups (and other non-European/Pakeha groups) were not seeking assistance from mainstream service agencies;
- The service agency data suggested that the impact of Sky City on problem gambling has been significantly greater than that of the Christchurch Casino. This difference may reflect the relative scale of the casinos' operations and markets, different local and regional population characteristics, different knowledge and

¹⁸⁶ *ibid.*

¹⁸⁷ *ibid.*, p. 2.

¹⁸⁸ *ibid.*, p. 7.

¹⁸⁹ AIGR (1998), *op. cit.*, pp. 25-26.

availability of service providers, different methods of data collection and varying casino management practices;

- Community surveys in both cities found a general public perception that New Zealand casinos had increased the incidence of problem gambling;
- More systematic and longitudinal information about the nature and extent of problem gambling in New Zealand is required.¹⁹⁰

In early 2001 the **DIA**'s consultation document to solicit public opinion for the current Review of Gaming has repeated the Department's view that the 'private costs' of problem gambling can include: depression and anxiety; suicide (either thoughts or attempts); financial indebtedness; and related legal problems or offences. 'Social costs' can include: impacts on the families of the problem gambler; and impacts on employers (through costs to the Police, the criminal justice system, and the social welfare system).¹⁹¹

The DIA summarises the policy debate thus:

some people suggest that any measures to manage problem gambling should not adversely affect people who gamble without apparent ill effects. Others consider that the impacts of problem gambling on individuals and those around them are serious enough to justify stronger laws even though some of them may affect all gamblers. Still others suggest that the differing effects of different gaming products justify variations in regulatory treatment. We have seen, for example, that continuous forms of gambling have much stronger links to problem gambling than do non-continuous forms.¹⁹²

The DIA notes that research shows that gambling problems can arise from 'a combination of environmental, social and psychological factors, including a false understanding of gambling, boredom, social isolation, depression or cultural factors'.¹⁹³ The report discusses opinion amongst researchers that public policy should be directed towards: at risk members of society; those whose lives are adversely affected, even to a minor degree; and people who need help to resolve their problems.¹⁹⁴ One approach suggested by the authors is to have a mix of 'preventative measures' and 'remedial measures', as suggested in the Productivity Commission's report.

Some recommended preventative measures include: slowing the speed of play; providing additional consumer information; warning messages at gaming venues; and access restrictions such as numerical caps on gaming devices, or age limits. These restrictions may, nevertheless, be outwitted by technological developments such as internet gaming. The DIA suggests that consideration also needs to be made of the adverse impact of restrictions on people who are not at risk of problem gambling.¹⁹⁵

Markland argues that:

... growth in gaming and increased help-seeking may not mean that there are more problem gamblers. More people may now be seeking help because of the enhanced range and quality of services and because of greater public awareness of the issue.¹⁹⁶

However he notes that in Australia, the Productivity Commission concluded 'a connection between greater accessibility of gaming machines and increased problem gambling prevalence in Australia'.¹⁹⁷

Based on his national survey findings over the past decade, **Abbott** suggests that skill based gambling options are more likely to attract problem gamblers in New Zealand than those based purely on luck.¹⁹⁸

¹⁹⁰ *ibid.*

¹⁹¹ *ibid.*, p. 33.

¹⁹² *ibid.*, pp. 36-37.

¹⁹³ *ibid.*, p. 37.

¹⁹⁴ *ibid.*

¹⁹⁵ *ibid.*

¹⁹⁶ Markland, 2001, *op. cit.*, p. 12.

¹⁹⁷ *ibid.*

This proposition differs from the findings of the Australian Productivity Commission inquiry which found that gaming machines based on 'luck' are the principal form of gambling problems. However, Abbott does acknowledge that gaming machines are strongly associated with problem gambling.¹⁹⁹

This chapter also includes an examination of risk factors to problem gambling. Further to the factors cited previously from DIA reports, Abbott lists:

- living in households of five or more;
- being Roman Catholic; being of non-Anglo Saxon descent; and
- having parents with gambling problems.

Significantly, Abbott states that problem gambling, long since perceived in New Zealand as a mental disorder, is now being seen as a public health issue as it is in Australia.²⁰⁰

Australian national research

The **Productivity Commission** sought to identify patterns of problem gambling by generating their own data in two surveys: one of organisations providing specific services for problem gamblers and one of the clients of such organisations.²⁰¹ The Commission surveyed 82 gambling support agencies across the nation including publicly funded agencies, counselling, emergency help and other services. Data was compiled on the nature and operation of services and the experiences of people with gambling problems.

Factors that affect the prevalence of problem gambling

As noted by Markland, the Productivity Commission identified accessibility of gambling, particularly to gaming machines, as a central factor that affects the prevalence of problem gambling.²⁰² Though a causal connection is difficult to substantiate with certainty, the Commission found significant evidence from a variety of sources to indicate an important link. Other significant factors affecting problem gamblers are age (gamblers under 25 are twice as likely to develop problems as older gamblers) and the regular playing of a continuous form of gambling.

Although the Productivity Commission does discuss other factors which *may* have an affect on problem gamblers (such as non-English speaking background; people who are separated or divorced; unemployed people; and people living in single-person households) it hesitates to place much emphasis on these particular factors.

Impacts on individuals, families and the community

The Productivity Commission identified several aspects of problem gambling with impacts on public policy, including: impacts on the individual; the individual's family and friends; spending patterns; the public purse; non-profit organisations; and crime.

Impacts on health

The Productivity Commission's surveys of support agencies and people in counselling revealed a range of social and health costs from problem gambling that have profound public policy implications. The Commission found that problem gambling has been negatively associated with a variety of personal maladies such as depression, anxiety, suicide and general ill-health.²⁰³ For example, their 1999 national

¹⁹⁸ Abbott, M. (2001), 'Psychology, Health and Gambling' forthcoming in Curtis, op. cit.

¹⁹⁹ *ibid.*, p. 5.

²⁰⁰ *ibid.*, p. 1.

²⁰¹ PC (1999), op. cit., Appendix L.

²⁰² *ibid.*, p. 8.1.

²⁰³ *ibid.*, pp. 7.13-7.25.

client survey found the following results in relation to people with gambling problems who sought help.²⁰⁴

- 95.6% suffered from depression;
- 57.8% seriously considered suicide due to gambling;
- 13.6% attempted suicide;
- 99% suffered from guilt due to gambling; and
- 97% had control problems, that is, they would ‘like to stop but can’t’.

The Productivity Commission also cited studies that reported evidence of deteriorating health including regular physical symptoms, depressive moods, insomnia, headaches, stomach pain, and nausea.²⁰⁵ Further, studies concerning co-morbidities with problem gambling suggest there may be correlations with drug and alcohol problems, mental health and psychiatric disorders such as depression.²⁰⁶ Results overall have varied widely and are as yet inconclusive. Nevertheless, there may be potential implications for treatment and prevention approaches and resources.

Impacts on relationships

The second area of impact that the Productivity Commission considered was the affects of problem gambling on interpersonal relationships with partners, children, parents, friends, work colleagues, and the general community.²⁰⁷ Problem gamblers in counselling reported major adverse effects on their relationships with partners (46.6%), children (20.7%), parents (21.6%), friends (15.4%) and colleagues (9.4%).²⁰⁸ Some of the main difficulties problem gamblers experienced in their inter-personal relationships were not having enough time for family, the break-up of relationships, break-ups leading to split-ups, losing contact with children, violent behaviour due to gambling and family arguments over money.²⁰⁹ Despite problems with the survey responses in regards to divorce, they concluded that conservatively around 1,600 divorces each year were gambling related.²¹⁰

More specific behaviours that were found to have affected problem gamblers’ relationships include over-commitment of time and money to gambling, deceptiveness, mood swings, domestic violence, leaving young children without adequate care arrangements, exposing children to poverty, abusive relationships hindering child development and education, family disintegration and loss of emotional security. Various studies have estimated that 7-17 other people are negatively affected by the behaviour of each person with a gambling problem.²¹¹ Finally, there is substantial risk that problem gambling will occur across family generations. The Productivity Commission’s survey indicated that ‘a problem gambler in counselling has a 16 times higher chance of having a father with a problem, than non-problem gamblers in the population.’²¹² These findings, especially the latter, suggest an increased need for preventative strategies.

Impacts on finances

A third aspect of problem gambling with implications for public policy involves the share of gambling expenditure (or losses) attributable to this group.²¹³ The Productivity Commission calculated that problem gamblers account for around 33% of total expenditure and are therefore much more likely to be represented amongst big spenders.²¹⁴ ‘The implication is that of the \$10.7 billion of gambling

²⁰⁴ *ibid.*, p. 7.15.

²⁰⁵ *ibid.*, pp. 7.23, 7.27.

²⁰⁶ *ibid.*, p. 7.25.

²⁰⁷ *ibid.*, pp. 7.25-7.37.

²⁰⁸ *ibid.*, p. 7.28.

²⁰⁹ *ibid.*

²¹⁰ *ibid.*, p. 7.29.

²¹¹ *ibid.*, p. 7.34.

²¹² *ibid.*, p. 7.35.

²¹³ *ibid.*, pp. 7.39-7.56.

²¹⁴ *ibid.*, p. 7.41.

expenditure by Australians in 1997-98, around \$3.6 billion comes from problem gamblers.²¹⁵ Gaming machines and racing are the more common forms of gambling in this equation. To fund their disproportionately high expenditure problem gamblers have: accumulated debts; borrowed money from loan sharks; sold assets, including homes; lost superannuation; gone bankrupt; and generally spent more money on gambling than they can afford.

Borrowing money and overspending are the more common experiences:

- 76.7% of problem gamblers spend over a fifth of their household income on gambling, with 40.4% spending over 50%.²¹⁶ Not surprisingly, this translated into reduced income to spend on household essentials with 68.3% of problem gamblers running out of money for such items sometimes, often, or always.²¹⁷
- 59.6% of problem gamblers in counselling went without food and grocery items on some occasions as a result of money spent on gambling.²¹⁸

The Productivity Commission also noted that problem gamblers themselves identified some positive aspects of their gambling activity including a distraction from worries, relaxation and having an enjoyable pass-time. Nevertheless, 70% of gamblers undergoing counselling wished to give up gambling completely.²¹⁹

Impacts on Support Services

The available Australian data concerning the impacts of gambling on community support services is limited and ambiguous. Though support services of various types are available in all Australian states for people with gambling problems, reliable and systematic data on service demand are rarely collected. For example, there may be a relationship between usage levels of support services gambling and gambling accessibility, although this issue is yet to be explored.

Service usage data may also be distorted by a variety of factors including:

- a change in the accessibility of services available;
- the tendency of people with gambling problems to seek help; and
- levels of public awareness and community education about the availability of services.

The key findings of the Commission's surveys revealed the following trends:²²⁰

- 78% of agencies had been operational for less than five years;
- a 33% increase in caseloads in the 12 months preceding the survey;
- 70% of clients in the 12 months preceding the survey were new clients;
- 21% of people counselled in the preceding 12 months were affected by someone else's gambling;
- waiting lists were reported as 43% of metropolitan, and 28% of non-metropolitan agencies;

²¹⁵ *ibid.*, p. 7.42.

²¹⁶ *ibid.*, p. 7.48.

²¹⁷ *ibid.*, p. 7.55.

²¹⁸ *ibid.*, p. 7.56.

²¹⁹ *ibid.*, p. 7.68.

²²⁰ *ibid.*, Appendix L.

- a fairly even balance between male (52%) and female (48%) gambling clients, though female clients slightly outnumbered male clients in non-metropolitan areas;
- 77% of clients were of Anglo-Celtic ethnicity, though it should be noted that several studies have indicated people from non-English speaking backgrounds are far less likely to seek help;
- gaming machines were the source of gambling problems for 71% of clients;
- the main sources of client referrals were self-initiated (30%), family or friends (22%), and the telephone help service G-Line (21%);
- the total costs of providing gambling services in 1997-98 was estimated at \$5.3 million;
- 96% of service funding came from state governments;
- people with problem gambling in counselling spent an average of \$19,000 on gambling activities; and²²¹
- 40.4% of those in counselling spent over 50% of their household income on gambling.

However, the Productivity Commission's statistics do not necessarily convey an accurate picture of problem gambling prevalence or trends in the wider community.

Queensland research

In relation to problem gambling, the **AIGR's** casino impact study in Queensland revealed insufficient information to allow any firm conclusions to be drawn about the impact of Treasury and Reef casinos on problem gambling.²²² Community surveys in Brisbane and Cairns showed that there was a rise in the perceived level of problem gambling in each community between 1996 and 1998. However, while casino gambling was seen as the leading source of problem gambling in the 1996 and 1997 surveys, by 1998 poker machines and horse racing were seen as more significant problems than casino gambling.

Victorian Research

There have been a number of Victorian reports that have examined the effects of gambling on the individual and household and how those with gambling problems interact with support services.

Reports commissioned by the **VCGA** in 1997 provide evidence that suggests liberalised access to gambling has increased demand on existing services. Interviews with community services (financial counselling agencies, organisations providing emergency relief, youth centres, Department of Social Security, women's domestic violence support groups, emergency and public housing services, employment assistance agencies, ethnic associations and church groups) in both the metropolitan and rural areas of Victoria have provided evidence that many agencies have experienced increased demand due to the emergence of gambling related problems.²²³ However, some of the general community agencies interviewed were not able to attribute the increased demand for their services specifically to gambling since they did not keep records of clients with gambling problems.

²²¹ *ibid.*, p. 7.46.

²²² McMillen, McAllister & Tremayne, *op. cit.*

²²³ MIAESR, DHS & NIEIR (1997), *op. cit.*, pp. 141-146; MIAESR & DHS (1997), *op. cit.*, pp. 277-280.

There are a number of other important qualitative studies in Australia that have explored the impact of gaming on specific sections of the Victorian community such as NESB communities²²⁴ and women problem gamblers.²²⁵ Such research studies are generally undertaken at a local level using qualitative participatory research techniques. Although some of the qualitative research methods used have been criticised (e.g., sample bias, lack of substantial quantitative data) the reports do provide useful and valid findings. According to the Department of Human Services,

qualitative research cannot be judged against the measures of rigour adopted for positivist research. It is judged against the criteria of credibility and trustworthiness...(immersion in the field, prolonged engagement in the research process, peer debriefing, member checking) ...²²⁶

More recently the **Victorian Department of Human Services** released *Playing For Time*, a study undertaken by workers at a northern metropolitan community health centre.²²⁷ The study used participatory feminist action research methods, emphasising ‘the personal encounter with experience and the seeking of experiential knowledge.’²²⁸ The study primarily used a focus group technique; however, preliminary research also included discussion with community workers, visits to gaming venues and discussions with women who identified as problem gamblers.

Four distinct focus groups were facilitated (although in practice there was some overlap in membership of groups):

- human service workers who do or have been providers of support services to women;
- women who gamble alone;
- women who gamble in the company of their partners and/or significant others; and
- women whose cultural backgrounds are other than Anglo-Saxon/Celtic.

The research featured significant levels of participation by NESB women, a group often invisible in other more empirical studies. Consistent with the action research framework, findings were focussed around change strategies and solutions. The study recommended further community education strategies and interventions, direct interventions such as counselling and support, greater responsibility by the gaming machine industry to assist consumers in their information needs, and more women-friendly recreation and support groups.

Research undertaken at the **Ignatius Centre for Policy and Research** investigated the links between gambling and family violence in Vietnamese families.²²⁹ The research method included consultation with service providers (surveys and interviews), a literature review and community focus groups. Findings were considered in light of immigration settlement and broader social challenges experienced by the Vietnamese community (e.g., high unemployment, low paid work, limited English proficiency, unresolved trauma and inter-generational conflict) and included:

- gambling and violence in Vietnamese families is exacerbating the settlement process for families;
- issues and repercussions for women problem gamblers are different to the issues and repercussions for men;

²²⁴ Tran, D. (1999), *Exploring the Presence of Gambling and Family Violence in Vietnamese Families – Preliminary Findings*, Jesuit Social Services, p. 6.

²²⁵ DHS (2000), *Playing for Time – Exploring the Impacts of Gambling on Women*, Department of Human Services.

²²⁶ *ibid.*, p. 18.

²²⁷ *ibid.*

²²⁸ *ibid.*

²²⁹ Tran, *op. cit.*

- Vietnamese support agencies reported that high numbers of family conflict cases are gambling related;
- members of the Vietnamese community are not attending BreakEven services due to denial, shame and ‘lack of familiarity with the concept of counselling and its efficacy’;²³⁰ and
- the ‘impossibility of accurately gauging the full extent of problem gambling in the Vietnamese community as members are likely to deal with problems in the family as much as possible’.²³¹

Other ethnically specific agencies made important contributions to the Productivity Commission enquiry in this under-researched area of gambling studies. These submissions relied heavily upon anecdotal evidence. The **Australian Vietnamese Women’s Welfare Association**, for example, highlighted the lack of rigorous research into the demographic profile of Vietnamese gamblers and the urgent need for a greater understanding of gambling patterns within the Vietnamese community.²³² The submission noted that problem gamblers from some non-English speaking backgrounds were not contacting support services. This finding was echoed in the submission from the Chinese Community Problem Gambling Action Group.²³³ Their submission described barriers to Chinese people contacting support agencies, including:

- lack of understanding of western concepts of counselling;
- suspicion towards government funded agencies; and
- concerns about client privacy and confidentiality.

The Arabic community has also conducted culturally specific gambling related research and it is highly likely that other culturally specific and more generalist community agencies are undertaking research into gambling impacts or related issues. The concerns raised in reports by specific cultural groups should also be considered when data from community support agencies, such as Gamblers Help, are used as evidence of problem gambling levels and profiles. Demographic data on individuals who access support services seriously under-represent the lived reality of problem gambling within the community.

Summary: Problem Gambling

The literature reviewed above indicates that problem gambling is now recognised as a major social cost associated with gambling. Unlike other jurisdictions, New Zealand has had the advantage of Abbott and Volberg’s replication studies that have allowed analysis of problem gambling prevalence trends as gambling has been expanded and made more accessible over a decade. More recently, Abbott’s studies of prison populations have given valuable insights into two minority groups in the New Zealand population.

²³⁰ *ibid.*

²³¹ *ibid.*

²³² Australian Vietnamese Women’s Welfare Association (1998) Submission 86 to the Productivity Commission.

²³³ Chinese Community Problem Gambling Action Group (1998) Submission 139 to the Productivity Commission.

Even so, there has been little systematic research into problem gambling in cultural and ethnic communities. The question of gambling impacts and problem gambling in the Maori and Pacific Islander population, and other ethnic groups in New Zealand, requires specific attention.

However, the literature also indicates that there is growing debate about the basis upon which problem gambling impacts can be assessed. Is problem gambling a mental condition of individual gamblers that can be measured using clinical indicators, or a broader social and public health issue? Are the tools currently used to measure problem gambling as relevant for New Zealand's culturally and socially diverse communities? Do the comparative advantages of replicating the SOGS tool prove its value or should research move towards more socio-culturally sensitive measures, despite their immediate limits in terms of comparative value?

Crime

New Zealand research

DIA's consultation paper for the present Gaming Review indicates that direct relationships between crime and gambling include unlicensed and illegal gaming activities, theft and fraud to fund gambling, cheating by gaming operators and gamblers and under-age gambling.²³⁴

Other indirect gambling-related crimes identified are soliciting or prostitution, money laundering, domestic violence and child neglect.²³⁵ The media has also attributed cases of dishonesty and violence to gambling.²³⁶

However, the DIA have found no evidence to directly link crime with gambling although they have noted: attempts to alter Lotto tickets; the use of TAB accounts for small-scale money laundering; theft; assault; begging; loan sharking; cheating in casino precincts; and breach of licence. Precise statistical information was not provided.

Costs associated with gambling-related crime as identified by the DIA include costs to: the government; the offender; the offender's family; dependents; associates; employers; victims; the community; and costs to the reputed integrity of particular gaming modes. Moreover, costs are incurred by measures to deter gambling-related crime.²³⁷

Based on the 1990 DIA participation surveys and other existing material, the DIA has previously found that gaming is susceptible to crime due to: the large sums of money and transactions; undeveloped recording systems; the anonymity of participants; lack of regulatory knowledge on behalf of gamblers; the dominance of information in the hands of operators; gamblers forced to have faith in the integrity of operators; and numerous possibilities for corruption.²³⁸ The Department suggested that gaming machines have the highest association with crime in the gambling industry. Some of these offences include theft, donation fraud and misappropriation of funds.²³⁹

The DIA also suggested that the Christchurch Casino had experienced only modest levels of crime but that additional research was needed in order to establish the extent of crime as a problem.²⁴⁰ That report

²³⁴ DIA (2001), op. cit., p. 39.

²³⁵ *ibid.*

²³⁶ *ibid.*, p. 40.

²³⁷ *ibid.*, p. 41.

²³⁸ DIA (1995), op. cit., p. 9.

²³⁹ *ibid.*, p.10.

²⁴⁰ *ibid.* A casino impact study that included investigation of crime impacts was subsequently conducted by AIGR, op.cit.

also recognised the need for justice and equity in gambling regulation to ensure that certain sectors of the community (Maori groups and small businesses) are not disproportionately penalised.²⁴¹

In 1997 **Connell Wagner's** synopsis of submissions on *Gaming – A New Direction for New Zealand* found moderate public support for government intervention in gaming in order to keep crime at a minimum level. Several submissions expressed the view that gambling attracts crime; some argued that the potential for fraud and organised crime was far greater in the gaming industry than in any other.²⁴²

In 1998 **AIGR** analysed and compared the crime impacts of the Auckland and Christchurch casinos.²⁴³ The AIGR found:

- The impacts on crime of the two New Zealand casinos were not as extensive as predicted. Reported crimes within and around both New Zealand casinos are typical of casinos elsewhere, and have a lower incidence than some comparable casinos.
- Effective casino management and crime prevention strategies contributed to an effective regulatory regime and minimisation of crime. Casino management introduced preventative crime measures, including adequate site lighting and surveillance, a door policy to enforce dress and behaviour standards, recruitment of ex-police officers to train and manage security and surveillance staff, and the application of trespass notices to remove offenders. Each casino also has an 'exclusion' policy to allow patrons to self-bar if they so choose. Both casinos have established close liaison and cooperation with the local police.²⁴⁴
- General crime incidents have occurred within and around the casino premises in Christchurch and Auckland, but the incidence has been no more than normally occurs with inner city entertainment venues of comparable size. In Christchurch, crime is arguably lower than would be expected.
- There has been no overall increase in crime in the Christchurch Casino precinct, and a decrease in some crimes (sexual attacks, liquor offences, burglary and fraud). A number of different data sources (a community survey, City Council survey and interviews with residents) agree that the Christchurch Casino precinct is perceived as a relatively safe part of the city. Similar comments were made regarding the Sky City car park.
- In Auckland there was an increase in public disorder offences in the casino precinct during the first few months of operation. Alcohol was a major factor in these crime incidents. Collaboration between the police and casino management resulted in a change in alcohol service policies and reduced these offences.
- The dress code applied at Christchurch Casino was frequently cited as a factor assisting with crime prevention. Sky City's dress code was tightened after the Casino Control Authority expressed concerns during the early months of operation.
- Attempts by minors to enter the casinos, including the use of false identification have been a problem for both Christchurch and Sky City security staff. Christchurch Casino had refused entry to 9,094 underage people between November 1994 and December 1997. Sky City has excluded 49,600 underage

²⁴¹ *ibid.*

²⁴² *ibid.*, p. 11.

²⁴³ AIGR (1998), Executive Summary, *op. cit.*

²⁴⁴ *ibid.*, p. 27.

people and removed 1,857 minors from the premises in the two years since it opened, reflecting its larger visitation numbers and population base.

- Cheating by patrons is a regular incident, but most crimes have been relatively minor.
- Offences by staff are also usually minor. However, staff at Sky City have been charged with major offences, including social welfare fraud and theft of \$500,000 from the casino bar.
- A number of other crimes have occurred within Sky City (counterfeit, begging) but police do not consider them to be unusual in a venue of this type and size. Continuing incidents of children left unattended in cars are being monitored and addressed.
- There has been no identifiable connection between the New Zealand casinos and sex offences, such as soliciting and brothel-keeping.
- This study found no evidence that the casinos have affected a growth in pawnbroking, although a pawnbroker has established in the vicinity of Christchurch Casino.
- There was little reliable data on crimes committed to fund gambling, so it has not been possible to determine the impact of the casinos on this type of crime. However, the Police and media have reported some cases, which suggest a possible link between problem gambling, crime and casinos.
- There have been no prosecutions in relation to money laundering and suspicious financial transactions in New Zealand casinos. However, police expressed some concern about compliance with financial transaction reporting requirements, in particular by Sky City.
- The casinos initially placed additional demands on police resources with regards to crime prevention programs and probity checks for licensed staff. The police have managed this impact within normal police operations. The demand on police staff has declined as the two casinos and their management practices have become more established.
- Police report that casinos have had the indirect effect of restricting illegal gambling. Illegal gambling operations in the vicinity of the two casinos closed down when the legal casinos opened. However, there are signs that some illegal card games have again begun operating in both cities. Police report that some of these games cater for people who are excluded from the casinos. Possible loan-sharking associated with these games is also being investigated.
- Despite the evidence that the New Zealand casinos' have not had a significant impact on crime, a community survey conducted for the AIGR's study found that public perceptions remain undecided on the issue. A significant minority of residents surveyed in both cities believed that the advent of casinos had resulted in more crime.²⁴⁵

In 1999 **Abbott** and **Volberg** examined literature on gambling related crime in New Zealand and found that the high prevalence rate amongst prison inmates suggests a link between 'pathological' gambling and criminal offending. A profile of the nature of gambling related offences originated from studies of

²⁴⁵ *ibid.*, pp. 27-29.

gamblers attending self-help groups and other treatment services. Offences include largely non-violent property crimes and are resultant from ‘... the need to maintain habitual gambling behaviour.’²⁴⁶

Abbott and Volberg also made reference to links between certain demographic characteristics of ‘probable problem’ gamblers and those at risk of criminal offending. These include Maori and Pacific Islander origin, young males with minimal education and young males who are unemployed.²⁴⁷ In addition, Abbott and Volberg called for the provision of treatment for problem gambling for those in prison.²⁴⁸

In their recent interviews with prison inmates, **Abbott, McKenna** and **Giles** asked questions on the inmates’ criminal activities and their specific links to gambling.²⁴⁹ They found that 15 per cent of interviewed inmates committed crime to support their gambling habits. Burglary was the most frequent means of obtaining finance for gambling; theft, fraud and robbery were also reported.²⁵⁰ Nine per cent reported being convicted for gambling-related crime and 10 per cent reported being in prison because of charges connected to gambling.²⁵¹

In a parallel study **Abbott and McKenna** explored any causal link between gambling and criminal offences among women prisoners in New Zealand.²⁵² In that study 26 per cent of female prisoner respondents reported having committed a crime to finance their gambling habits. Fraud was the primary means of obtaining gambling funds (14 per cent); burglary, shoplifting, drug trafficking, theft, and robbery were also reported.²⁵³

More recently **Lynch** has focused on the prevailing belief in New Zealand that gambling is associated with crime, citing the 1996 national survey finding that 65% of people see the government’s primary reason for intervention is ‘to prevent criminal activity.’²⁵⁴

Lynch states that the research literature on gambling and crime is questionable. He argues that those crimes often associated with casino gambling ‘...disorderly conduct; assaults and violence in the casino premises or adjacent to the casino; prostitution; theft, either inside the casino or in the casino precinct; underage gambling; fraud and cheating inside the casino; fraud and theft to support excessive gambling; employee gambling and organised crime activities’ are not supported by evidence.²⁵⁵ Lynch suggests that

the international literature on crime and gambling is often contradictory, yet points to an apparent increase in the *incidence* of crime in and around casinos, but not the rate of crime. The evidence to date from the operation of New Zealand’s two casinos suggests very limited criminal activity external to the establishments and an average amount of crime within.²⁵⁶

Lynch sees the major concerns for New Zealand police to be non-casino forms of gambling such as misappropriation of gaming machine funds and illegal forms of ‘housie’, ‘lotteries’ and ‘battens-up’ games.²⁵⁷ However, he observes that illegal activities associated with gaming machines are likely to go unreported due to lack of sufficient evidence to convict.²⁵⁸

²⁴⁶ Abbott & Volberg (1999), op. cit., p. 115.

²⁴⁷ *ibid.*, p. 118.

²⁴⁸ *ibid.*

²⁴⁹ *ibid.*, p. 31.

²⁵⁰ *ibid.*, p. 3.

²⁵¹ *ibid.*, pp. 3-4.

²⁵² *ibid.*, pp. 35-39.

²⁵³ *ibid.*, p. 2.

²⁵⁴ Lynch, R. (2001), ‘Gambling and Crime’ forthcoming in Curtis, op. cit.

²⁵⁵ *ibid.*

²⁵⁶ *ibid.*

²⁵⁷ *ibid.*

²⁵⁸ *ibid.*

On the other hand, **Markland** argues that there is a potential increase in opportunities and inducements for crime due to the information advantage that gambling operators have over gamblers, the difficulties associated with auditing large sums of cash, the relatively small bets placed by individuals and the subsequent lack of incentive to seek redress.²⁵⁹

Australian national research

The **Productivity Commission** noted that problem gamblers tend to get involved in gambling-related criminal activities as a last resort once other sources of money are exhausted. They reported that before reaching that stage,

... gamblers initially draw on their savings and then make cash advances on their credit cards, borrow from family and friends, or take out loans with banks or financial institutions.²⁶⁰

After this point is reached problem gamblers may approach loan sharks or sell off personal or family assets. It is when legal avenues for obtaining gambling funds or meeting financial commitments incurred because of gambling are no longer available that criminal activity may be resorted to.

In comparison, to other Australian studies that found between 20 per cent and 76 per cent of problem gamblers admitted to criminal offences, the Productivity Commission's research recorded a relatively low 11 per cent.²⁶¹ The types of crime committed by problem gamblers range from petty theft, shoplifting and forging signatures for financial gain to larceny, embezzlement, misappropriation, drug trafficking, burglary and armed robbery.²⁶² Loan shark lending has also been established as having a significant relationship with gambling related criminal activity such as physical harassment and violence being directed towards the gambler.²⁶³

The Productivity Commission's findings suggested that:²⁶⁴

- around one in ten problem gamblers have committed a crime because of their gambling;
- up to two-thirds of problem gamblers in counselling have committed a crime to finance their gambling;
- the offences committed are mainly non-violent property crimes; and
- while the majority of offences committed do not result in legal action (and many go unreported), around 40 per cent of offenders are charged and convicted.

The Productivity Commission has noted that an increase in gaming venues is often associated with an increase in second-hand dealers and pawnbrokers but found no specific criminal link.

Street Crime

Despite early studies in the United States implying that street crime increases in the vicinity of casinos, the Australian experience is in fact the opposite. A study conducted by McMillen and Rolfe (1997) found that, statistically, being outside a casino was safer than outside a hotel between 1am and 3am. Similarly, a Melbourne Safe City Survey found trams and cinemas less safe than the casino precinct in the city of Melbourne. These findings are based on the fact that casino precincts tend to attract an

²⁵⁹ Markland, (2001), op. cit., p. 15.

²⁶⁰ PC (1999), op. cit., p. 7.58.

²⁶¹ *ibid.*, p. 7.60.

²⁶² *ibid.*, p. 7.64.

²⁶³ *ibid.*, pp. 7.66-7.67.

²⁶⁴ *ibid.*, p. 7.67.

increase in police presence. However, both studies found that street crime does not disappear when a casino opens in a city, it merely shifts to other locations.

Productivity Commission findings in the area of gambling related street crime are only related to casino precincts. They indicate that:

- there is no evidence that per capita street crime increases around casinos;
- there is, in fact, no increase in crime rates of any kind in casino vicinities; and
- ‘there are unlikely to be major social costs, and may well be no social costs, associated with street crime attributable specifically to (legal) gambling venues.’²⁶⁵

Money Laundering

Money laundering is the process by which money is filtered through numerous transactions in order to disguise the illicit origins of the funds. The Roundtable on Gambling and Crime, hosted for the Productivity Commission by the Australian Institute of Criminology, found that money laundering was more difficult in Australia than in other countries because ‘there is a more tightly controlled regulatory framework’.²⁶⁶ However, the Productivity Commission acknowledges that hard evidence is scarce, making any definitive conclusion impossible.²⁶⁷

A more recent study by the AIGR, funded by the United Nations, has examined money laundering and regulations to prevent its occurrence in Australasian casinos.²⁶⁸ In particular, the study identified instances of money laundering at Star City Casino (Sydney). Issues and regulatory deficiencies exposed in this report were further investigated by an independent inquiry resulting in changes to casino regulatory structures and processes in NSW and to improved exchange of information between Australian jurisdictions.²⁶⁹

Organised Crime

While a lack of evidence or hard data on illegal gambling makes it difficult to draw concrete conclusions, regulations appear to have curtailed organised crime in Australia. State-run totalisator agencies appear to have reduced SP bookmaker numbers, while Principal Race Clubs control gambling at racecourses. Another key control is the regulation of casinos, gaming machine venues and numbers of machines within these venues.

However, it is notable that the regulation of gambling in Australia is ‘inconsistent and fragmented’.²⁷⁰ The nature and extent of regulation vary markedly between states and between different forms of gambling.²⁷¹ For example, gaming in New South Wales has been the subject of several Royal Commissions that have identified links with ‘organised crime’ and corruption of public officials. Most recently, an independent inquiry by the Independent Pricing and Regulatory Tribunal (IPART) into gaming in New South Wales in 1998 identified major regulatory problems in that state.²⁷² Significantly, and despite IPART recommendations, NSW has not adopted the licensing standards and probity investigations for gaming machine venues (clubs and hotels) that have been established in Queensland and Victoria.

²⁶⁵ *ibid.*, p. 10.7.

²⁶⁶ *ibid.*, p. 10.6.

²⁶⁷ *ibid.*, p. 10.9.

²⁶⁸ McMillen, J. & Woolley, R. (2000), ‘Money laundering in Australasian casinos’. Paper presented to the AIC 3rd Annual Gambling Regulation Conference.

²⁶⁹ NSW Casino Control Authority (2000) *Report on the Investigation Pursuant to section 31 of the NSW Casino Control Act 1992* (the McClellan Report).

²⁷⁰ PC (1999), *op. cit.*, p. 22.1.

²⁷¹ For a comparison of Australian regulatory systems see the confidential report: McMillen, J., Bellew, N., Martino, R. (2001), *Gambling Regulatory Regimes*. AIGR-UWS.

²⁷² IPART (1998), *op. cit.*

Moreover, while some studies have provided valid evidence of the impact of casinos on crime, there is little reliable data on the relationship between crime and machine gambling.

Significantly, there have been no studies or calculations of the costs of gambling related crime that might be caused by regulatory failure. ACIL, in its submission to the Productivity Commission on behalf of major gambling providers, stated that 'the worst crime in recent years has been associated with the unlawful administration and policing of gambling restrictions'.²⁷³ No evidence was provided to support this claim.

Queensland research

The AIGR's impact research into Brisbane and Cairns casinos revealed the following findings in relation to crime and social disruption:

- At both casinos, the casino operators and the Queensland Office of Gaming Regulation (QOGR) have instituted extensive measures to control casino crimes and disruptive patron behaviour. These have included the initial establishment of casino crime squads at each casino, the employment of on-site inspectors by QOGR and the employment and training of in-house security staff at each casino.
- Despite early fears, particularly in Cairns, that the casino would have a negative impact on crime levels, the great majority of residents of Brisbane and Cairns do not believe that the casinos have led to an increase in crime in their city.
- The number of patrons excluded from the casinos under section 92 of the *Casino Control Act* has been relatively small. At Treasury Casino, patron exclusions peaked in mid-1997 and have declined since then. At Reef Casino, the number of exclusions has been consistently low.
- Offences occurring at the two casinos and in the casino precincts largely reflect broad crime trends in the surrounding region. There are, however, three exceptions to this:
 - an increase in the number of property offences, especially stealing, at Treasury Casino;
 - an increase in casino-related crime at both casinos. Casino-related crime involves the use of a stolen credit card or other proceeds of crime to gamble at the casino; and
 - an increase in police calls for service in the vicinity of Treasury Casino.

The reasons behind these trends remain difficult to isolate. While the increase in particular crimes may be attributable to the casino, the number of offences reported can also be affected by surveillance methods and policing strategies. Further monitoring of trends would be necessary to draw any definitive conclusions about the relationship between the casinos and crime rates.

Victorian research

The most fruitful Victorian research on community crime impacts of gambling has been derived from the **University of Melbourne's** analysis of the Minimum Data Set, kept by Gamblers Help (formerly

²⁷³ ACIL submission (sub. 155, p. 112) quoted in PC (1999) op. cit., p. 10.10.

Break Even) services. When asked to nominate the source of funds used for gambling clients have cited household expenditure as the most common source of gambling funds; however, for problem gamblers, 'illegal actions' provide 10.5 per cent of gambling funds.²⁷⁴

Following are the limitations of these data for DIA's purposes:

- the Minimum Data Set is broad, reduced only to regional areas;
- the Minimum Data Set has fundamental design problems. In particular, evidence suggests that only a minority of problem gamblers seek help from Break Even services; and
- a disinclination for respondents to report illegal activities brings the validity of the data into question.

Summary: Crime

While the New Zealand DIA have found no significant evidence to directly link crime with gambling it should be noted that precise statistical data has not been available. However, analysts agree that gambling is indeed susceptible to crime, be it major crimes such as fraud and money laundering or less major crimes such as cheating and begging.

In Australia, the Productivity Commission argues that Australian legislation inhibits access to criminal behaviour. Nevertheless, the Commission's report indicates criminal activity amongst problem gamblers. The Commission also notes a parallel between increased gaming venues and increased pawnbroking and second-hand dealing. The most significant finding from the literature review is that there is a lack of data or evidence to inform valid assessment of levels of gambling related crime.

Local Community Impacts

New Zealand research

In their synopsis of 1995 public submissions on local community impacts of gambling **Connell Wagner** found public support for the funding of community and charity organisations from gambling although there was less agreement about whether the fund should be managed by a central government agency rather than rely on the generosity of gaming operators.²⁷⁵

DIA subsequently found that social benefits of gambling include:

- the provision of a safe enjoyable night out, especially for women in the case of 'housie';
- a significant fundraising tool for community organisations and groups, particularly Maori communities;

²⁷⁴ University of Melbourne (1999), *Analysis of Clients presenting to Problem Gambling Counselling Services, Report No. 4*. Report prepared for the Department of Human Services, p. 30.

²⁷⁵ Connell Wagner (1995), *op. cit.*, p. 39.

- social venues in rural communities, for example, race tracks; and entertainment in the form of casinos and gaming machines for social events; and
- a contribution to strong economic growth and strong communities, which in turn, encourage a cohesive society.²⁷⁶

Yet, to quote the DIA in 1995, '[t]he cultural sector is almost completely dependent on gambling profits even for basic operational costs'.²⁷⁷

In 1998 the AIGR specifically explored the community impacts of the New Zealand casino industry:

- Payment by casinos to charitable trusts and voluntary payments to community organisations were seen as a direct gross benefit to the whole community. This benefit must be balanced against the additional demand placed on service agencies by negative social and financial impacts of increased gambling. However, AIGR recommended further analysis to consider if the allocation of charitable trust funds were operating to the optimum enhancement of the public interest.²⁷⁸
- A review of press commentary on the two New Zealand casinos found that reporting on casinos was primarily negative, although the number and intensity of these negative reports differs between the two cities.
- In Auckland, media comments had emphasised the negative social and economic impacts of casino development, particularly problem gambling and industrial relations, with specific criticisms of Sky City operations. Representatives of the Maori community, problem gambling service providers, and unions provided the most frequent critical comments.²⁷⁹ To some extent this was balanced by positive reports of special events at the casino and of the role of casino management in community affairs.²⁸⁰
- In Christchurch, critical press coverage of the casino was less intense, with a more even balance on the positive role of the casino in community affairs. Problem gambling and industrial relations tended to dominate negative reports.²⁸¹
- It was clear that casinos had not received a 'good press' in New Zealand, which in itself is likely to affect community attitudes.

A community survey of public perceptions of the two established casinos, and of casino development generally, suggested that the New Zealand community had accepted casinos and was less concerned about them than was the case a decade ago.

In 1998 more respondents believed the casinos have had a positive economic impact, with Christchurch residents having a more positive viewpoint (52.1% compared with 39.4% in Auckland). The major reasons for perceiving a positive economic impact were employment opportunities and increased tourism to the region. A majority of people in both cities also believed that the casinos had increased local business and investment. These positive economic spin-offs were perceived to contribute to the overall level of community cohesion.

The main reason why some residents felt the casino has a negative economic impact is because of increased problem gambling (85.8% of Auckland respondents, 83.5% of Christchurch respondents). Auckland residents also were concerned with the increased costs for social welfare.

²⁷⁶ *ibid.*, p. 5.

²⁷⁷ *ibid.*

²⁷⁸ AIGR (1998), *op. cit.*, p. 29.

²⁷⁹ *ibid.*, p. 30.

²⁸⁰ *ibid.*

²⁸¹ *ibid.*

Respondents were divided about whether the casinos have a positive or negative social impact (37.2% positive, 36% negative). More Christchurch residents had a positive view of the casino's social impact (44.8% with positive views, 23.8% negative). Auckland residents had a more negative view of the casino's social impact (44.2% with negative views, 32.2% positive).

60.5% of Christchurch respondents believed that the casino has been a *positive development overall* for local residents, whereas 47.3% of Auckland respondents held a similar positive view.

In both cities a minority believed that the casinos had been a *negative development overall* for residents, although this view was stronger in Auckland (29.8%) than in Christchurch (15.3%). A sizable proportion of the cities' population was unable to make a judgement either way (18.1%).

Attitudes to the role of government in casino development were ambivalent. Overall, more respondents (39.1%) were unable to give an opinion about the following statement than agreed (26.6%) or disagreed (34.2%). More respondents in Auckland (38.5%) *disagreed* with the statement, while more respondents in Christchurch agreed (30.1%) that 'the government role in casino development is beneficial to the public interest.'²⁸²

Positive sentiment regarding the casinos focussed on increased business and investment, and on improved entertainment options. Negative sentiment regarding casinos focussed on problem gambling, strain on household finances and family disruption.

Three principal conclusions were drawn from consultation with community groups in this study:

- There was recognition that not all casinos are the same, and that impacts can differ from one casino to another. Factors which were identified as affecting these differences include the type and size of the casino, the various entertainment options they provide, the type of social environment they have created, the clientele which they attract, and the way they are managed. Management issues were frequently cited as critical factors in the mediation of casino impacts.²⁸³
- The experience of the Christchurch Casino, while not uniformly positive, provoked more favourable than negative comment. This response contrasted with Sky City, which drew criticism from many interviewees on a range of issues.
- Concerns about the negative impacts of gambling on individuals and families were directed as much to gaming machines in clubs and pubs, as to the casinos.

While the study identified widespread community concerns about the impact of casino gambling on families, women, Maori and other social groups, it was unable to locate reports or evidence which would establish reliably the nature or extent of those impacts. Community concern was expressed about the cultural and social impacts of casinos on particular social groups such as Maori, Pacific Islanders and Asian people in New Zealand. There is a need for more specific community research, family studies, and ethnographic studies to investigate the effects of casinos in these communities and to distinguish casino impacts from those of other forms of gambling. Investigation of these impacts requires a more sensitive and participatory research methodology than was possible in the AIGR casino study.

Overall, the benefits of new entertainment and gambling opportunities have been offset by an apparent increase in personal, family and financial problems associated with problem gambling. The Auckland and Christchurch communities have expressed an over-riding concern about the apparent increase in problem gambling and the marketing of gambling which was seen to prey on vulnerable groups. The perception and the reality of this complex social problem is adversely affecting public confidence and

²⁸² *ibid.*

²⁸³ *ibid.*, pp. 31-32.

the legitimacy of the two casinos, and is placing a heavy burden on the community and service organisations. The general view was that the overall social impacts were more negative than positive.

More recently, **Curtis** and **Wilson** state that government policy on gambling has:

... marginalised the positive aspects of gambling (returning profits to the communities from which they originated; providing a source of revenue for individuals who benefit from community gambling, for example, sports clubs) while doing little to minimise the undesirable aspects such as problem gambling.²⁸⁴

Curtis and Wilson believe that communities are distressed by the rapid growth of the gaming industry. This is explained by the increases in addiction and poverty that accompany gaming industry growth. Moreover, Curtis and Wilson claim taxes gained from the gaming industry are not re-invested to deal with problem gambling, and communities are excluded from the decision-making process.²⁸⁵

They also argue that communities receive relatively little of the profits generated through gaming since most of the profits leave the community.

Curtis and Wilson argue that changes in state policy are destroying those forms of gambling that are of benefit to the community. They advocate an easing of restrictions on gaming forms such as 'housie', clubs, rural race-tracks and Kiwi-based gaming to ensure that communities receive a 'fair share of the gambling pie'.²⁸⁶

From a different perspective, **Raeburn** argues that gambling can have major impacts on the health and general wellbeing of people and their communities.²⁸⁷ Moreover, in an argument similar to Curtis and Wilson, Raeburn states that there is little net financial or employment gain to communities resultant from the gambling industry.²⁸⁸

Raeburn has provided a twelve stage community-based strategy to re-empower communities affected by gambling which will be discussed further later in this report. Overall Raeburn promotes a public health approach to gambling-related social impacts.²⁸⁹

Markland, in his forthcoming book chapter *Gaming Policy in New Zealand*, writes that while 90% of people are in support of community organisations using gaming as a means to raise funds for charitable causes less than 5% actually state that they gamble purely for this reason.²⁹⁰ Markland also notes that it is becoming increasingly difficult to use gaming as a means to raise funds for community groups.²⁹¹ Moreover, the distribution of gaming profits is not being adequately managed and monitored and thus is a source of concern for communities.²⁹²

Australian national research

To investigate the perceived benefits of gambling, participants in the **Productivity Commission's** *National Gambling Survey* were asked whether they agreed or disagreed with the statement 'gambling

²⁸⁴ Curtis, B. & Wilson, T.C. (2001), 'Gambling with Communities' forthcoming in Curtis, op. cit., p. 1.

²⁸⁵ *ibid.*, p. 17.

²⁸⁶ *ibid.*, p. 18.

²⁸⁷ Raeburn, J. (2001), 'Towards Healthy Gambling: A Health Promotion Approach To Gambling In New Zealand'. Paper presented at the Gambling: Social And Economic Sustainability Conference, Wellington, March 2001, p. 1.

²⁸⁸ *ibid.*, p. 2.

²⁸⁹ *ibid.*, p. 8.

²⁹⁰ Markland (2001), op. cit., p. 13.

²⁹¹ *ibid.*

²⁹² *ibid.*, p. 14.

does more good than harm for the community'. The survey found that 70% of Australians (including a substantial number of regular gamblers) thought that gambling is harmful overall.²⁹³

These findings indicate widespread general concern within the Australian community about the social impacts of gambling. However, there are several shortcomings in this aspect of the Productivity Commission's research:

- data are reported by the Commission only at the state and national level. Local residents' views within specific areas are not analysed; and
- this single national survey (conducted in 1999) can only indicate public attitudes at a particular point in time, giving no indication of attitudinal change within the community.

It should also be noted that while the Productivity Commission's National survey showed that Australians in general have negative perceptions of the gambling industry, some surveys have also shown that people 'may incur adverse psychological costs' should gambling be curtailed.²⁹⁴

The Productivity Commission received evidence from the public on the negative impacts of gambling on community life in the form of submissions and statements at public hearings by local authorities, individual citizens and church groups. Many submissions contended that gambling has had a harmful effect on communities:

[it has] changed the nature of entertainment and recreation for the worse, and to have undermined norms of ethical behaviour that are vital for the functioning and wellbeing of our society – in effect, gambling was seen as unravelling the social fabric.²⁹⁵

For example, the Interchurch Gambling Taskforce, Victoria, argued that gambling activities jeopardised communities by contributing to: financial difficulties due to a drain on community resources; increased social security dependence; greater stress on charitable and welfare services; and increased criminal activity (especially white collar crime).²⁹⁶ On the other hand, some submissions suggested that gaming machines and gambling venues added to the sources of available entertainment and that the increased leisure choices open to consumers could enhance community life.²⁹⁷

Complementing the national survey, submissions to the Productivity Commission from local governments provided a rich source of local quantitative and qualitative data and knowledge including research on local public housing, retail and business trends. The Productivity Commission noted that

Councils are in a key position to monitor [gaming machine] effects both through formal research methods and also through anecdotal evidence gathered through community networks and contacts. Local councils are often a 'barometer' of social problem growth.²⁹⁸

Local community services and businesses provided qualitative reports, many highlighting the need for future regionally or locally based research. The City of Greater Dandenong, for instance, emphasised the usefulness of further comparative and longitudinal studies incorporating both quantitative and qualitative analysis.²⁹⁹ Similarly, the City of Maribyrnong made the case for research concerning local experiences of socio-economic disadvantage, gaming machine density, and micro-studies on the connections between gaming machines and local economic activity.³⁰⁰

²⁹³ *ibid.*, p. 10.24.

²⁹⁴ *ibid.*, p. 10.28.

²⁹⁵ PC (1999), *op. cit.*, pp. 10.12.

²⁹⁶ Interchurch Gambling Taskforce (1998), Submission 165 to the Productivity Commission, pp. 18-20.

²⁹⁷ PC (1999), *op. cit.*, pp. 10.11-10.22.

²⁹⁸ *ibid.*, p. 22.31

²⁹⁹ City of Greater Dandenong (1998), Submission 82 to the Productivity Commission, p. 6.

³⁰⁰ City of Maribyrnong (1998), Submission 39 to the Productivity Commission, pp. 1-2.

To build upon the valuable local knowledge being contributed in the submissions to the Productivity Commission, round-table public discussions were held in Port Augusta and Goulburn. Contributors included hoteliers and club officials, government and private welfare workers and gambling counsellors, police, local councillors, community group representatives and retail sector employees.³⁰¹ Some of the general themes that emerged from the discussions suggested a mix of benefits and costs:

- a rise in gambling expenditure;
- new avenues for social interaction;
- diversion of consumer spending away from local retailers; and
- an increasing incidence of severe gambling problems was contributing to a variety of social problems and individual difficulties.

The Commission also considered VCGA (Victorian Casino and Gaming Authority) research, clearly indicating the usefulness of public opinion at the local level and the complementary value of qualitative evidence when combined with other data sources.³⁰² The Commission explained the rationale behind their sensitivity to local input thus:

Councils are close to the local community, and it is at the local level that most social impacts are concentrated. Councils may have a better perspective on the impacts of gambling on families, households and community life than state government agencies.³⁰³

A key cause for concern among local government submissions to the Commission centred on the apparent concentration of gaming machines in socio-economically disadvantaged communities and the subsequent effects on community life in these municipalities. Victorian local governments have employed a variety of data sources and a specifically commissioned economic impact model to substantiate their argument.³⁰⁴ Quantitative material was derived from: local business statistics; official unemployment rates; percentages of low income earners; the Socio Economic Index For Areas (SEIFA) developed by the ABS; and VCGA data on machine numbers.

The Productivity Commission argues, from evidence indicating a higher density of gaming machines in low socio-economic areas, that problem gambling is more likely to occur in these communities. However, the report goes on to state there is 'little evidence to suggest that the extent of problem gambling as a proportion of the population is significantly different in different regions within particular states or territories...'³⁰⁵

More recent Victorian and NSW data also indicates that consumers in low-income areas prefer gaming machines to other forms of gambling. The convenience and the friendly, non-discriminatory atmosphere of gaming machine venues are cited as major factors in the appeal of machine gambling by people from low socio-economic areas. However, while hard evidence does show a higher density of gaming machines in lower socio-economic areas, some critics of government policy argue that 'global caps' on machines means that operators will often place them in the areas of highest demand.³⁰⁶

NSW research

³⁰¹ PC (1999), op. cit., p. 10.49.

³⁰² Hames Sharley (1997), op. cit.

³⁰³ PC (1999), op. cit., p. 22.31.

³⁰⁴ Doughney & Kelleher (1999), op. cit.

³⁰⁵ *ibid.*

³⁰⁶ PC (1999), op. cit., p. 10.41-43.

Using layered statistical mapping, the **AIGR** has conducted a comparative analysis of the pattern of machine gaming in Sydney clubs and the social characteristics of each locality.³⁰⁷ For each statistical sub-division (SSD) over the period 1994/95 to 1998/99, the analysis compared:

- patterns of gaming machine distribution, based on data compiled by the Department of Gaming and Racing;
- expenditure on gaming machines, based on data compiled by the Department of Gaming and Racing;
- taxation levels per adult from gaming machines;
- weekly median income levels, derived from ABS data; and
- the ABS measure of socio-economic disadvantage (Index of Socio-Economic Disadvantage – ISED).

The outcome was a series of comparative maps that identified Sydney localities that could be considered ‘at risk’ of social problems associated with gaming machines.

For example, the Liverpool-Fairfield-Bankstown community has high levels of gaming machine expenditures in aggregate and on an adult per capita basis, yet records the highest level of socio-economic disadvantage and lowest median income. The negative relationship between gaming machine losses per adult and low median income increased in these areas during the period of the AIGR study (1994/95-98/99). Fairfield-Liverpool-Bankstown local area thus has a relatively high ‘risk’ of adverse socio-economic impacts associated with gaming machines.

The pattern of gaming machine growth in this vulnerable community was also considered when assessing potential impacts of additional gambling. Importantly, Fairfield-Liverpool-Bankstown area has a relatively high concentration of gaming machines per 10,000 adults. Canterbury-Bankstown SSD also has a relatively high concentration of machines (178 gaming machines per 10,000 adult residents in 1998/99). This increase reflects an unusually rapid rate of growth in the number of gaming machines, significantly above the normal rate of growth for Sydney clubs.

The potential for adverse social impacts of gaming in the Fairfield-Liverpool-Bankstown area, including relatively high density and a rapid rate of growth of gaming machines, must be considered in the context of a community that has long experienced social disadvantage, welfare problems and cultural diversity.

Queensland research

The **AIGR**’s impact study of the Brisbane and Cairns casinos noted the following findings in relation to their effects on community life, particularly recreational and leisure patterns. Throughout the study period:

- despite the opening of the casinos, the most popular leisure activity of Brisbane and Cairns residents was going to a restaurant for a meal;
- raffle tickets remained the most popular form of gambling;
- Reef Casino consistently attracted a high proportion of Cairns residents to the casino, with the majority of these revisiting the casino. A lower proportion of Brisbane residents visited Treasury Casino. However, in both cities, the casino was seen as contributing to the social life of the city; and

³⁰⁷ Tremayne, K. (2000) op. cit.

- In both cities, residents remained fairly evenly divided as to the impact of the casinos on the character of their city. In each city the casino was seen as having had a positive impact by providing an additional venue for socialising. However, in Brisbane in particular, there were increasing concerns about the possible social costs of increased gambling.³⁰⁸

Summary: Local Community Impacts

Various New Zealand studies that have examined perceptions of gambling impacts at the local level have found ambivalent attitudes. On one hand, gambling is seen in positive light as a source of much-needed funding for community groups. The potential for casinos to generate economic development and employment in the local community is also seen as a benefit. On the other hand, the potential for problem gambling is perceived as a serious negative community impact. The general view has been that the overall social impacts were more negative than positive.

Much more extensive research is required in the study of social and economic impacts upon local communities in New Zealand before accurate findings can be discussed.

The Productivity Commission's study in Australia did not examine gambling impacts at the local community level. The most significant finding in the Productivity Commission report, however, does have an important message for studies of local communities. Respondents, when asked whether they thought gambling did more harm than good for the community, overwhelmingly replied that they thought it did.

Since that report a number of research initiatives in Victoria and New South Wales have conducted comparative studies of the impacts of gaming machines at local area level that have shown significant inequalities between communities. In both states, layered statistical mapping has shown that gaming machine gaming impacts more severely and negatively on already disadvantaged communities.

Employment

New Zealand research

On employment and gaming in New Zealand, **Connell Wagner Ltd** found that all submissions to the 1995 Review of Gaming that mentioned employment supported the idea that gambling promoted employment opportunities.³⁰⁹

Some of the comments in regard to employment included the nature of gaming is employment oriented, gaming has secondary employment flow on effects and the gaming industry can provide skills, training and career options.³¹⁰

On gaming's contribution to employment the **DIA** states, in *The Social Impact of Gaming in New Zealand: A Report Prepared for the 1995 Review of Gaming*, that the significant gains in employment

³⁰⁸ AIGR (1998), op. cit.

³⁰⁹ Connell Wagner (1995), op. cit., p. 14.

³¹⁰ *ibid.*, pp. 14 -15.

opportunities resultant from gaming has a subsequent positive social impact.³¹¹ Note that this finding contrasts with the findings of the Australian Productivity Commission (discussed below) who found that employment impacts from gambling were marginal if the issue of displaced jobs was taken into account.

On the gaming industry and employment the AIGR found, in *Study of the Social and Economic Impacts of New Zealand Casinos*, that:

- The New Zealand casinos have created numerous jobs for local residents.
- The Christchurch Casino appears to have exceeded its employment predictions in some respects. For example, the casino has created 524.2 FTE jobs (July 1997), a significant increase on the 350 FTE jobs which were predicted, and appears to be sustaining this employment level.
- Christchurch Casino employs significantly more female (55.8%) than male (44.2%) staff. Women are in the majority in the gaming department (in particular, in table gaming, Keno and cashier positions) and in the Food and Beverage area. Men make up the majority of administration staff and dominate security positions.
- Locals are reported to comprise 90% of the Christchurch casino workforce. Senior managers and experienced gaming staff were recruited from overseas, as the necessary skills were not available locally.
- 83% of the Christchurch casino workforce have full-time jobs. Christchurch Casino does not employ casual staff.
- Higher proportions of seasonal and part-time staff work in Food and Beverage facilities than on the gaming floor.
- Sky City has a total of 2493 employees.
- Of these, 1651 have full-time jobs, 306 have part-time jobs and 536 are casual workers.
- Sky City has 1172 female staff (47%) and 1326 male staff (53%).
- No data on ethnicity and the casino workforce were made available.
- No data on the demographics of workers in various types of casino jobs were made available.³¹²
- The training programs implemented by Christchurch Casino and Sky City appear to fulfil their predictions. However, no data was available on recruitment practices, the quality and effectiveness of training programs, or equity issues for Maori and other ethnic groups.
- Salaries of workers at Christchurch casino appear to have parity with other workers in the service sector; no data on salaries were available for Sky City. However, it was reported that some gaming staff have left New Zealand casinos for higher paid jobs in Australia.
- Both casinos reported high levels of staff turnover in some job categories, particularly in Table Gaming and Food and Beverage. More information and analysis is required to assess whether this turnover is due to job dissatisfaction, or

³¹¹ DIA (1995), op. cit., p. 76.

³¹² AIGR (1998), op. cit., pp. 39-40.

to workers with portable skills seeking promotion and new opportunities elsewhere.

- Both casinos had experienced industrial problems and have been criticised by workers and the Service Workers' Union for lack of conciliation. More highly publicised, and seemingly more serious, industrial disputes have occurred at Sky City. For gaming and hospitality staff at the two casinos, disputes revolve around issues of flexibility across shifts, provision of meals, and appraisals with respect to individual performance. The effects of each casino's human resource management practices require further examination.
- Employment at both casinos provided a large number of jobs locally, and additional jobs regionally and nationally. The impact of this gross job creation depends on the extent of displaced employment and the long-term sustainability of casino jobs. These issues of net impacts could not be calculated for the study.³¹³

Australian national research

Similar to other studies on the employment consequences of gambling, the **Productivity Commission** found that problem gamblers experienced moderate impacts on their work performance and relationships.³¹⁴ The main problems concerned levels of concentration, work quality, time spent working, and levels of cooperation and trust with colleagues. Job changes or loss due to gambling were considerably more frequent among problem gamblers in counselling at around 20% of those surveyed.³¹⁵

In terms of employment benefits, the Productivity Commission was sceptical of many of the industry claims of the positive impact of gambling on employment. Rather, the Commission found that many of the employment benefits from gambling were 'illusory'. The Productivity Commission's inquiry into Australian gambling suggested that:

... the net gain in employment and activity from the (policy induced) expansion of the gambling industries are small at the aggregate level when account is taken of the impact on other industries that lose the consumers' dollar to gambling.³¹⁶

The methodology adopted by the Productivity Commission report was itself challenged by NIEIR in a recently published VCGA report.³¹⁷ In this report NIEIR replied that the Productivity Commission only took into account the resource-allocation effect (the movement of resources from one sector to another as a result of gambling) and did not take into account that up until 1995-96 Victoria's level of unemployed resources meant that new gaming expenditures had a resource expansion effect on the Victorian economy. However, this is a criticism that applies validly only to the general equilibrium economic model employed by ECONTECH for the Productivity Commission. The essential issue here is not resource availability but *displaced spending*. This enters into the model as a parameter based on its wide ranging assessment of the economic and social data presented to it. On this ground the NIEIR position is weak.

The aggregate methodologies used by the Productivity Commission and by NIEIR highlight the importance of accounting for the current economic situation within a region. This is especially important in data related to local area impacts of gambling where there may be a significant difference in the level of unemployed resources. Resource availability is an important issue in the local and

³¹³ AIGR (1998), op. cit., pp. 40-41.

³¹⁴ PC (1999), op. cit., pp. 7.37-7.39.

³¹⁵ *ibid.*, p. 7.39.

³¹⁶ *ibid.*, p. 5.36.

³¹⁷ NIEIR (2000), op. cit.

regional context because employees may be drawn from outside the region if the region has relatively low unemployment and/or a skill deficit.

Queensland research

The AIGR's impact assessment research into Brisbane and Cairns casinos revealed the following findings in relation to employment and industrial relations matters:

- The construction of Treasury and Reef Casino complexes did not fulfil employment expectations. 600 people were employed on the Brisbane site while 230 people were employed on the Cairns site.
- A conservative estimate of the increase in overall regional employment during the construction phase of Treasury and Reef Casino complexes was 1009 and 345 full-time equivalent jobs (FTEs) respectively, inclusive of direct construction site employment. We believe that these conservative estimates are overstated because, on the basis of available data, it was not possible to distinguish between employment status, the origin of the employment, the displaced employment or the alternative uses of the employment if casino construction had not occurred.
- Both casinos made a concerted effort to employ staff from the local region, and the long term unemployed. However, Treasury Casino has maintained a relatively stable employment level compared to Reef Casino whose employment fell from 515 in January 1996 to 335 in December 1998.
- In the period of the study (1996-98), the general trend towards decasualisation of the Treasury workforce was evident, which was a reflection of the wider Australian casino context. On the other hand, Reef Casino significantly increased the casualisation of its workforce at the expense of a fall in the number of permanent full-time workers employed over this period. Both casinos illustrated a trend to a more part-time-permanent workforce.
- A conservative estimate of the increase in regional employment during the operational phase of Reef Casino complex was 441 FTEs (inclusive of direct employment at the casino). Furthermore, the impact of the operation of Australis Hotel in the Reef Casino complex was conservatively estimated to increase employment by 327 FTEs. As noted above, however, these estimates are likely to be overstated. Similar calculations for the impact of the operation of Treasury Casino on regional employment could not be provided because of an absence of data.
- Staff surveys conducted at each casino in 1998 show that most employees of the two casinos view their jobs as providing a long-term career option. They were generally satisfied with the initial training provided to them, although the majority had received no further training.
- Overall, surveyed casino staff believed that casino employment had had either a positive or neutral impact on their lifestyles. Some concerns were raised, however, about the impacts of shiftwork.
- Respondents who worked at Treasury Casino had higher expectations of continued employment and residence in the area compared to Reef Casino employees. However, this result could be due to sample differences, with a higher

proportion of management-level staff responding to the survey at Treasury Casino.

- Only a minority of respondents at each casino was satisfied with the current enterprise bargaining agreement, but the proportion of staff who were dissatisfied was higher at Reef Casino than at Treasury Casino. There was also a slightly higher level of dissatisfaction with union representation at Reef Casino compared with Treasury Casino.

Summary: Employment

The literature reviewed above reveals many contradictory findings in the assessment of the impact levels of gaming on employment. In Australia the Productivity Commission found that employment benefits from gaming are illusory, whereas the New Zealand Department of Internal Affairs states that significant gains in employment opportunities resultant from gaming has a subsequent positive social impact.

Studies conducted in Brisbane and Cairns concluded that the construction of casino complexes did not fulfil employment expectations. In Victoria NIEIR estimated that the total direct employment in the Victorian gambling industry in 1996 was 11,564 people. The common perception in New Zealand is that gaming promotes employment opportunities. The AIGR studies on casinos in New Zealand found that numerous jobs were created with around 90% of employees comprising local residents. However, the impact of this gross job creation depends on the extent of displaced employment and the long-term sustainability of casino jobs. These issues of net impacts were unable to be calculated in the AIGR's study.

Tourism

New Zealand research

In reference to gaming's influence on tourism, **Connell Wagner's** synopsis of submissions to the 1995 review of gaming found that most submissions were in support of the belief that gaming would benefit tourism.³¹⁸ Common asserted views were that gaming is tourist oriented, attracts foreign exchange, gaming through tourism has wider economic benefits to the community, and there are no adverse affects to other tourism sectors.³¹⁹

In relation to the impacts of gambling on New Zealand tourism the **AIGR's** casino impact study found:

- New Zealand casinos have contributed to the promotion of tourism in Christchurch and Auckland and to New Zealand in general, primarily through destination enhancement (widening the product base, image enhancement, increased marketing efforts).
- However, the core of the casinos' markets is constituted by local demand, supplemented by regional residents and domestic travellers. Thus the core prediction of considerable export earnings generated by a significant increase in tourism has not eventuated to the extent anticipated.

³¹⁸ Connell Wagner (1995), op. cit., p. 15.

³¹⁹ *ibid.*

- There are a relatively small number of tourists for whom a casino visit is the sole or dominant reason for visiting New Zealand, Auckland or Christchurch.
- More commonly, tourists (domestic and international) visit a casino for a few hours in the evening as part of a more general city visit. While the effects of individual visits may be small, cumulatively the impact could be significant.
- Less than 20% of international visitors to New Zealand visit a casino; these visitors make on average 1.4 visits. Casino visitors have a marginally higher expenditure per visit and longer lengths of stay than other international tourists; however they spend less on a daily basis.
- Casinos may affect the choice of a hotel or a restaurant for city visitors, but appear to have had little impact on the choice of destination, itinerary or lengths of stay.
- Casinos may have created additional competition for local businesses in Christchurch and Auckland, but this study has not been able to determine the extent of any trade diversion.
- The absence of reliable data prevented this study from an adequate assessment of tourist attitudes to New Zealand casinos, or of additional tourist expenditure and the beneficiaries of increased tourist expenditure. Analysis of these impacts would require periodic casino patron surveys and detailed information on tourist spending patterns, neither of which is available in New Zealand.³²⁰

Australian national research

Though the **Productivity Commission** did not undertake any primary research into the relationship between tourism and gambling, they did receive a range of relevant submissions. From these contributions they determined that gambling liberalisation enabled

Australia to offer new or better tourist packages for overseas visitors and, to the extent that this generates additional tourist spending, there is likely to be benefits for the economy as a whole. ... The provision of gambling locally is likely to reduce the number of local residents travelling overseas to gamble, although the extent of this is unknown.³²¹

Queensland research

The **AIGR**'s impact study of Brisbane and Cairns casinos revealed the following findings in relation to tourism:

- Treasury and Reef casinos, like other Australian casinos, were intended to be part of the competitive tourism package of their city or region.
- Quantifying the casino impacts on tourism in the two regions is problematic. In part, this is due to the difficulty of disentangling the specific casino impacts from other internal and external factors.
- Per capita tourist (intrastate, interstate and international) gambling expenditure in regions with casinos has been generally higher than regions without casinos. But there is insufficient evidence to suggest that casinos are a significant contributing

³²⁰ AIGR (1998), op. cit., pp. 41-42.

³²¹ PC (1999), op. cit., p. 5.35.

factor to higher tourist spending. It is more likely that casinos have been placed in the most popular tourist centres and thus themselves benefit from tourism.

- Across the period of the study, the majority of respondents in Brisbane and Cairns maintained the view that the local casino had not damaged the tourism image of their city. In 1996 there were no significant differences on this issue between respondents in Brisbane and Cairns. However, by 1998 Cairns respondents were significantly more likely to agree that the casino had damaged the tourism image of the city compared with Brisbane respondents.
- Treasury Casino made no public predictions about casino patronage. However, actual data suggests that Treasury Casino has relied heavily on the patronage and expenditure of local gamblers.
- Reef Casino initially predicted a greater number of international and domestic (non local) visitors to the casino compared with actual visitors over the period 1996 to the end of 1998. In reality, the number of visits by local residents (Cairns LGA) to Reef Casino was higher than predicted in the period 1996-1998.
- International tourist gambling expenditure is relatively more important to the FNQ economy than to the Brisbane regional economy.
- International visitors make up a greater proportion of casino patronage in Reef Casino than in Treasury Casino. Surveys prior to the Asian crisis indicate that interstate and international visitors made up 20% of Treasury Casino's total patronage. In 1999, interstate and international patrons had fallen to 11%, consisting of 7% interstate and 4% international visitors. International patrons to Reef Casino made up between 27% and 28% of total casino patronage during the period of study.
- Visitors from different countries have different propensities for visiting Reef Casino. For example, Chinese visitors (as a proportion of Chinese visitors to Queensland) were more likely to visit Reef Casino than any other country of origin surveyed in 1996. More recent data on the impacts of the Asian crisis in mid 1997 on the propensity of international tourists to visit Reef Casino have not been made available.
- Japanese visitors made up 42% of international visitors to Reef Casino in 1996. The Asian economic crisis reduced the number of Japanese patrons (as a proportion of international patrons to Reef Casino) over the period of study.
- No data was available to this Report to permit assessment of the composition of international patronage to Treasury Casino.
- The Asian economic crisis reduced the number of Asian premium players (although not necessarily the gambling volume) to Treasury Casino. For Reef Casino, the withdrawal of the ANZ stand-by facility (in January 1997) hampered the casino's capacity for risk management against high rollers and effectively stopped Reef Casinos from competing in the junket and premium markets.
- The impacts of the casino-hotels on the wider hotel market of Brisbane and Cairns have shown a negative correlation in occupancy rates in 1996-98. However, the unstable economic climate of the period made it difficult to identify impacts with certainty.

- It was predicted that there would be an intrinsic synergy between the casinos in Brisbane and Cairns and the convention centres in each city to attract tourists but that synergy was not exploited by either casino.

Victorian research

Studies commissioned by the VCGA have examined closely the travel patterns of residents using Census data. However there are a number of problems in using Census data. For example:

- Census data collection is only once every five years, and since there is a significant lag from Census data collection, information is somewhat dated by the time it becomes available to the public; and
- there is no specific data relevant to travel patterns or venue selection of gamblers.

Annual reports in Victoria from 1995 to 1999 have explored the travel patterns of machine gamblers. These studies took state-wide data on community gambling patterns and perceptions. The question 'How far did you travel to get to this venue?' was asked. Overall, 71-80% of machine gamblers surveyed travelled less than 10kms to a venue (not a casino) to play. In the 1999 survey those people most likely to travel 20km to play gaming machines were broken down thus: 26% - disinterested gamblers; 26% - occasional gamblers; 25% - those living in country areas; and 21% - female gamblers.³²² These studies found that the vast majority of machine players travel to gaming venues within a 5-10km radius of their home. A more recent KPMG study of gambling impacts in six Victorian regions found that on average people travel 2.5kms to visit a gaming venue.³²³

Methodological constraints in these survey data limit their validity and reliability for local area analysis for the following reasons:

- the survey questions the respondents travel pattern for the last visit to a gaming machine venue. This does not necessarily offer a reliable measure of the gambler's regular or long term travel patterns;
- as the survey data are collected on a state-wide basis, it can not take the diverse range of social and economic characteristics into account which may affect both leisure and travel patterns in the region as well as the level of tourism that the region may attract; and
- uniform distance categories (5-10km) across the whole state are inherently misleading. If considering this on a local council area basis, regional gamblers over 10kms from their home may well still be within their local council area, while suburban gamblers may travel less than 10kms and leave their local council area.

³²² Market Solutions and The Australian Institute for Gambling Research (1997), *Fifth Community Gambling Pattern Survey Combined with Second Positive and Negative Perceptions of Gambling Survey*, a report prepared for the Victorian Casino and Gaming Authority, p. 137; Roy Morgan Research (1999), *Sixth Survey of Community Gambling Patterns and Perceptions*, a report prepared for the Victorian Casino and Gaming Authority, pp. 138-139; Roy Morgan Research (2000), *Seventh Survey of Community Gambling Patterns and Perceptions*, a report prepared for the Victorian Casino and Gaming Authority, pp. 144-145.

³²³ KPMG (2000), op. cit.

The aforementioned **KPMG Consulting** study is the most recent study of Victorian gamblers' travel patterns. It asked similar questions to those posed in the state-wide studies, with the added exception of a question regarding whether or not the gambler was travelling to or from work.³²⁴

Based on all Victorian regions, statistical analyses were performed regarding tourism. This involved 'net gaming expenditure per adult' (as provided by VCGA expenditure data and ABS and Victorian Department of Infrastructure data) which is a dependant variable, and explanatory variables that included data from the ABS Survey of Tourist accommodation.³²⁵ This tourism data included:

- employment in the hotel industry;
- bed spaces;
- bed occupancy rates;
- room occupancy rates;
- guest arrivals; and
- takings from accommodation including advance payments.

Econometric regression figures show that for every \$1 increase in accommodation revenue there was a 3¢ increase in gaming expenditure. Figures did not indicate an increase in tourism revenue based on bed occupancy rates, accommodation revenue or levels of accommodation industry employment. This finding parallels the KPMG community surveys which found that the average machine gambler only travels 2.5km from home.

These studies highlight:

- important data gauging the distance travelled to a gaming venue can be obtained from community surveys; and
- statistical analyses can be problematic at the local level. The panel regressions, despite involving Local Government Area statistics, provide *estimates* based on characteristics/indicators of all Local Government Areas in the state. Actual figures of the impact of gaming on any particular Local Government Area are not provided;
- it is important to establish the scope of impact of the spatial boundaries of the 'catchment area' of gaming venues; and
- travel studies have considerable implications for studies of gaming impacts, despite the indicative rather than conclusive nature.

An **AIGR** report, commissioned by the VCGA, argues that *no direct tourism benefit* has ensued from the 1992 liberalisation of gaming in Victoria.³²⁶ Instead, the tourism impacts of the introduction of gaming machines have occurred indirectly: by shifting spending patterns within the state (eg regional tourists travelling into Melbourne or to a major regional centre to gamble) and by reducing the leakage of gambling/tourism expenditure from Victoria to New South Wales or South Australia.

Secondary data sources utilised by the AIGR included:

- the International Visitor Survey (IVS). Conducted annually by the Bureau of Tourism Research, the survey interviews approximately 20,000 short-term visitors

³²⁴ *ibid.*, pp. 57-60.

³²⁵ An alternative data source could have been the annual survey by the Bureau of Tourism Research; however this was not available at the LGA level of analysis.

³²⁶ AIGR (2000), *op. cit.*

awaiting departure at Australia's major airports. It is difficult to isolate what expenditure and activities occur at a state level from this resource;

- the Domestic Tourism Monitor (DTM). Approximately 64,000 people were interviewed face to face each year across Australia for this survey which has been replaced by the National Visitor Survey (NVS). The NVS uses a different sampling and interviewing methodology. It also approaches an increased sample size to of around 80,000 respondents per year via the telephone;
- the Victorian Regional Travel and Tourism Survey. This was a one-off survey conducted in 1995 to overcome the perceived problems of the DTM. Surveys were distributed to households and commercial establishments (hotels, motels, guest houses, bed and breakfasts, caravan parks and hostels). As a one-off, this survey provides only a snapshot. The information in this survey is broken down into regions; and
- RMIT's Department of Hospitality, Tourism and Leisure has conducted visitor surveys for the Shire of Campaspe since 1997 and for the city of Greater Shepparton since early 1999. Survey samples are 1,000 to 1,500 respondents via personal interviews and self-completed questionnaires.³²⁷ Surveys conducted in the border Echuca-Moama region of visitors to the area indicated that 17 per cent of the oral survey respondents and 53 per cent of the questionnaire respondents had visited a gaming venue during their stay. Between 13 and 17 per cent of respondents in the two Shepparton surveys indicated that they had visited gaming venues. These figures, while lower than the Echuca-Moama figures, still represent significant visitor/gaming involvement.

The AIGR also conducted interviews and surveys with Country Victorian Tourism Council members. As the location of major cultural and leisure events, Melbourne was included in the sample regions, while Ballarat and Echuca were chosen because of their large stable populations and because they are tourism areas. However, methodological constraints of AIGR's study include:

- the snapshot nature of impressions and a broad summary of the perceived cumulative impacts;
- the trend analysis of aggregate indicators can be plotted and compared, but it is of limited use in assigning causality (ie the effect of gaming machines in generating tourism or changing tourism patterns); and
- the inherent imprecision of tourism impacts and tourism data for local area analysis.

Summary: Tourism

From the literature reviewed above we can see that while the Productivity Commission stated that 'gambling liberalisation enable Australia to offer new or better tourist packages,' research conducted in Australia and New Zealand indicates that the impacts on tourism are difficult to detect and demonstrate.

The AIGR noted that in Queensland the gambling expenditure is generally higher in regions with casinos. However this is most likely due to their location in existing popular tourist centres. Moreover,

³²⁷ *ibid.*, p. 148.

the AIGR found that the majority of casino expenditure comes from locals. Research conducted on New Zealand casinos returned similar findings with less than 20% of international tourists visiting a casino.

The KPMG study of gambling impacts in six Victorian regions found that on average people travel only 2.5km to visit a gaming venue. However, the survey examined only the respondents' travelling patterns for their last visit and thus did not determine regular travelling patterns. Distance categories can also be misleading; regional gamblers who travel over 10km to reach a venue may still be within their local council area.

General trend analyses can be plotted and compared but is of limited use in ascertaining the effects of gaming in generating tourism. In New Zealand, the AIGR found that an absence of reliable data prevented the casinos study from adequate assessments of tourist attitudes, expenditure and the beneficiaries of such expenditure.

Overall, analysis of these impacts would require periodic patron surveys at a regional level and detailed information on tourist travel and spending patterns.

Environment

New Zealand research

The AIGR casino study of 1998 included an examination of the environmental impacts of casino development in New Zealand, based on the development of Christchurch Casino and Sky City Casino. The methodology used for this section combined:

- a review of relevant Council documents and media reports;
- interviews with residents, businesses, social agencies, service providers and the police;
- observation and measurement of land use and traffic flows in the casino precincts; and
- mail-out surveys to CBD businesses in Christchurch and Auckland, giving businesses an extra opportunity to confidentially raise their concerns or comments regarding traffic and urban impacts.

Findings indicate that in both cases, previous to construction, the casino sites were run-down and in need of rejuvenation. The developments, as such, have benefited not just their local areas but the cities in which they are located as well. Lengthy disruptions were experienced during the construction periods (in the case of Sky City Casino this continued for more than two years). Nevertheless, in both cases, urban infrastructure and transport have been improved considerably. Christchurch Casino paid a development levy of NZ\$33 918 to the Christchurch City Council which was used for urban infrastructure and Sky City Casino funded the development of a bus terminal and car park in the casino's vicinity.

Overall, there have been both negative and positive impacts on the environment from these developments. Both casinos have added pressures due to increased traffic and pedestrian numbers, but have also contributed in the form of improved road designs and improved public transport. Auckland Casino has also improved local parking facilities, however, parking at Sky City Casino remains a problem, causing negative impacts to residents and local businesses.

Australian national research

The Productivity Commission did not examine the impacts of gambling on urban development, the environment or planning.

Queensland research

Based on its study of casino impacts in Brisbane and Cairns, the **AIGR** found that:

- Environmental impact studies prior to future casino construction would facilitate subsequent environmental audits;
- The impact of both casinos from the environmental viewpoint has been positive in terms of urban renewal and city beautification and the creation of parkland;
- In terms of heritage outcomes, Jupiters Limited has preserved and refurbished the old Treasury Building and the Land Administration building, both of which may have been lost to posterity. Reef Casino Trust has conserved the Customs House and although re-configuration has taken place, Anzac Park has been revitalised as an area for public enjoyment. An accommodation between the National Trust and Jupiters Limited appears to have been reached in relation to ongoing heritage issues in relation to the Treasury building; and
- No significant traffic problems have been encountered and pedestrian access has been enhanced in both Brisbane and Cairns.

Summary: Environment

Very little research has been done on the environmental impacts of the gambling industry apart from the AIGR's consideration of impacts of two casinos in New Zealand and casinos in Queensland. As has been discussed above, these studies found both positive and negative impacts. Most negative impacts are felt during the construction phase and most positive impacts develop after construction is completed. Close monitoring of environmental impacts can be achieved with effective negotiations between local councils and developers.

FUTURE DIRECTIONS

Introduction

There has been no attempt to systematically examine the social and economic impacts of gambling in New Zealand, and none that have adopted a comprehensive research strategy such as that which informed the Productivity Commission's inquiry into *Australia's Gambling Industries*. While the New Zealand studies have provided useful information on the nature and prevalence of problem gambling (measured primarily by SOGS-R and DSMIV clinical criteria), they do not address the varied and complex issues identified as social and economic costs and benefits in Australian, United States and Canadian studies.

One of the key tasks of this project was "to the fullest extent practicable ... determine and quantify the private and public costs and benefits of gaming (both social and economic) in New Zealand as a whole, and separately for sub-populations ...". The preceding critical review and analysis of existing gambling research and data for New Zealand, clearly indicates that the above task is not feasible based on the currently available data.

Our methodological review also outlines a range of difficulties associated with conducting cost-benefit analyses, particularly in relation to the quantification of social impacts. Previous attempts have been made in international and New Zealand studies to calculate the costs and benefits of gambling in dollar terms. The lack of rigorous, objective and systematic gambling research has generated highly contentious estimates. Given the dearth of relevant and essential data in New Zealand, the AIGR submits that to persist with this ad hoc approach to gambling impact analysis may well obscure, rather than clarify, appropriate policy directions and options.

Consequently, this section highlights the strengths and weakness of existing national gambling research strategies from Australia, the United States and Canada. The most valuable features of these approaches have been reworked into a comprehensive, though not exhaustive, gambling research framework that may assist the New Zealand government and people to better understand the nature and impacts of gambling on their society. Many governments are belatedly confronting the need to formulate a strategic national gambling research and policy plan. In Australia, for example, a recently formed national Ministerial Council is only now pooling the experiences, knowledge and resources of the various state bodies into a coherent national strategy. The model suggested below is intended to provide a basis from which public consultation may contribute to the development of a culturally sensitive and inclusive gambling research agenda.

Gambling costs and benefits

As we have previously discussed, the primary issues to emerge from the limited research on costs and benefits of gambling in New Zealand include:

- changes to entertainment and recreation behaviour;
- the effects of problem gambling; and
- gambling related crime.

While it is a relatively simple matter to record increasing spending on entertainment venues and products, the subsequent impacts of gambling on community life in terms of community values or levels of social cohesion are not readily quantifiable. Issues such as the impacts of gambling on lower

socio-economic groups, sub-populations and minority groups are yet to be explored in the New Zealand context.³²⁸

Population surveys and service usage data have been the main methods for assessing the impacts of problem gambling. These quantitative sources offer little understanding of the private emotional and personal costs or the flow on effects to the wider community. Further, sociological explanations for these problems have been explored only at a theoretical level to date. Attempts to quantify the net costs and benefits of problem gambling on the community simply ignore these aspects of the issue or allocate contentious dollar amounts to factors such as the emotional cost of divorce or thoughts of suicide.³²⁹ Similarly, the research on crime impacts is less than adequate and often involves the same failure to grapple with non-monetary social costs and benefits.

The review of existing research in this report has identified numerous impact issues that have yet to be explored in New Zealand. One issue promises to become increasingly important as gambling is globalised and telecommunications technology exposes every nation and region to cross-border gambling. International and cross-regional flows of gambling expenditure, often referred to as expenditure leakages, have not been the subject of any specific research studies either in New Zealand or internationally. Nevertheless there are indications that such leakages may be occurring from the New Zealand economy to international gambling providers. It is clear that the potential loss of revenue and increased risks of problem gambling are becoming concerns in several jurisdictions, particularly in debates about internet gambling.³³⁰ However, no reliable or consistent data on cross-border gambling exists to date.³³¹

The issue of international flows in gambling expenditure requires further investigation and is one of the issues being discussed by an international working party formed at the Whistler Symposium. The primary aim of this working party, which includes representatives from Canada, the United Kingdom, the United States and Australia is to consider cross-national gambling data needs.

Existing Frameworks

Australian Productivity Commission

Despite the limitations of the Productivity Commission's research on *Australia's Gambling Industries*, it is arguably the most comprehensive and broad-ranging example of national gambling research to be conducted to date. The Productivity Commission used a relatively balanced, interdisciplinary approach that combined quantitative and qualitative data with information provided in consultations and submissions by community and industry representatives. The Productivity Commission examined the available literature and research on Australian gambling, using cross-data triangulation to cross-check for reliability and validity. In 1999, it also conducted three surveys including a national population survey, a survey of counselling agencies and a survey of problem gamblers in counselling. An attempt was also made to quantify the costs of gambling using various economic measures and models.

While acknowledging its considerable contribution to gambling research, this report has provided a critical review of the PC's study (p. 26). To guide the way forward we have suggested that more research attention should be given to intangible social and cultural impacts that often cannot be quantified and to comparative community studies. To further build on the PC's achievements, the following economic questions also need to be asked:

Macroeconomic impacts of gambling

³²⁸ For AIGR research see Tremayne (2000).

³²⁹ Productivity Commission (1999) *Australia's Gambling Industries*, Productivity Commission, Canberra, p. 9.11.

³³⁰ McMillen, J. (2000) 'Online gambling. Challenges to regulation and national sovereignty'. *Prometheus* Vol. 18, No. 4, pp.391-401.

³³¹ AIGR is currently conducting research into online gambling in Australia that will provide some information on this issue.

- Impact on GDP: Does gambling increase aggregate expenditure in the short run is it simply a diversion from other expenditures?
- Impact of gambling on saving and hence on future growth: There is little known evidence on impact on saving.
- Impact of gambling on investment in real capital goods: There is little evidence available on this issue. One could argue a priori that since gambling is a risky activity (as investment in real capital) that some of the entrepreneurial investment is being diverted into gambling.
- Impact on employment: Similar to the first point, if it is simply a diversion of expenditures then the impact of gambling on employment would depend on the different employment intensities in the different industries.
- Impact on the national budget: This is simply a transfer of resources from the gamblers to government and not an economic benefit in the strict sense. It is of course a benefit to the government in power as its tax revenues would increase (less the lower taxes from the expenditures diverted from other goods and services).

Microeconomic impacts of gambling

- What is the impact of gambling expenditures on the expenditures on other goods and services?
- What is the impact of increasing gambling expenditures on the prices of other goods and services? Does the “price” of gambling change in response to (say) legalising gaming or internet gambling?
- How is a gambling tax shared between the gambler and the gambling provider? In general, microeconomics would argue that if the government puts a tax on gambling it increases the price of gambling by less than the tax, so that the gambling provider bears some of the cost as does the consumer (gambler).
- Does the growth of gambling venues lead to an increase in real investment in gambling capital goods and a decrease in other capital goods?

United States – National Gambling Impact Study Commission

Other nations than Australia and New Zealand have begun to grapple with the impacts of the gambling in recent years. In August 1996 President Clinton established the National Gambling Impact Study Commission (NGISC) “to conduct a comprehensive study of the social and economic impacts of gambling in the United States.”³³² The Commission established an analytical hierarchy that would:

- define gambling as a good-bad moral issue;
- determine whether gambling should be a government monopoly;
- examine how to tax the monopoly rents of government;
- determine how to allocate these rents; and
- examine how to deal with specific gambling policy issues.³³³

However, the Commission’s report focussed instead on the adverse social-economic impacts of ‘pathological’ and problem gamblers. Consultants were commissioned to examine this issue in depth. Using health, clinical or human capital frameworks for analysis the research focussed on specific social and health issues related to problem gambling. Intangibles, while important, were not assessed. The study assessed tangible adverse impacts (consequences) and screened for difference factors by age-sex classifications. Using statistical analysis and lifetime SOGS and DSMIV measures, researchers compared pathological-problem gamblers with non-problem gamblers who had remarkably different impacts and differences in attribution of gambling impacts. The study found that pathological gamblers are not predisposed to given impacts.³³⁴

Annual costs and lifetime costs per person were also estimated for problem-pathological gamblers. The study found that although the cost of problem gambling is relatively small compared to alcohol and drug abuse costs, the impacts of problem gambling are nevertheless significant. The NGISC recommended more refined and rigorous assessments to examine portions of the population who are greater risk and their impacts.³³⁵

Estimates of the average annual costs of problem gambling to individuals in the United States ranged from US\$560 to US\$2,000 which can be interpreted as ‘gambling is an insignificant problem’ to ‘gambling imposes a massive social cost.’ This wide disparity in estimates could reflect:

- theoretical errors that result in incorrect social cost methodologies and estimates; and/or

³³² Smith and Wynne, *op. cit.*, p. 15. Also NGISC *op. cit.*

³³³ Wynne and Anielski, *op. cit.*, p. 10.

³³⁴ *ibid.*

³³⁵ *ibid.*

- different approaches to the issue of rationality when it comes to the choices of individuals towards gambling.³³⁶

The NGISC had considerable trouble meeting its aforementioned terms of reference given the paucity of reliable gambling research available at the time:

Unfortunately, the state of research into the benefits and costs of gambling generally, and into the costs of pathological gambling specifically, is not sufficiently advanced to allow definitive conclusions to be drawn. Few reliable economic impact analyses or benefit-cost analyses have been done, and those that exist have focused on casino gambling.³³⁷

The Commission pointedly had this to say about the implications for policymaking:

Regarding gambling, the available information on economic and social impact is spotty at best and usually inadequate for an informed discussion let alone decision. On examination, much of what Americans think they know about gambling turns out to be exaggerated or taken out of context. And much of the information in circulation is inaccurate or even false, although often loudly voiced by adherents. Add to this the fact that many of the studies that do exist were contracted by partisans of one point of view or another and uncertainty becomes an understandable result. Nevertheless, decisions must be made and governments have shown little hesitation in making them.³³⁸

The state of gambling research in the United States reveals similar weaknesses to the situation in Australia and New Zealand, that is, it has developed in a random fashion without any forward planning at a national level and with varying degrees of reliability and impartiality. The US National Research Council's central conclusion was that a wide-ranging and far more rigorous research program needed to be undertaken before they would be able to answer questions on the impact of gambling in American society.³³⁹

Other US studies of gambling impacts³⁴⁰

Using conventional econometric tools, **Douglas M. Walker** has developed an economic model for identifying and measuring the impacts of pathological gambling. He has argued that the literature is lacking in two areas: it lacks an appropriate standardised definition of social cost; and it lacks a methodology for measuring the value of these costs. Individual researchers choose what to include and exclude from their cost studies with ease in measurement being the apparent criterion for inclusion. Most researchers estimate a dollar figure for some impacts, simply noting that there are other effects that are not measurable. His critique argues that these studies usually provide unreliable estimates of

³³⁶ In Wynne and Anielski, op. cit., p. 13.

³³⁷ National Research Council cited in Smith and Wynne, op. cit., p. 16.

³³⁸ NGISC, op. cit., p. 1-6.

³³⁹ NGISC, op. cit.

³⁴⁰ These US papers were presented at the First International Symposium on Gambling, Whistler, 2000 and summarise the current debates on impact analysis in the USA.

the social costs, and hence, may lead to policy errors. He notes that in fairness to researchers, a major limitation to research has been a lack of data.

His paper concludes that the complicated methodological issues in the social costs of pathological gambling are compounded by the diversity the researchers' specialisations. Walker argues that the absence of an agreed model has generated inconsistent and incomparable research across the field, and suggests that it will be fruitful for researchers to develop a standardised 'social cost methodology'. He notes that 'Only when we adopt a single definition of social costs and agree upon acceptable measurement methods, can we begin to compare social cost studies across regions and through time. This will be particularly useful for future policy espousal and the evaluation of past experiences'.³⁴¹

The Walker model adopts a simple rule for identifying and measuring the effects of pathological gambling.

First, for the items that are legitimately considered to be social costs, i.e., if they decrease the aggregate wealth in society, then we should attempt to measure their value.³⁴² For all of the other negative effects of pathological gambling that do not decrease aggregate wealth, or that do so in a way that cannot be adequately measured (e.g. psychic costs), then we should only identify these effects and suggest ways to decrease their severity. But we should not attempt to arrive at dollar figures for these effects since the estimates are likely to be unreliable.³⁴³

In a forthcoming article, Walker also analyses the controversial question of whether gambling is a 'directly unproductive profit-seeking (DUP) activity' as defined by Bhagwati (1982).³⁴⁴ His aim is to clarify the DUP argument in relation to gambling in order to facilitate the development of a single definition and framework for analysing the economic and social impacts of gambling. However the author argues that gambling is not a DUP since the activities are not attempting to use economic resources to create a monopoly rent via government restrictions. The act of gambling does not involve excluding other gamblers from the possibility of winning, thus, there is no guaranteed transfer of wealth involved.

Moreover, Walker contends that all economic activities involve opportunity costs that may or may not have produced higher levels of national income. Equally he maintains that simply because an activity does not contribute to 'some potential level of national income' it is not necessarily damaging to society. In contrast, gambling may provide benefits to others while being harmful to the individual concerned.³⁴⁵ Walker provides a reminder that 'national income is not the only measure of well-being'.³⁴⁶

To neo-classical economists it is clear that if people gamble they must be getting some utility from the activity. It is also clear that problem gamblers are a special case, like alcoholics are a special case of consumers of alcohol. Whether gambling is considered a worthwhile activity is an important social issue: there are several instances when communities (and governments) have rejected the views of individual consumers. For example, in many nations it is considered appropriate to control or ban the consumption of various drugs, pornography and other commodities.

Walker's criticism of 'ad hoc' gambling cost analyses appeared to be directed to studies such as the **Thompson, Gazel and Rickman** 1996-1997 survey of Gamblers Anonymous groups in Wisconsin and Connecticut and calculations of the social costs incurred by their gambling. In the latter state respondents were also sought through the Connecticut Mental Health Department, and unlike the Wisconsin survey, they were also asked to answer the SOGS questionnaire (the version used was not specified). Participants were predominantly middle-aged white men. Their research sought to

³⁴¹ Walker, D. (2000). *A Simple Model to Explain and Illustrate the Definition of 'Social Costs'*, paper presented to the Whistler Symposium, p.42.

³⁴² A specific analysis of measurement methodologies is beyond the scope of this report.

³⁴³ Walker (2000), p.42-43

³⁴⁴ Walker (2001), forthcoming in *International Gambling Studies*. Also see Bhagwati (1982).

³⁴⁵ Walker (2001), forthcoming.

³⁴⁶ Walker (2001), forthcoming.

... give a precise measure of the dollar costs which the presence of one problem gambler, however labelled (problem, pathological, compulsive), projects onto other people in society.³⁴⁷

The methodology employed by Thompson et al. attempted to measure the social costs of problem gambling by looking at 'employment costs, bad debts and civil court costs, thefts and criminal justice costs, the costs of therapy, and welfare costs.'³⁴⁸ To quantify the social costs of gambling, Thompson et al. annualised and individualised their calculations. This involved finding

the annual social cost of the activity of one single serious problem gambler ... this meant determining the career costs of serious problem gambling and dividing them by 3.0 years ...³⁴⁹

Employment costs were calculated by multiplying average hours lost by an average hourly wage (US\$15.00). The same approach was taken in measuring unemployment costs, that is, average period unemployed multiplied by average state allowances. The associated lost marginal value of labour (productivity) is also factored into the equation. Bad debt costs were drawn from the median debt level of respondents at the time they took up treatment, to provide a conservative estimate. The value of theft was averaged across respondents. Civil court expenses were based on the average cost of public counsel (on the assumption that respondents could no afford private legal representation), the salaries of the judiciary and other court officials, and the court facilities. The figures Thompson et al. use are equal to half the average cost of operating a trial court case in the federal judiciary. Criminal justice cost estimates were based on the value of criminal arrests, trials, probation and incarceration times. Welfare costs reflected the costs of food stamps and other AFDC welfare benefits. Treatment costs included visits to doctors for treatment that were not covered by insurance. Using this methodology Thompson et al. estimated the annual social cost of problem gambling to be US\$15,994 per serious problem gambler in Connecticut and US\$8,681 in Wisconsin.³⁵⁰

The different results between the two states are explained through reference to their different gambling histories and cultures. Connecticut had a longer tradition of charitable and lottery gambling than Wisconsin. Connecticut also has off-track betting, greater accessibility to casinos in Atlantic City, as well as their own Native American casino from the early 1990s. Connecticut residents have greater access to and variety of legalised forms of gambling than Wisconsin offers. The authors also point out the difficulty of establishing the localised impacts of these costs given the inadequate information concerning geographical and community leakages.³⁵¹

There are some important critical points that can be made about Thompson et al.'s framework. They define the social costs of gambling as the cost gamblers impose on the non-gambling public.³⁵² It is argued that 'social costs ARE cost transfers from one individual who is gambling to others who are not involved in gambling.'³⁵³ Strictly speaking, the social costs of gambling are the real economic resources used by gamblers themselves as well as the real resources used up by the non-gambling public in tackling gambling problems. If it is believed that the gamblers correctly anticipate the benefits of gambling to themselves then the costs of gambling to them are not a net social cost.

However, if they overestimate the benefits to themselves then some of the costs of gambling incurred by the gamblers would be an economic cost to society. Note, however, that implies that the individuals are not a good judge of costs and benefits - which many economists would dispute. If we accept the idea of merit goods (or merit bads) then it can be assumed that the community as a whole (or its representatives) knows what is good for individual citizens.

³⁴⁷ Thompson et al. (2000), p. 4.

³⁴⁸ Thompson et al. (2000), p. 9.

³⁴⁹ Thompson et al. (2000), p. 10.

³⁵⁰ Thompson et al. (2000) pp.10-12.

³⁵¹ Thompson et al. (2000) pp.3-4.

³⁵² Thompson et al. (2000) p.3.

³⁵³ Thompson et al. (2000) p.3.

In pure economic terms theft is *not* a social cost as the authors claim: it is simply a transfer of resources from one group to another. Breakage costs in the process of a burglary are real economic costs. The costs of *extra* police and judicial processes do involve an economic and social cost. Similarly, in pure economic terms an unpaid debt by a gambler is not an economic cost but the resources that may be used by a judicial process to recoup the debt does incur real costs to society. But theft may be seen as a *social* cost in terms of the decline of public morality, law and order and community safety.

Any health costs of problem gambling (doctors' expenses, medicines, social workers' time) are true economic and social costs. Similarly, payment of unemployment benefits to unemployed gamblers is *not* an economic (or social cost): it is simply a transfer of resources from the taxpayers to the unemployed. However, the unemployed could be working and if there is a net addition to unemployment because of gambling then the lost output *is* an economic and social cost to society. If gamblers are diverting their time from work activities to gambling then the amount of time they spend gambling is an economic and social cost which can be valued by their average wage times the number of hours that they spend in gambling at work

As the authors note, there are social costs of suicide, marriage breakdown, and family disputes due to gambling problems but these are difficult to quantify. As such any estimates of the social costs of gambling are likely to be lower bounds of the true costs of gambling.³⁵⁴ Indeed, Thompson et al. acknowledge that other cost analysis studies have included different categories and definitions of social costs in their calculations. Essentially they reject the notion that 'social costs may not include costs that are imposed upon non-gambling individuals or groups of individuals while not being imposed upon all the members of society'.³⁵⁵

In many respects, therefore, this model approaches the analysis of the social costs of gambling in a similar way to the Productivity Commission – but notably the authors do not attempt to calculate 'consumer surplus'

On a final note, however, Thompson et al. sidestep the contentious matter of defining problem gambling by approaching research participants who are in treatment for severe lifetime gambling problems. In this respect the authors implicitly rely upon self-reporting and mental health models of problem gambling without addressing any of the shortcomings of these approaches. They do, however, 'make no firm claims that these respondents are a representative sample of any but other serious problem gamblers in treatment'.³⁵⁶

Eadington has examined the debate about problem gambling from an economic perspective, stressing the principles of economic theory and methods and how and why they might be applied in particular impact analysis situations. He notes that economic methodology, while having well-defined concepts, provides only one perspective on impact analysis. The paper provides an economic framework for estimating factors and variables that can be readily measured and highlights the difficulties in quantifying benefits and costs, some of which defy measurement.

Eadington's analytical framework for the social cost side of the gambling equation focuses on:

- the damage from pathological or problem gamblers to themselves and society, at large;
- the adverse effects of commercial or not-for-profit gambling on other sectors of the local economy;
- the costs to society at large from public resource funding and infrastructure outlays dedicated to the gambling industry;
- the potential link between gambling and social (crime) and health costs (suicide, physical health) and undesirable impacts;
- reduction of respect for shared individual, community or social values; and

³⁵⁴ Thompson et al. (2000), p. 8.

³⁵⁵ Thompson et al. (2000), p. 3.

³⁵⁶ Thompson, et al. (2000), p. 9.

- concern about spread of gambling as a reflection of deterioration of social values and quality of life in general.

Canada – Whistler Symposium

In a recent review of gambling-related economic and policy literature, **Smith and Wynne** provide a succinct summary of the current status of social and economic impact assessment approaches.³⁵⁷ They conclude, as does this report, that the frameworks for measuring gambling costs and benefits in the United States, Australia and Canada have been less than adequate to date. Two main dilemmas continue to challenge gambling researchers and policy makers: how should gambling costs and benefits be defined and how should they be measured?

In September 2000 a meeting of international researchers (the Whistler Symposium) drew together prominent researchers and economists from Canada, the United States, Australia, the United Kingdom and Europe. One of their central tasks was to derive “best practice guidelines” for conducting future gambling cost/benefit impact studies.³⁵⁸ Far from achieving this complex objective, vigorous debate over key philosophical and methodological issues indicated the highly contentious nature of gambling impact assessment and the significant interests vested in the development of an internationally acceptable and workable framework. At the time of writing this report, a substantial amount of further research and debate is likely to ensue before any such model is formulated.

Smith and Wynne have suggest that in the meantime:

Perhaps a multiple-perspective framework is needed; for instance, the economic perspective has utility in tracking changes in the flow of money that result from gambling expansion and contraction in society, whereas, a social-psychological view can help identify the qualitative positive and negative effects gambling has on individuals and social groups.³⁵⁹

Essentially they argue for the combining of these two perspectives along with contributions from other disciplines, such as anthropology, to incorporate the culturally-specific dimensions of gambling. By adopting an interdisciplinary approach they suggest that a ‘richer, deeper, and more accurate description of the true impact of gambling on societies’ might emerge.³⁶⁰ This form of analysis inevitably necessitates the utilisation of mixed research methods, including qualitative and quantitative data, in order to assess both the economic and social impacts of gambling.

One important paper to emerge from the Whistler Symposium by **Korn, Gibbins and Azmier** argues that gambling should be assessed from a broad public health perspective.³⁶¹ Similar to the responsible gambling approach recently developed in some Australian states,³⁶² it is argued that a public health perspective would provide a wider perspective for assessing and understanding gambling behaviour, analysing the benefits and costs, and identifying multi-level strategies for action and points of intervention. A public health framework would focus analysis of the impacts of gambling on ‘community well-being’ to enhance the quality of life of individuals, families and communities, minimise the potential for harmful consequences, and protect vulnerable people.³⁶³

The public health model proposed by Korn et al. focuses on the socio-economic determinants of health. Health is viewed (in accordance with the World Health Organisation definition) as the extent to which an individual or group is able, on the one hand, to realise aspirations and satisfy needs and, on the other hand, to change and cope with their environment. This positive concept emphasises social and personal

³⁵⁷ Smith and Wynne (2000).

³⁵⁸ Smith and Wynne (2000) p. 21.

³⁵⁹ Smith and Wynne (2000) p. 22.

³⁶⁰ *ibid.*

³⁶¹ Korn, David, Gibbins, Roger, and Azmier, Jason. (2000). *Framing Public Policy: Towards a Public Health Paradigm for Gambling*. Paper presented to Whistler Symposium.

³⁶² McMillen, Jan and Michelle Toms 1998 *Report of the Responsible Gambling Trial Program for NSW Clubs*, AIGR, Sydney.

³⁶³ Wynne and Anielski op. cit., p. 17.

resources as well as physical capacities. The model examines key determinants of health (applicable to gambling impact assessment) including income, social status, social support networks, education, employment, working conditions, physical environment, biology and genetic endowment, personal health practices, coping skills, healthy child development and health services. Gambling can be seen as *healthy* and *unhealthy* behaviour; healthy gambling entailing informed choices while unhealthy gambling refers to different levels of gambling problems.³⁶⁴

Perhaps understandably, given the influence of US paradigms and research in Canada, this model currently views gambling from the perspectives of addictions and mental health conceptions of problem gambling. However, there seems to be no reason why more socio-cultural notions of 'community health' could not be applied. Indeed, many argue that an addictions approach to problem gambling has less relevance than socio-cultural definitions, particularly in multi-cultural societies.

Framing gambling as a public health issue offers several advantages including:

- a broad viewpoint on gambling in society;
- emphasis on prevention of gambling-related problems and harm reduction;
- addressing the risk of problems for the gambler and quality of life of their family and communities affected;
- consideration of multiple biological, behavioural, socioeconomic, cultural and policy determinants influencing gambling and health;
- a life-cycle approach to measuring social and economic impacts, recognizing the social context of gambling;
- examination of risks to special groups who are more vulnerable or marginalised, and finally; and
- recognises that there are both costs and benefits associated with gambling.³⁶⁵

Another significant contribution to the Whistler Symposium by **Collins and Lapsley** examined theoretical economic issues involved in the analysis and measurement of the social costs and benefits of gambling.³⁶⁶ In support of the Productivity Commission's approach, they articulated the need for a total costs and total benefits analytical framework for assessing the total economic and social costs of gambling; where total costs/benefits = private costs/benefits + social costs/benefits. They note that one of the difficulties in economic impact analysis is distinguishing clearly between private and social costs. They point to the definition by Markandya and Pearce: 'To the extent that the costs are knowingly and freely borne by the consumer or producer himself, they are referred to as private costs but to the extent they are not so borne but fall on the rest of society they are referred to as social costs.'

Collins and Lapsley suggest that three essential conditions must be simultaneously satisfied if a particular cost of gambling is to be classified as a private cost:

- gamblers must be fully informed;
- gamblers must be rational, and;
- gamblers must be required to bear the total costs of their gambling.³⁶⁷

They argue that a major problem relates to the direct attribution of costs to gambling, noting that much of the current attribution information is either relatively naïve, biased by different philosophical points of view on gambling, or poor quality research relative to work on alcohol, tobacco and illicit drugs. They stress that the question should be what costs are attributed to gambling versus what costs are

³⁶⁴ *ibid.*

³⁶⁵ *ibid.*, p.18.

³⁶⁶ Collins, David and Lapsley, Helen (2000) 'The social costs and benefits of gambling: An introduction to the economic issues.' Paper presented to Whistler Symposium.

³⁶⁷ Wynne and Anielski, *op. cit.*, p. 13.

associated with the behaviour. Future research requires identification and measurement of the casual relationship between gambling and social issues such as crime.³⁶⁸

Many problems attributable to gambling also involve intangible costs that are difficult to value in monetary terms. This challenge will require innovative techniques for valuation. They called for a pragmatic approach to social cost attribution analysis by identifying the nature of attributable social costs and quantifying those which are most reasonable or practical to quantify.

A Gambling Impact Framework for New Zealand

Impact assessment frameworks – some methodological problems

Some of the key controversies yet to be resolved in cost-benefit gambling impact studies revolve around the questions of:

- how to define and differentiate costs and benefits;
- how to differentiate ‘private’ and ‘social’ or ‘public’ costs and benefits; and
- how to measure costs and benefits?³⁶⁹

As indicated in previous sections these methodological questions have yet to be systematically addressed in the New Zealand context. Moreover, the conceptual assumptions underpinning cost-benefit analysis approaches to gambling impact studies have rarely been debated.³⁷⁰ A range of responses to these issues and difficulties are canvassed below which may be of assistance in the development of a gambling assessment framework for New Zealand.

Some of the common limitations of impact studies include:³⁷¹

- the neglect or simplification of relationships between various sets of social and economic effects;
- lack of longitudinal analysis and thus a tendency to address only short-term impacts;
- the impossibility of identifying the *full* costs and benefits of impacts (or *net* costs and benefits) due to the inevitable degree of uncertainty about causal linkages and gaps and inconsistencies in the data;
- lack of gambling specific, and regionally sensitive, time-series data;
- macro and micro-economic impacts are particularly problematic because of the lack of an agreed economic model for adequately identifying the actual economic impacts of gambling. Also, relevant baseline data are often unavailable; and
- comparative analysis of the impact of different gambling forms in different regions is hampered by the variations in operational life and conditions between them.

The following section offers a critical summary of the gambling impact assessment frameworks employed in Australia, the United States and Canada and their implications for the study of social and economic impacts of gambling in New Zealand.

³⁶⁸ *ibid.*, pp. 14.

³⁶⁹ Smith and Wynne, *op. cit.*, p. 11.

³⁷⁰ *ibid.* p. 22.

³⁷¹ AIGR (1998), pp. 6-10.

Implications for NZ gambling impact studies

To apply econometric models (such as those used by NIEIR, Econtech or ACIL in Australia) to the New Zealand context would require firstly, a review of existing New Zealand economic models and secondly, using existing models (if available in the public domain) to estimate the economic impacts. This major research task is beyond the scope of the current project. Some of the data requirements for such an undertaking would include:

- Unit record data from the Household Economic Surveys (with at least two cross-sections). This would enable estimations of demand functions for some products. Taking two cross sections would allow for analysis of changes in expenditure patterns for different socio-economic demographic group. Further the unit data would also allow for analysis of Maori and non-Maori (Pakeha) differences. Also a geographic location index (for example, by postcode) would be necessary. The location breakdown would also allow for the creation of area indices of deprivation.³⁷²
- Long time series data on GDP components. For example, male and female employment would allow an assessment of changes in saving.

Data Needs Identified by the AIGR Casino Study

Other limitations with the economic data on gambling available in New Zealand were revealed in the AIGR's 1998 study on the impacts of casinos in New Zealand.³⁷³ It was noted by AIGR that it was not possible to identify the full costs and benefits of casino impacts, or the *net* costs and benefits. Data on estimated substitution effect was not available to that study. In any cost-benefit analysis there will always be a degree of uncertainty about causal linkages and gaps and inconsistencies in the data. However, the AIGR report clearly stated the extent to which costs and benefits could be claimed with any certainty, and indicated where there were not valid grounds to claim a specific casino impact.

The analysis of trends in the regional economies that host New Zealand's casinos was an important method for understanding economic impacts. There were two major limitations to this trend analysis in the specific cases at hand. These were:

- the disruption to the continuity of economic conditions brought about by the radical reconstruction of the New Zealand economy during the 1990s; and
- the limited duration of the casino operations at that time, particularly in the case of Sky City which opened in February 1996 and which had only recently become fully operational in terms of the overall Sky City complex. This meant that to some extent the full economic impacts of the two casinos were yet to be experienced, and that many official statistics were yet to register casino-related impacts on economic trends.

Three other difficulties presented themselves in attempting to assess economic impacts of casino development in New Zealand in 1998.

- There was a lack of a complete and tested casino-specific economic model, which would adequately calculate the actual economic impacts of the two New Zealand casinos. The work of Butcher (1992, 1995) and research in other countries had started to formulate economic models which addressed the question of the degree

³⁷² See for example, Salmond, Crampton, Sutton (1998), *NZDep96 – Index of Deprivation*, Research Report No. 8., Health Services Research Centre, Wellington.

³⁷³ AIGR (1998).

of specificity of the casino industry and hence the types of economic costs and benefits flowing from casino development.

- Much of the statistical data required to measure *actual* impacts was either not available in New Zealand or not specific enough to be useful. Some statistical information had not been adequately compiled and/or was difficult to monitor (eg. casino spending by particular groups). Certain detailed information was unavailable due to its commercial sensitivity (eg. salaries of management/staff). Other available data was too general to allow precise identification of the magnitude of casino-specific impacts (eg. trends in local retail, tourism).
- A final limitation on the assessment of the two New Zealand casinos related to the fact that they operated under different company arrangements. This affected public access to information regarding their commercial operations and performance.

A gambling impact framework proposal

The following section provides a more specific breakdown of the types of data that might be encompassed in a more comprehensive gambling impact assessment strategy. As indicated above previous models have used various layered approaches to their levels/elements/domains of impact analysis.³⁷⁴ Types of relevant research activities are also outlined for each level of analysis and impact dimension.

³⁷⁴We have also been assisted by an unpublished discussion paper produced by the Social and Economic Research Centre (SERC) 1999 *Framework for Evaluation of social Impact of Gambling and Summary of the Victorian Casino and Gaming Authority 1998-99 Research Program Findings*, SERC, University of Queensland, Brisbane.

Gambling Impact Analysis - Research Framework

LEVELS OF ANALYSIS	IMPACT DIMENSIONS							
	Culture	Economic Development	Employment & Education	Environment	Financial	Health & Wellbeing	Legal/Justice	Recreation & Tourism
State/Macro	ethnographic studies	Gambling statistics, trends	comparative industry studies, historical studies	environment impact studies	economic, financial, tax, retail data	gambling statistics, trends	bankruptcy data	tourism surveys
	historical studies, social histories	Economic, financial, tax, retail data	industry profiles & patronage	time-use, travel & transport studies	industry profiles & patronage	health & epidem. data	crime & regulation data	time-use, travel studies
	needs analysis	GPI/GDP data	labour force & union data	industry profiles & patronage	business surveys	needs analysis, community services data	needs analysis, community services data	g. participation surveys
	prob. gambling prevalence, trends	Industry profiles & patronage	ownership & control networks	social disadv'ge indices	g. participation surveys	GPI/GDP data	GPI/GDP data	industry profiles & patronage
	ownership & control networks	Labour force & union data	GPI/GDP data	social well-being, quality of life indices	social disadv'ge indices	social disadv'ge indices	ownership & control networks	ownership & control networks
	audit of industry donations, community	Ownership & control networks	consumer protection data	stakeholder interviews	social well-being, quality of life indices	social well-being, quality of life indices	consumer protection data	GPI/GDP data
	public forums, community consultation, submissions	social disadvantage indices	community services data	program evaluation	layered geo-stat mapping	client MDS, use of support services	stakeholder interviews	layered geo-stat mapping
	media content analysis	social well-being, quality of life indices	social disadv'ge indices		client MDS, use of support services	layered geo-stat mapping	program evaluation	consumer protection data
	program evaluation	Layered geo-stat mapping	social well-being, quality of life indices		consumer protection data	consumer protection data		program evaluation
LEVELS OF	Culture	Economic	Employment &	Environment	Financial	Health &	Legal/Justice	Recreation &

ANALYSIS		Development	Education			Wellbeing		Tourism
State/Macro cont'd		program evaluation	layered geo-stat mapping program evaluation	crime & regulation data program evaluation	audit of industry donations, community program evaluation	public hearings, submissions program evaluation		

LEVELS OF ANALYSIS	Culture	Economic Development	Employment & Education	Environment	Financial	Health & Wellbeing	Legal/Justice	Recreation & Tourism
Regional	community dev't research	gambling statistics, trends	comparative industry studies, historical studies	environment impact studies	economic, financial, tax, retail data	gambling statistics, trends	bankruptcy data	tourism surveys
	historical studies, social histories	economic, financial, tax, retail data	industry profiles & patronage	time-use, travel & transport studies	industry profiles & patronage	health & epidem. data	crime & regulation data	time-use, travel studies
	comparative community studies	GPI/GDP data	labour force & union data	industry profiles & patronage	business surveys	needs analysis, community services data	needs analysis, community services data	g. participation surveys, sub-populations
	needs analysis	industry profiles & patronage	ownership & control networks	social action research	g. participation surveys	GPI/GDP data	GPI/GDP data	comparative community studies
	social action research	labour force & union data	GPI/GDP data	social disadv'ge indices	social disadv'ge indices	social disadv'ge indices	ownership & control networks	industry profiles & patronage
	prob. gambling prevalence, trends	ownership & control networks	consumer protection data	social well-being, quality of life indices	social well-being, quality of life indices	social well-being, quality of life indices	consumer protection data	ownership & control networks
	ownership & control networks	community surveys, sub-populations	community services data	layered stat geo-stat mapping stakeholder interviews	layered geo-stat mapping	client MDS, use of support services	stakeholder interviews	GPI/GDP data

LEVELS OF ANALYSIS	Culture	Economic Development	Employment & Education	Environment	Financial	Health & Wellbeing	Legal/Justice	Recreation & Tourism
Regional cont.	audit of industry donations, community funds	social disadvantage indices	social well-being, quality of life indices		consumer protection data	consumer protection data		consumer protection data
	media content analysis	social well-being, quality of life indices	layered geo-stat mapping		crime & regulation data	public hearings, submissions		program evaluation
	stakeholder interviews	layered geo-stat mapping	program evaluation		public forums, community consultation, submissions	program evaluation		
	program evaluation	program evaluation			program evaluation			

LEVELS OF ANALYSIS	Culture	Economic Development	Employment & Education	Environment	Financial	Health & Wellbeing	Legal/Justice	Recreation & Tourism
Community	community dev't, social action research	periodic gambling statistics	comparative industry studies, historical studies	environment impact studies	economic, financial, tax, retail data	gambling statistics, trends	bankruptcy data & needs analysis	community dev't research & needs analysis
	comparative community studies, attitude surveys	community surveys, sub-populations	industry profiles & patronage	time-use, travel & transport studies	industry profiles & patronage	health & epidem. data	community dev't research, social action research	
	ethnographic studies	comparative community studies	labour force & union data	industry profiles & patronage	business surveys	needs analysis, community services data	consumer protection data	g. participation, attitude surveys
	historical studies, social histories	financial, tax econ, retail data	ownership & control networks	town planning data	g. participation surveys	GPI/GDP data	crime & regulation data	comparative community studies
	industry profiles & patronage	industry profiles & patronage	GPI/GDP data	social disadv'ge indices	social disadv'ge indices	comparative community studies	community surveys	historical studies
	media content analysis	labour force & union data	consumer protection data	social well-being, quality of life indices	social well-being, quality of life indices	community surveys	client MDS, use of support services	industry profiles & patronage
	prob. gambling prevalence, trends	ownership & control networks	community services data, needs analysis	layered stat geo-stat mapping	layered geo-stat mapping	ethnographic studies	needs analysis	ownership, control networks
	needs analysis	social disadv'ge indices	industry profiles & patronage	community forum, submissions	needs analysis	client MDS, usage of support services	social disadv'ge indices	client MDS, use of support services
	community forum, submissions	social well-being, quality of life indices	labour force & union data	stakeholder interviews, roundtables, steering group	consumer protection data	needs analysis	social well-being, quality of life indices	prob. gambling prevalence, trends

LEVELS OF ANALYSIS	Culture	Economic Development	Employment & Education	Environment	Financial	Health & Wellbeing	Legal/Justice	Recreation & Tourism
Community cont.	ownership & control networks	layered geo-stat mapping	client MDS, use of support services	focus groups	client MDS, usage of support services	social disadv'ge indices	layered geo-stat mapping	community forum, submissions
	audit of industry donations, community funds	community forum, submissions	social well-being, quality of life indices	program evaluation	crime & regulation data	social well-being & quality of life indices	community forums, consultation, submissions	social action research
	stakeholder interviews, roundtables, steering group	stakeholder interviews, roundtables, steering group	layered geo-stat mapping		audit of industry donations, community funds	layered geo-stat mapping	stakeholder interviews, roundtables, steering group	stakeholder interviews, roundtables, steering group
	focus groups	focus groups	community forums, consultation, submissions		community forums, consultation, submissions	community forums, consultation, submissions	focus groups	consumer protection data
	program evaluation	program evaluation	focus groups		stakeholder interviews, roundtables, steering group	focus groups	program evaluation	
			stakeholder interviews, roundtables, steering group		focus groups	stakeholder interviews, roundtables, steering group		
			program evaluation		program evaluation	program evaluation		

LEVELS OF ANALYSIS	Culture	Economic Development	Employment & Education	Environment	Financial	Health & Wellbeing	Legal/Justice	Recreation & Tourism
Individual/ Self	g. participation & attitude surveys							
	case studies							
	community dev't research							
	ethnography							
	interviews							
	prob. gambling prevalence, trends							
	social action research							
	focus groups							
	participant observation		participant observation	time-use, travel studies	time-use, travel studies	participant observation	participant observation	time-use, travel studies

The above framework indicates the complex issues and interconnections involved with gambling impact assessment, and the difficulty of reducing these factors to a dollar figure. It also highlights the relatively embryonic stage of gambling research both internationally and in New Zealand. The preceding sections discuss the development of some valuable, yet dislocated, research in the context of minimal primary data resources. A slightly better situation exists in Australia, though the states have directly and indirectly funded diverse projects, few of which are in any way comparative. While it is not suggested that government should dictate a research strategy, it could usefully facilitate a more coordinated, consultative and cooperative approach to a national research program.

This report clearly signals that a significant amount of further research is required to inform sound policy making. The most urgent tasks will be to establish national data collection programs and community-level public consultation process to design a national research agenda. Specific attention should also be directed towards ensuring that the principles of the Treaty of Waitangi are observed and adhered to in the process.



Appendix 1

DATA NEEDS – COMMUNITY IMPACT STUDIES³⁷⁵

Professor Jan McMillen
Australian Institute for Gambling Research
University of Western Sydney
aigr@uws.edu.au

Below is a list of data sets that would assist analysis of New Zealand gambling impacts and trends. This list is indicative, rather than comprehensive.

The data sets suggested here reflect, in part, data that are compiled and published in Australia. In mid-1990s the Australian Bureau of Statistics (ABS) began to compile gambling data sets (denoted* below); and since 1972/73 the Tasmanian Gaming Commission has compiled annual *Australian Gambling Statistics* (denoted# below) on behalf of all states and territories (gaming@tres.tas.gov.au). These data sets have been progressively improved and, as descriptive national data, they are valuable aids to Australian research.

However, with few exceptions, official Australian data sets provide aggregate data that are not sensitive to local community impact analysis. It must also be stressed that all these Australian data sets remain subject to problems of inconsistent categorisation, double-counting, self-reporting bias and omissions. In particular, the ABS Census data and Household Expenditure Survey (HES) data are too infrequent to be of current value and are usually outdated before they are publicly available. The HES data, like most self-report surveys, are notoriously unreliable.

As New Zealand researchers and policy-makers develop an impact methodology appropriate for New Zealand circumstances, I would also advise against adopting an exclusively spatial-geographical definition of 'community'. 'Communities of interest' are equally important, as are the possible spill-over impacts on other communities.

Research and data collection should be designed to measure *actual* impacts, rather than estimates (eg by application of economic models). Data should attempt to measure the *nature* of impacts, the *prevalence/incidence* of impacts and the *degree* of impact on all areas of community life.

Suggestions for baseline data include:

- Annual gambling statistics, for each type of gambling and each region. It is important that the regions develop standardised data categories and consistent compilation methods. The *Australian Gambling Statistics* provide a useful model, although even after almost three decades, these data sets still need further improvement. National gambling statistics can include:

³⁷⁵ Adapted from a Table first published in Wynne and Anielski, op. cit.

- turnover per adult capita and regional/national totals
 - expenditure (real and actual) - per adult capita and totals
 - annual rates of growth
 - % Household Disposable Income
 - \$ taxation (gaming and racing, all gambling)
 - % regional revenue (gaming and racing, all gambling), etc.
- Characteristics of the gambling industries - by sector and by region, compiled annually or biannually eg:
 - See the Australian Bureau of Statistics compilation – *Gambling Industries* for the type of aggregate data collected in Australia. However, these data frameworks are under review following deficiencies identified in the Productivity Commission’s inquiry.
 - Detailed industry operating data, as reported by New Jersey casinos (eg income and expenditure, purchasing data, marketing etc) would assist regional analysis of economic costs and benefits.
- Gambling labour force statistics – by sector and by region, compiled annually; eg the Australian Bureau of Statistics compiles data on:
 - number of employees by gambling enterprise
 - type of operator/employer (private, public; size of enterprise, etc);
 - number of employees by category of work (eg gaming, administration, technical support)
 - standard socio-demographics (gender, age, education levels, marital status, cultural identification, etc)
 - full-time, part-time, casual employment;
 - annual/hourly salaries by category of employee
 - annual staff turnover rate by category of employee
 - level of unionisation;
 - number and type of industrial disputes;
 - Equal Employment Opportunity policies, affirmative action programs
 - OHS requirements and issues (eg passive smoking)
- Social disadvantage index: To assist identification of ‘at risk’ communities. Data should be capable of analysis at the lowest statistical area possible – eg at the level of 200 households, local community, community of interests.
- National time use data, leisure statistics that include gambling participation in each region, capable of breakdown to units of 200 households.
- Social wellbeing index – to measure gambling impacts on quality of life.
- Problem gambling data – by local community and region:
 - prevalence of problem gambling – general population survey data, specific groups and communities.
 - Surveys of gambling clients receiving counselling or other support services.
 - Demand for gambling-related support services, eg surveys of welfare and community agencies. Development of a national Minimum Data Set and resources/support to compile the necessary data will ensure reliable, quality data.
 - Data on personal and family impacts – effects on children, partners, divorce or separation, domestic violence, psychological wellbeing, etc
 - The development of the CPGI and the HARM measures in Canada will assist quantitative analysis.
 - However, qualitative data about the nature of problem gambling and its impacts on particular individuals and communities are equally important – eg from focus groups, ethnographic studies.

- Data on prevention programs:
 - Consumer information – costs and benefits. Program evaluation studies.
 - Community education programs - costs and benefits. Program evaluation studies.
 - Primary and secondary prevention programs, early intervention. Efficacy, program evaluation studies.
 - Community surveys, focus groups – to identify quality of life issues and impacts.
- Data on treatment programs, community support services – at regional and local community levels, compiled annually:
 - distribution of services by type: eg counselling, community health service, stand-alone, integrated
 - resources, staffing, professional qualifications
 - access: hours of operation; mode of access (crisis line, telephone/internet counselling, clinic visits, etc), public subsidy or private fee-for-service, etc;
 - client usage patterns – gamblers, families, gambling industry workers, others.
 - problem gambling services provided (financial counselling, psychological counselling, relationship counselling, emergency relief, health services, domestic violence support, etc)
 - * problem gambling Minimum Data Set (MDS) – to record the use of problem gambling services, client data, etc. Victoria and Queensland have collected data using their own versions of MDS for several years. These models have been generally criticised, however, and an improved MDS is being developed by the NSW Department of Health (for information contact the Senior Policy Officer, Deborah Hatzi – dhatzi@doh.health.nsw.gov.au)
 - program evaluation studies, efficacy studies.

Health data:

- epidemiological data that record gambling-related health problems. The Australian Medical Association has a National Policy on Problem Gambling, framed as a public health issue, but has not yet developed a research strategy. In 1998 the NSW AMA developed an education program for General Practitioners, including the DAGS (Drug, Alcohol and Gambling Screen). However, no mechanisms or funding for compilation and analysis of these data have been established.
- Gambling-related suicide. In Australia, data collection is unsystematic and ad hoc; attribution to gambling as the principal causal factor has been difficult.
- Co-morbidity data, eg gambling and alcohol, depression, parental neglect, etc. A crucial area that also must develop methods to address attribution factors.

Layered geo-mapping of various data sets – to identify ‘at risk’ communities, sites with high levels of gambling problems, areas of service need, quality of life impacts, etc. *AIGR is currently doing this type of analysis in NSW and Victoria.

Ethnographic studies and community studies to explore the cultural meanings and practices of gambling in different communities and groups. Such studies are essential first steps to refining existing data sets and methodologies to ensure they are culturally sensitive.

Crime and regulation:

- Community crime statistics and court records that identify direct relationships to gambling (to overcome the attribution problem, to disentangle gambling-related crimes from other trends and externalities).
- Data on gambling participation and problems in penal/correctional systems
- Costs of gambling regulation and policing – both proactive/preventative and reactive regulation (ie data that differentiates gambling from other more general regulatory and enforcement costs).

- Data on the resource allocation effects of corruption. A complex issue that could vary case by case.
- Calculation of the benefits of regulation (ie diminished crime or no crime). Program evaluation studies.

Financial and economic data:

- Regional economic data and frameworks for analysis – eg Queensland is establishing annual regional data on household expenditure. Data would include the usual measures of economic activity. Where possible, emphasis should be given to *actual* data and trends, not estimates.
- Retail data to measure the impacts of gambling on local business. Not an easy task, given the generally poor records for the retail sector.
- Production: gambling related absenteeism, loss of productivity, reduced unpaid household services.
- Bankruptcy: data that identifies the direct contribution of gambling to bankruptcy. Australian data are fundamentally flawed in this area, and are virtually useless.
- Data from financial institutions on gambling-related refinancing, loans, mortgage closures, etc.
- Taxation – participation data to explore conventional tax issues at the national, regional and community levels (regressivity, tax incidence, sensitivity analysis, etc)
- Data on the collection and distribution of charitable funds – to explore issues of equity, efficiency and effectiveness, etc.

Urban and environmental impacts:

- Environmental impact studies – eg on traffic, pedestrian patterns, urban aesthetics, heritage and cultural issues, etc.
- Costs and benefits of town planning requirements; are they public or private costs/benefits, etc.
- Community surveys and focus groups – to examine the impacts on community image, quality of life, etc.

Surveys, focus groups, interviews and observation:

- These provide useful sources of data for elaboration and cross-validation of other data sets.
- For example, detailed national survey data can show the socio-demographic profiles of New Zealand gamblers as a whole, by region, location (postcode is best, or metropolitan, non-metropolitan), gender, age, income, education, personal status and cultural identity.
- For each socio-demographic characteristic:
 - the proportion of New Zealand gamblers who participated in a particular gambling activity
 - of those who gambled, the proportion of gamblers in a particular region/community who participated in a particular activity
 - comparison of patterns between recreational/occasional gamblers, regular gamblers and gamblers with problems
 - the proportion of each group in the population.
- However, surveys do have significant limitations as a source of data. Note the findings of the Australian Productivity Commission with regard to the design, conduct and analysis of community surveys (Productivity Commission 1999, Appendix F) and of surveys of clients of counselling agencies (Productivity Commission 1999, Appendix G).

Preliminary frameworks for community impact analysis are currently being developed in Australia. Each provides very broad guidelines that should be adapted for specific circumstances. Draft guidelines are available from the following:

- Queensland Office of Gaming Regulation: info@qogr.qld.gov.au;
<http://www.qogr.qld.gov.au/>
- Australian Institute for Gambling Research: aigr@uws.edu.au;
<http://www.aigr.au/> The AIGR is also developing a framework and impact study methodology for local authorities in Victoria (Victorian Local Governance Association).