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Lottery expenses and charitable contributions – Taiwan's experience

Eric S. Lin & Shih-Ying Wu

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Abstract

Individuals' contributions are affected by their lottery outlays if they consider their spending of lottery funds on charities to be a substitute for or a complement to their direct charitable contributions. This study investigates the effect of lottery outlays on charitable contributions based on the experience of lottery introduction in Taiwan. The estimates reveal that lottery outlays exert a positive effect on charitable contributions while the quantitative impact is significant. This study thus provides evidence ameliorating the pessimistic prospect that people may reduce their direct charitable contributions when they spend more on lotteries. Possible explanations for the positive effect are also discussed.

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Notes

[1] Prior to this charitable lottery, there was a monthly game over the period 1950 to 1987 in which the prize depended on how many digits the ticket number matched the draw number from the last digit and a charitable scratch game in 1990. However, both were small-scale games with much fewer revenues and the revenue from the former game was not designated for charitable causes.

[2] A matching game whose prizes depend on how many digits the ticket number matched the draw number and a scratch game were also issued along with the 6/42 game in 2002. Their combined revenues comprised only a small ratio of the total revenues in 2002 and were lumped with the revenue from 6/42 game for the lottery funds.

[3] As in most lotteries, the prize rolls over to the next game if no one wins the prize.

[4] http://www.roclotto.com.tw/topnews/news05.htm

[5] For example, Apinunmahakul and Devlin (2004) describe this kind of indirect charitable giving as charitable gambling.

[6] Clotfelter (1985, p. 49) notes that it is possible to derive specific utility functions consistent with particular demand functions though the connection between utility and demand functions is seldom made explicit in the literature. For example, the function implies a first-order condition of which is the log-linear form of the demand function.

[7] The exclusion of outlier households, which have charitable contributions greater than NT$1 million or lottery expenses greater than NT$120 000, does not significantly affect the estimates and so they are included for the final estimations.

[8] Alternatively, some empirical studies may take the logarithm of the reported amount plus 1. As Clotfelter (1985, p. 94) notes, some researchers opted for adding 10, 'because of the steepness of the logarithmic function in the vicinity of one.' Boskin and Feldstein (1977) demonstrate that the difference between the estimates from these two practices does not appear to be large.

[9] All married couples are required to file jointly in Taiwan. However, they can choose to use a joint calculation or a separate calculation. In general, the income tax for a separate calculation is less than that of a joint calculation if the couple has similar amounts of income.

[10] If taxpayers make a standard deduction in filing tax returns, then the amount of charitable giving does not affect their taxable incomes and taxes and thus the price of charitable giving is equal to one.

[11] Depending on the recipients of charitable giving, the total amount of deductible charitable giving may be restricted to be less than 20% of adjusted gross income.

[12] Statistics from the Ministry of Finance report that the mean value of charitable giving among taxpayers in 1998 equals NT$3501 in current dollars. Since nonitemizers cannot deduct their charitable contributions, the statistic based on tax files is likely to underestimate the actual amount of charitable giving. Therefore, the amount reported in the survey should be close to the actual charitable contributions.

[13] For example, if each household reports only one-sixth of their lottery expenses, then the coefficient estimate is the same as the actual coefficient since the regressions are in logarithmic form. By contrast, if the regressions are in linear form, then the estimated coefficient will be six times that of the actual coefficient.

[14] The payout prize comprises 60% of the lottery revenues and thus the expected prize equals 0.6 times lottery expenses.

[15] As shown below in Tables 3 and 4, the correlation coefficient of unobservable errors of charitable contributions and lottery expenditure is negative. Therefore, unobservable individual-specific characteristics may explain why the estimations results show a positive effect of lotto expenditure on charitable giving even though Table 2 suggests that lottery gamblers overall offer less charitable giving than nongamblers.

[16] For example, Apinunmahakul and Devlin (2004) also utilize the framework of the bivariate Tobit model.

[17] A conditional marginal effect will be evaluated below.

[18] Although it is theoretically possible to include the local governments' budgets on charities to control for their effect, government statistics do not make a clear distinction between charitable spending and other expenditures.

[19] The marginal effect on an observable charitable contribution is , where (Maddala, 1983, p. 160). The marginal effect, 0.53, is derived from the statistics in Tables 1 and 3.

[20] Alternatively, it suggests that an increase of NT$5.43 (=143.1/26.37) in lottery expenses will induce one more NT dollar in charitable giving.

[21] The results are not reported in the article, but are available upon request.

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