Productivity Commission Draft Report Hearing on

Australia's Gambling Industries
Adelaide
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Further Submission by

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***This submission is made on behalf of the Hon Nick Xenophon MLC, the Victorian Inter-Church Gambling Task Force, the Salvation Army Break Even Gambling Service, the Festival of Light, the Adelaide Central Mission and the Small Retailers Association, as well as on our own behalf.**

General Comment

Since our participation in the Commission's Draft Report Hearing in Canberra on Friday 20 August 1999, we have been able to refine our understanding of the methods used by the Commission in estimating the net benefits of the gambling industries to the Australian community.

We note, in this respect, that the Commission has, quite correctly, revised its estimates of consumer surplus presented in Appendix C of its Draft Report. There were some trigonometrical errors in the method by which those estimates were made in the Draft Report which we drew to the Commission's attention. The errors have now been rectified and the proper method has been made publicly available on the Commission's Website (http://www.pc.gov.au).

In this supplementary submission, we present revised estimates of the net benefit of the gambling industries based on correct trigonometry.

Our key findings are that

- using the Commission's methodology and (revised) estimates of consumer surplus, the estimated range of net benefits of the gambling industries now runs from -$1.7 billion to $4.1 billion (rather than from $150 million to $5.2 billion, as previously found in the Draft Report, Key Findings, p. xii);
- using the full range of (i) Commission and (ii) gambling industry (CIE for Aristocrat) assumptions about the demand elasticities of problem and non-problem gamblers, the probability that the net benefits of gambling could be negative is about 95 per cent;

- using the full range of gambling industry (CIE for Aristocrat) assumptions about the demand elasticities of problem and non-problem gamblers, the net benefits of the gambling industries range between -$2.0 billion and $2.1 billion.

Costs and Benefits of the Gambling Industries

(a) Revised Estimates Using the Productivity Commission's Approach

Table 1 presents estimates of adjusted consumer surplus using the Commission's corrected trigonometry. These estimates are equivalent to the adjusted consumer surplus figures in the last row of Table C.5, p. C.13, *Draft Report: Appendices*.

Table 1: Revised Estimates of Adjusted Consumer Surplus
($ million)

		Problem Gamblers' Elasticities									
		-0.3	*-0.4*	*-0.5*	*-0.6*	*-0.7*	*-0.8*	*-0.9*	*-1.0*	*-1.1*	*-1.2*	*-1.3*
	-0.8	5492	5348	5270	5224	5198	**5183**	5175	5174			
	-0.9	5011	4867	4789	4743	4716	4701	**4694**	4692			
Non-problem	*-1.0*	4625	4482	4403	4358	4331	4316	4309	**4307**			
Gamblers'	*-1.1*	4310	4167	4088	4043	4016	4001	3994	3992	**3994**		
Elasticities	*-1.2*	4048	3904	3826	3780	3754	3739	3731	3729		**3737**	
	-1.3	3826	3682	3604	3558	3531	3516	3509	3507			**3522**
	-1.4	3635	3491	3413	3368	3341	3326	3319	3317			
	-1.5	3470	3326	3248	3203	3176	3161	3154	3152			
	-1.6	3326	3182	3104	3058	3032	3016	3009	3007			
	-1.7	**3198**	3055	2976	2931	2904	2889	2882	2880			

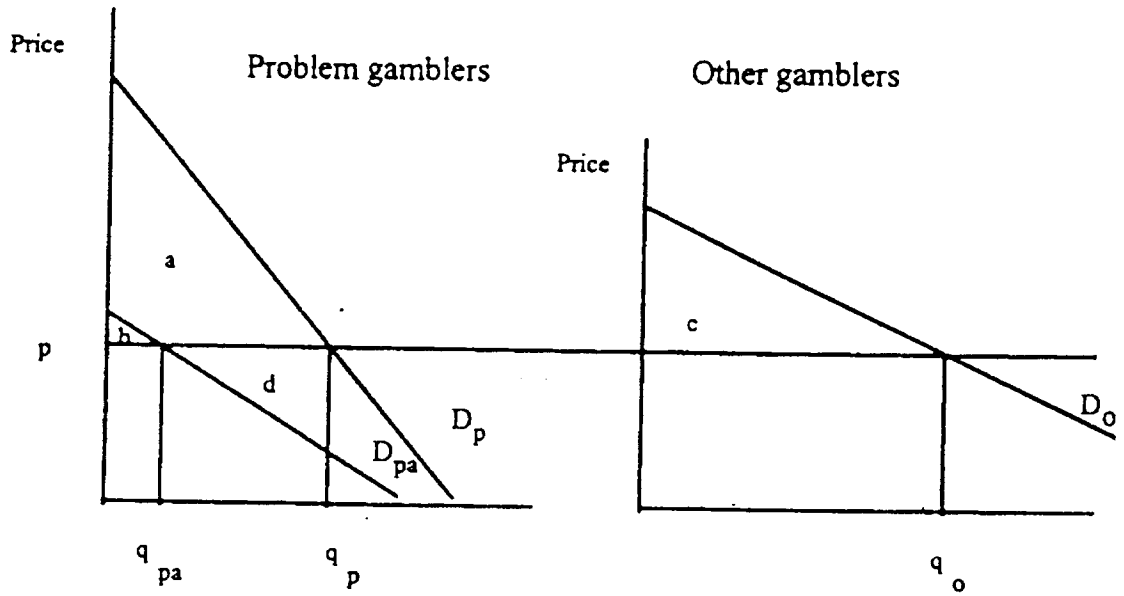
Source: Productivity Commission Website http://www.pc.gov.au

In Table 1, the rows give adjusted consumer surpluses corresponding to non-problem gamblers' elasticities, while the columns give adjusted consumer surpluses corresponding to problem gamblers' elasticities. Each cell in the table gives the adjusted consumer surplus corresponding to a non-problem gamblers' elasticity and a problem gamblers' elasticity, therefore. Thus, for example, the adjusted consumer surplus for a situation in which the non-problem gamblers' elasticity is -1.7 and the problem gamblers' elasticity is -0.3 is $3198 million.

In making its calculations of adjusted consumer surplus, the Commission always assumes that the problem gamblers' elasticities are the same as the non-problem gamblers' (ie the elasticity of Dpa is always equal to the elasticity of Do — see Figure C.3). This is so irrespective of what

elasticity is assigned problem gamblers' original demand schedule for gambling (Dp in Figure C.3). So, for example, the relevant elasticities for both non-problem and problem gamblers for the purpose of calculating the adjusted consumer surplus figures in Table C.5 are -1.3 (high elasticity) and -0.8 (low elasticity). The elasticities assumed for problem gamblers at the top of p. C.13 (-0.5 and -1) play no role in the calculations.

Figure C.3 Consumer Surplus for Problem and other gamblers



Source: Productivity Commission 1999
Australia's Gambling Industries, Draft Report, Canberra, July, Volume 2, Appendices, Figure C.3

Therefore, in Table 1, the Commission's potential estimates of adjusted consumer surplus all lie on the bolded diagonal. The impact of the high elasticity estimate on the estimate of the consumer surplus (elasticity equals -1.3 for *both* non-problem and problem gamblers) is $3522 million. The impact of the low elasticity estimate on the consumer surplus estimate (elasticity equals -0.8 for *both* non-problem and problem gamblers) is $5183 million.

If these estimates are combined with the Commission's "high" and "low" estimates of the total private and social **costs** of problem gambling of $5210 million and $1094 million (Table J.6, p. J.29), the annual net benefit of the gambling industries to the Australian community can be estimated as lying between **-$1688 million and $4089 million**.

In other words, following the revisions made by the Commission to its estimates of consumer

surplus after rectifying its trigonometric errors, the correct finding on p. xii of the Draft Report would be:

The Commission's rough estimates of the quantifiable benefits and costs yielded a range of net benefits from as low as -$1.7 billion to as high as $4.1 billion annually.

This measure however, is misleading in that it is not appropriate to constrain the elasticity of problem gamblers to equal that of non-problem gamblers.

(b) Estimates Using Lower Elasticities for Problem than Non-problem Gamblers

In our opinion, constraining the elasticity for problem gamblers in the calculations of consumer surplus to be always equal to the elasticity for non-problem gamblers is not necessarily appropriate. In our opinion, at least as plausible is that the elasticity for problem gamblers is *less* than the elasticity for non-problem gamblers.

This conclusion has been supported by discussions we have had with Professor Charles Clotfelter of Duke University, an international expert on gambling activities whose work has been cited by the Productivity Commission in its draft report. Professor Clotfelter stated

> Professor Hawke--
>
> Thank you for sending your comment on the gambling report. I think it is very reasonable that the elasticities would be different between the casual and problem players. However, I am not familiar with much empirical work that establishes anybody's price elasticity with much assurance. And, I am afraid I did not follow your calculations closely, so I can't comment on them in detail.
>
> Best of luck in your efforts, though. I gather gambling is a widespread phenomenon in Australia, and so it is a good thing for economists to be focusing on this issue.
>
> Sincerely,
>
> Charlie Clotfelter

As noted in our earlier submissions on 20 August 1999, in its modelling for Aristocrat, the CIE used a range of price elasticities from -0.3 to -1.7 (p. C.6). In its Report, the Commission proposed a more restricted range, from - 0.5 to -1.3 (pp. C.12-13).

It is reasonable to assume that problem gamblers' elasticity must be less than non-problem gamblers', and that problem gamblers' elasticity cannot be greater than 1.0. If the first assumption were not true non-problem gamblers would have more of a "problem" than problem gamblers! If the second assumption were not true, problem gamblers would be like non-problem gamblers rather than problem gamblers, ie they would reduce their expenditure on gambling if the price of gambling rose.

From Table 1, applying these assumptions and the Commission's range of elasticities, the relevant matrix of consumer surplus estimates is presented below in Table 2. We shall call this range of elasticities "the Commission's range".

Table 2: Revised estimates of adjusted consumer surplus if the potential range of elasticities lies between -0.8 and -1.3 (non-problem gamblers) and -0.5 and -1.0 (problem gamblers), problem gamblers' elasticity must be less than non-problem gamblers', and problem gamblers' elasticity cannot be greater than -1.0.

($ million)

		Problem Gamblers' Elasticities					
		-0.5	*-0.6*	*-0.7*	*-0.8*	*-0.9*	*-1.0*
	-0.8	5270	5224	5198	5183		
	-0.9	4789	4743	4716	4701	4694	
Non-problem	*-1.0*	4403	4358	4331	4316	4309	4307
Gamblers'	*-1.1*	4088	4043	4016	4001	3994	3992
Elasticities	*-1.2*	3826	3780	3754	3739	3731	3729
	-1.3	3604	3558	3531	3516	3509	3507

Source: Productivity Commission Website http://www.pc.gov.au

If the estimates in Table 2 are compared with the Commission's "high" estimate of the total private and social **costs** of problem gambling of $5210 million (Table J.6, p. J.29), it can be seen that the adjusted consumer surplus exceeds such a cost in only two of the 33 cells (and then only just). In other words, in **94 per cent** of the possible cases in which the elasticities of problem and non-problem gamblers can be paired under the assumptions characterising "the Commission's range", the gambling industries can be seen to offer the possibility of a net **cost** to the Australian community.

From Table 1, applying the assumptions in the second last paragraph on p. 4 and the CIE's range of elasticities (for Aristocrat), the relevant matrix of consumer surplus estimates is presented below in Table 3. We shall call this range of elasticities "the industry's range".

If the estimates in Table 3 are again compared with the Commission's "high" estimate of the total private and social **costs** of problem gambling of $5210 million (Table J.6, p. J.29), it can be seen that the adjusted consumer surplus exceeds such a cost in only four of the 77 cells. In other words, in **95 per cent** of the possible cases in which the elasticities of problem and non-problem gamblers can be paired under the assumptions characterising "the industry's range", the gambling industries can be seen to offer the possibility of a net **cost** to the Australian community.

Indeed, using the polar elasticities proposed by the CIE (-0.3 for problem gamblers and -1.7 for non-problem gamblers) the adjusted consumer surplus shown in Table 3 is $3198 million. If this figure is compared with the Commission's "high" estimate of the total private and social **costs** of problem gambling of $5210 million, the potential annual net **cost** of the gambling industries to the Australian community could be as high as **$2.0 billion**.

Table 3: Revised estimates of adjusted consumer surplus if the potential range of elasticities lies between -0.8 and -1.7 (non-problem gamblers) and -0.3 and -1.0 (problem gamblers), problem gamblers' elasticity must be less than non-problem gamblers', and problem gamblers' elasticity cannot be greater than -1.0.

($ million)

		Problem Gamblers' Elasticities							
		-0.3	*-0.4*	*-0.5*	*-0.6*	*-0.7*	*-0.8*	*-0.9*	*-1.0*
Non-problem Gamblers' Elasticities	*-0.8*	5492	5348	5270	5224	5198	5183		
	-0.9	5011	4867	4789	4743	4716	4701	4694	
	-1.0	4625	4482	4403	4358	4331	4316	4309	4307
	-1.1	4310	4167	4088	4043	4016	4001	3994	3992
	-1.2	4048	3904	3826	3780	3754	3739	3731	3729
	-1.3	3826	3682	3604	3558	3531	3516	3509	3507
	-1.4	3635	3491	3413	3368	3341	3326	3319	3317
	-1.5	3470	3326	3248	3203	3176	3161	3154	3152
	-1.6	3326	3182	3104	3058	3032	3016	3009	3007
	-1.7	**3198**	3055	2976	2931	2904	2889	2882	2880

Source: Productivity Commission Website http://www.pc.gov.au

Therefore, assuming that the elasticities of problem and non-problem gamblers could differ, as shown in Table 1, and using the cost measures identified in *Appendices*, Table J.6, p. J.29, for 94-95 per cent of the feasible range of elasticity combinations, on the Commissions' own methodology, the net impact of gambling will include negative values. **In other words, it is virtually certain that the gambling industries could be inflicting a cost on the Australian community. Further, that cost could be very high.**

(c) Estimating the Costs of Gambling

In this and previous submissions, we have focused upon the "benefits" side of the impact of gambling industries. There remains of course, a matter of estimating the "costs" of gambling in order to determine the net impact of gambling industries.

One reason for our neglect of the costs of gambling is that measuring these factors is even more "hazardous" and "rough" than measuring the benefits of gambling. Nevertheless, our consultation with groups which have assisted us with the preparation of this report, including the Hon Nick Xenophon MLC, the Adelaide Central Mission, the Festival of Light and the Victorian Inter-Church Gambling Taskforce has reinforced in our mind the very conservative nature of the Commission's estimates of the costs of gambling. **Indeed, we think that there is reason to believe that some elements of the Commision's "high" estimate of the costs of gambling could more appropriately be considered as estimates for the State of South Australia, rather than for Australia as a whole.**

We would like to draw the Commission's attention again to the work of Lesieur (1996, p.18,

cited in the Commission's *Draft Report*) who finds *inter alia*:

- The average amount lost by problem gamblers in the twelve months prior to entry into Gamblers Anonymous was $101,570 for gamblers with a SOGS score of 10+, and $33,500 for problem gamblers with a SOGS score between 5 and 9;
- Up to 36 per cent of problem gamblers lost their job due to gambling;
- Up to 76 per cent of problem gamblers missed an average of 20 hours per month due to gambling; and
- 85 per cent of those with a SOGS of 10+ considered suicide as a result of their gambling habits.

We believe it is reasonable for the Commission to identify a low and a high estimate of the private and social costs of gambling. However, we also believe the high estimate identified in the draft report is very conservative. Indeed, we would expect that the total private and social costs of gambling could be up to ten times higher than the estimates currently identified by the Commission.

Conclusion

Using the Commission's own methodology, together with the CIE's assumptions about elasticities (in its work for Aristocrat), the gambling industries are *likely* to impose a net ***cost*** on the Australian community. We acknowledge, however, that measuring the extent of the net impact of gambling industries is difficult and problematic. There is obviously a clear need for further research into both the benefits and costs of gambling.

Our submission is aimed at ensuring that the Commission modifies its final report indicating that, on the present evidence, it accepts that the gambling industries ***could*** be having a sizeable detrimental economic effect on the Australian people.

Our research has attempted to demonstrate that not only could the impact of gambling be negative, but that it is likely to be sizeable as well as negative.