

# Are lotteries harmful?

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In 1987 the State of Wisconsin, in authorizing a state lottery, required the Wisconsin Lottery Board to contract with IRP to undertake a study of the impact of the lottery on Wisconsin residents of various income levels. Titled "Who Plays the Lottery? A Comparison of Patterns in Wisconsin and the Nation," the study was carried out by Irving Piliavin and Michael Polakowski and is available as IRP Special Report No. 50. Most of the material in this article is taken from the Special Report.

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Although as recently as 1964 lotteries were illegal in every state, state-sponsored lotteries have become extremely popular over the past decade and the enormous attendant publicity when huge prizes are won continues to fuel their popularity. By 1989 lotteries were operating in thirty-one states and the District of Columbia.<sup>1</sup> State governments apparently see lotteries as a relatively painless way to raise revenue—painless compared to raising taxes. And they hasten to climb on the bandwagon in fear that if they do not, they will lose revenue to neighboring states where lottery tickets are available. Although there is some variation from state to state, on average, for each dollar spent by a player on the lottery, approximately 50 cents is returned in prizes (compared to a payout rate of over 97 percent in many commercial gambling casinos), 12 cents is spent on operations, including commissions to retailers, and 38 cents goes to the state treasury.<sup>2</sup> Lotteries bring in about 3 percent of state-raised revenues.<sup>3</sup> Often they are earmarked for special purposes, such as education or property tax relief. They are costly to administer compared to sales taxes and especially to income taxes, and, in terms of per capita expenditures (including both state government expenditures and customer expenditures on state products), now rank fourth, below education, public welfare, and highways.<sup>4</sup>

## History of the lottery

Choosing by lot is as old as recorded history, and the first known lottery—in that it offered money prizes for purchased tickets—was held in Florence in 1530.<sup>5</sup> Most countries have capitalized on the propensity of individuals to gamble, and America is no exception.<sup>6</sup> During the colonial

and postrevolutionary periods lotteries often served as instruments of public finance and were sponsored by prominent citizens. Roads were paved, bridges built, and buildings constructed with the aid of lotteries. Harvard, Yale, Princeton, and Columbia benefited from lotteries, and during the Revolution lotteries were a means of raising money to support the troops.

There were always those who objected to lotteries, who considered any sort of gambling immoral—the Quakers, for example—but these groups had little influence as long as the lotteries were in the hands of important public figures and charitable organizations. In the nineteenth century, however, the rather benign attitude toward lotteries changed. Much of the management of lotteries was contracted out to private firms, on the assumption that entrepreneurs could run the lotteries more efficiently than volunteers. Since these professionals were often more interested in personal gain than the public good, the private management of lotteries led to serious problems. Drawings were delayed and sometimes failed to take place at all. Special stores opened to sell lottery tickets and many more tickets were sold than were authorized for sale. Lottery directors were found to be receiving enormous amounts in expenses—almost the total amount collected. Eventually lotteries gained such a bad reputation that by 1894 they were prohibited in every state, and seventy years passed before the state of New Hampshire reintroduced a legal lottery.

## Current lotteries

Twentieth-century lotteries are state-sponsored and subject to strict control—if not actually run by state agencies—and are therefore unlikely to become corrupt. Furthermore, technological advances have made possible fast payoffs (such as instant scratch-off games), widely accessible computerized numbers games, and now lotto—a lottery distinguished by long odds (typically the probability of winning is one in 7 million) and huge jackpots (some of over \$100 million) that continue to build until someone draws a winning series of numbers. The computerized system even makes locating winners relatively easy by recording the location at which every number combination is purchased.

It has been suggested that state-sponsored lotteries are socially beneficial because in addition to raising money for

good causes, they offer an alternative to illegal gambling, which is tied to organized crime.<sup>7</sup> And they clearly offer some immeasurable satisfaction to consumers. Yet uneasiness persists. Should state governments, whose responsibility it is to look after the well-being of the populace, provide the opportunity to gamble and in many instances encourage citizens to spend increasing amounts of money on this unsubstantial product? Does lottery play entail expenses that some citizens cannot afford? Do lotteries capitalize on the naivete of citizens regarding the probabilities of winning and strategies of play? Does playing the lottery lead to habitual gambling? Does it undercut the work ethic? And is the lottery a regressive means of raising revenue? Some of these questions were addressed in the study mandated by the Wisconsin Legislature.

### The IRP study

A telephone survey to explore attitudes and characteristics of lottery players was designed and analyzed by Irving Piliavin and Michael Polakowski and conducted by the Letters and Science Survey Center of the University of Wisconsin-Madison. The survey made use of representative samples of currently working residential numbers in the United States and in Wisconsin, purchased from Nielsen Media Research. It was conducted June 1–August 6, 1989.

The demographic characteristics of those in the national sample corresponded closely to the characteristics of the U.S. population as measured by the Census Bureau, and the Wisconsin sample mirrored the national sample in most respects. The major differences were in the proportion of white players (94.3 percent in Wisconsin and 87 percent in the national sample) and in the percentage that had completed college (19.5 in Wisconsin and 27.8 in the national sample). The racial difference can be attributed to the proportion of nonwhites in Wisconsin (5.8 percent) compared to the nation as a whole (12.2).

### How many people play the lottery?

A summary of the responses to the National Survey is presented in Table 1. A corresponding summary for the Wisconsin sample is presented in Table 2. In the national sample only 69 percent of the sample members lived in a state that had a lottery, which explains why only 62.5 percent had played the lottery at some time in their lives, compared to 67.8 percent in Wisconsin. Sixty percent of the residents of states with lotteries had played during the year preceding the survey. Of these, 23 percent had played once a week or more over the past year and 40 percent had played at least once a month.

### Who are the players?

A relatively large proportion of the low-income population eschews the lottery: 54 percent of those with incomes below

**Table 1**  
**Gambling, Lottery Play, and Opinions: National Sample**  
(N = 733)

Response	Value
Ever played a lottery	62.5%
Resides in a state offering a lottery	69.2%
Play the lottery at least once a month in home state	39.9%
Play the lottery at least once a week in home state	23.1%
Percentage who played in home state that reside in lottery state (306 of 507)	60.4%
Median monthly lottery expenditure (players only)	\$4.60
Mean monthly lottery expenditure (players only)	\$14.14
Median percentage of monthly income spent on lottery (players only)	.2%
Participates in other forms of gambling	39.2%
In favor or strongly in favor of state lotteries	72.5%
For those residing in states with lotteries (N = 507)	75.8%
Agree or strongly agree:	
Lotteries are harmless forms of recreation	56.2%
Lottery play reduces money for household expenses (players only)	3.1%
Gambling is a problem for self	3.3%
Gambling is a problem for partner (married or cohabiting only)	1.9%
Believe a system can be devised to improve one's chances to win at lotto	30.3%
Percentage of money wagered on lottery that is returned as winnings:	
0-25%	60.9%
26-50%	29.9%
51% and above	9.2%

**Note:** "Players only" refers to respondents who reported that they had played a lottery within the past year.

\$10,000 had never played, compared to only 38 percent of those with incomes between \$10,000 and \$50,000. Widowers and widows are less likely to play than others, and older people are less likely to play than younger people. Women are significantly less likely to play than are men,<sup>8</sup> and those without a high school education are less likely to play than those with more education. As might be expected, people who disapprove of the lottery are the least likely to play. No racial differences in lottery play were found.

Lottery play is found to be significantly related to other forms of gambling. Those who had engaged in some other form of gambling over the past year were much more likely to have ever purchased a lottery ticket than nongamblers (78 percent vs. 52 percent).

### How much do they spend?

Expenditures on the lottery tend to be modest. The median monthly expenditure on lottery play—among those who

**Table 2**  
**Gambling, Lottery Play, and Opinions: Wisconsin Sample**  
**(N = 527)**

Response	Value
Ever played a lottery	67.8%
Ever played the Wisconsin lottery	58.1%
Play Wisconsin lottery at least once a month	35.6%
Play Wisconsin lottery at least once a week	18.0%
Median monthly lottery expenditure (players only)	\$4.60
Mean monthly lottery expenditure (players only)	\$10.57
Median percentage of monthly income spent by players on lottery	.3%
Participates in other forms of gambling	49.7%
In favor or strongly in favor of state lotteries	72.8%
Agree or strongly agree:	
Lotteries are harmless forms of recreation	57.5%
Lottery play reduces money for household expenses (players only)	3.9%
Gambling is a problem for self	2.9%
Gambling is a problem for partner (married or cohabitating only)	2.5%
Believe a system can be devised to improve one's chances to win at lotto	34.3%
Percentage of money wagered on lottery that is returned as winnings:	
0-25%	60.1%
26-50%	31.7%
51% and above	8.2%

**Note:** "Players only" refers to those respondents who reported that they had played the Wisconsin lottery.

played at all—was \$4.60 in both the national and the Wisconsin samples, and the mean in the national sample was \$14.14 (\$10.57 in Wisconsin). About 12 percent of the national sample lottery players reported spending more than \$20 a month on play, and 4 percent stated that they spent more than \$50 a month. Yet over half of those who played a lottery in the year preceding the survey spent less than 0.2 percent of their income on the lottery, and 88 percent spent less than 1 percent.

### The relationship of income to amount spent

The average amount of money spent per month on the lottery was not found to differ significantly by age, family income, gender, race, education, or marital status. That being the case, the percentage of income spent on the lottery is significantly higher for players with low family incomes and low educational levels. Because poor families have been found to spend approximately the same amount on the lottery as wealthier families, this amount translates into a much higher proportion of their income (see Table 3). So the lottery is clearly regressive, having a greater impact on poor

players than on the wealthy. Nevertheless even poor players spend, on average, less than 2 percent of their income on the lottery, and since only about 3 percent of respondents suggest that lottery play reduces money for household expenses, it would appear that, at least at the time of the study, expenditures on the lottery were not perceived to cause material hardship.

### Approval rating of the lottery

Although the study revealed overwhelming support for the lottery (72.5 percent of the national sample), a much smaller proportion considered it a harmless form of recreation. This

**Table 3**  
**Percentage of Players' Income Spent on the Lottery,**  
**by Demographic Characteristics: National Sample**

	% Income Spent (Mean)	N
Age		
18-25	.88	30
26-30	.41	48
31-35	.42	47
36-40	.78	36
41-45	.68	30
46-50	.61	23
51-60	.46	41
61-70	.70	35
71+	1.10	9
Annual Family Income*		
Less than \$10,000	1.33	24
\$10,000 to \$19,999	.88	41
\$20,000 to \$29,999	.66	60
\$30,000 to \$39,999	.48	68
\$40,000 to \$49,999	.43	42
\$50,000 to \$59,999	.69 <sup>a</sup>	26
\$60,000 or more	.13	38
Gender		
Male	.63	148
Female	.59	151
Race		
White	.58	265
Nonwhite	.79	34
Education*		
Less than high school	1.52	26
High school graduate	.86	63
Some college	.34	69
2-year degree	.54	54 *
College degree	.41	87
Marital Status		
Single	.72	55
Married	.56	182
Widowed	.79	16
Divorced/separated	.57	46

\*This value was affected by an individual who spend \$600 a month on the lottery. Without him the percentage of income spent is under .22.

\*Differences across groups are statistically significant.

paradox suggests that people may feel that the lottery is harmful for others, though it hasn't harmed them. Or it may simply be a last gasp of the Puritan ethic. Only 3.3 percent of the national sample considered gambling a personal problem.

### Public understanding of how lotteries work

Several questions revealed some lack of understanding on the part of players of how the lottery works. A fifth of the respondents felt that the lottery was an easy way to make money. And almost a third of the respondents believed that a "system" could improve one's chances of winning. Interestingly, despite the very low payback rate of the state lotteries, most respondents assumed the proportion returned as prizes is even lower than it actually is. The vast majority assumed that something under 25 percent of the money is returned to participants. The great enthusiasm for the new games with huge jackpots suggests that the likelihood of winning has nothing to do with playing the lottery. That someone somewhere wins is inducement enough.

### Conclusion

Lotteries pose a dilemma for state governments. They are a tempting source of funds, and to the extent that a state should provide what the citizens desire, they can hardly be resisted. The survey reported here suggests that they do little or no harm. Yet even their most enthusiastic supporters harbor qualms about their effects.

Since this study was carried out, Wisconsin has joined a number of other states in Megabucks, a multi-million-dollar lotto game with astronomical jackpots to a very few lucky winners, who, overnight, join the ranks of the rich and famous. The game has become the state's most popular lottery, with sales dictated almost completely by the size of the jackpot. Will the enthusiasm for lotto drive otherwise rational beings to invest more than they can afford in the longest of long shots? Should a state-supported agency encourage the gullible to spend their hard-earned money on a venture that provides the vast majority of participants with only a fleeting hope of wealth? The relationship between state governments and the lotteries they have established continues to be an uneasy one.<sup>9</sup> ■

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<sup>1</sup>Charles T. Clotfelter and Philip J. Cook, "On the Economics of State Lotteries," *Journal of Economic Perspectives*, forthcoming.

<sup>2</sup>Charles T. Clotfelter and Philip J. Cook, *Selling Hope: State Lotteries in America* (Cambridge, Mass.: Harvard University Press, 1989), p. 25.

<sup>3</sup>Ibid., p. 29.

<sup>4</sup>Ibid., p. 30.

<sup>5</sup>Ibid., p. 34.

<sup>6</sup>In 1986, of the 140 countries permitting gambling, 100 had legalized lotteries (ibid., p. 21).

<sup>7</sup>Some argue that legal gambling has no effect on the illegal numbers game, since the illegal game provides credit and home delivery (especially important to shut-ins, such as those in penitentiaries), and is tax-free. Others point out that to all intents and purposes legal winnings of up to \$600 are tax-free, since the states do not report them to federal authorities. And it has been argued that the heavy promotion of legal games results in an increase in illegal play. See a discussion of this point by Clotfelter and Cook, *Selling Hope*, pp. 130-133.

<sup>8</sup>This was one of the few points on which the Wisconsin and the national sample differed. Although past literature consistently reports that men play the lottery more frequently than do women, no gender difference was found in the Wisconsin sample. It was further found in Wisconsin (but not in the national sample) that mean gross expenditure per month on the lottery rises with approval of the lottery. The authors suggest that these and other minor discrepancies may be owing to the newness of the Wisconsin lottery. (The study was carried out in the first year of the lottery.) Women may have been responding to the novelty of betting opportunities.

<sup>9</sup>When a jackpot of over \$100 million in Florida (September 1990) drew much media attention, long lines at ticket counters, and multiple purchases of tickets, the governor of the state felt obligated to issue a statement warning citizens not to spend more than they could afford.

### Institute Visitors

Jerzy Kropiwnicki, from the University of Lodz, Poland, will be a Visiting Scholar at the Institute for the 1990-91 academic year. His research on the U.S. social security and welfare systems is being supported by the American Council of Learned Societies. Dr. Kropiwnicki previously visited the Institute in 1977-78.

Peter Schwendener, who recently received a doctorate in labor economics at the University of Basel, will spend the year working on topics related to applied microeconomics. Of particular interest to him are structural models of household behavior. His work is being supported by the Swiss National Foundation.