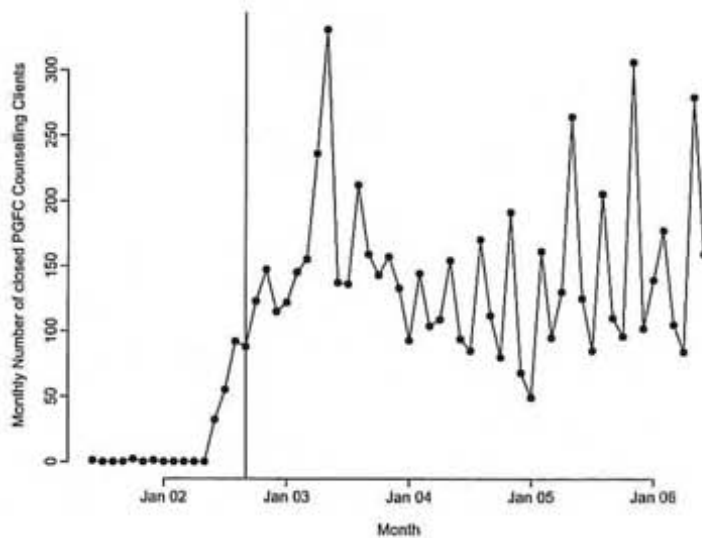


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2001						133	149	119	167	157	120	186
2002	176	175	221	244	162	193	142	167	164	128	102	127
2003	104	121	96	143	112	164	136	150	171	150	113	150
2004	157	202	150	177	142	256	202	177	154	194	146	123
2005	162	155	165	182	131	158	138	144	156	165	119	159
2006	218	150	147	240	148	199						

Table 20: Monthly completely new problem gambling financial counselling clients.

Figure 11: Time series plots for closed problem gambling financial counselling clients.



of \$10 was set.

- There were 5 capped regions: Bass Coast, Darebin Plus, Greater Dandenong, La Trobe, and Maribyrnong Plus, with a total of 406 gaming machines to be removed from the capped regions. Notification was given in April 2001, and the removal of the machines was to be completed by February 2004.

The first of these policy changes can be handled by a dummy variable, while the second could be handled by including the number of machines in capped regions, and the number of machines in non-capped regions, into the models. In addition, there may have been a change responsible for the trend prior to the introduction of the smoking ban, and if that variable can be identified it should be included in the model. Similarly, the large outlier in July 2004 may have arisen

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2001						1	0	0	0	2	0	1
2002	0	0	0	0	0	32	55	92	88	123	147	115
2003	122	145	155	236	331	137	136	212	159	143	157	133
2004	93	144	104	109	154	94	85	170	112	80	191	68
2005	49	161	95	130	264	125	85	205	110	96	306	102
2006	139	177	105	84	279	159						

Table 21: Monthly closed problem gambling financial counselling clients.

because of a change of policy or similar reason. Again, if that reason can be identified then a dummy variable should be included in the model. This will have the effect of improving the fit, providing a less unbiased estimate of the impact of the smoking ban with greater precision.

7 Limitations of the Analysis

The analysis depends on the quality of the data. It should be noted that only a small percentage of problem gamblers present themselves for counselling, and the effects of the smoking bans may be different for those who present for counselling to for those who do not.

Policy and other changes near the introduction of the smoking bans may affect the analysis and interpretation of results. While known changes can be introduced into the analysis, those changes that are not known can affect the quality of the findings. Similarly, if some changes were made too close to the smoking bans the effects of the various changes are likely to be confounded, making it difficult to assess the effects of the smoking bans.

8 Guidance in Interpreting the Findings

When interpreting the results, it should be borne in mind that lack of statistical significance does not mean a zero effect. In particular, it should be noted that count data, such as the number of problem gambling counselling or problem gambling financial counselling clients, is much more difficult to analyse than expenditure data, because of the increased relative variability.

The results indicate that the effect of the smoking bans is more likely to have been less on the number of clients than on the expenditure levels. However, the uncertainty in estimating the impact of the smoking bans is quite high, and therefore a similar impact on both numbers of clients and expenditure cannot be ruled out. Similarly, the analysis shows that a zero impact is also not inconsistent with the data, although the plots of the number of current problem

gambling counselling clients and current problem gambling financial counselling clients suggests real changes coinciding with the smoking bans.

9 Suggestions for Further Research

There are a number of possibilities for further analysis of the data. They include:

- Further work on using state space modelling to allow for the trends in the data to be stochastic, rather than deterministic and also study the existence of delayed effects. As well, it would be worthwhile to do some "Bootstrap" simulations in order to obtain empirical estimates of the standard errors of the coefficients in order to examine the validity of the standard errors derived from the non-linear least squares fit, which may be affected by the optimal β and γ parameters being on the boundaries of the parameter space.
- Developing statistical tests for changes in trend for the current number of counselling clients, perhaps similar to well-known cumulative-sum tests.
- It may be worthwhile analysing data for clients from the capped regions.
- Analysing the data based on LGAs to see whether the impact of the smoking bans is greater in LGAs with lower socio-economic index.

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