



A proposed approach for assessing the effects of gambling on wellbeing in New Zealand

Final report

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1. Introduction

This report is the first in a two-stage research project, by Business and Economic Research Limited (BERL), to assist the Department of Internal Affairs (DIA) to better understand the costs and benefits of gambling in New Zealand. A particular objective is to explore whether, and to what extent, it might be possible, within the confines of the Gambling Act 2003, to shift the cost-benefits balance in favour of the benefits.

The first stage has been concerned with developing a general approach that could be applied to assessing the cost and benefits of any of the four main gambling platforms: Class 4 gambling (pokies), Lotto, TAB and Casinos. In the second stage, the approach will be applied in practice to Class 4 gambling.

At the outset, however, it is emphasised that the research was not intended to be a standard cost-benefit study, capable of distilling the findings into a single numerical ratio. This is because it was recognised that many of the costs and benefits simply could not be measured quantitatively.

It was determined instead that the research should identify the various costs and benefits, describe them, assess their magnitude, and indicate the potential for decreasing the costs and/or increasing the benefits.

To complete the first stage, we undertook a scan of previous research reports to identify all of the different types of costs and benefits that needed to be taken into account. At the suggestion of the DIA, we assigned the costs and benefits to four classes:

- Social costs
- System costs
- Economic benefits
- Community benefits.

We then developed an accounting framework. This framework was designed to:

- Record the various items in each cost or benefits class
- Indicate their magnitude in qualitative terms
- Assess whether there is scope to decrease the cost or increase the benefits.

Starting with Class 4 gambling in the next stage of the research, populating the framework with quantitative and qualitative data is intended to result in an easy-to-read summary of the relative weights of the costs and benefits, as well as providing pointers for further research and strategic action by the DIA.

Lastly at this juncture, we have entitled this report “Assessing the effects of gambling on wellbeing in New Zealand”, instead of referring to it as a cost-benefit analysis, for two reasons. Firstly, this particular report is about proposing a general methodology that could be applied to any of the four main gambling platforms, rather than actually applying it (something that will happen in the second stage). Secondly, referring to cost-benefit analysis would be misleading because the analysis will not conform to a conventional cost-benefit approach. “Wellbeing” is more apt because the research is concerned with two of the four wellbeings (economic and social) that have recently become the central focus of policy.

2. Scan of previous research reports

The DIA directed that the current research should entail a scan of previous research reports on the costs and benefits of gambling, rather than a full literature review¹. The purpose of the scan was simply to identify cost and benefit components that ought to be recognised and shown in the accounting framework referred to in the Introduction.

Notes from the scan are shown in Appendix A. The titles of reports and the authors' names are recorded. Key features of the reports or underlying research are shown, and cost and benefit components not clearly identified in other research examined are listed.

A feature of the two articles/reports by Brian Easton is that they highlighted the principles that need to be borne in mind when approaching an economic analysis of the costs and benefits of gambling (e.g. the importance of measuring any costs and benefits relative to the counterfactual). They also attach more weight to the utility-related (i.e. enjoyment) benefits of gambling than other research reports do.

The report by Brown et al is distinguished by a health/quality of life focus. It also compared gambling harms with other harms (e.g. from substance abuse). It also provided a useful taxonomy of harms.

A key feature of the work by En-Yi et al is its focus on demonstrating how gambling harms vary according to type of gambling and ethnic group. It shows how harmful Class 4 gambling is in comparison with other types. Interestingly, it also indicates that gambling at the race track appears to have stronger personal benefits (e.g. to physical and mental health) than other types of gambling.

The report by Masterman-Smith et al is relatively old, but it is useful in that it mainly comprises a review and critique of previous research on the social and economic effects of gambling. It also identifies more interested parties, to be considered in any cost-benefit work, than other reports do.

Table 2-1 shows all the types of costs and benefits identified in the reports that were scanned. The most notable feature of the table is that it includes a larger range of social costs than system costs, economic benefits and community benefits. This is partly because the social costs of gambling, particularly the harms to gamblers and their families, have been extensively researched.

It does not automatically follow, however, that the social costs outweigh the others costs and the benefits of gambling. When the assessment methodology is implemented in relation to Class 4 gambling in the second stage of this research, it will be important to account for the counterfactual of any costs identified. It might be, for example, that the harms to health associated with problem Class 4 gambling would attach to some other pernicious activity, if Class 4 gambling did not exist.

¹ Several of the previous research reports included in the scan comprised comprehensive literature reviews.

Table 2-1 Types of costs and benefits identified from the scan of previous research reports

Social costs (including to individuals) • Economically regressive (wealth transfers from many to few) • Community disadvantage magnified (redistribution of wealth from poor to rich) • Displacement of non-pernicious expenditure • Crime • Health, quality of life, and other harms to gamblers and families • Relationship problems • Reduced productivity / loss of employment • Financial problems / reduced material standard of living • Lack of time for non-pernicious activities e.g. volunteering / cultural activities • Cultural harm (less participation)
System costs • Regulatory burden • Police and Justice • Public health / treatment costs
Economic benefits • Employment in the industry • Some earnings from tourism • Import substitution (substitutes for on-line gambling with overseas sites)
Community benefits (including to individuals) • Enjoyment / utility (as long as it is not addictive and remains rational) • Social / community cohesion in venues • Grants to community groups

3. The accounting framework

We propose that the results of the analysis could be distilled and presented in summary form in the format shown on the following page.

The summary presentation would be accompanied by a text commentary and, where possible, further analysis to expand on the findings. Two possible directions for further analysis are outlined in section 4.

The framework organises the costs and benefits into social and system costs, and economic and community benefits. As well as showing specific types of costs and benefits in the summary format and in the text commentary, it will be possible to highlight which interested parties are likely to bear the costs and enjoy the benefits. One of the research reports summarised in the Appendix, Masterman-Smith et al, suggested that there were six interested parties (the Government, gamblers and their families, gambling corporations, other industries, the general community, and cross-national interests), and the commentary will highlight which interested parties bear/enjoy which type of cost/benefit.

As was noted in the previous section, it will be important to assess the various costs and benefits relative to the counterfactual (i.e. what would happen if the observed effect, or action causing it, did not occur). For example, some of the social harms associated with problem gambling might manifest themselves in relation to another pernicious activity, if gambling did not exist. In this case, the harms associated with the other pernicious activity would need to be subtracted from the harms associated with gambling in order to arrive at a true assessment of gambling's social costs.

Furthermore, it is possible for some benefits to become apparent only when the counterfactual is taken into account. An example here is the economic benefit that occurs to the extent that gambling onshore substitutes for gambling offshore. Class 4 gambling in venues within New Zealand retains expenditures within the domestic economy that might otherwise take place overseas via websites hosted overseas.

Overall, the focus of the analysis will be on illuminating the scope for feasible action to reduce the costs and/or increase the benefits.

Table 3-1 Illustration of summary account framework (generalised framework to be adapted to each gambling platform, or for any interest group)

Social costs			System costs		
Item	Magnitude	Potential to decrease / How?	Item	Magnitude	Potential to decrease / How?
<i>e.g. Poor mental health</i>	<i>Large (MoH estimates?)</i>	<i>Minor / Augment problem gambling services</i>	<i>e.g. Regulatory costs</i>	<i>Moderate (TLA and/or DIA staffing)</i>	<i>Minor / Simplify regulation and or reduce number of organisations</i>

Economic benefits			Community benefits		
Item	Magnitude	Potential to increase / How?	Item	Magnitude	Potential to increase / How?
<i>e.g. Employment</i>	<i>Moderate (Estimates from other research / Census & Business Demography data for ANZSIC 920 Gambling – but not C4)</i>	<i>Small / Permit expansion of gambling</i>	<i>Grants to community organisations</i>	<i>Large (data from DIA)</i>	<i>Moderate / Reduce society overheads, change regulations governing how GMPs must be used e.g. Levy, Venue share</i>

4. Next steps

Subject to approval, we will progress to the second stage of the research by populating the framework with reference to Class 4 gambling. As noted in the previous section, the populated framework will be accompanied by a commentary and further analysis.

In the case of Class 4 gambling, we suggest that the further analysis could usefully explore two issues that have not been the subject of detailed research, as far as we are aware.

The first issue is whether Class 4 gambling is economically regressive. That is to say, to what extent the geographical pattern of gaming machine proceeds and payments of community grants by the corporate societies is re-distributive from socio-economically deprived areas to less deprived areas.

The second is whether the share of gaming machine proceeds that is available for community grants might be increased, if the number of corporate societies was reduced. That is to say, whether the system costs could be reduced and community benefits increased.

The redistributive effects of Class 4 gambling could be explored by means of a case study focusing on a sub-region (Kapiti Coast District has been suggested) to show precisely from which communities gaming machine proceeds are derived, and precisely which communities benefit from grants. The case study could be supported by nationwide statistical analysis to produce a matrix showing the value of gaming machine proceeds from each New Zealand Deprivation Index decile and the value of community grants in each.

Concerning the second issue, among other things, a 2013 BERL report, for the Lion Foundation and the New Zealand Community Trust, examined what operational cost savings might be achieved by reducing the number of corporate societies. The report was not put into the public domain, but it suggested that the savings would be non-negligible. In 2017, BERL also started research to examine how the revenue and cost structures of the corporate societies varied with society size (number of venues and number of machines). Early findings from the research indicated that there were considerable variations, but the project was suspended in the run-up to the General Election.

We invite the DIA to discuss and approve these next steps.

Appendix A Cost and benefits identified from the literature scan

Brian Easton (2002) *Gambling in New Zealand: an Economic Overview*

Notes:

- From an article on Brian's website
- the costs and benefits are often identified by others, but Brian does not necessarily agree
- Draft chapter in: Bruce Curtis (ed) *Gambling in New Zealand*, Dunmore Press, 2002
- The chapter identifies cost and benefit items, but does not quantify them.

Costs not identified or elaborated in other work

- Regulatory problems of ensuring the purchase being honestly managed
- Socially damaging consequences (incl to others, i.e. non-gamblers)
- Economically regressive, i.e. increases inequality of wealth by transferring it from the whole population to a few winners
- Imports, i.e. expenditure by NZers on internet gambling on overseas sites
- Displacement of other consumer expenditure
- Crime, incl money laundering and fraud by problem gamblers

Benefits not identified or elaborated in other work

- Job creation in the industry
- Enjoyment on the part of participants
- Exports, i.e. expenditure by international visitors
- Community grants

Brian Easton (2010) *The Benefits and Costs of Gambling – some Policy Implications*

Notes:

- This article was posted on Brian's website
- The article was commissioned, but the website doesn't indicate by whom
- Emphasises the importance of assessing costs and benefits relative to the counterfactual/opportunity cost
- The costs and benefits are not quantified

Costs not identified or elaborated in other work

- Externalities (i.e. social costs not offset against benefits from consumption)
- Welfare benefits from enjoyment are illusory because of decision to gamble 'inconsistent over time'
- Socially damaging
- Resource costs of policing gambling related crime
- Loss of quality of life for heavy gamblers and their families
- Damage to mental and physical health of heavy gamblers
- Some evidence that EGMs are more damaging than other forms of gambling

Benefits not identified or elaborated in other work

- If individuals voluntarily chose to participate in an activity, there is an increase in social benefit, providing they act rationally, and the prices they face reflect the true social cost of the resources they use (i.e. social costs are offset by the benefits from consumption)
- Increase in satisfaction/welfare from enjoyment

Brown, Matthew et al (2017) Measuring the Burden of Gambling Harm in New Zealand, Report to the NZ Ministry of Health by Central Queensland University and Auckland University of Technology

Notes:

- Study was based on focus groups and then online survey of 1,542 people, using checklist of 85 harms. Results of survey used to generate QALY based measure of harms
- Study distinguished between general harms, crisis harms and legacy harms, related to different levels of gambling (low-risk, moderate-risk and problem gambling)
- Found that low-risk, moderate-risk, and problem gambler in New Zealand suffers a HRQL decrement of 0.18, 0.37, and 0.54 respectively
- Combined with prevalence data, this finding suggests that 48%, 34%, and 18% of the total harm resulting from gambling in New Zealand can be divided amongst low-risk, moderate risk and problem gamblers, respectively
- At a national level, and taking into account both prevalence and severity, our analysis suggests that gambling causes over twice the amount of harm than chronic conditions such as osteoarthritis (2.1x) and diabetes (2.5x). However, gambling causes less harm than other disorders such as anxiety and depressive disorders (.63x) and hazardous drinking (.77x)
- Some other research indicates that problem gambling may be related to prior traumas/morbidities
- Incidence and prevalence of harms identified, but not expressed in \$ terms
- Taxonomies of harms to gamblers, related others, and communities are included in the report.

Costs not identified or elaborated in other work

- Burden of harm is primarily due to damage to relationships, emotional / psychological distress, disruptions to work / study, and financial impacts.
- Public health costs
- Work problems/loss of employment
- Financial problems
- Harms to individuals categorised into following domains:
 - Decrements to health (both morbidity and mortality)
 - Emotional or psychological distress
 - Financial harm
 - Reduced performance at work or education
 - Relationship disruption, conflict or breakdown
 - Criminal activity.
- Community level harms, e.g. loss of employment/incomes/voluntary work/crime

Benefits not identified or elaborated in other work

- Social/community cohesion in venues

En-Yi, Lin, et al. (2008) Assessment of the Social Impacts of Gambling in New Zealand, Report to the Ministry of Health by the Centre for Social and Health Outcomes Research and Evaluation & Te Ropu Whariki, Massey University

Notes:

- Survey based research aiming to provide quantitative measures of the impacts of gambling from a representative sample of New Zealanders aged 15 to 80 years (to provide information at the individual level and, allow for aggregation, at the societal level).
- Assessed the negative and positive impacts of gambling experienced by the gambler and by significant others (such as family and friends).
- Sample size was ~7,000, covering general population, Māori, Pasifika and Chinese/Korean populations
- Analysis was based on logistic regressions
- Report highlights the importance of mode of gambling on wellbeing, i.e. EGMs generally bad, but trackside gambling often good.

Costs not identified or elaborated in other work

- Results showed people who had higher levels of participation in gambling activities (based on time spent and losses relative to income) reported experiencing significantly worse physical health, worse mental health, poorer feelings about self, lower satisfaction with life and more likelihood of unemployment. Also showed an association with poorer relationships with family/friends, poorer overall quality of life, poorer work performance and study/training performance and poorer material standard of living.
- Playing on the EGMs in any setting (bar, club or casino) associated with self-reported poorer physical health. Playing EGMs in both bars and casinos affected participants' perceptions of their mental wellbeing, relationships with family/friends, feelings about self, overall quality of life, and overall satisfaction with life. EGMs in bars associated with poorer child rearing. EGMs in casino associated with better self-rated housing situation and material standard of living.
- Longer times spent playing on casino tables negatively associated with participants' perceptions of their physical health, mental health, and work performance, and marginally associated with overall quality of life.
- Betting at the TAB gave a mixed picture with worse self-reported mental but a better self-rated financial situation. Playing poker at home or with friends also gave a mixed picture with worse self-rated study/training performance but better feelings about self
- People in the higher participation group expected they would have been better off in terms of their physical health, mental wellbeing, relationships with family/friends, feelings about self, quality of life, satisfaction with life, financial situation, housing situation, material standard of living, study performance, and care giving for children, if they had not been gambling in the last 12 months.
- People in the higher participation group significantly more likely to be involved in illegal activities compared to people who never gambled or people who reported lower levels of participation.
- People who played EGMs in a bar or played poker/card games at their own or someone else's house were significantly more likely to be involved in illegal activities compared to people who never gambled.
- For those who were involved in illegal activities, 25% of them said they would not have committed such a crime if they had not been gambling in the last 12 months.

/continued over

- Close family members (i.e., partners, children, parents, siblings) of heavy gamblers were most negatively impacted by their family members' gambling. The life domains affected included physical health, mental wellbeing, housing situation, material standard of living, relationships, care-giving for children, feelings about self, overall quality of life and overall satisfaction with life.
- In Māori and Pacific samples there were significant associations between gambling participation and poorer quality of life in a number of life domains. As in the case of the general population findings, there were significant negative associations in a number of domains of life with time spent on EGMs.
- Findings for Pakeha were more mixed and predominantly positive (because they were more likely to bet at the race track or TAB)
- Using a no-gambling counterfactual scenario the analysis has suggested that as much as a net 2.4% of the population (74,000 of New Zealanders) had an inferior state of reported mental wellbeing as a result of gambling in 2006 and 2007. The main source of these numbers are from those who used EGMs and the associates of heavier gamblers

Benefits not identified or elaborated in other work

- In contrast with other forms of gambling, some positive associations emerged between time spent on the race track with participants' self-ratings of their physical health, feelings about self, satisfaction with life, financial situation and material standard of living. Playing housie (in community centres, clubs or bars) was also associated with better material standard of living.

Masterman-Smith, Helen et al. (2001) Social and Economic Impacts of Gambling in New Zealand, Australian Institute for Gambling Research, University of Western Sydney. Report to the Department of Internal Affairs

Notes:

- Mainly a review and critique of previous research
- Comments on lack of good data in NZ, and lack of NZ research similar to work in Aus., USA and Canada.
- Report attempts to address two challenges for researchers: how should gambling costs and benefits be defined and how should they be measured?
- Reviews earlier research and methodologies (incl research in NZ and for DIA)
- Highlights problems with cost-benefit analysis owing to poor data on some impacts (mainly negative)
- Identifies six interested parties to be considered in any CBA work"
 - the New Zealand government
 - the gamblers and their families
 - gambling corporations
 - other industries
 - general community
 - cross-national interests
- Notes that earlier research has found that problem gambling associated more with EGMs than other forms.
- Highlight the importance of accounting for displacement effects, e.g. benefits of expenditure on gambling displace other beneficial expenditures, or employment benefits of gambling displace employment benefits in other industries.
- Suggests that key questions any methodology must address are:
 - 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?

Costs not identified or elaborated in other work

- Main costs associated with problem gambling and impact on individuals, families and society (e.g. public health and crime)
- Disadvantaged communities particularly harmed
- From Aus Productivity Commission research, health and social costs 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.

Benefits not identified or elaborated in other work

- Public finances boosted by gambling taxes (but this is simply a transfer?)
- Funding for community groups
- Employment creation
- Potential to increase earnings from tourism

Assessing the effects of gambling on wellbeing in New Zealand: Peer review

NZIER DRAFT report to Department of Internal Affairs

10 August 2020

About NZIER

NZIER is a specialist consulting firm that uses applied economic research and analysis to provide a wide range of strategic advice.

We undertake and make freely available economic research aimed at promoting a better understanding of New Zealand's important economic challenges.

Our long-established Quarterly Survey of Business Opinion (QSBO) and Quarterly Predictions are available to members of NZIER.

We pride ourselves on our reputation for independence and delivering quality analysis in the right form and at the right time. We ensure quality through teamwork on individual projects, critical review at internal seminars, and by peer review.

NZIER was established in 1958.

Authorship

This report was prepared at NZIER by Sarah Hogan.

It was quality approved by Todd Kriebel.

The assistance of Prince Siddharth and Sarah Spring is gratefully acknowledged.

NZIER clients include a range of public, private and NGO organisations.

Recent gambling-related work has been undertaken for the Problem Gambling Foundation. This work involved investigating a hypothetical scenario in which gambling households cease Class 4 gambling and reallocate that expenditure according to the expected pattern of household expenditure by deprivation level. Implications for retail employment were the outcome of interest to provide a potential counterfactual to many published CBAs which have assumed that employment associated with Class 4 gambling is a net benefit. Hypothetical analysis can provide a basis for alternative counterfactuals in the absence of robust evidence.



1 Key points

A two-stage research project undertaken by Business and Economic Research Limited (BERL) for the Department of Internal Affairs (DIA) aimed to develop and test a framework to provide:

- A better understanding of costs and benefits of gambling in New Zealand.
- An approach to identifying possible interventions to improve the cost-benefit balance of gambling in New Zealand.

NZIER was commissioned by DIA to provide a peer review of the research reports that resulted from this project.

The suggested framework itself represents what should be standard practice as it essentially formalises an approach to dealing with unquantifiable impacts – something which all cost-benefit analyses (CBA) should address (although in practice this is sometimes neglected) and provides a fair assessment of unquantified impacts to inform research prioritisation.

We also found that the proposed framework has been applied to Class 4 gambling in a reasonable way in a separate BERL report, highlighting areas for further research as well as key policy considerations (e.g. redistribution from more deprived to less deprived communities). However, this report contains instances where the writers inserted their own judgements in a way that was not well-supported by evidence.

The main strengths of the framework are that:

- It can be applied to all forms of gambling activity and is amenable to any type of policy intervention.
- It will provide a broader basis for decision-making than a purely quantitative cost-benefit analysis.
- It may provide a common foundation to improve the consistency of gambling-related CBA.
- It provides a research prioritisation framework to improve the evidence base for gambling-related CBA.

In complex policy areas where a wide range of costs and benefits are relevant and causal relationships are unclear, no tool or framework will be without caveats and limitations.

To ensure the framework delivers an improved and more consistent basis for decision-making, we recommend that the DIA develop or commission guidance on:

- Developing a counterfactual or dealing with uncertain counterfactuals
- Identifying the key trade-offs
- Including equity considerations
- The treatment of double-counting and unclear causal relationships
- The interpretation of impact size for unquantified impacts relative to quantified impacts.



2 Background

This report reviews the cost-benefit framework for gambling policy proposed by Business and Economic Research Limited (BERL) in its report to the Department of Internal Affairs (DIA), “A proposed approach for assessing the effects of gambling on wellbeing in New Zealand” (BERL, 2019) and its application to the analysis of Class 4 gambling in the report “Assessment of the effects of Class 4 gambling on wellbeing in New Zealand” (BERL 2020).

The DIA commissioned BERL to undertake a two-stage research project to assist DIA to better understand the costs and benefits of gambling in New Zealand. A key question was whether opportunities exist, within the confines of the Gambling Act 2003, to shift the balance of costs and benefits in favour of benefits (for example, by introducing regulatory changes that might reduce social costs or improve economic benefits).

Recognition of the unquantified or unquantifiable nature of some costs and benefits associated with gambling led to a decision to focus on the key elements of a cost-benefit-based decision-making framework:

- Identifying the full range of costs and benefits associated with gambling
- Describing the costs and benefits associated with gambling
- Quantifying costs and benefits where possible
- Assessing the magnitudes of costs and benefits that could not be quantified
- Providing an indication of the potential for increasing or decreasing benefits and costs (within the confines of the Gambling Act 2003).

An additional outcome that the approach attempts to deliver is a sound basis for DIA to consider prioritising further research or strategic action.



3 The need for a new framework

The BERL reports were commissioned by the Department of Internal Affairs (DIA) to gain a better understanding of the gambling sector and to support non-policy interventions as well as to highlight areas for further research.

As much as these needs were important for DIA, there is also a more general need for research on gambling to reflect a broader approach than has traditionally been the case. Cost-benefit analysis (CBA) has been heavily used in gambling studies and while it is a useful, even essential tool for decision-making, the results of CBAs often pose difficulties because they may be subject to significant uncertainty due to a lack of evidence to permit some costs and benefits to be quantified. But the data gathering and analysis underpinning cost-benefit analysis can provide the relevant insights so building these considerations into a cost-benefit study will be more efficient and provide more consistent methodology.

Furthermore, a standard CBA is generally designed to identify and quantify the benefits of an activity or intervention relative to its costs. As such, standard CBA design is unsuitable as a decision tool in the early stages of policy development when it may be possible to undertake new research to quantify previously unquantified costs or benefits or when policy makers need to identify and assess a range of potential interventions.

All of these issues are potentially amenable to a framework based on CBA logic but extended to reduce uncertainty and build in wider policy considerations from the start of the policy design process. The framework proposed by BERL provides for the design of a broader type of cost-benefit analysis and for the application of cost-benefit principles at earlier stages in the policy design process.



4 Framework review

The framework report “A proposed approach for assessing the effects of gambling on wellbeing in New Zealand” (BERL, 2019) consists of four parts:

- An introduction identifying the purpose of the project and approach taken.
- A scan of previous research reports identifying cost and benefit components that should be incorporated into the framework, highlighting the differences in methodology, and setting out the full list of costs and benefits derived from the literature.
- An accounting framework to organise costs and benefits, indicate affected parties, assess the magnitude of impacts, indicate the potential to increase benefits or decrease costs.
- A “next steps” section indicating what was to be done in stage two of the research project.

The framework itself is a cost-benefit-based decision-making framework which proposes:

- A complete set of costs and benefits associated with gambling drawn from the published literature and organised in an accounting framework of social costs, system costs, economic benefits and community benefits.
- A qualitative assessment of the magnitudes of costs and benefits that aren’t or cannot be quantified at this time.
- An indication of the potential for increasing or decreasing benefits and costs and the interventions that might achieve such impacts.

The costs and benefits of gambling and gambling interventions are organised according to previously agreed categories as shown in Table 1 below.



Table 1 Origin of gaming machine proceeds and destination of grants by Census area decile

Category	Included costs/benefits
Social costs	Economic regressivity Magnification of community disadvantage Displacement of non-pernicious expenditure Crime Health, quality of life (and other harms to gamblers and families) Relationship problems Financial problems and reduced material standard of living Lack of time for non-pernicious activities Cultural harm (reduced participation)
System costs	Regulatory burden Police and justice Public health/treatment costs
Economic benefits	Employment in the gambling industry Earnings from tourism Import substitution (when the counterfactual is online gambling at offshore sites)
Community benefits	Non-addictive enjoyment/utility Social/community cohesion Grants to community groups

Source: BERL, 2020

The report does not provide definitions of the costs and benefits included in the four categories. Developing a robust set of definitions would help to ensure these are applied consistently. It would also help to identify where there may be issues of overlap to be addressed.

Although a table presented as an “illustration of summary account framework” indicates that a qualitative assessment of the costs and benefits is envisaged, with examples assessed as “large” or “moderate”, no guidance is offered on how this assessment should be undertaken.¹

The framework itself should not be controversial as it simply brings together a wide range of costs and benefits from the published literature and suggests a table format for assessing how significant these might be alongside considerations of the potential for government intervention to have an impact. The major contribution it makes is to bring cost-benefit considerations alongside other policy relevant considerations in such a way that a process of planning to undertake research or develop interventions is supported by cost-benefit principles from the outset, instead of as an afterthought.

However, the framework leaves a number of issues to be dealt with which the DIA may consider further work on to ensure it can be applied effectively. These are:

- Identifying how to develop a counterfactual or dealing with uncertain counterfactuals.
- Identifying the key trade-offs as these are critical to decision-making frameworks.

¹ This is better developed in the report “Assessment of the effects of Class 4 gambling on wellbeing in New Zealand”.

- Including equity considerations and the potential for impacts on Māori and Māori communities to be different not only in size but in type.
- Identifying and dealing with double-counting, interactions and/or interdependencies and unclear causal relationships between costs and benefits.
- Interpretation of impact size for unquantified impacts relative to quantified impacts (the decision-maker would benefit from advice regarding the likelihood that unquantified costs for example may exceed quantified benefits).



5 Review of the assessment report on Class 4 gambling

The report “Assessment of the effects of Class 4 (C4) gambling on wellbeing in New Zealand” (BERL 2020) is organised into three sections:

- An application of the accounting framework developed in stage one of the project to C4 gambling.
- An analysis of the redistributive effects of C4 gambling.
- An analysis of the annual accounts of corporate societies to identify potential for increasing community grants.

In applying the accounting framework to C4 gambling, the task of assessing the magnitudes of costs and benefits was split into a quantitative approach where possible and a qualitative assessment where costs and benefits could not be quantified.

All analysis requires a clear starting point

The description of the logic behind the application of the framework identifies that the counterfactual to C4 gambling “would often be online gambling using unregulated offshore sites” could be stronger and clearer². Standard practice indicates that a counterfactual should be based on evidence as the choice of counterfactual often determines the outcome of the analysis. The assumption regarding online gambling being the counterfactual has significant implications, namely that there is an automatic benefit of C4 gambling in the form of import substitution and also that potential costs of C4 gambling to other industries may be underestimated.

There are several notes on the counterfactual in Table 2-1 which presents the accounting framework for C4 gambling, but these do not clarify what the counterfactual is assumed to be.

Included in the list of social costs are “displacement of non-pernicious spending” and “health-giving/life-enhancing spending prevented” which are considered to be very large for heavy gamblers and large for highly deprived communities. At the same time, the list of economic benefits includes “import substitution” (preventing online gambling at sites hosted overseas) which is considered to be moderate/significant in size. These would appear to suggest different counterfactuals: One where gamblers otherwise spend money on things like home heating and food, and another where gamblers would otherwise spend money gambling online.

Because the counterfactual can have a significant impact on results, the report should take one of two approaches:

- Present compelling evidence for the chosen counterfactual.
- Present the analysis against more than one counterfactual (sometimes while the counterfactual has a significant impact on the magnitude of results, it can be shown

² NZIER’s report for the Problem Gambling Association (<https://nzier.org.nz/publication/the-retail-employment-and-tax-costs-of-class-4-gambling-in-new-zealand>) identified at least some evidence indicating that online gambling is not necessarily the counterfactual, although the literature search also revealed that evidence on gambling substitution is scarce. While a counterfactual of online gambling is not unreasonable, the choice of counterfactual requires stronger justification in light of the paucity of evidence.



that no plausible counterfactual would change the conclusion of the analysis with regards to there being a net cost or benefit).

Overall, the framework would benefit from specific guidance on developing a clear counterfactual.

Eventually the qualitative and quantitative must be combined

The unquantified benefits and costs are assessed along a scale: negligible, small, moderate, significant, large, very large.

The list of costs and benefits included covers the full range of expected impacts, including those which have been quantified in previous research and those which have not.

Overall, the qualitative assessment of costs and benefits appears reasonable, but the evidence base included in the accounting framework is weak. Browne et al. 2017 is used for several social costs but the report writers dispute some of Browne et al.'s findings without presenting alternative evidence.

A similar range of costs and benefits would be expected to be included in other CBAs of different types of gambling. The presentation of magnitudes alongside the potential to increase or decrease is an effective tool to direct decisions about next steps to where impacts are likely to be greatest.

A purely qualitative assessment of the magnitudes of benefits and costs is useful for ranking them in terms of significance, but unless they can be quantified, it will still be impossible to include them in any cost-benefit analysis as anything more than an additional consideration. For this reason, we recommend adding a quantitative element to the scale to clarify what these magnitudes represent relative to quantified impacts. For example, adding a range to indicate that very large between \$1 million and \$10 million or over \$10 million would allow the framework to provide supplementary information to CBAs where not all costs and benefits have been quantified.

5.1 The redistributive effects of Class 4 gambling

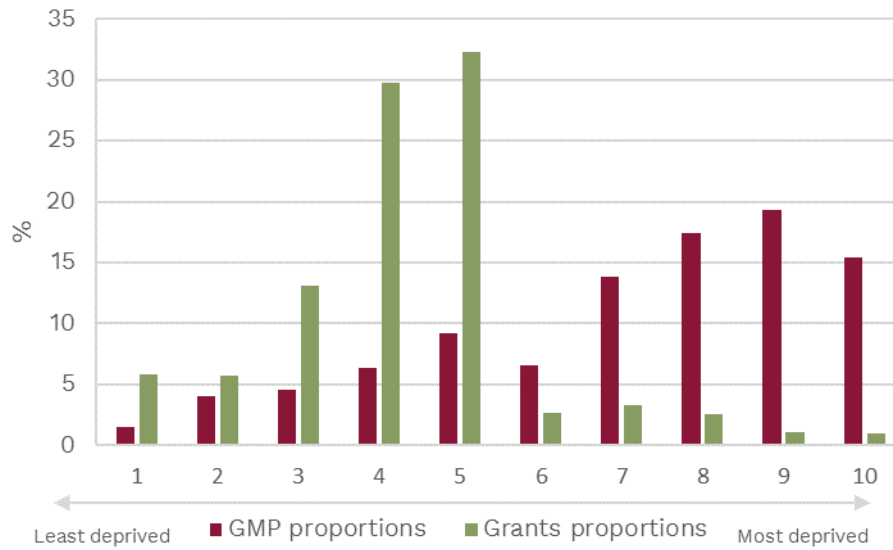
The magnification of community disadvantage through redistribution from higher deprivation communities to lower deprivation communities was identified as “significant” in the accounting framework. The potential to decrease this cost was also identified as significant, indicating a high priority for research that would allow this cost to be quantified, inform the nature and scope of interventions, and enable this cost to be better reflected in future CBAs.

This is an important question that is pertinent to cost-benefit analysis: What is the distribution of costs and benefits? The question arises due to a significant portion of the benefits of Class 4 gambling being the community grants that are made possible through gaming machine proceeds (GMP) and the lack of any regulation requiring that such grants go to communities in proportion to the GMP they contribute.

The report first presents data showing that less deprived communities receive a greater proportion of grants while more deprived communities contribute a greater proportion of GMP (see Figure 1 below).



Figure 1 Origin of GMP and destination of grants by Census area decile



Source: BERL, 2020

The Kapiti Coast District has a high concentration of electronic gambling machines (EGMs) with a disproportionate (relative to population) concentration of these in Otaki which has a highly deprived population relative to the rest of the district. For this reason, the Kapiti Coast District was selected for a case study to demonstrate the extent of redistribution and resulting magnification of community disadvantage.

The analysis attempted to identify to what extent Otaki benefits from grants derived from GMP relative to its contribution to GMP compared with the rest of the Kapiti Coast District.

Otaki's share of identifiable grants in the Kapiti Coast District was found to be lower than its share of GMP in the District while the rest of the District is shown to experience the opposite. The report goes on to caution that although the geographical origin of GMP is well identified in the data, the destination of grants cannot be clearly identified for three reasons:

- recording errors
- national organisations that receive grants and distribute them further
- GMP not necessarily remaining within the district.

The report concludes that despite these issues, the analysis indicates a redistribution of wealth from Otaki to the rest of the District. Although no district or community is expected to be a net beneficiary in terms of GMP grants due to only less than half of GMP being redistributed to communities through grants, the conclusion would be strengthened by a more complete presentation of the data showing actual amounts, not just shares.

Two further case studies presented slightly differently indicate similar effects. In these cases, grants as a percentage of GMP are calculated and these show that the more deprived area (Gisborne) receives a greater percentage of its GMP contribution back in the form of grants than the less deprived area (Tasman). However, these cases also confirm what the Otaki-Kapiti case study showed regarding GMP per capita: This is significantly higher in more deprived communities.

No conclusions are drawn from the Gisborne-Tasman analysis and this creates some ambiguity regarding the purpose of the two approaches. Both case studies would ideally be tied together within a common framework. The analysis indicates, however, that a consistent approach to defining, identifying and measuring redistribution and magnification of community disadvantage is warranted.

5.2 Analysis of annual accounts of corporate societies

The accounting framework indicated that the potential to decrease magnification of community disadvantage is significant.

To demonstrate that this is likely to be the case, the report presents an analysis of the annual accounts of corporate societies that benefit from GMP.

The analysis shows that all corporate societies operating EGMs meet the requirement of returning at least 40 percent of GMP in community grants – median 42 percent. To address the question of whether the proportion returned in community grants could be higher, the analysis considers the structure of corporate society costs and attempts to identify a relationship between the number of EGMs owned and the proportion of GMP returned in grants.

Contrary to expectations, the analysis identified a very weak relationship between the proportion of GMP paid as grants and society size. This was mirrored by another very weak relationship between internal operating costs and the size of the society, indicating that economies of scale are either not available or are not exploited in the sector.

However, the analysis did find that societies with more EGMS have a moderate to strong tendency to hold back a larger proportion of their gross proceeds as undistributed funds and spent more on wages (with either higher staffing levels or better paid staff).

The report concludes that nothing in the analysis indicates that a higher proportion of GMP could be distributed as grants, however it still asserts that this is likely to be the case. The analysis does indicate that there could be more to be gained from a deeper understanding of corporate societies cost structures.

The assertion that there is no incentive for corporate societies to pursue economies of scale is accurate, so the hypothesis that economies of scale may exist but go unexploited is fair, but the report also identifies that some corporate societies do not pay salaries or wages (due perhaps to the use of management services providers, although this was not explored). If these are the corporate societies with fewer EGMs, then it may be the case that salaries and wages nullify any benefits of economies of scale. Either way, the report would benefit from more detailed reasoning for this hypothesis.



6 Conclusion and recommendations

Overall the framework proposed by BERL provides for improved decision-making regarding the prioritisation of research to quantify the costs and benefits of gambling activity and intervention, and identifies a wide range of costs and benefits for inclusion in gambling-related CBAs.

The suggested framework itself should not be controversial as it essentially formalises an approach to dealing with unquantifiable impacts – something which all cost-benefit analyses should address (although in practice this is sometimes neglected).

We also found that the proposed framework has been effectively applied to Class 4 gambling in a separate BERL report, highlighting areas for further research as well as key policy considerations (e.g. redistribution from more deprived to less deprived communities).

The main strengths of the framework are that:

- It can be applied to all forms of gambling activity and is amenable to any type of policy intervention.
- It will provide a broader basis for decision-making than a purely quantitative cost-benefit analysis.
- It may provide a common foundation to improve the consistency of gambling-related CBA.
- It provides a research prioritisation framework to improve the evidence base for gambling-related CBA.

In complex policy areas where a wide range of costs and benefits are relevant and causal relationships are unclear, no tool or framework will be without caveats and limitations.

To ensure the framework delivers an improved and more consistent basis for decision-making, we recommend that the DIA develop or commission guidance on:

- Developing a counterfactual or dealing with uncertain counterfactuals.
- Identifying the key trade-offs as these are critical to decision-making frameworks.
- Including equity considerations and the potential for impacts on Māori and Māori communities to be different not only in size but in type.
- The treatment of costs and benefits where double-counting or interactions and/or interdependencies are possible or where causal relationships are unclear.



BERL response to NZIER peer review (26 August 2020)

From: Mark Cox <mark.cox@berl.co.nz>

Sent: Wednesday, 26 August 2020 3:06 PM

To: Lisa Docherty <Lisa.Docherty@dia.govt.nz>

Cc: Eugene Rees <Eugene.Rees@dia.govt.nz>; Ganesh Nana <ganesh.nana@berl.co.nz>; Konrad Hurren <konrad.hurren@berl.co.nz>

Hi Lisa

Thank you for your email, and for sending us NZIER's peer review of our work on C4 gambling.

We think the peer review is fair, and we agree that it would be possible to do more to establish the counterfactual to the costs and benefits we identified.

However, we suspect that more work on the counterfactual would be relatively time-consuming. It would also tend, of necessity, to be somewhat academic in approach and content. We doubt, therefore, whether it would be particularly valuable from the perspective of your Department.

We suggest that any further work to build on what BERL, and others, have done should focus on what the research findings imply for the structure and regulation of the C4 sector. The finding from our work that stands out most to us is that economies of scale in Corporate Society operations are either absent or, if they exist, are not being exploited to the benefit of communities.

Regardless, we think there is a strong case for a restructuring of the sector. And, for what it is worth, we believe there would be merit in modelling the sector along the lines of Lotto, with one body to manage the operation of the activity, and another to manage the distribution of Gaming Machine Proceeds. We recognise, however, that the Minister and the Department might not currently have the appetite for a proposal of this sort, given that it would undoubtedly meet considerable resistance in some quarters.

Naturally, we would be pleased to engage in discussions with you and your colleagues on what the regulatory implications are. And we would, of course, be delighted to be given the opportunity to bid to undertake any further research for the Department.

Kind regards

Mark



berl

Making sense of the numbers

Assessment of the effects of Class 4 gambling on Wellbeing in New Zealand

Final report

May 2020

www.berl.co.nz

Authors: Mark Cox, Konrad Hurren and Dr Ganesh Nana

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Preface

It should be noted that the research leading to this report was completed before the onset of COVID-19 in New Zealand, and the subsequent suspension of many normal economic activities. One result has been the ongoing closure of pubs, and this has effectively stopped the use of Class 4 gaming machines (pokies).

The report notes that gaming machine proceeds from pokies was a little less than \$608 million in 2017/18, and that 42 percent of this amount (\$255 million) was distributed in grants, by Corporate Societies to community groups. While the suspension of operations of pubs continues, the Societies will be collecting no gaming machine proceeds, and their ability to make grants to community groups will decline rapidly towards zero.

Pubs will reopen at some point, and gambling on pokies will resume. However, there is likely to have been a switch, in the meantime, to online platforms by some former pokie users, and it is possible that some of them will remain online after pubs reopen. Compared to the pre-COVID-19 situation, this would reduce the amount of gaming machine proceeds collected, and it would reduce the amount of grants available for distribution to community groups.

However, none of these things negate the main arguments in this report about the costs and benefits of Class 4 gambling. Their magnitude is likely to change, but their nature will not. It is beyond the scope of this report to comment in any depth on the consequences, but the Department of Internal Affairs will almost certainly face the challenge of finding an appropriate policy response to the abrupt reduction in funding that community groups will be experiencing. The Department might also need to review the structure of the corporate society sector and how the societies operate.

Executive summary

This report is the second in a two-stage project to examine the costs and benefits of Class 4 gambling ('pokies') and to explore how the cost: benefit balance might be shifted by reducing the costs and increasing the benefits. The research was not intended to be a standard cost-benefit study, because it was recognised that many of the costs and benefits could not be measured quantitatively. Instead, the research was designed to systematically identify and describe the costs and benefits, and to gauge them as far as possible.

One of the most striking features of this report is that the qualitative analysis in section 2 and the quantitative analysis in section 3 both indicate that Class 4 gambling has a tendency to magnify community disadvantage. The evidence strongly suggests that it transfers wealth from more deprived communities to less deprived communities. There is potential to decrease this cost, but this may require a change to existing expectations about how grants generated from Gaming Machine Proceeds are distributed.

The qualitative analysis also indicates that, despite a lack of research evidence, the crime-related costs of Class 4 gambling are thought to be large. Crime driven by the activity is probably relatively uncommon, but the costs of investigating and prosecuting gambling-related crimes are large. At the same time, we believe that there is only moderate potential to reduce these costs.

Also based on the qualitative analysis, we conclude that the only significant economic benefit associated with Class 4 gambling is the effect it has of substituting for imports by keeping expenditure on the activity within the New Zealand economy, instead of it happening online at sites hosted overseas. The social benefits we assessed vary in magnitude and scope to increase them, but the benefit in the form of community grants is large and we believe there is significant scope to increase them.

The most important finding of the statistical analysis of the Corporate Societies' accounts data in section 4 is that it ought to be possible to increase the proportion of Gaming Machine Proceeds that is distributed in the form of community grants. We did not find evidence of economies of scale in society operations, but we suspect that they exist and are not being exploited in order to increase grant payments. The problem, as we see it, is that there is little in the way Class 4 gambling is regulated to incentivise the societies to pursue efficiencies for the benefit of communities. Our recommendation on this issue is that the Department of Internal Affairs (DIA) should review the rules under which the Corporate Societies operate, with a view to securing an increase in the proportion of Gaming Machine Proceeds that is distributed in grants to 45 or 50 percent.

We also conclude that the proportion of Gaming Machine Proceeds (GMP) that is accounted for by venue payments could be reduced, in order to make it possible to further increase community grants. This could have the effect of reducing the viability of venues in some places, but it is not the purpose of the legislation to support the viability of pubs.

The report makes suggestions for further research. The accounting framework in section 2 identified a number of instances where the magnitude of the costs and benefits was unclear or unknown. Consequently, the potential to reduce the costs or increase the benefits was uncertain. Further research could address the areas of unclarity or lack of knowledge but, partly based on our conversations with the DIA, we suggest that it might be fruitful to investigate the magnitude of two sets of system costs, and the potential to reduce the costs.

We suggest, firstly, that the DIA should undertake or commission research to examine the costs that Territorial Local Authorities (TLAs) bear as the result of their obligations to have policies on Class 4 gambling and to interact with venues where Class 4 gambling takes place. The smaller TLAs must find this especially burdensome, and research on the potential to reduce or remove this burden would undoubtedly be welcomed.

Secondly, we believe that it would be valuable for the DIA to assess its own costs associated with regulating the Class 4 system, and the potential to reduce the costs. We understand, for example, that the DIA currently issues licences for Class 4 gambling on a one year basis, and a question might be how large the benefits and costs of moving to longer term licences might be.

The table on the next page summarises the cost: benefit framework we developed as part of the research. The table briefly describes the various types of social and system costs, and the economic and social benefits. It also indicates how we perceive the magnitude of the costs and benefits, and the extent to which we believe it would be possible to reduce the costs and increase the benefits.

Summary of the costs and benefits of C4 gambling

All costs and benefits, and the potential to decrease or increase them, are gauged qualitatively, thus: Negligible / Small / Moderate / Significant / Large / Very large (or Unclear).

Note: this summary does not take account of the counterfactual (see detailed table in section 2).

Social costs	Type	Magnitude	Potential to decrease
	Economically regressive – wealth transfers from the many to the few	Unclear	Unclear
	Magnification of community disadvantage – redistribution from deprived to less deprived communities	Significant (See section 3)	Significant
	Displacement of non-pernicious spending	Varies (Very large for heavy gamblers)	Moderate
	Crime – private costs only	Large (Unknown)	Moderate
	Poor health/quality of life	Varies (Very large for problem gamblers)	Moderate
	Relationship problems	Varies (Large for problem gamblers)	Moderate
	Loss of employment/productivity	Unclear	Unclear
	Lack of time for non-pernicious activities	Varies (Large for heavy gamblers)	Moderate
	Cultural harm	Varies (Depends on ethnicity)	Moderate
System costs	Type	Magnitude	Potential to decrease
	Regulatory burden	Moderate? / Significant?	Moderate
	Police and justice	Significant	Moderate
	Public health/treatment costs	Moderate	Moderate
Economic benefits	Type	Magnitude	Potential to increase
	Employment in the industry	Unclear	Negligible
	Earnings from tourism	Negligible	Negligible
	Import substitution	Significant	Moderate/Small
Social benefits	Type	Magnitude	Potential to increase
	Enjoyment/utility	Significant	Small/Moderate
	Social/community cohesion in venues	Moderate	Small
	Grants to community groups	Large	Significant

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1 Introduction

1.1 Background

This report is the second in a two-stage project, by Business and Economic Research Limited (BERL) for the Department of Internal Affairs (DIA), to examine the costs and benefits of Class 4 gambling ('pokies') and to start exploring how the cost: benefit balance might be shifted by reducing the costs and increasing the benefits.

At the outset, however, it is emphasised that the research was not intended to be a standard cost-benefit study, capable of distilling the findings into a single numerical ratio. This is because it was recognised that many of the costs and benefits could not be measured quantitatively with any degree of confidence.

However, it was intended that the costs and benefits should be systematically identified, described, and gauged as far as possible.

1.2 Summary of Stage 1 report

The first stage was concerned with developing a general approach that could be applied to assessing the cost and benefits of any of the four main gambling platforms. It was never intended that the costs and benefits should be quantified, since most of the estimates would be dubious. It was determined instead that the research should identify the various costs and benefits, describe them, assess their magnitude, and indicate the potential for decreasing the costs and/or increasing the benefits.

To do this, we undertook a scan of previous research reports to identify all of the different types of costs and benefits associated with gambling that needed to be taken into account. At the suggestion of the DIA, we assigned the costs and benefits to four categories:

- Social costs
- System costs
- Economic benefits
- Community benefits.

We then developed an accounting framework. This framework was designed to enable us subsequently to:

- Record the various items in each cost or benefits class
- Indicate their magnitude in qualitative terms
- Assess whether there is scope to decrease the cost or increase the benefits.

Based on a scan of previous research, we identified and classified the various costs and benefits of Class 4 gambling, as shown in Table 1-1. This paved the way for the current stage.

Table 1-1 Types of costs and benefits identified from the scan of previous research reports

Social costs (including to individuals) • Economically regressive (wealth transfers from many to few) • Community disadvantage magnified (redistribution of wealth from poor to rich) • Displacement of non-pernicious expenditure • Crime • Health, quality of life, and other harms to gamblers and families • Relationship problems • Reduced productivity / loss of employment • Financial problems / reduced material standard of living • Lack of time for non-pernicious activities e.g. volunteering / cultural activities • Cultural harm (less participation)
System costs • Regulatory burden • Police and Justice • Public health / treatment costs
Economic benefits • Employment in the industry • Some earnings from tourism • Import substitution (substitutes for on-line gambling with overseas sites)
Community benefits (including to individuals) • Enjoyment / utility (as long as it is not addictive and remains rational) • Social / community cohesion in venues • Grants to community groups

1.3 About Stage 2 and this report

The current stage has been about applying the generalised approach, outlined above, to Class 4 gambling. This has been done by populating a cost: benefit accounting framework that was developed in Stage 1. The analysis shown in section 2 is qualitative, in that it:

- Defines the various costs and benefits
- Suggests their likely magnitude and, where possible, the sources of evidence on the magnitude
- Comments on the potential to reduce the costs and increase the benefits, and how reductions or increases might be achieved
- Draws attention to particular counterfactuals to some of the costs and benefits described.

It was important to assess each cost or benefit relative to the counterfactual, i.e. what would happen in the absence of the effect observed. For example, Class 4 gambling in pubs might be regarded as unequivocally harmful. However, when it is borne in mind that the alternative would often be online gambling using offshore sites, it is clear that the activity has an import substitution (i.e. economically beneficial) effect. It keeps some expenditure within the New Zealand economy, when it might otherwise contribute to overseas economies.

The opportunity was also taken to undertake some additional quantitative research on two selected issues where reasonably reliable data was available. Section 3 of the report presents the findings of analyses, conducted largely by DIA staff, which illustrates, among other things, the tendency for participation in Class 4 gambling to be more common in areas of socio-economic deprivation and for the activity to result in the transfer wealth from more deprived areas, to less deprived areas.

Section 4 presents the findings of analyses of the annual accounts data submitted by the Class 4 Corporate Societies. The purpose was to explore the potential to increase the proportion of Gaming Machine Proceeds (GMP) that is distributed in the form of grants to communities.

Lastly, section 5 draws some conclusions from sections 2 to 4 and makes some suggestions for future research.

2 The accounting framework for Class 4 gambling

2.1 Structure of the framework

In this section, we present the populated accounting framework with information about the costs and benefits specific to Class 4 gambling.

The first column in Table 2-1 briefly describes the various costs and benefits revealed by the literature scan. The second column shows how we view the magnitude of the various costs and benefits. We also justify our views, wherever possible, by citing evidence from the literature scan.

The magnitude of effects is expressed in terms of the following scale: Negligible / Small / Moderate / Significant / Large / Very large (or Unclear). The third column shows how we view the potential to decrease the various costs or increase the benefits. And, again, we justify our views by suggesting how the decreased costs or increased benefits might be secured. The magnitude of the potential is also expressed in terms a scale, ranging from Negligible to Very large.

It should be noted, however, that there was often little evidence from other research to enable a clear assessment of the magnitude of the costs and benefits. Likewise, there was often little evidence to inform judgements about the scope to influence the magnitude of the costs and benefits. Accordingly, much of what is in the table reflects BERL's subjective assessments.

The final column indicates the counterfactual to the costs and benefits shown. And, again, we emphasise the importance of taking the counterfactual into account. Any observed effect taken at face value can be misleading, unless it is compared with what happens in the absence of the observed effect. As we suggested in section 1, Class 4 gambling in pubs might be viewed as wholly harmful, i.e. purely a cost. However, given that the alternative would often be online gambling using offshore sites, the activity can be viewed as having an economically beneficial effect because it displaces imports.

It should also be noted that, for all types of costs and benefits listed, the counterfactual will largely depend on whether, and to what extent, other gambling platforms (Lotto, TAB and Casinos) are substitutes for Class 4 gambling. The stronger the substitution effect, the stronger the counterfactual and the weaker the observed effect will be.

The counterfactual will also depend on the precise features of the various platforms. For example, by virtue of the size of the jackpot, Lotto will generally have more of a wealth transfer effect than Class 4 gambling or the TAB.

2.2 What the framework shows

Table 2-1 indicates that the magnitude of the social costs associated with Class 4 gambling is variable. This is because the magnitude often depends on the extent to which individuals gamble, i.e. whether they are light, moderate or heavy gamblers. However, we believe that Class 4 gambling magnifies community disadvantage significantly, an issue we return to in the next section of this report. We also believe that there is significant potential to decrease this cost, by means of a change in the rules governing, and expectations influencing, how grants generated from Gaming Machine Proceeds are distributed. It is also possible that, in certain circumstances, regulatory change may be needed.

We also regard the crime related costs of Class 4 gambling as large, although crime driven by the activity might be uncommon. This is because problem gambling has been shown to be linked to a range of crimes, including theft from employers, family violence and money laundering. At the

same time, we believe that there is only moderate potential to reduce this cost because it would often depend on more effective problem gambling measures.

The magnitude of the system costs shown in the framework are regarded as being significant in the case of police and justice costs. This is because investigating and prosecuting crimes, such as embezzlement, is often a complex and costly process. The other two types of system costs are viewed as having moderate magnitude. The scope to reduce the costs is regarded as significant in the case of the regulatory burden because there is potential to simplify licensing processes and improve sector engagement. The scope to reduce the other two types of system cost is thought to be only moderate, again because this would require more effective problem gambling measures.

We view the magnitude of the economic benefits of Class 4 gambling, and the potential for increasing them, as being unclear, negligible or small. However, because of the counterfactual we outlined earlier, we believe that the import substitution effect of the activity to be significant.

Lastly, we believe that the social benefits shown in the table vary, both in terms of their magnitude, and in terms of the scope to increase them. We view the scope to increase grants to community groups to be large, and this an issue we return to in section 4.

Table 2-1 Effects of gambling on wellbeing – the accounting framework for Class 4 gambling

Social costs

Type	Magnitude (source of evidence)	Potential to decrease (how?)	Notes on the counterfactual
Economically regressive Wealth transfers from the many to the few	Unclear This might depend on pattern of play by gamblers. If gamblers play regularly, even if infrequently, there would tend to be less of a transfer in the long run. (source of evidence unknown)	Unclear (but a change to pay-out percentage/ jackpot size could affect the extent of a wealth transfer)	Lotto has a different and stronger wealth transfer effect than C4
Magnification of community disadvantage Redistribution of wealth from deprived communities to more advantaged communities	Significant (See analysis in section 3)	Significant (Change requirements on how GMP is distributed)	Also depends on which alternative platform is considered – Lotto also distributes to communities, but TAB and Casinos don't
Displacement of non-pernicious spending Health-giving/ life-enhancing spending prevented	Very large for heavy gamblers (MoH/DIA research?) Large for high NZDep communities (BERL/DIA estimates)	Moderate for heavy problem gamblers (Requires more effective problem gambling measures) Moderate for communities (Focus on reducing participation)	
Crime (Note: private costs only – public costs shown under system costs) E.g. theft/ fraud to finance C4 gambling addiction Family violence Other? Poor health/ quality of life E.g. from stress to gamblers and families	Large, but relatively uncommon (source unknown) Very large for problem gamblers and families/ moderate or small for others (Browne et al – but magnitude of effects on lighter gamblers disputed?) ¹	Moderate (Requires effective problem gambling measures) Moderate (Would require tighter regulation and more effective harm prevention and minimisation measures)	Also depends on whether other platforms are associated with addiction leading to crime in same way as C4 Some types of gambling – e.g. trackside – are thought to have health benefits (see En-Yi et al)

/continued next page

¹ Browne et al (quoted in the Phase 1 report) concluded that low-risk, moderate-risk, and problem gamblers in New Zealand suffer quality of life decrements of 0.18, 0.37, and 0.54, respectively. Intuitively, however, this seems improbable – i.e. would a low risk gambler really suffer one third of the decrement of a high-risk gambler?

Relationship problems E.g. marriage and family break-up	Large for problem gamblers/ moderate or small for others (Browne et al)	Moderate (Would require tighter regulation and more effective problem gambling measures)	
Loss of employment/ productivity Poor performance at work	Plausible effect, but magnitude unclear (Browne et al, En-Yi et al) ²	Unclear (but address via tighter regulation and problem gambling measures)	Also depends on whether other platforms have same pattern of impact on workplace performance
Lack of time for non-pernicious activities Gambling addiction is all-consuming – no time for volunteering etc.	Large for problem gamblers/ moderate or small for others (Browne et al)	Moderate (tighter regulation and more effective problem gambling measures)	
Cultural harm Similar to above	As above. Some evidence that different ethnicities are affected differently. (Browne et al, En-Yi et al)	Moderate (tighter regulation and more effective problem gambling measures) (Target harm minimisation measures on specific groups)	Also depends on whether strength of harms varies with gambling platform, e.g. whether Maori are harmed more by C4, but Pakeha by TAB

² En Yi et al was cited in full and summarised in the Stage 1 report

System costs

Type	Magnitude (source of evidence)	Potential to decrease (how?)	Counterfactual
Regulatory burden • On DIA and TLAs	Moderate? / Significant? Staffing and other operational costs (DIA estimates?)	Moderate (Reduce the number of societies or change the operational model for C4, or regulate more lightly)	TLAs have a smaller regulatory burden with other platforms?
Police and Justice (Note: private costs are referred to under social costs)	Significant (DIA/Justice data on cost of investigation/prosecution/sentences?)	Moderate (tighter regulation)	
Public health / treatment costs • Costs are to MoH and primary health care providers	Moderate to MoH / Unclear to primary health care providers? (MoH spending on problem gambling measures) (Costs to primary health care providers are unknown?)	Moderate) More effective gambling harm prevention and minimisation measures	Nature and pattern of harms vary according to platform – see note on En-Yi et al above about positive health benefits (not just lower costs) associated with some forms of gambling

Economic benefits

Type	Magnitude (source of evidence)	Potential to increase (how?)	Counterfactual
Employment in the industry • I.e. in venues and in societies	Unclear <i>(the ANZSIC identifies Lotto and Casino operation, but it includes C4 and TAB under 'other')</i> <i>A lot of employment generated by C4 gambling will be included under 'Pubs or Social club operation')</i>	Negligible <i>(unless, perversely in light of the social costs, C4 gambling is actually encouraged or less tightly regulated. It should also be noted that some of the employment associated with C4 gambling is the product of regulation)</i>	
Some earnings from tourism • To the extent that C4 enhances NZ's attractiveness to visitors or encourages them to spend more	Negligible – it is most unlikely that tourists are attracted to NZ, or induced to spend more while they are here, because of C4. <i>(source unknown)</i>	Negligible	Some international visitors might visit casinos while in NZ, but it is unlikely that they come mainly or solely for that purpose
Import substitution • I.e. preventing online gambling at sites hosted overseas	Moderate/Significant – Some C4 gamblers might play online at overseas-based sites, if not for the opportunity to play here. <i>(Source unknown, but DIA believes that many already play online)</i>	Moderate Small <i>(unless C4 gambling at venues is actually encouraged, or unless some way is found of preventing online gambling offshore)</i>	

Social benefits

Type	Magnitude (source of evidence)	Potential to increase (how?)	Counterfactual
Enjoyment / utility • E.g. as part of a night out	Significant – many light C4 gamblers are likely to get pleasure from playing and suffer little/no harm <i>(unknown)</i>	Small/moderate <i>(would require C4 gambling to be encouraged/made easier to access)</i>	
Social / community cohesion in venues • C4 supports viability of pubs and clubs	Moderate - some venues would close without C4, although gambling is intended to be only a secondary purpose for them. <i>(unclear – but club accounts show breakdown of income, incl. \$ from C4)</i>	Small <i>(would require an increase in the number of venues and/or an increase in venue payments)</i>	TAB in pubs and clubs also has some effect on social cohesion, but the effect is absent with Lotto and Casinos
Grants to community groups • 40+ percent of GMP distributed	Large <i>(amount of grants is known)</i>	Significant <i>(without an increase in spending, this could be achieved by increasing the proportion of GMP that is required to be distributed – see section 4)</i>	Lotto distributes community grants, but TAB and Casinos don't distribute to communities

3 The redistributive effects of Class 4 Gambling

In the previous section, we expressed our belief that Class 4 gambling significantly magnifies community disadvantage. In this section, we present the basis of our belief.

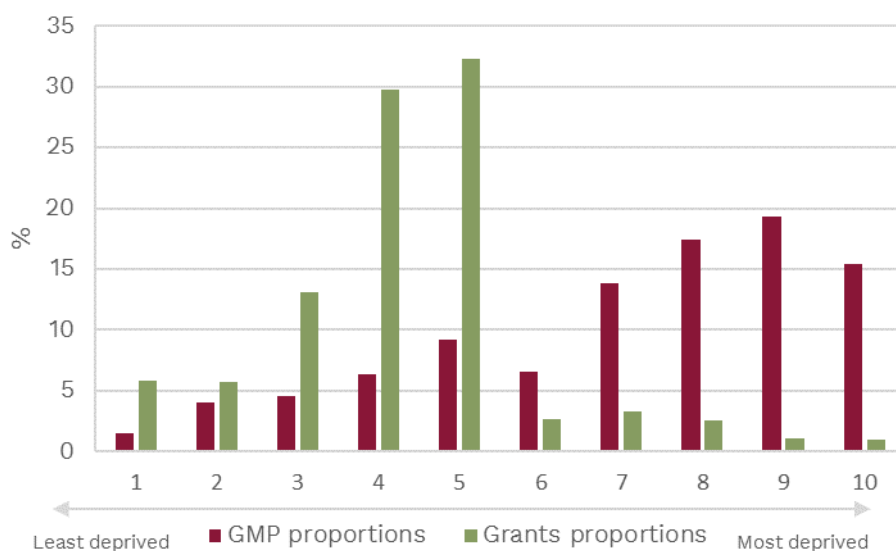
3.1 The origin of GMP and the destination of grants

It should be noted here that the DIA's Electronic Management System (EMS) generates reliable data as to the localities from which GMP is collected. This shows that high deprivation communities generate a higher proportion of GMP than lower deprivation communities. The data on the location of grants recipients is less reliable because grants are paid out to both national and local organisations. Further work is needed to analyse grant distributions. However, the available data suggests that less deprived communities tend to receive more grant monies than the more deprived communities.

Figure 3-1 is based on DIA data showing how the origin of Gaming Machine Proceeds and the destination of community grants by Corporate Societies vary according to socio-economic decile. The graph shows the percentage breakdown of all GMP in New Zealand, by socio-economic decile (where decile 10 is the most deprived). It also shows the breakdown of grants, by decile.

The graph implies a very strong redistributive effect from more deprived communities to less deprived communities. Overall, it indicates that the less deprived communities (deciles 1-5) provide 26 percent of the GMP, but receive 88 percent of the grants. Conversely, the more deprived communities (decile 6-10) provide 74 percent of the GMP, but receive only 12 percent of the grants.

Figure 3-1 The origin of GMP and the destination of grants, by socio-economic decile



Source: DIA/BERL

It should be cautioned, however, that the findings above are only indicative, not definitive. This is because, although the origin of all GMP can be traced electronically to individual machines in establishments with a known and fixed location, the destination of grants is less certain. The information on the destinations of grants sent by Corporate Societies is sometimes unclear, and many of the grants are sent to national organisations that distribute it further. Although it seems unlikely, it is possible, therefore, that the more deprived communities receive a disproportionate

share of grants that cannot be associated with a precise location. Accordingly, we are confident that there is actually a large redistributive effect.

3.2 Case studies

During the course of this project, DIA staff undertook statistical case studies of how GMP is collected in particular communities, and how grants are distributed. We summarise the findings here.

Table 3-1 is based on data from within the Kapiti Coast District, and it contrasts one of the more deprived communities in the District, Otaki, with the rest of the District. Compared to the rest of the District, Otaki's population is more Māori, has a lower median income, and has a greater share of its population in the most deprived quintiles.

Relative to its population share, Otaki also provides a disproportionately large share of GMP in the District. For example, Otaki has only 15 percent of Kapiti Coast District's population, but it has 35 percent of the non-club Electronic Gaming Machines (EGMs). Otaki also contributes 25 percent of the Gaming Machine Proceeds collected in the District. At \$190, GMP per capita from Otaki is almost twice the amount in the rest of the District. Other data not shown indicate that there are 128 people per EGM in Otaki, compared to 278 people per EGM in the rest of the District. It is also striking that 73 percent of Otaki's population is in the two most deprived quintiles (compared with 23 percent in the rest of the District).

Another important feature of the table is that it indicates Otaki's share of community grants that can be attributed to the District is lower than its share of non-club GMP.

Table 3-1 Kapiti Coast case study

	Otaki	Rest of Kapiti Coast District
Share of District population	15%	85%
Maori share of population	27%	10%
Median income band	\$30,001-\$50,000	\$50,001-\$70,000
Share of population in two most deprived quintiles	73%	23%
Share of population in two least deprived quintiles	16%	41%
Non-club GMP	\$1,481,226	\$4,517,015
Share of non-club GMP	25%	75%
Share of non-club EGMs in the District	35%	65%
Share of non-club GMP in the District	25%	75%
Share of identifiable grants to the District	20%	80%
Non-club GMP per capita	\$190	\$100

Source: DIA

In summary, the table appears to indicate that there is a redistribution of wealth from Otaki to other parts of the District. However, this finding needs to be strongly qualified. As we noted in section 3.1, the geographical origin of GMP is known precisely, but the destination of grants is less clear because of the potential for recording errors and the role of national organisations that

receive grants and distribute them further. In addition, the GMP in Otaki does not necessarily flow directly in the form of grants to other parts of Kapiti District. The GMP is more likely to flow to corporate societies outside the District, and it could then be distributed to other parts of the country. Similarly, the grants flowing into the District need not be derived from GMP in the District. They could flow from GMP generated elsewhere. Nonetheless, we are confident that there is, in effect, a redistribution of wealth from Otaki to the rest of the District.

Table 3-2 contrasts two similarly populated, but socio-economically dissimilar districts. The table implies higher GMP per capita in the more deprived Gisborne than in the less deprived Tasman, with GMP per capita significantly greater in the former. However, much of the data does not have a simple interpretation. Again, this is because GMP does not necessarily stay within the district in which they were generated, and grants do not necessarily come from the district to which they are distributed.

Table 3-2 Comparison of GMP and grants in Gisborne and Tasman

	Gisborne	Tasman
Population	47,556	55,209
Population shares (can sum to >100%)		
European	59%	91%
Maori	52%	85
Other	8%	8%
Median income band	\$30,001-\$50,000	\$50,001-\$70,000
Share of population in two most deprived quintiles	68%	23%
Share of population in two least deprived quintiles	20%	48%
Number of non-club EGMs	168	162
Non-club GMP	\$10,121,357	\$6,594,058
Grants received	\$3,299,614	\$1,357,131
Grants as % of GMP	33%	21%
GMP per capita	\$229	\$143

Source: DIA

4 Annual accounts of the corporate societies

Many observers would argue that Class 4 gambling is unequivocally harmful. However, Corporate Societies operating the activity have a social licence to operate because a large proportion of the money they generate as Gaming Machine Proceeds is directed to the community. The societies are required by law to return at least 40 percent of GMP in grants. We show in this section that all societies meet this requirement, and that the median proportion of GMP returned to communities in grants is 42 percent.

A key question, however, is whether this proportion could be greater.

We examine this question by first analysing the structure of societies' costs and how they vary between societies. Secondly, we examine whether there is a relationship between the size of a society (measured in terms of the number of Electronic Gaming Machine (EGMs) it has), and the proportion of GMP they return to the community in grants. Our prior expectation is that there ought to be economies of scale in society operations, and that this should mean that larger societies should be able to return a larger proportion of their GMP in grants.

Our objective was to identify potential areas for efficiency gains in the financial accounts of each society to determine whether it would be possible to increase the amount of gross proceeds returned to the community as grants.

4.1 Statistical analysis of societies' costs

All of the tables and graphs in this section are based on data provided to the DIA by the Corporate Societies.

In Table 4-1 we summarise the results of an exercise in describing the statistical distribution of what we consider to be the important financial line items in the Societies' accounts. Grants is the proportion of total GMP excluding GST that is paid out as community grants. The current regulations state that at least 40 percent of total proceeds excluding GST should be distributed to the community. We found that every society in the 2017/18 financial year achieved this minimum. With one society even reporting that it had distributed 54 percent.

We also break down in this table a number of other financial line items as proportions of total proceeds excluding GST:

- Gaming machine duty
- Fees to the regulator
- Problem gambling levy
- Venue payments
- Internal operating costs
- Grants
- Undistributed proceeds.

Internal operating costs is our term for the remainder when fees to the regulator, problem gambling levy and gaming machine duties are subtracted from operating costs as shown in the financial statements. We distinguish these costs as being under control by the societies.

Societies have no control over the costs of duties, the problem gambling levy or fees to the regulator. Their ability to fully venue costs is constrained by competition. Each society must compete with each other society for venue spaces. However, the total amount they are allowed to spend on venue payments is limited by legislation to 16 percent of GMP. The incentive is quite clearly to pay 16 percent of GMP in order to secure venues.

Societies can also retain GMP in order to meet liquidity objectives. This is represented by the undistributed proceeds line item. We found that the statistical distribution of this line item is concentrated under 10 percent of total GMP excluding GST. One society posted a value of negative nine percent indicating they had drawn on their undistributed funds.

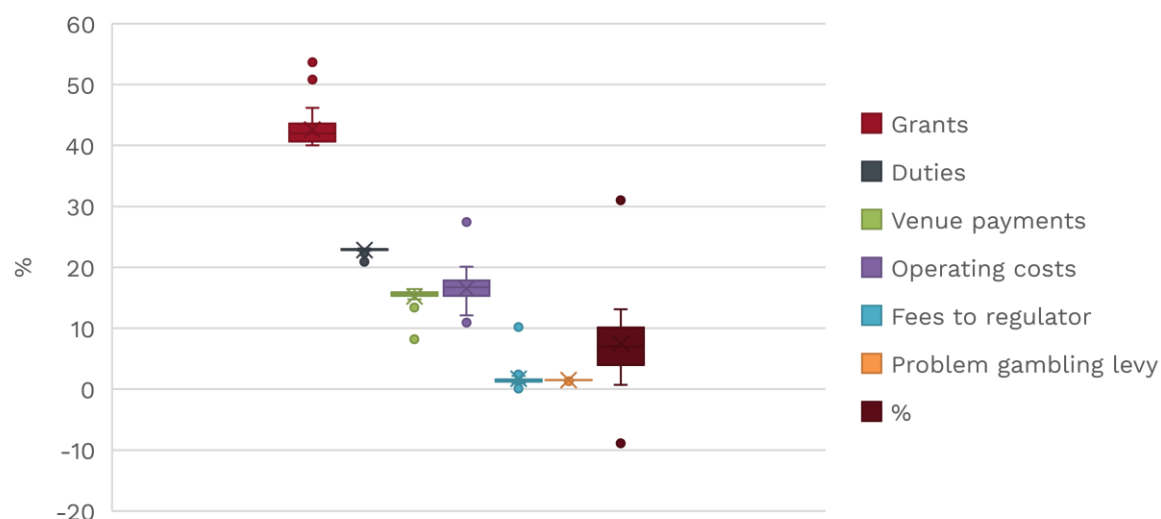
Table 4-1 Selected items as a percentage of total proceeds excluding GST 2017/18

	Minimum	10 th percentile	Median	90 th percentile	Maximum	Interpercentile range
Duties	21	22	23	23	23	1
Problem gambling levy	1	1	1	1	2	0
Fees to regulator	0	1	1	2	10	2
Venue payments	8	14	16	16	16	2
Undistributed proceeds	-9	1	7	13	32	12
Grants	40	40	42	46	54	6
Internal operating costs	12	17	19	27	7	0

We summarise the information on the statistical distribution of the financial account line items in Figure 4-1. The boxes on this figure quickly communicate the first quartile, median, and third quartile of each line item. The lines ending in a T shape summarise the minimum and maximum values ignoring outliers. While the dots above and below the box and T shapes represent the outliers that fall beyond the interquartile range for each line item. We observe that grants distributed is tightly clustered around the regulated minimum of 40 percent with two outliers. While the problem gambling levy is the least spread out.

These results are in accordance with what we expected. We draw attention to the statistical distribution of undistributed proceeds. This statistical distribution shows a wide range of values and two extreme outliers. This line item is contentious and exists to allow societies to better plan liquidity in order to purchase gaming machines, pay for premises et cetera. We would expect this line item to have a much less extreme distribution than it does. This indicates that there are areas of excess which could be cut to increase returns to the community.

Figure 4-1 Box and whisker plot of financial items showing distribution, 2017/18



Next, in Table 4-2 we look at a selection of internal operating cost line items as a proportion of total operating cost. The aim of this exercise was to find areas where efficiencies can be found and societies can increase grants paid.

We found that each of these line items has a wide distribution. The widest is for Depreciation with a minimum value of one percent and a maximum value of 21 percent. The interpercentile range of 11 percent further confirms our observation.

Table 4-2 Statistical description of selected components of internal operating costs as a proportion of total operating costs, 2017/18

	Minimum	10 th percentile	Median	90 th percentile	Maximum	Interpercentile range
Depreciation - gambling equipment	1	8	12	19	21	11
Total wages and Salaries	0	0	4	10	12	10
Management services provider cost	0	0	0	10	12	10
All other	77	83	90	95	100	12

These tables only provide a snapshot for a single year. However we were able to source one previous financial year's data. This was processed the same way and summarised in Table 4-3, Figure 4-2, and Table 4-4.

These are not directly comparable with 2017/18 because the number of societies has changed from 36 societies in 2016/17 to 33 in 2017/18. This difference is made up of four societies that filed financial reports in 2016/17, but not in 2017/18, and one society that filed a report in 2017/18, but not in 2016/17. Nonetheless, the proportions for 2017/18 are similar to those for 2016/17, and they are similar to those shown in a 2016 Regulatory Impact Statement³, as part of the Gambling Review.

³ The RIS we received appears to have been a draft.

Table 4-3 Selected item as a percentage of total proceeds excluding GST 2016/17

	Minimum	10 th percentile	Median	90 th percentile	Maximum	Interpercentile range
Duties	0	22	23	23	23	1
Problem gambling levy	0	1	1	2	3	0
Fees to regulator	0	1	1	2	10	2
Venue payments	0	0	15	16	63	16
Undistributed proceeds	-11	0	7	19	218	19
Grants	37	40	42	48	58	8
Internal operating costs	0	12	17	20	21	8

Figure 4-2 Box and whisker plot of financial items showing distribution, 2016/17

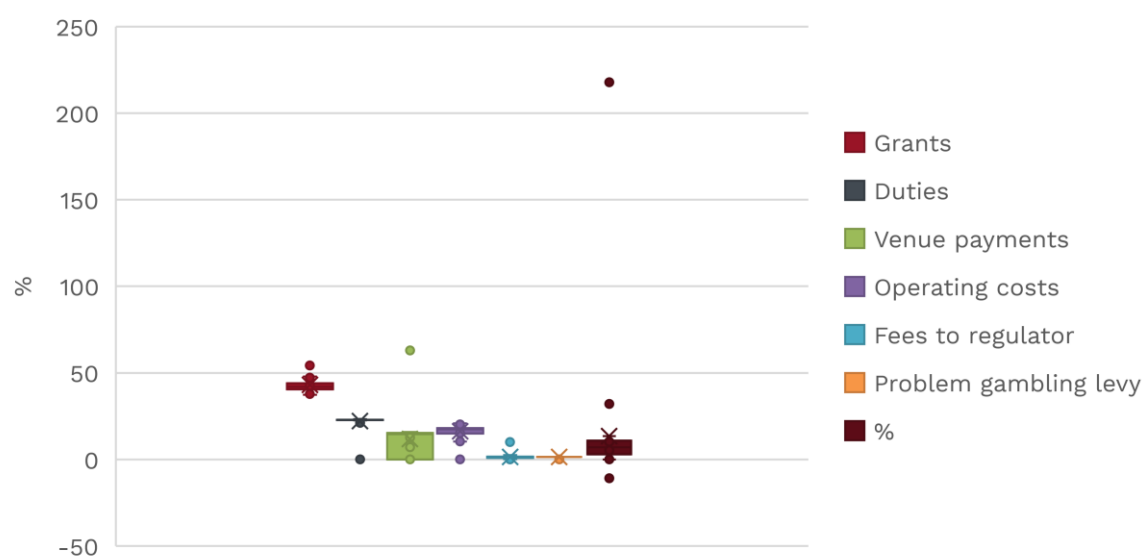


Table 4-4 Statistical description of selected components of internal operating costs as a proportion of total operating costs, 2016/17

	Minimum	10 th percentile	Median	90 th percentile	Maximum	Interpercentile range
Depreciation - gambling equipment	0	7	12	17	20	10
Total wages and Salaries	0	0	5	11	13	11
Management services provider cost	0	0	0	9	15	9
All other	0	75	79	89	95	15

4.2 Relationship between selected line items and society size

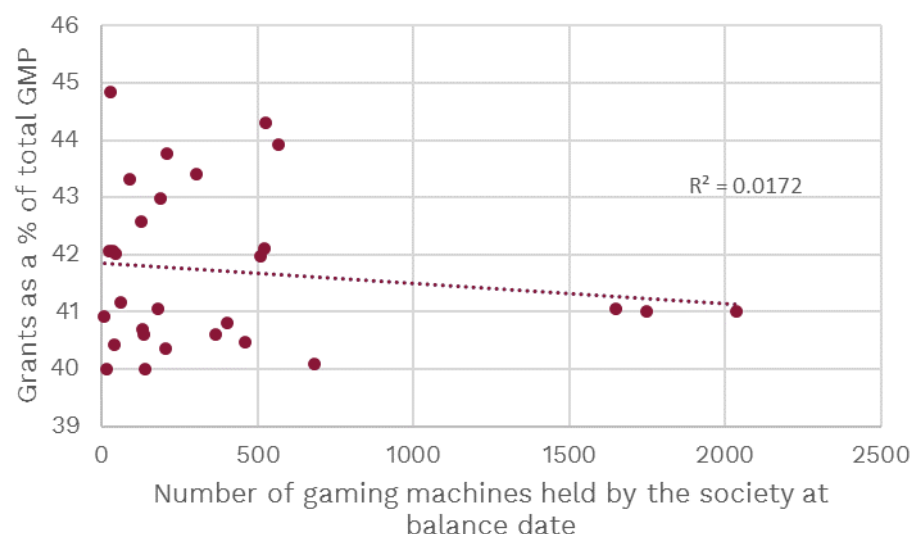
In this section we investigate the relationships, if any between a selection of financial account line items and society size. We measured society size by the number of gaming machines. The relationships were similar when we change the measure of society size to number of venues.

We removed outliers from these analyses. Outliers are defined as being any observation outside of a range defined by the first quartile plus and minus 1.5 times the interquartile range. This definition of an outlier is standard.

We began by assessing if there is a relationship between society size and the proportion of GMP paid out as distributions. We anticipated that larger societies take advantage of economies of scale in order to pay more of GMP as grants. We expected this to happen despite there being a legislated minimum for grants as a proportion of GMP.

The pattern we found does not confirm that our expectation is true. We found an extremely weak relationship between the proportion of GMP paid as grants and society size. This indicates that economies of scale, if they exist, are not necessarily being passed along to communities in the form of more grants.

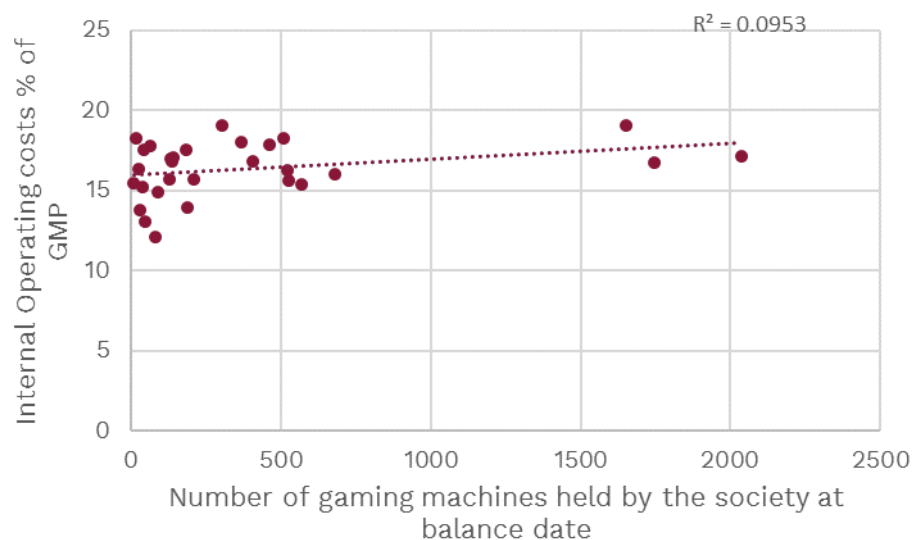
Figure 4-3 Relationship between grants as a proportion of GMP and society size



Next, we wanted to see if there are any economies of scale evident from the data on the societies' internal operating costs. Economies of scale should show up in the relationship between internal operating costs and the size of the society. If there are significant economies of scale being exploited in the sector we should see a strong negative relationship between these variables.

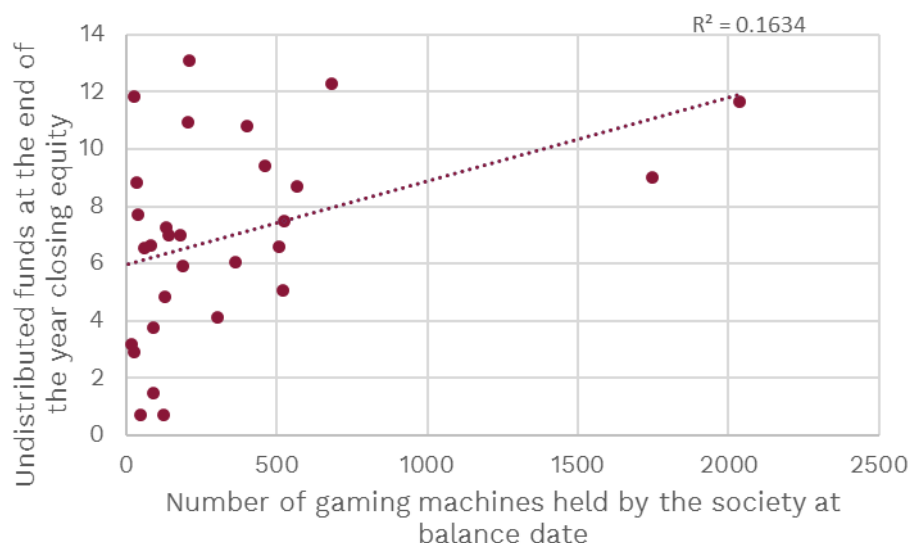
We observed a very weak positive relationship between society size and internal operating costs as a proportion of GMP. This indicates that economies of scale are either not available or are not exploited in the sector.

Figure 4-4 Relationship between internal operating costs as a proportion of GMP and society size



Next, we assessed to what extent it might be true that larger societies (as measured by number of machines) hold back a larger proportion of their gross proceeds as undistributed funds. We found a moderately strong relationship between undistributed funds and society size.

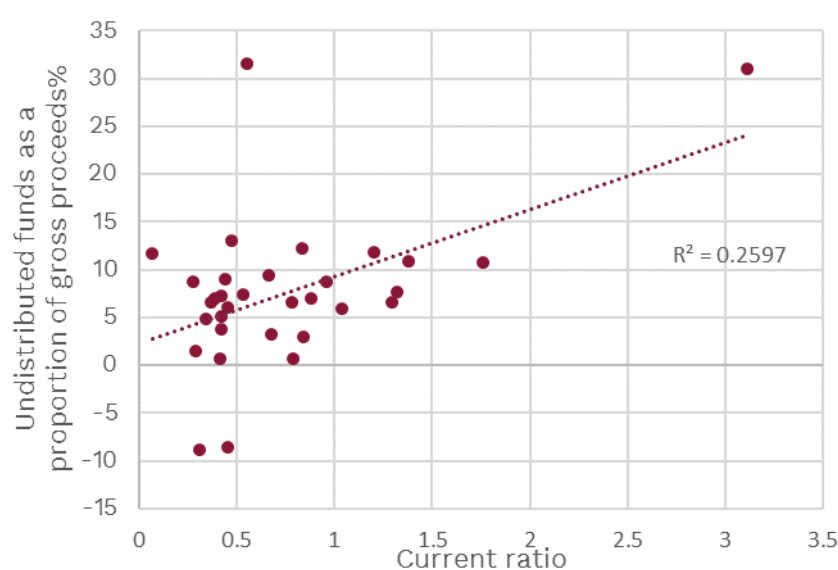
Figure 4-5 Relationship between undistributed funds and society size



The justification for withholding gross proceeds as undistributed funds is to improve liquidity. We wanted to investigate whether it is having this effect. We constructed a simple measure of liquidity for each society: the current ratio. This is simply current assets divided by current liabilities. The more positive the current ratio indicates that the society is more liquid.

We plotted this ratio against the proportion of gross proceeds held as undistributed proceeds, and we found that there is a strong relationship between the two. This might be taken as justifying the holding back of funds as equity, but the counter-argument is that Corporate Societies are not businesses. For this reason, the concern should not be with their liquidity or equity; it should be only whether they are meeting their sole purpose of returning at least 40 percent of GMP as grants to the community.

Figure 4-6 Relationship between undistributed funds and the current ratio



We then looked at the relationship between depreciation as a percentage of total operating costs and society size. We anticipated that societies with more machines would allocate more, as a proportion of total operating costs, to depreciation. This would be the case if societies with more machines tend to have more machines as a proportion of total assets. Which we might expect given the business model of gambling societies.

The expectation that larger societies allocate more as a proportion of total operating costs to depreciation was not confirmed, as the relationship is too weak to conclude that it exists.

Figure 4-7 Relationship between depreciation and society size

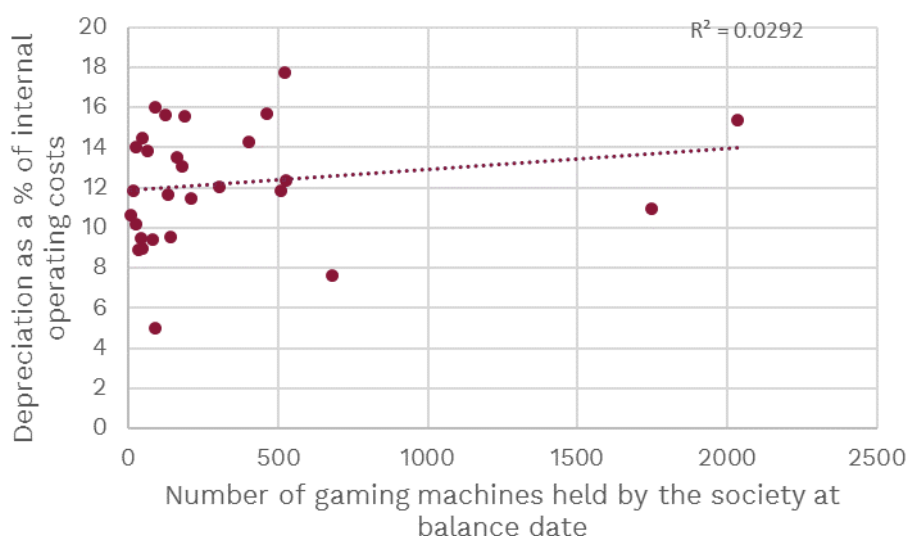
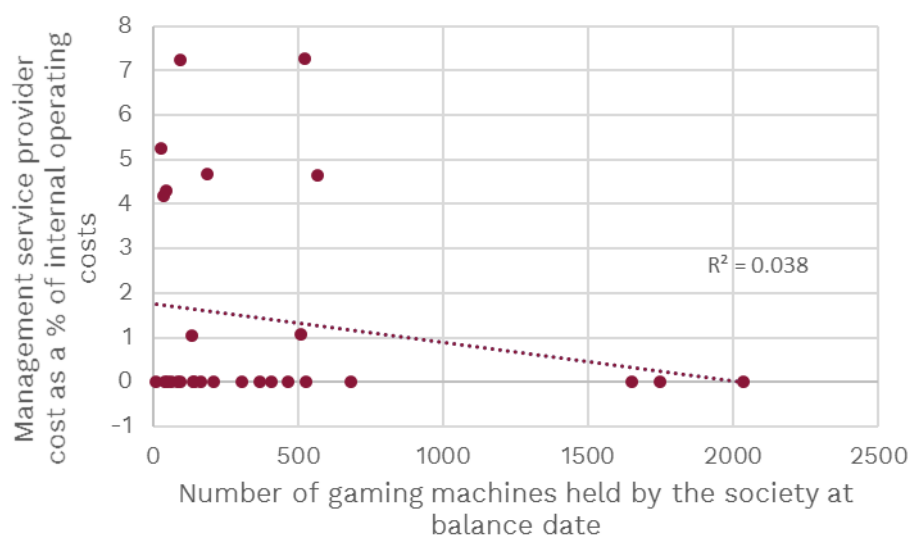


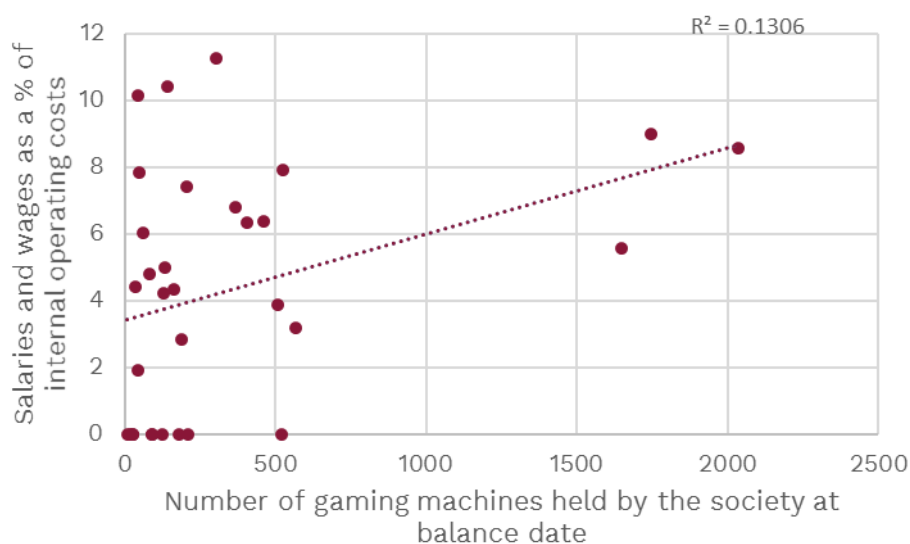
Figure 4-8 Relationship between management service provider cost and society size



Finally, we examined the relationship between the proportion of operating expenses accounted for by wages and salaries and society size. We found a moderately strong relationship between these variables. This might indicate that societies with more machines can more afford paid staff.

Interestingly a number of societies reported they paid no salaries and wages.

Figure 4-9 Relationship between salaries and wages and society size



4.3 Interpretation of the findings

The analysis here does not prove conclusively that it would be possible for the Corporate Societies to distribute a larger proportion of their GMP than they actually distribute at present. However, we firmly believe that this ought to be possible.

Contrary to our expectations, we did not find evidence of economies of scale in society operations. However, we suspect that there are economies of scale, but that they are not being exploited in order to increase the proportion of GMP that is distributed in grants. Further, we believe that there

is little in the way Class 4 gambling is regulated that incentivises the Corporate Societies to pursue efficiencies for the benefit of communities from which they derive GMP.

Total GMP in 2017/18 was just less than \$608 million, and the median proportion of GMP that was paid in grants in 2017/18 was 42 percent. However, if this could be increased the proportion of GMP distributed in grants by the society at the 90th percentile, i.e. 46 percent, an additional \$24 million in grants could be distributed. The \$24 million would need to come from internal operational cost savings.

The proportion of GMP that was accounted for by venue payments varies little between societies. Competition between societies to secure venues means that most societies pay up to the maximum allowable of 16 percent of GMP. In total, these payment were almost \$98 million in 2017/18. But if they were reduced to the proportion of the society at the 10th percentile, i.e. 14 percent, an additional amount of approximately \$13 million would have been available for distribution in grants. We recognise, however, that reducing venue payments might affect the viability of some venues. The risk, therefore, would be that pubs that play a key role in their communities could close.

The proportion of GMP that the Societies have retained as undistributed proceeds also strikes us as being large. The Societies retained seven percent of GMP in 2017/18, which was approximately \$75 million. We also wonder whether holding this amount in reserve is necessary. Our earlier work for the DIA⁴ found that GMP has a fairly predictable pattern, without major variations from quarter to quarter. Under these circumstances, we imagine that cash flows ought to be manageable without the need for a large reserve to maintain liquidity. We understand, however, that the DIA is already looking into the issue of undistributed proceeds, and the extent to which they are justified.

⁴ Research into influences on Gaming Machine Proceeds, BERL report to the DIA, March 2017. Figure 2.1 in this report indicates that there is a distinct seasonal pattern in GMP, with a peak in the December quarter and a trough in the March quarter. However, the difference between the peak and the trough was only approximately 10 percent.

5 Conclusions and suggestions for further research

5.1 Conclusions

From our perspective, one of the most striking features of this report is that the qualitative analysis in section 2 and the quantitative analysis in section 3 both indicate that Class 4 gambling has a tendency to magnify community disadvantage. The evidence strongly suggests that it transfers wealth from more deprived communities to less deprived communities. We believe that there is potential to decrease this cost, but that this might require a change in the rules governing how grants generated from Gaming Machine Proceeds are distributed.

Based on the qualitative analysis, we also believe that the crime-related costs of Class 4 gambling are large, although crime driven by the activity is probably relatively uncommon. Problem gambling has been shown to be linked to a range of crimes, including theft from employers and family violence. The costs of investigating and prosecuting the crimes are also large. At the same time, however, we believe that there is only moderate potential to reduce these costs within the bounds of the existing legislation, because it would depend on more effective harm prevention measures.

Also based on the qualitative analysis, we conclude that the only significant economic benefit associated with Class 4 gambling is the effect it has of substituting for imports by keeping expenditure on the activity within the New Zealand economy, instead of it happening online at sites hosted overseas. We also conclude that the social benefits we assessed are variable, but that the benefit in the form of community grants is large and could be increased significantly.

The analysis of the Corporate Societies' accounts data in section 4 leads us to conclude that it ought to be possible for them to increase the proportion of Gaming Machine Proceeds (GMP) that is distributed in the form of community grants. We did not find evidence of economies of scale in society operations, but we suspect that they exist and are not being exploited in order to increase grant payments. The problem, as we see it, is that there is little in the way Class 4 gambling is regulated to incentivise the societies to pursue efficiencies for the benefit of communities.

The issue of whether or not there are economies of scale in Corporate Society operation is an important one. If there are economies of scale, the analysis in section 4 implies that the societies are not exploiting them, and the question becomes why they are not. Our view is that the mechanisms to induce the societies to operate more efficiently, in order to enable them to distribute more in grants to community bodies, are weak.

Alternatively, if there are, in fact, no economies of scale in society operation, there would be no justification in allowing a few large societies to dominate. Under these circumstances, there would be a case to restructure the Corporate Society sector and introduce a new set of rules designed to ensure that a greater proportion of Gaming Machine Proceeds is distributed in community grants.

We incline towards the view that there are economies of scale in Corporate Society operation that are not being exploited in order to benefit communities. Our recommendation is, therefore, that the DIA should consider ways in which the rules under which the Societies operate should be reviewed. The current requirements that a minimum of 40 percent of Gaming Machine Proceeds must be distributed in grants to communities seems lax, and an objective of any review of the rules should be to identify ways in which the minimum could be raised 45 or 50 percent.

We also conclude that the proportion of GMP that is accounted for by venue payments could be reduced, in order to make it possible to further increase community grants, but the effect might be to reduce the viability of venues in some areas.

5.2 Suggestions for further research

The accounting framework in section 2 identified a number of instances where the magnitude of the costs and benefits was unclear or unknown. Consequently, the potential to reduce the costs or increase the benefits was unclear or unknown.

Further research could address the areas of unclarity or lack of knowledge but, partly based on our conversations with the DIA, we suggest that it might be fruitful to investigate the magnitude of two sets of system costs, and the potential to reduce the costs.

In particular, we suggest, firstly, that the DIA should undertake or commission research to examine the costs that Territorial Local Authorities (TLAs) bear as the result of their obligations to have policies on Class 4 gambling and to interact with venues where Class 4 gambling takes place. The smaller TLAs must find this especially burdensome, and research on the potential to reduce or remove this burden would undoubtedly be welcomed.

Secondly, we believe that it would be valuable for the DIA to assess its own costs associated with regulating the Class 4 system, and the potential to reduce the costs. We understand, for example, that the DIA currently issues licences for Class 4 gambling on a one year basis, and a question might be how large the benefits and costs of moving to longer term licences might be.