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# **When the Cat's Away, the Mice Will Play: Gambling Behaviour of Visitors in Australia**

Working Paper No. 2010 - 05

# When the Cat's Away, the Mice Will Play:

## Gambling Behaviour of Visitors in Australia

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### Abstract:

*What happens if national legal laws or enforcements and social norms are no longer able to directly regulate individual behaviour? According to our knowledge, not much empirical evidence has emerged answering such a seemingly simple question. The challenge is to distinguish between the effects of social norm and of legal enforcement. One way to explore such a question in an almost natural quasi-experimental setting is to focus on tourists' behaviour. Tourists are visiting another country for a relatively short period of time and are acting in a different (legal) environment where formal and informal rules are different to those found in their own country. Using data from Australia we focus on gambling activities since these are prohibited in some countries. We find that tourists from countries where gambling is prohibited spend a significantly larger share of their entertainment expenditure on gambling than those who come from countries where gambling is legalized. Thus, gambling increases ("mice play") without legal enforcement ("when the cat is away"). It is also noteworthy that there seems to be a lack of internalized social norms that would prevent tourists from partaking in these gambling activities.*

*Keywords:* gambling, legal enforcement, social norms.

*JEL Classification:* A130, K420, L820

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## Introduction

There are basically two kinds of regulations of human behaviour, namely formal institutions (e.g., law using legal sanctions) and informal institutions through, e.g., conventions, internalized rules, customs or good manners (Posner 1997, Kasper and Streit 1998). However, what happens if national legal laws/enforcements and social norms are no longer able to directly regulate individual behaviour? According to our knowledge, not much empirical evidence has emerged answering such a seemingly simple question. Fisman and Miguel (2007) stress that distinguishing “between the effects of social norm and legal enforcement is confounded by problems of identification” (p. 1020). One way to explore such a question in an almost natural quasi-experimental setting is to focus on tourists’ behaviour. Tourists are visiting another country for a relatively short period of time and are acting in a different (legal) environment where formal and informal rules are often unlike those found in their own country. We consequently looked for a leisure activity that was prohibited in the tourists’ own country, while being allowed in their country of destination. We could then ask the question what happens in the absence of legal enforcement since zero legal enforcement significantly reduces the marginal costs of conducting such activities. Do we observe, in line with the traditional economics of crime model (Becker 1968), that such activities increase among tourists? The question then remains whether social norms against such activities will remain through internalized norms, increasing the internal (moral) costs of conducting such activities (Elster 1989). Keenan (2008) argues that people will scarcely be deterred from engaging in unwanted activities outside their primary norm community by social norms. Norms are enforced mainly by the disapproval of other people since the norm-violating behaviour signals to others in the primary norm community of the actor that she/he is not a worthy candidate for future cooperation. The actor thus risks losing esteem and advantageous transactions between fellow people when deviating from the community norms (Posner

1997). As a result, social norms would hardly work among tourists as their behaviour is neither monitored/observed, nor sanctioned through reputation and cooperation loss by their fellow “peer groups” at home. Now to return to the question of what sort of behaviour can be explored that is prohibited in some countries whilst being allowed in other countries and to pose the question of to what extent might the tourists have an interest in exploring these behaviours whilst being away from their country. We believe that gambling might provide a good avenue to analyse in such a context. Gambling behaviour has fascinated social scientists since gambling games are constructed in such a way that the expected payoff to the gambler is less than the initial bet: “If gamblers were rational and motivated to maximize their assets then gambling would not be expected to be a popular leisure activity” (Walker 1999, p. 250). Various reasons for such a popularity have been applied, ranging from excitement and having fun, to the fulfilment of hidden needs, the chance of a large win and risk seeking for gains, to erroneous beliefs and superstition (Walker 1999, Kahneman and Tversky 2000). Gambling has a long history dating back to the Hittites approximately 4000 BC (horse betting). The industrial revolution led to a change in Europe’s attitudes towards gambling. It was seen as antithetical to hard work and was therefore perceived to be morally wrong. Legislations started to forbid gambling (e.g., Victorian England). In the 20<sup>th</sup> century we then observed a liberalisation of attitudes to gambling in Europe, but there are still several countries where gambling is prohibited (Walker 1999). In many societies gambling is still believed to be immoral by a lot of people, with it often being associated with crimes, domestic violence and bankruptcy (Vong 2004).

However, the question remains whether gambling prohibition is an external norm designed and imposed on a community by the state with a political will and power to coerce or whether gambling prohibition is also an internal institution within a country to be seen as part of the “cultural cement” (Kasper and Streit 1998) internalized by the tourists.

We are going to focus on Australia as the tourist destination. Most forms of gambling are legalized in Australia. According to Pickett (2004), Australian society exhibits an unusually high tolerance for gambling. According to the average gambling loss per adult, Australians are the most committed gamblers in the world. It allows us to investigate what happens when a tourists travels to place where gambling is no longer prohibited. It is useful to focus on only one tourist destination country in order to be able to hold the tourists' opportunity set and the environmental conditions constant.

## **1. Data and methodology**

We analysed the gambling behaviours of Australian tourists from 20 countries or regions over a period of five years (2003 to 2007)<sup>1</sup>. For this, we used data from the *International Visitor Survey* conducted by Tourism Australia<sup>2</sup>, calculating the annual proportion of average gambling expenditure (e.g., money spent in casino, on betting, horse racing, racing carnivals etc.) to the total entertainment expenditure for entertainment of the visitors from each country. The key independent variable is a dummy variable that indicates whether casinos are legalized in the tourists' countries to proxy the legal status of gambling in those countries. In such a situation only internalized social norms would prevent tourists from not gambling. We control for the number of visitors and the average nights per year that the visitors stayed in Australia in order to avoid any biases in regards to the quantity of tourists and their length of the stay. We also control for other factors such as religion and education.

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<sup>1</sup> Mainly countries. Here the list: Canada, China, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, South Korea, Malaysia, Netherlands, New Zealand, Scandinavia, Singapore, Switzerland, Taiwan, Thailand, United Kingdom, United States. For the following six countries/regions we have only data from 2005 to 2007: France, India, Italy, Netherlands, Scandinavia, and Switzerland. This reduces the number of observations from 100 to 88.

<sup>2</sup> Tourism Australia is a statutory authority of the Australian Government. Reports of International Visitor Survey can be found at: <http://www.tra.australia.com/international.asp?sub=0038>.

Religion can have important effects on the formation of social norms and the compliance with social norms (Torgler 2006). According to Edmondson (1986) there is a stronger moral opposition to gambling in Protestantism than in many other religions such as the Catholicism, and most Protestants regard gambling as a sin. Similarly, Grichting (1986) also reports that Catholics are gambling more frequently and are perceived to spend more money than Protestants. For this, we use a dummy that indicates whether Protestantism is the dominant religion in a country using the data from the World Factbook of CIA (2006). We also control for the average schooling years working with data provided by Barro and Lee (2001). It has been shown that the working-class population is more regularly actively gambling than the other classes (Walker 1999). To control for time as well as country/regional invariant factors, we include time and country dummies. We also report *beta* or *standardized* regression coefficients which reveal the relative importance of the variables used. To obtain robust standard errors in these estimations, we use the Huber/White/Sandwich estimators of standard errors.

## 2. Estimation Results

Table 1 presents the results. In equation (1) we only explore the impact of our key independent variable, namely the *PROHIBITION* of casinos. The results indicate that tourists from countries in which casinos are not allowed are spending more money on gambling (in relation to other entertainment expenditures) than countries where casinos are allowed. The coefficient is highly statistically significant explaining already 27 percent of the total variance of gambling in Australia. The coefficient remains statistically significant when controlling for time (equation (2)) and unobserved country/regional factors (equation (3)). We can see that including the country dummy variables leads a strong increase of the R-squared value while the coefficient *PROHIBITION* remains statistically significant at the 5% level. Next, we

control in equation (4) for the number of visitors and the average nights tourists stay in Australia. Interestingly, none of these factors have a significant impact on gambling while our key independent variable remains statistically significant. Finally, we control in equation (5) for religion and education. Also here we observe that the coefficient for *PROHIBITION* remains statistically significant at the 5% level reporting no change in the (beta) coefficient. Religion and education have, as predicted, a negative effect on gambling, but both coefficients are not statistically significant.

Table 1: Gambling Behaviours of Tourists

Dep. Variable: Gambling	(1)	(2)	(3)	(4)	(5)
Prohibition	0.211*** (5.87) <i>0.519</i>	0.196*** (6.05) <i>0.482</i>	0.098** (2.10) <i>0.240</i>	0.101** (2.23) <i>0.247</i>	0.101** (2.23) <i>0.247</i>
Visitors				0.116 (1.16) <i>0.531</i>	0.116 (1.16) <i>0.531</i>
Nights				-0.006 (-0.56) <i>-0.211</i>	-0.006 (-0.56) <i>-0.211</i>
Protestant					-0.106 (-0.58) <i>-0.195</i>
Schooling					-0.012 (-1.24) <i>-0.136</i>
Time dummies	No	Yes	Yes	Yes	Yes
Country/Regional dummies	No	No	Yes	Yes	Yes
Observations	88	88	88	88	88
Prob > F	0.000	0.000	0.000	0.000	0.000
R-squared	0.269	0.386	0.880	0.883	0.883

Notes: Robust standard errors. *t*-statistics in parentheses, beta values in italics. Significance levels:

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

To summarize the results indicate that visitors from countries where gambling is forbidden spend significantly larger proportions of their entertainment expenditures on gambling in Australia than those who come from countries where gambling is lawful. It seems that legal



enforcements are a dominant force as to why people don't gamble. On the other hand, we scarcely observe that internalized norms matter. Interestingly, other studies have also found that social norms learned at home can crowd out quite quickly (e.g., Fisman and Miguel 2007).

### **3. Conclusion**

Our results indeed indicate that if the cat (legal institutions/enforcement at home) is gone, the mice will play or in other words will gamble. Thus, the old proverb proves to be correct in this context. We find in our empirical analysis that in Australia, where gambling is legalized, tourists from countries that prohibit gambling, spend a significantly larger share of their entertainment expenditure on gambling than those who come from countries legitimating gambling. Thus, it seems that without legal enforcement, such tourists behave against their national formal and informal institutions. It therefore seems that tourists have no internalized norms that would prevent them from following their own national rules whilst they are in other countries.

### **References**

- Barro, R., Lee, J.-W., 2001. International data on educational attainment: updates and Implications. *Oxford Economic Papers* 53, 541–563.
- Becker, G.S., 1968. Crime and punishment: an economic approach. *Journal of Political Economy* 76, 169–217.
- Edmondson, B., 1986. Demographics of gambling. *American Demographics* 8, 105–110.
- Elster, J., 1989. Social norms and economic theory. *Journal of Economic Perspectives* 3, 99–117.
- Fischman, R., Miguel, E., 2007. Corruption, norms, and legal enforcement: Evidence from Diplomatic Parking Tickets. *Journal of Political Economy* 115, 1020-1048.
- Grichting, W. L., 1986. The Impact of Religion on Gambling in Australia. *Australian Journal of Psychology* 38, 45-58.
- Kahneman, D., Tversky, A., (eds.) 2000. *Choices, values, and frames*. Cambridge, Cambridge University Press.

- Kasper, W., Streit, M. E., 1998. *Institutional economics. Social order and public policy*. Cheltenham UK, Edward Elgar.
- Keenan, P. J., 2008. Do norms still matter? The corrosive effects of globalization on the vitality of norms. *Vanderbilt Journal of Transnational Law* 41, 327–379.
- Pickett, C., 2004. *Gambling in Australia: thrills, spills and social ills*. Sydney, Powerhouse Publishing.
- Posner, R.A., 1997. Social norms and the law: an economic approach. *American Economic Review* 87, 365–369.
- Torgler, B., 2006. The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior and Organization* 61, 81-109.
- Vong, F., 2004. Gambling attitudes and gambling behaviour of residents of Macao: the Monte Carlo of the Orient. *Journal of Travel Research* 42, 271–278.
- Walker, M., 1999. Gambling, in: P. E. Earl and S. Kemp (eds.). *The Eldgar Companion to Consumer Research and Economic Psychology*. Cheltenham, UK, Edward Elgar, pp. 247-253.