11 Gauging the net impacts

Box 11.1 Key messages

- Estimates of the net impact of the gambling industries are extremely difficult to make and need to be interpreted with care.
- The Commission's estimates for the gambling industries *as a whole* show a range from a net community cost of $1.2 billion to a net community benefit of $4.3 billion.
- This aggregate estimate *by itself* is of limited use for policy analysis because:
  - the estimate covers a wide range from positive to negative;
  - it omits several of the impacts of gambling, principally on the cost side;
  - it hides differences in the distribution of benefits and costs between different gambling modes (as well as between different regions); and
  - in any case, a net impact estimate (whether positive or negative) cannot of itself guide policy decisions about incremental change or the most appropriate regulatory environment.
- Assessments of net impacts for the different *gambling modes* can provide more guidance for policy, particularly when accompanied with other quantitative and qualitative assessments of impacts and social costs:
- The Commission's quantitative estimates for lotteries suggest that they provide a clear benefit and, in the process, generate few social costs.
- While the estimates for gaming machines include the possibility of net benefits, they also encompass the possibility of a net social loss, due to the high degree of problem gambling related to this mode.
- There is a similar pattern for wagering, although the potential costs are estimated to be much lower.
- These quantitative assessments largely concur with more qualitative information on the impacts of the different gambling modes.
- The magnitude of social costs, particularly for gaming machines and wagering, suggests that governments should explore measures that can reduce the costs while as far as possible maintaining the benefits.

11.1 Introduction

So far in part C, the Commission has separately examined the benefits and costs of gambling, focussing on those of most relevance for government policy. It looked at the benefits in chapter 5 and parts of chapter 10. Chapters 6–9 discussed the extent and nature of problem gambling and the various financial, social, emotional, criminal and community costs it entails. And chapter 10 also discussed the broader community impacts of gambling.

In doing this, the Commission has sought to quantify as many of the impacts as possible. Although this has not been a simple task, the Commission has been able to provide a range of quantitative estimates for what it sees as the many of the most substantive benefits and costs. It has buttressed these quantitative estimates with a qualitative discussion of the other benefits and costs that flow from gambling.

In this chapter, the Commission brings together its estimates of the measured benefits and costs of gambling to assist in gaining a sense of the overall impact of gambling liberalisation in Australia. The focus is on determining the measured net impact of the gambling industries, either as a whole or individually. It is equivalent to seeking to answer the question: what have been the benefits of making gambling legally available?

The meaning of 'net impact' estimates can easily be misunderstood, and there has been some misuse in public debate of the estimates published in the draft report (box 11.2). To reduce the scope for further misuse, in this chapter the Commission discusses what estimates of this nature *do* and *do not* mean, both in their own right and in terms of their relevance for government policy.

11.2 The Commission's assessments

To derive quantitative estimates of the net impact of gambling, the estimated social costs of problem gambling can be subtracted from the net consumer benefit estimates. As discussed in chapter 9, the Commission has erred on the side of understating the social costs. The resultant net impact figures will be similarly conservative. As discussed in chapter 5, the estimated benefits include only those benefits resulting from the consumption of gambling. The estimates do not include any 'production-side' benefits from the liberalisation of gambling, or benefits resulting from the displacement of illegal gambling, which the Commission considers are minor and/or unmeasurable at the national level.

Reflecting the fact that the estimates from which the net impact figure is derived are presented as a range, rather than as point estimates, the net impact estimates also take the form of a range. Further, by using the top of the benefit range with the bottom of the cost range for the higher estimate of the net impact range, and vice versa for the lower estimate of the net impact range, the net impact range is wider than either the benefit range on its own or the cost range on its own.

Box 11.2 'Lies, damned lies and statistics'

The reliability of statistics used in public debate depends on both the rigour with which they are calculated and the veracity with which they are communicated.

The Commission qualified the estimates of benefits, costs and the net impact of the gambling industries that it published in the draft report, noting among other things that the estimates were inevitably 'ballpark' figures and that, in practice, the true net impact could be positive or negative. In other words, there was insufficient certainty to say whether the net impacts were positive or negative.

In the debate that followed the release of the draft report, the estimates were misused in several ways:

- in a publication purporting to present "the whole story" about gaming machines, one industry group reported only the Commission's estimates of the net consumer benefits of gambling, omitting the social cost estimates;
- an inquiry participant, in seeking to convince the Commission that it should now conclude that the gambling industries impose a net cost on society, indicated that this would be a useful device with which to argue publicly for the curtailment of the industry; and
- a public figure commented that the Commission's quantitative estimates of a positive net impact from the gambling industry proved that concerns about the recent growth of the industry were misplaced.

In its submission on the draft report, the Australian Hotels Association (NSW) stated (sub. D208, pp. 7-8):

> The range is so broad that the Commission's conclusion should have been (had it been asked to reach a conclusion) that it didn't know from the data available what the net position was. In its Annual Budget, the Government would be ridiculed if it postulated a surplus of somewhere between effectively nothing and five billion dollars.

However, the Commission considers that its use of a (wide) range for its net industry impact estimates properly reflects the uncertainties the estimates entail.

It should also be noted that there are important differences between government budgets and net industry impact measures. The budget relates purely to monetary flows for which significant historical information exists to allow reasonably accurate estimates and forecasts of future spending to be prepared. The gambling estimates, on the other hand, deal with quite different subject matter, including many intangibles such as people's emotions and mental states. They also have a different purpose for which the precision necessary for budget estimates is simply not a requirement.

The Commission does caution, however, against crude interpretations of the ranges it has provided. In particular, it is not necessarily the case that the mid-point of the range is the figure most likely to represent the true figure. For example, if the range is from negative $3 billion to positive $1 billion, it cannot automatically be concluded that negative $1 billion represents the 'best estimate' of the real net impact, nor even that a negative net impact outcome is more likely than a positive net impact outcome. This is because the distribution of probabilities is not spread evenly throughout the range. Without information on the spread of probabilities, all that such a range can reveal is that the true value probably lies somewhere within it.

Overall, while the Commission recognises the estimates' limitations, particularly the aggregate estimates of the net impact of the gambling industries, it considers that they can make a useful contribution. Among other things, given that other estimates of the net impact of gambling have entered public debate, the Commission considers it helpful to present its own estimates as a benchmark against which others may be compared. Further, if used with appropriate care, the quantitative estimates, and particularly the social cost and the net estimates for the different gambling modes, can help to shed a clearer light on the impacts of gambling and their significance for policy.

Aggregate estimates

The Commission estimates that the availability of gambling services provided benefits to consumers (after adjustment for the excessive spending by problem gamblers) of between $4.4 billion and $6.1 billion in 1997-98, while the measured social costs of problem gambling are estimated to range between $1.8 billion and $5.6 billion annually.

These figures in turn yield net impact estimates for the gambling industries ranging from a net cost of $1.2 billion to a net benefit of $4.3 billion (table 11.1).

Table 11.1 **Measured net impact of the gambling industries**
($ million, 1997-98)

	Low consumer surplus	*High consumer surplus*
Low social cost	2 565	4 277
High social cost	-1 221	490

Source: Commission estimates.

In interpreting these figures, it should be noted that:

- the estimates cover a wide range, from positive to negative;
- they omit several of the impacts of gambling, principally on the cost side;
- net impact figures hide differences in the distribution of benefits and costs between different gambling modes;
- they also hide differences between different states and regions; and
- in any case, a net impact estimate (whether positive or negative) cannot of itself guide policies relating to incremental changes or the appropriate regulatory environment (boxes 11.3 and 11.4).

For these collective reasons, the Commission considers that the aggregate figures are of limited use for policy. Assessments of net impacts for the different gambling modes can provide more guidance, particularly when considered in conjunction with other quantitative and qualitative assessments of impacts and social costs.

Box 11.3 **Some limitations of net impact estimates**

By themselves, net impact estimates for an industry are generally of limited use for devising public policy.

Normally what matters for policy is not the net benefits or costs of the *current* level of activity in a particular industry, but rather how *marginal* increases, decreases or changes in the nature of the industry will affect the net benefits or costs, *irrespective of what they are to start with*. This is because most policy decisions are concerned with incremental changes to an industry – not its wholesale liberalisation or abolition.

However, a net industry impact figure does not necessarily indicate whether the industry in question should be expanded or curtailed. For example, it is possible for an industry to generate a net benefit figure provided the industry is within a reasonable range of its optimal size, irrespective of whether it is above or below its optimal size. Further, it is plausible that, for industries that generate net community costs *in their current form*, policy changes such as harm minimisation, could result in them becoming sources of net community benefits. In this *different form*, the community might benefit from their expansion.

Another limitation is that a single net impact estimate for a group of industries will obscure any differences in the distribution of benefits and costs within the group. If the group recorded a net cost figure overall, for example, it is possible that some parts of the group might generate higher than average net costs, while other parts of the group might generate net benefits. This is the case in the gambling industries at present.

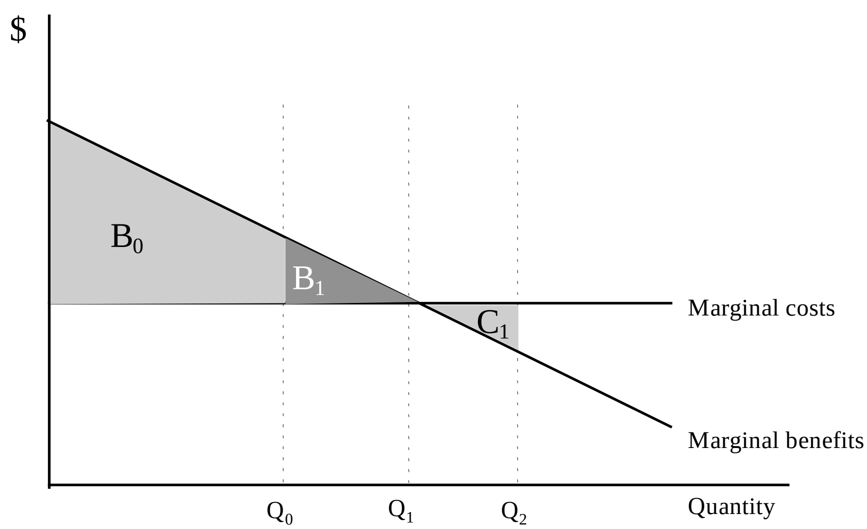
Box 11.4 **Net impacts and optimal industry size**

The figure below is a conceptual tool which can be used to demonstrate the relationships between benefits, costs, net impacts and optimal industry size.

As the quantity of gambling increases, the benefits flowing from each additional unit of gambling tend to decline (simply because the first units of consumption are valued by consumers more than the last — think of eating ice creams or spending time at the beach). Hence, the marginal benefit curve slopes downwards to the right.

To simplify the exposition, every additional unit of gambling is shown as bringing the same costs as the unit before it. Hence, the marginal cost curve is flat.

The net benefits of an industry are equal to the area under the marginal benefits curve *less* the area under the marginal cost curve. This means that the net benefits of having the industry are B_0 when gambling is at Q_0, whereas they are (B_0+B_1) when gambling is at Q_1 and ($B_0+B_1-C_1$) when gambling is at Q_2. The optimal industry size — that is, the size at which net benefits are maximised — is thus Q_1.



If the current regulatory regime had set the quantity of gambling at Q_0, then further expansion of the industry would be warranted (until point Q_1 is reached). If, however, the current regulations had set the quantity of gambling at point Q_2, then there would be gains from winding back the industry. Notably though, the net benefit is still positive at point Q_2. The industry would only start showing total net costs at a point well to the right of Q_2, where the net costs of each unit of consumption beyond point Q_1 started to exceed the net benefits gained from each unit of consumption up to Q_1.

This has important implications. Finding that gambling in *total* contributes greater benefits than costs does not show whether the industry should be further expanded or wound back. Equally, a finding of net costs, while possibly suggesting some changes are necessary, would not indicate that the industry should be abolished.

Estimates for different gambling modes

The Commission's estimates of net consumer benefits and of social costs for the different gambling modes are set out in table 11.2, as are the resultant ranges of net impact estimates.

In deriving these estimates, the Commission has had to allocate the proportion of the total social costs of problem gambling among the modes. It has done this according to the proportion of expenditure by problem gamblers in each mode (section 9.3 in chapter 9).[1]

One difficulty in allocating costs in this way is the lack of statistical precision in the estimates of the share of expenditure accounted for by problem gamblers for *some* modes. This problem arises because of the small number of problem gamblers, for some modes, in the Commission's *National Gambling Survey*. The estimates are most precise for lotteries, gaming machines and wagering. However, they are less so for scratchies, casino gambling and the 'other' mode — mainly keno.

Table 11.2 **Measured consumer benefits, social costs and net impacts of gambling, by mode of gambling**
$ million (1997-98)

	Net consumer benefit	*Social costs of gambling*	*Net benefit*[a]
Wagering	629 — 885	267 — 830	(201) — 617
Lotteries	1 232 — 1 498	34 — 106	1 126 — 1 464
Scratchies	219 — 266	24 — 74	145 — 243
Gaming machines	1 617 — 2 491	1 369 — 4 250	(2 634) — 1 122
Casino gaming	581 — 771	48 — 150	431 — 723
Other	103 — 184	57 — 176	(73) — 127
All gambling	**4 365 — 6 076**	**1 800 — 5 586**	**(1 221) — 4 277**

a: figures in brackets represent a loss.
Source: Commission estimates.

The Commission's estimates indicate that *lotteries* generate relatively low social costs and provide a clear (measured) net community benefit of between $1.1 billion and $1.5 billion. Spending by problem gamblers accounts for only 6 per cent of the

1 There are some limitations in this rule-of-thumb approach. Modes which do not involve continuous play, such as lotteries, might in reality be the source of a lower proportion of the social costs of problem gambling than their expenditure share suggests. It is also possible that different modes will occasion different social costs per dollar spent by problem gamblers for other reasons, such as differences in the age or gender profile of gamblers that play the different modes. While these considerations mean that the approach for apportioning social costs will not be precise, in the absence of more specific information the Commission judges that it represents a reasonable approach.

total spent on lotteries — the vast majority is recreational gambling (table 9.4 in chapter 9). This small proportion of problem gambling expenditure means that, even if the estimate of social costs from problem gambling were to be increased to compensate for the conservatism and omissions in the Commission's estimates, lotteries would continue to show a significant net community benefit. This aligns with the Commission's assessment of other evidence to this inquiry.

For gaming machines, the estimates indicate that, while this mode could provide net community benefits, it could also provide net community costs, and it certainly generates significant social costs. Problem gamblers account for a significant share of the total spending on gaming machines. Hence, (upward) adjustments to the estimates to take into account the unmeasured or understated social costs of problem gambling would push the net impact estimate range further into the negative. Again, these findings are consistent with the other quantitative and qualitative evidence presented to the Commission.

The *wagering* estimates are similar in pattern to those for gaming machines, although wagering generates proportionately lower social costs and thus the net impact range is more to the positive. Further, there is a question about the degree to which the growth in legal wagering has displaced illegal wagering. To the extent that it has, the social costs associated with the existence of legal wagering would be lessened (appendix O).

State and regional impacts?

As noted in section 10.5, the Commission found evidence of a concentration of gaming machines in areas of low socio-economic status in Victoria, New South Wales and South Australia (although not in Queensland). This in turn suggests that a greater proportion of residents in these areas are likely to be problem gamblers, and thus that the social costs in these areas will be higher.

Beyond these points, there is little evidence to suggest that the extent of problem gambling as a proportion of the population is significantly different in different regions within particular states or territories; nor that consumers derive different levels of benefits per dollar spent gambling depending on the region in which they reside.

At the state level, there are some differences in the prevalence of problem gambling between the states, notably a lower rate in Western Australia where gaming machines are different in nature and much more restricted in accessibility than elsewhere in Australia. This in turn implies that there will be differences in the net impacts experienced in different states, although these differences are hidden by the national estimates.

The Commission had signalled an intention to make state-by-state estimates for its final report, but this was precluded by imprecision in the data for some states. However, the fact that the distribution of benefits and costs will vary between regions and states does not of itself indicate a need for adjustments to assessments of the net national impacts, just a need for them to be interpreted carefully.

11.3 Implications

What can be concluded from this quantification exercise, with all its limitations, is that the social costs as well as the benefits from the gambling industries are likely to be substantial. These estimates provide a policy challenge for governments:

- the magnitude of the social costs associated with gambling are sufficiently large, particularly for gaming machines and wagering, that governments should explore measures to reduce them; while
- the benefits are big enough that governments will not wish to lose them through overly harsh regulatory arrangements.

These policy issues are addressed in part D of the report.