The Minnesota State Lottery

Questions and Answers

Research Department

Minnesota House of Representatives

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A Research Report

September 1988

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INTRODUCTION

This House Research Department report is intended to give answers to some of the most-frequently asked questions about the state lottery amendment on the November ballot. It is intended to provide legislators not only with information for their own use but also with a document which can be made available to answer questions or requests from the public.

For information on the environmental trust fund, see the following two House Research information briefs:

A Recent History of Environmental Ballot Questions in Minnesota and Other States by John Helland, July 1988.

Environmental and Natural Resources Trust Fund Proposal Questions and Answers by John Helland, August 1988.

What does the amendment say?

The Minnesota Constitution presently bars the Legislature from authorizing "any lottery or the sale of lottery tickets." The amendment would revise this total prohibition by making a single exception for a lottery "operated by the state." No other types of lotteries would be permitted.

What vote is needed to pass the amendment?

Like all constitutional amendments the lottery amendment requires a majority of all persons voting in the November 1988 election. A failure to vote on the amendment is the same as a "no" vote.

How is the amendment related to the other amendment on the ballot, which would authorize an Environmental Trust Fund and dedicate it to environmental and natural resources programs?

The two amendments are constitutionally independent, and the defeat of one amendment would not affect the passage of the other.

The amendments are connected by legislation that dedicates half the net lottery revenues for the first five years to an Environmental Trust Fund. If the Trust Fund amendment is passed and the lottery amendment defeated the Legislature will have to find another source of funding for the Trust Fund. If the lottery amendment passes and the Trust Fund amendment loses the Legislature will have to find another use for the money designated for the Trust Fund.

More information on this subject can be found in the answer to the question "How would Minnesota's lottery revenue be used?" in the section on "Lottery Revenues" on page 19.

Will passage of the amendment automatically create a Minnesota state lottery?

No. The amendment does not create a lottery, it only permits the Legislature to decide whether or not to establish a lottery by passing enabling legislation. Probably the earliest this could happen is the 1989 legislative session.

In most states where voters have approved constitutional amendments or other referendum questions on state lotteries the usual result has been passage of the necessary enabling law at the next legislative session. This is not always the case however, as the experience in Iowa shows. Iowans voted in the 1972 general election to repeal their state constitution's ban on lotteries but the Legislature did not pass the bill creating the Iowa lottery until 1985.

If the amendment passes how soon could a Minnesota lottery begin selling tickets?

The first day of ticket sales would be sometime in late 1989 or early 1990, if the Legislature passes a lottery enabling law in 1989. This assumption is based on the experience of other states. A determined effort could nevertheless move that date forward.

It is unlikely that the Legislature could complete action on a lottery bill before next May. In other states the average interval between passage of lottery enabling legislation and the first day of ticket sales has been about eight months. During this time a new state agency must be set up, appointments of lottery staff (and the lottery commission if there is one) made, contracts signed with suppliers of lottery games and equipment, licenses issued to sales agents and a ticket distribution system established. The Iowa lottery managed to do all this in just over four months but in the District of Columbia the same process took almost a year and a half.

STATE LOTTERIES

How many states now have state lotteries?

As of July 1988 twenty-eight states plus the District of Columbia either have lotteries or are in the process of establishing them. These states are shown in Figure 1. At the November election three other states in addition to Minnesota--Idaho, Kentucky and Indiana -- will be voting on lottery constitutional amendments. In June of this year North Dakota voters rejected a lottery amendment for the second time in two years.

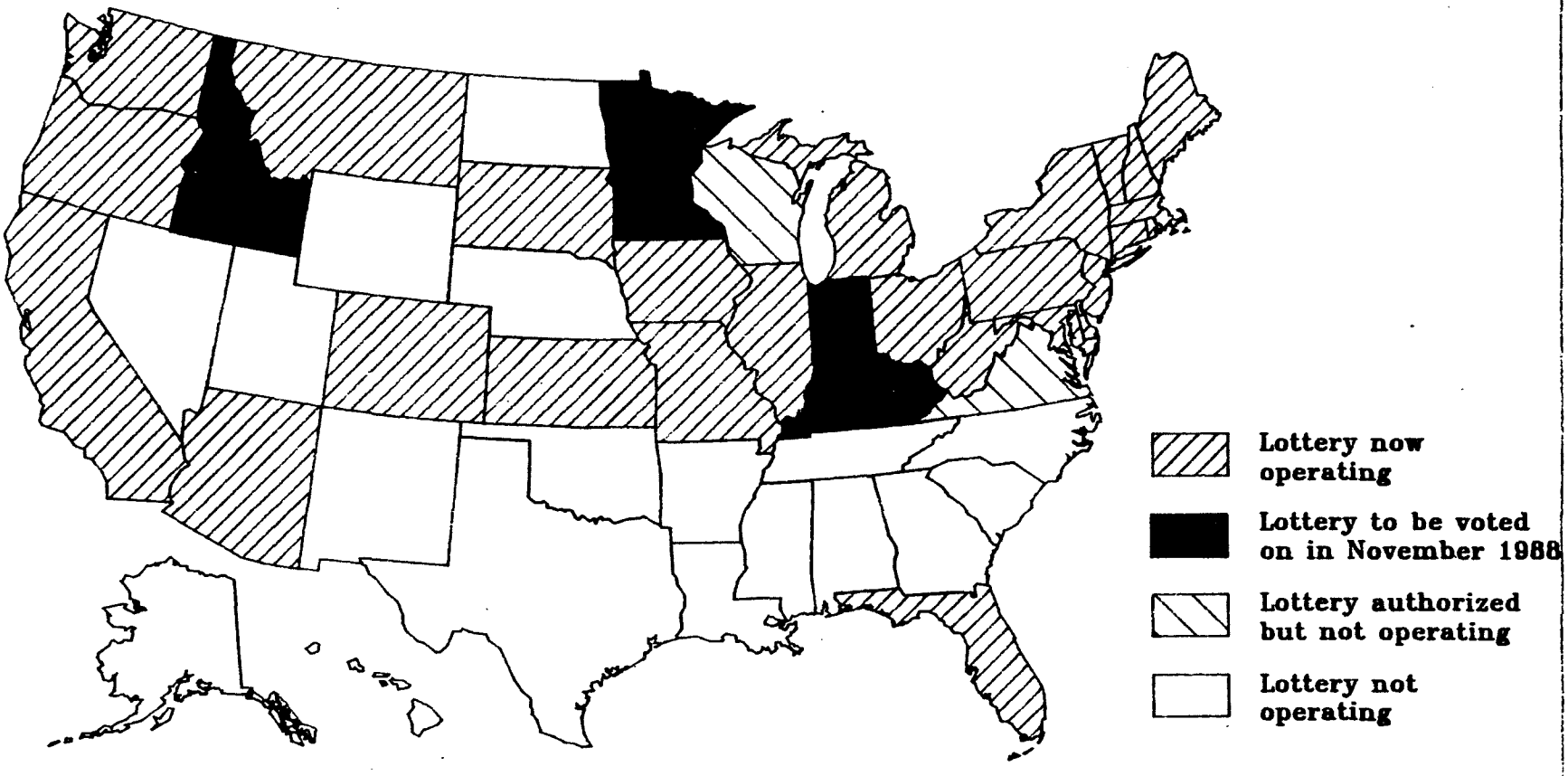
New Hampshire's lottery, begun in 1964, is the oldest state lottery in the United States. New York's is second oldest, dating from 1967. Of the present twenty-nine lotteries fifteen date from 1982 or later.

Who administers state lotteries?

While no two lotteries are exactly alike a typical lottery is supervised by both a director and a lottery commission. Table 1 shows the lottery agency and supervising authority for each lottery.

The greatest differences among administrative structures comes in the relative authority of lottery directors and lottery commissions. A few commissions are the primary policy-makers for their lotteries but in most states they serve mainly to review and approve the decisions of the director. In many cases the director and the commission members are all appointed by the governor, making the director more an equal than a subordinate of the commission. Friction between directors

Figure 1
LOTTERY STATES 1988



and commissioners has plagued some lotteries in the past, often because of an unclear division of responsibility and power. A few states have solved this problem; they have dispensed with a commission and have the lottery under the sole control of a director who reports only to the governor.

As Table 1 shows, some lotteries are separate state agencies while others are part of a larger state department, usually the department responsible for taxation or finance.

Recenty there has been some discussion of the possibility of a lottery being operated not by a state agency but rather by a private company under a franchise, contract or license from the state. No state presently has such a lottery. Since the wording of the constitutional amendment authorizes only a "lottery operated by the state" the Minnesota Legislature would be barred from legalizing any kind of private lottery.

Are there any multi-state lotteries?

State lotteries joining together to create multi-state lottery games is one of the newest trends in the industry. It began in 1984 when Vermont, New Hampshire and Maine, aware that their small populations severely limited the size of the prizes they could offer, combined to create a lotto game called ***"Tri-State Megabucks."*** This is a single lottery game in which each state sells tickets and keeps a percentage of the net revenue in proportion to its sales. (Lotto and other lottery games are explained in the answer to the question "What kinds of games do state lotteries offer?" in the section on "Playing State Lotteries" on page 6).

In early 1988 seven of the country's smaller lotteries joined to operate a lotto game called ***"Lotto America."*** Lotto America's largest jackpot of over $11 million was well in excess of what any of these states could have expected to produce individually.

Table 1
STATE LOTTERY AGENCIES

STATE	*LOTTERY AGENCY*	*SUPERVISION*
Arizona	State Lottery Commission	Commission/director
California	State Lottery Commission	Commission/director
Colorado	State Lottery Division, Department of Revenue	Commission/director
Connecticut	Division of Special Revenue, Department of Revenue Services	Gaming policy board/ director
Delaware	State Lottery Office, Department of Finance	Director
District of Columbia	Lottery and Numbers Game Division, Lottery and Charitable Games Board	Commission/division chief
Florida	Department of the Lottery	Commission/director
Illinois	Department of the Lottery	Commission/director
Iowa	Lottery Division, Department of Revenue and Finance	Commission/director
Kansas	Lottery Commission	Commission/director
Maine	Lottery Commission	Commission/director
Maryland	State Lottery Agency	Commission/director
Massachusetts	State Lottery Commission, Office of State Treasurer	Commission/director/ state treasurer
Michigan	Bureau of State Lottery	Commissioner
Missouri	State Lottery Commission	Commission/director
Montana	State Lottery Commission	Commission/director
New Hampshire	State Sweepstakes Commission	Commission/director
New Jersey	State Lottery Division, Department of Treasury	Commission/director
New York	Lottery Division, Department of Taxation and Finance	Director/commissioner
Ohio	State Lottery Commission	Commission/director
Oregon	State Lottery Commission	Commission/director
Pennsylvania	Division of State Lottery, Department of Revenue	Secretary of Revenue
Rhode Island	State Lottery Commission	Commission/director
South Dakota	State Lottery Commission	Commission/director
Vermont	State Lottery Commission	Commission/director
Virginia	State Lottery Commission	Commission/director
Washington	State Lottery Commission	Commission/director
West Virginia	State Lottery Commission	Commission/director
Wisconsin	State Lottery Board	Commission/director

What kinds of games do state lotteries offer?

There are three generally-recognized "generations" of lottery games -- passive games, instant games and on-line computerized games. Other types of lottery products have been discussed and some offered on a trial basis but they are not in widespread use.

Passive games resemble raffles. Players buy a ticket pre-printed with a number and wait to see if that number is drawn. The first state lotteries in New Hampshire and New York began with passive games but their infrequency of drawings and lack of player involvement eventually led to their virtual disappearance from state lottery offerings.

Instant games resemble the kinds of scratch-off tickets frequently given away in product-promoting sweepstakes. Players scratch off the covering from a series of numbers or symbols to see if they have won a prize. Instant tickets usually sell for $1 or $2 and offer a wide range of prizes, from a few dollars or a free ticket to as much as $100,000 or entry into a million-dollar drawing. It is not unusual for a lottery to offer six or more different instant games in a year, with the main differences among them being in theme and prize structure rather than in basic design.

On-line games include three different kinds of lottery games. In numbers games a player bets 50 cents or more on a three- or four-digit number, with a winning number drawn nightly. In lotto games a player selects a few numbers from a larger field of numbers (such as choosing six numbers out of a field of 49 in California's Lotto 6/49) to participate in a weekly or semi-weekly drawing. The lotto jackpot is won only with a ticket containing all the drawn numbers, although smaller prizes may be given for matching only some of the numbers. In Keno, the newest on-line game and presently available only in New York and Pennsylvania, players select from an even larger field of numbers than in lotto but can win the jackpot if only half their selected numbers are drawn. Since all these games allow players to select their own numbers they require a terminal connected to the lottery's central computer to register bets and print out tickets, hence the "on-line" designation. These games are not mutually exclusive and several states offer more than one -- for example in addition to instant games the New York lottery currently features two numbers games (three-digit and four-digit), two lotto games and a keno game, with a total of nineteen drawings each week.

Instant games once dominated the lottery revenue picture but today on-line games account for about 70% of all ticket sales.

A "fourth generation" of lottery game has been on the horizon for several years but has yet to achieve wide acceptance. This is the video lottery game, similar to coin-operated video arcade games except that in video lotteries chance rather than skill governs the outcome. Lottery marketers have held high hopes that video lotteries will be able to reach younger and more affluent customers who have been

underrepresented among the buyers of other lottery products. However, results in a few test markets so far have not clearly demonstrated the appeal of these devices. Vociferous objections to video lotteries as "state-operated slot machines" have made many lottery directors reluctant to install them even on a test basis.

How are lottery tickets sold?

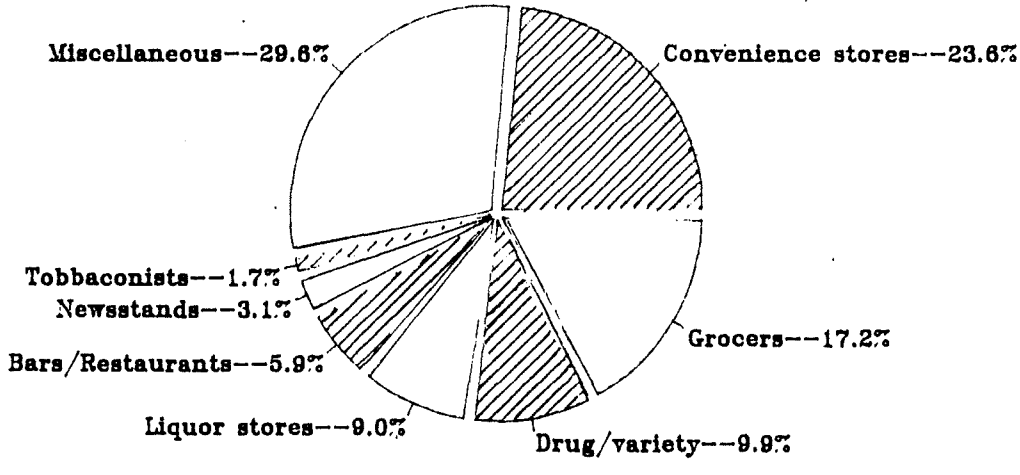
Lottery tickets are sold in the same way that other consumer products are sold--in retail stores. Retail businesses are licensed and bonded by the state lottery agency to act as retail sales agents for lottery tickets. Sales agents typically retain about 5% of their gross lottery receipts as a commission. In many states they receive additional bonuses for such things as selling winning tickets or exceeding sales quotas. In many states agents can be denied licensing if they have certain types of criminal convictions in their backgrounds; they can lose their licenses for fraud, failure to account for tickets or revenue or for violating a law or regulation.

Figure 2 shows the U. S. breakdown in lottery sales agents by type of outlet. Aside from the large "miscellaneous" category (which includes such outlets as gas stations, bowling centers, beauty shops and even racetracks) the largest category is convenience stores, followed by grocery stores, drug and variety stores and package liquor stores. Since some states do not license on-sale liquor establishments, bars and restaurants account for only about 5% of the total.

The 23 lotteries operating in 1986 averaged one agent for every 1,250 persons, which in Minnesota would have produced about 3,360 agents.

Most instant lottery tickets are bought like other products, at cash registers operated by clerks. Many of the same clerks are also trained to operate the computer terminals that sell tickets for on-line games. Some lotteries are supplementing sales by clerks with sales through ticket vending machines.

Figure 2
U.S. LOTTERY TICKET AGENTS BY TYPE OF OUTLET



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Do states impose restrictions on who can buy tickets?

All states prohibit the sale of lottery tickets to persons under age 18. Many states also prohibit lottery employees and their immediate families from buying tickets, but this ban doesn't extend to sales agents. Aside from these provisions there are no limitations on who can buy, or be sold, a ticket. There has been some discussion in the California Legislature of prohibiting sales to welfare recipients but so far no legislation of this type has been passed.

What kinds of prizes do state lotteries pay out, and what are the odds of winning them?

The range of lottery prizes is immense - from a nominal prize of a free ticket to a single lotto jackpot of over $51 million. The range of odds is equally immense, from fairly low to astronomical.

Instant games offer a great range of prizes, with some games offering odds as low as one in four of winning a free ticket or one in ten of winning a $1 prize. Top prizes in instant games can run from $1,000 to $10,000 in "low-tier" games to as much as $1 million in "big spin" games where a few winning tickets buy entry into a million dollar drawing. Table 2 on page 10 shows the prize structure and odds of three typical $1 instant games.

Obviously, the odds in ***numbers games*** are the same everywhere --one in 1,000 in a three-digit game and one in 10,000 in a four-digit game. Prizes vary, however, depending on whether prizes are on a fixed-payout or pari-mutuel basis. Most fixed-payout states will pay $500 for each dollar bet on a winning three-digit number and ten times that for a winning four-digit number. In the two states where the game is on a pari-mutuel basis the payout on a winning number is not fixed in advance but rather determined by the number of persons betting on the winning number. (This is the same method as is used to determine payouts in horse racing.) Many states allow players to bet on various combinations of their number in addition to a "straight" bet, and these options can lower the odds on winning a prize to as low as one in 100.

Lotto odds are determined by the structure of the game. A ***lotto game*** such as California's where players pick 6 of 49 numbers has odds on picking all six numbers of about one in 14 million, while much smaller Delaware's 6/30 lotto game has correspondingly lower odds of one in 297,000 (based on a $1 bet). Most lotto games offer lesser prizes for picking some but not all of the winning numbers. Some small lotto games offer top prizes of under $1 million but in large states $10 million lotto jackpots are not uncommon. The largest lotto jackpot on record, $54 million, was offered in September, 1988, by the Florida lottery.

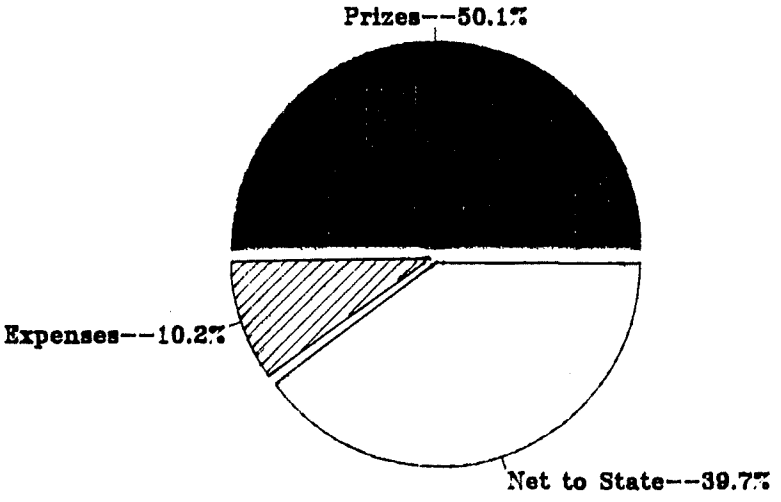
Are lottery prizes taxable as income?

All lottery prizes are subject to federal income taxes, including 20% federal withholding on large prizes. States vary in their tax treatment of prizes, with over half exempting lottery prizes from all state income taxes and withholding.

What percentage of lottery revenue is paid out in prizes?

In fiscal 1987 the 23 U. S. lotteries paid out almost exactly half of their gross revenues as prizes (see Figure 3). Table 3 on page 11 shows that prize percentages range from less than 43% in West Virginia to almost 60% in Massachusetts. Prize percentages can also vary from game to game. Lottery statutes often specify a minimum percentage of revenues to be paid back as prizes but leave the specific amount up to lottery commissions or directors.

Figure 3
DIVISION OF LOTTERY REVENUES ALL STATES, FISCAL YEAR 1987



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Are state lotteries a good bet for players?

If "good bets" are determined by how much of the total revenue is paid back to players as prizes, lotteries clearly are poor bets compared to other forms of legalized gambling. Table 4 on page 12, comparing the percentages won by players in various types of legal gambling in Minnesota and elsewhere, shows that the prize payback of state lotteries is by far the lowest at about 50%. By contrast casino table games such as craps, roulette and blackjack pay back almost 98% and slot machines pay back almost 90%.

Payout percentages are usually set by gambling operators in order to maximize their game's appeal. A slot machine, for instance, will rarely pay out more than a few dollars for a win, so its operator cannot afford to further limit the machine's attractiveness by retaining a large percentage of the gross. The appeal of the lottery lies with its potential for a large prize at a small investment, so a comparatively low prize percentage doesn't make the lottery noncompetitive. Horse racing's multi-horse exotic bets like the Pick-6 and casinos' "linked" slot machines are both attempts to adopt the lotteries' low-investment high-potential approach. However, neither has yet been able to match the lotteries' accessibility or giant jackpots.

Table 2
PRIZES AND ODDS FOR TYPICAL INSTANT LOTTERY GAMES

Game	*Prize*	*Odds*	*Number of Prizes*
"Jokers Wild"	$2	1:5.9	4,410,900
(Connecticut)	5	1:55	475,020
	10	1:182	143,550
	50	1:1,724	15,138
	1,000	1:100,000	261
	10,000	1:239,450	109
	1,000,000	1:26,100,000	1
"7 Card Cash"	$1	1:10	3,897,600
(Massachusetts)	2	1:14	2,956,800
	5	1:60	672,000
	10	1:150	268,800
	20	1:300	134,400
	50	1:837	48,160
	100	1:2,681	15,040
	500	1:4,500	4,500
	1,000	1:26,880	1,500
"Players Choice"	Free ticket	1:4.1	11,653,440
(Pennsylvania)	$5	1:27.78	1,719,360
	25	1:250	191,040
	50	1:1,920	24,875
	100	1:4,800	9,950
	500	1:80,000	597
	1,000	1:240,000	199
	10,000	1:2,400,000	20
	50,000	1:3,200,000	15

Table 3
STATE LOTTERY REVENUES, PRIZES, EXPENSES AND NET TO STATE

FY 1987

State	*Gross Revenue*	*Net to State*	*Percent*	*Prizes*	*Percent*	*Expenses*	*Percent*
Arizona	$142.2	$50.6	35.6	$63.6	44.7	$28	19.7
California	1392.2	504	36.2	693.2	49.8	195	14.0
Colorado	113.3	35	30.9	57.2	50.5	21.1	4.9
Connecticut	489.3	214.1	43.8	251.1	51.3	24.1	4.9
Delaware	45.8	17	37.1	23.9	52.2	4.9	10.7
District of Columbia	121.7	40.1	32.9	61.8	50.8	19.8	16.3
Illinois	1334	553	41.5	650.8	48.8	130.2	9.8
Iowa	94.5	27.2	28.8	47.2	49.9	20.1	21.3
Maine	58.1	18.2	31.3	30.3	52.2	9.6	16.5
Maryland	760.5	332.4	43.7	366.7	48.2	61.4	8.1
Massachusetts	1218.9	411.2	33.7	729.5	59.8	78.2	6.4
Michigan	1006.3	407.1	40.5	494.6	49.2	104.6	10.4
Missouri	174.1	76.8	44.1	78.5	45.1	18.8	10.8
New Hampshire	57.3	20.7	36.1	28.2	49.2	8.4	14.7
New Jersey	1116.9	472.2	42.3	557	49.9	87.7	7.9
New York	1458.8	664.1	45.5	672.8	46.1	121.9	8.4
Ohio	1068.3	376	35.2	569.3	53.3	123	11.5
Oregon	100.3	33.3	33.2	51	50.8	16	16.0
Pennsylvania	1138.5	570.1	42.6	642.7	48.0	125.7	9.4
Rhode Island	57.9	21.6	37.3	27.9	48.2	8.4	14.5
Vermont	25.3	8	31.6	13.1	51.8	4.2	16.6
Washington	193.9	78.8	40.6	88	45.4	27.1	14.0
West Virginia	70.1	28	39.9	30	42.8	12.1	17.3
TOTAL	**$12438.2**	**$4959.5**	**39.9**	**$6228.4**	**50.1**	**$1250.3**	**10.1**

Table 4
PAYBACK TO PLAYERS FROM LEGAL GAMBLING

(in millions of dollars)

Type of Legal Gambling		*Total Handle*	*Payback to Players*	*Payback Percent*
Casinos - Table Games	U.S. casinos, c.y. 1986	101440.0	98849.1	97.4%
Casinos - Slot Machines	U.S. casinos, c.y. 1986	28500.5	26347.4	88.9%
Charitable Gambling	Mn. charitable gambling, c.y. 1987	500.6	398.4	79.6%
Horse Racing	Canterbury Downs, 1987 season	120.0	95.0	79.2%
Lotteries	All lotteries, f.y. 1987	12438.0	6228.4	50.1%

Sources: Horse Racing: Canterbury Downs
Charitable Gambling: Charitable Gambling Control Board
Casinos: "Gross Annual Wager of the United States, 1986." Gaming and Wagering Business, July 1987.

LOTTERY REVENUE

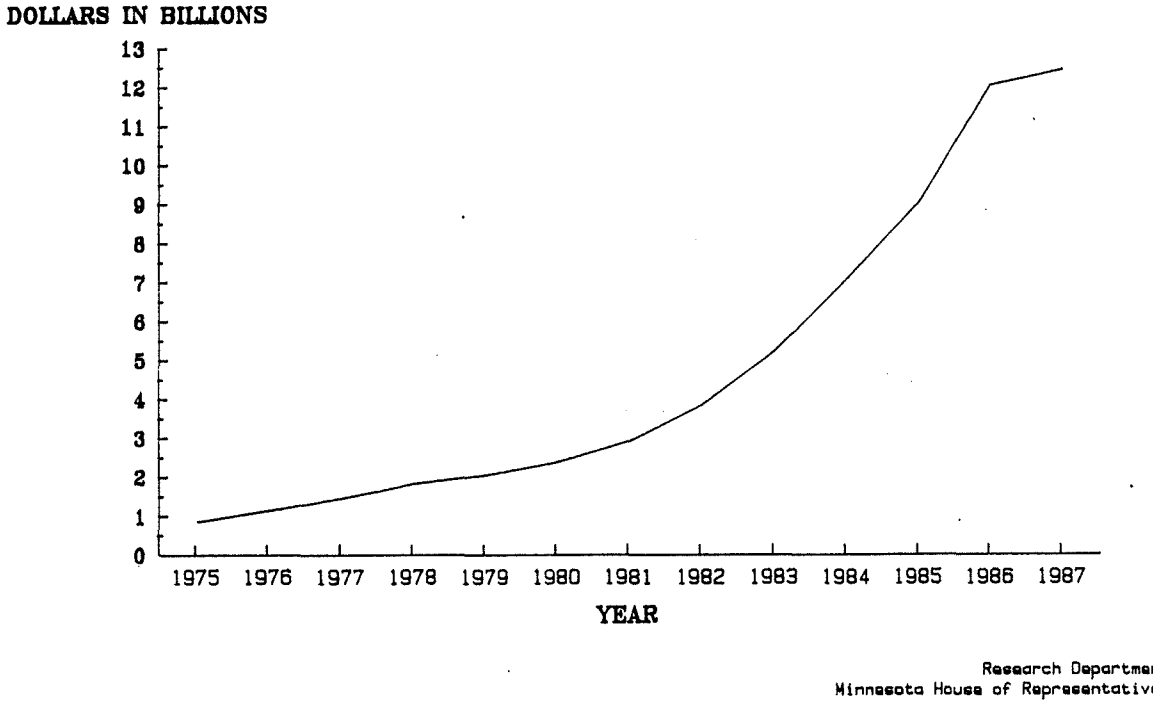
What revenues do state lotteries produce?

As Table 3 shows, the 23 state lotteries operating in fiscal 1987 sold more than $12.4 billion worth of tickets. Seven lotteries grossed over $1 billion in ticket sales, led by New York's nearly $1.5 billion.

Figure 4 shows that this revenue has gone up in each of the last fourteen years but the increase in fiscal 1987 is the smallest in this decade (see "Are lotteries a stable source of state funding?" in this section on page 20).

Table 5 on page 15 shows that the 1987 revenue on a per capita basis amounted to about $90 in lottery ticket sales per person in the 23 lottery states. This varied from a low of $33 in Iowa to $209 in Massachusetts.

Figure 4
TOTAL LOTTERY REVENUE ALL STATES, 1975-1987



How is this revenue used?

More than half the states operating lotteries dedicate the net revenues for a specific purpose. As Table 6 on page 16 shows, this purpose is usually related to education, although purposes such as natural resources, state institutions, transportation and senior citizens' programs also receive lottery funds. Where lottery dedication exists it is usually by statute rather than by constitutional provision.

What revenue can be expected from a Minnesota lottery?

There are few questions on the subject of lotteries in which the answer is so qualified and tentative as the one on revenue from a hypothetical Minnesota lottery. There are several different methods of predicting lottery revenue but none is entirely able to account for all the variables that can affect lottery ticket sales. Any method must provide for a substantial margin for error to account not only for differences among state lottery markets but also for differences in the way lotteries are designed, administered and marketed.

The method used in this analysis (outlined in more detail in Appendix I) uses states generally comparable to Minnesota with lotteries from two to seven years old. The sales figures from these states, figured as a percentage of total state personal income, were used to forecast Minnesota lottery revenues in the first, second and fifth years of operation. The revenue forecasts are:

	First Year	Second Year	Fifth Year
		(in millions)	
Gross Revenue	$267	$163	$190
Net Revenue			
40% of Gross	107	65	76
30% of Gross	80	49	57
20% of Gross	53	33	38

The most striking thing about these forecasts is the sharp drop in sales in the second year of operation. As Appendix I points out, this is consistent with the sales patterns of new lotteries in other states. The high sales of the first year have regularly been followed by a falloff in the second year as old games lose their novelty and newer and less familiar games are introduced.

Table 5
1987 LOTTERY PER CAPITA SALES

(in millions)

State	*1987 Gross Revenue*	*1986 Estimated Population*	*Gross Sales Per Capita*
Arizona	$142.2	3.319	$42.84
California	1392.2	26.981	51.60
Colorado	113.3	3.267	34.68
Connecticut	489.3	3.189	153.43
Delaware	45.8	.633	72.35
District of Columbia	121.7	.626	194.41
Illinois	1334	11.552	115.48
Iowa	94.5	2.851	33.15
Maine	58.1	1.173	49.53
Maryland	760.5	4.463	170.40
Massachusetts	1218.9	5.832	209.00
Michigan	1006.3	9.145	110.04
Missouri	174.1	5.066	34.37
New Hampshire	1116.9	7.619	146.59
New Jersey	1116.9	7.619	146.59
New York	1458.8	17.772	82.08
Ohio	1068.3	10.752	99.36
Oregon	100.3	2.698	37.18
Pennsylvania	1338.5	11.888	112.59
Rhode Island	57.9	.975	59.38
Vermont	25.3	.541	46.77
Washington	193.9	4.462	43.46
West Virginia	70.1	1.918	36.55
TOTAL	**$12438.2**	137.749	**$90.30**

Table 6
DEDICATION OF LOTTERY NET REVENUE

State	*Dedication*	*Where Dedicated*
Arizona	Local transportation projects	Statute
California	Education	Constitution
Colorado	Conservation Trust Fund, parks and recreation, capital projects	Constitution
Connecticut	General Fund	
District of Columbia	General Fund	
Delaware	General Fund	Constitution
Florida	Education	Statute
Illinois	Education	Statute
Iowa	Economic Development	Statute
Kansas	General Fund	
Maine	General Fund	
Maryland	General Fund	
Massachusetts	Local Government Aids, Arts Fund	Statute
Michigan	Education	Statute
Missouri	General Fund	
Montana	Education	Statute
New Hampshire	Education	Statute
New Jersey	Education, State Institutions	Statute
New York	Education	Statute
Ohio	Education	Statute
Oregon	Economic Development	Constitution
Pennsylvania	Senior Citizens' Programs	Statute
Rhode Island	General Fund	
South Dakota	General Fund	
Vermont	General Fund	
Virginia	General Fund	
Washington	General Fund	
West Virginia	General Fund	
Wisconsin	Property Tax Relief	Constitution

Various other methods have also been used to forecast Minnesota lottery revenues. A recent report from the State Planning Agency, using new-lottery states' 1986 sales to forecast first-year revenues and established lottery states to forecast revenues a few years after initial sales, estimates Minnesota gross revenues at $181 million in the first year and an eventual sales level of $340 million. The simple per-capita measure often used by a major lottery game vendor to forecast revenues in non-lottery states produces a gross sales forecast of about $380 million per year. A 1987 study by economist Mark Edward Stover developed a formula with variables for population, per capita income, urbanization and incidence of poverty to forecast potential lottery revenue for all non-lottery states; the estimate for a Minnesota lottery offering instant, numbers and lotto games was from $181 million to $276 million per year in gross revenues.

The wide range in this last forecast only illustrates the difficulty of making any lottery sales forecast. Even states where one might expect sales experiences to be similar have sizeable variations: in 1987 New Jersey's per capita sales were 78% higher than New York's, and Massachusetts' 37% higher than Connecticut's. Lottery markets differ from each other just as markets for other consumer products can differ from state to state. Additionally, lotteries themselves differ from each other not only in the games they offer but in overall lottery design, administration and marketing.

This last point is most strikingly illustrated by the history of the Delaware lottery. Delaware began ticket sales in the fall of 1975 and soon achieved the distinction of being the first lottery to actually lose money, doing so with an ill-designed and poorly-marketed game that produced no top-prize winners after the first five weeks of sales. Other lotteries, while not actually losing money, have failed to live up to their original revenue projections, while others have followed several years of disappointing sales with years of sharply-rising revenue.

Forecasting lottery revenues is at best an inexact science, and any forecast must be assumed to contain a substantial margin for error. This is especially true for the relatively high first-year sales estimate made in this report. It should be considered a "best-case scenario" which could be rewritten for a much lower figure if lottery legislation or its implementation is designed for something other than maximizing revenue, or if the lottery in any way loses public confidence in its integrity.

How does this revenue compare to total state tax revenue?

Net state revenue from 22 lotteries operating in fiscal 1987 amounted to 3.7% of total state tax revenue in those states (see Table 7 on page 18). The range was from a high of almost 7% in Maryland to a low of less than 1% in Vermont. A net revenue estimate for a Minnesota lottery of $70 million (which is within the range of the various forecasts) produces a comparable percentage for Minnesota of 1.4% of total state tax revenue.

Another way of answering this question would be to compare estimated lottery revenue with collections for actual Minnesota taxes.

Table 8 on page 19 compares estimated fiscal 1988 estimated revenues from Minnesota's major taxes with the high and low estimates for net revenue from a Minnesota lottery. With the wide range of lottery forecasts about all that can be

said is that the lottery as a state revenue source would probably fit somewhere between tobacco taxes and inheritance/gift taxes, a range which also includes telephone gross earnings taxes, insurance taxes and liquor, beer and wine taxes.

Table 7
STATE LOTTERY NET REVENUE AS PERCENTAGE OF STATE TAX REVENUE

F.Y. 1986

State	*Total "Own Source" Tax Revenue*	*Net Lottery Revenue*	*Lottery Percentage*
Arizona	$3,195,720,000	$37,000,000	1.2
Colorado	3,357,184,000	29,200,000	.9
Connecticut	3,836,804,000	190,800,000	5.0
Delaware	882,666,000	190,800,000	5.0
District of Columbia	1,717,201,000	40,000,000	2.3
Illinois	9,800,757,000	545,700,000	5.6
Iowa	2,459,172,000	27,500,000	1.1
Maine	1,101,381,000	11,800,000	1.1
Maryland	4,669,561,000	323,400,000	6.9
Massachusetts	7,668,440,000	382,600,000	5.0
Michigan	9,314,194,000	415,000,000	4.5
Missouri	3,608,083,000	81,100,000	2.2
New Hampshire	484,478,000	10,700,000	2.2
New Jersey	8,360,193,000	418,200,000	5.0
New York	22,747,419,000	607,800,000	2.7
Ohio	9,062,151,000	370,000,000	4.1
Oregon	1,931,346,000	28,100,000	1.5
Pennsylvania	10,683,238,000	537,800,000	5.0
Rhode Island	885,557,000	21,600,000	2.4
Vermont	499,519,000	3,300,000	.7
Washington	5,219,292,000	69,300,000	1.3
West Virginia	1,848,552,000	20,000,000	1.1
TOTAL	$113,332,908,000	$4,187,600,000	3.7
Minnesota	**$4,898,456,000**	**$70,000,000**	**1.4**

Source for state tax collection: U.S. Commerce Department, Bureau of the Census, State Government Tax Collections 1987.

Table 8
LOTTERY NET REVENUE ESTIMATES AND MINNESOTA TAX REVENUES

Tax Source	*F.Y. 1988 Estimated Revenue*
Individual Income Tax	$2,433,216,000
Sales Tax	1,576,017,000
Corporate Franchise Tax	464,637,000
Motor Fuel Taxes*	369,700,000
Motor Vehicle License Taxes	255,200,000
Motor Vehicle Excise Tax	232,100,000
Tobacco Taxes	156,749,000
Insurance Taxes	111,771,000
Gross Earnings Taxes	78,912,000
Alcoholic Beverage Taxes	58,984,000
Income Tax Reciprocity	17,000,000
Estate/Inheritance/Gift Taxes	8,043,000
Pari-Mutuel and Related Taxes*	7,705,000

LOTTERY NET REVENUE ESTIMATES	
High**	$136,000,000
Low***	$33,000,000

*Adjusted to reflect 1988 law changes
**40% of highest gross revenue estimate
***20% of lowest gross revenue estimate

How would Minnesota's lottery revenue be used?

Legislation passed in the 1988 session requires that for the first five fiscal years of lottery operation the net lottery revenue will be divided equally between the Environmental Trust Fund and the Greater Minnesota Fund.

As was noted before, creation of the Environmental Trust Fund will be on the November ballot as a constitutional amendment. The fund is to be used for long-

term conservation, natural resources, wildlife and environmental projects. These projects will include capital projects for natural resources and projects under the Reinvest in Minnesota (RIM) conservation program as well as research, information-gathering and public education in environmental and natural resources issues. Once money is placed in the Environmental Trust Fund the constitutional amendment requires that it remain there. Only the interest can be used for spending. Part of the principal may be appropriated by the Legislature until 1997 and loans may be made from the principal at any time.

The Greater Minnesota Fund is used to finance projects of the Greater Minnesota Corporation (GMC) created by the Legislature in 1987. The GMC is an economic development agency that supports regional research institutes, an agricultural utilization research institute and individual business enterprises.

This division of lottery revenues will not be protected by the constitution and could be changed at any time by the Legislature.

(For more information on these two funds see the House Research Department information briefs ***"The Environment and Natural Resources Trust Fund Proposal Questions and Answers"***, August 1988 and ***"The Greater Minnesota Corporation"***, September 1987.)

Are lotteries a stable source of state funding?

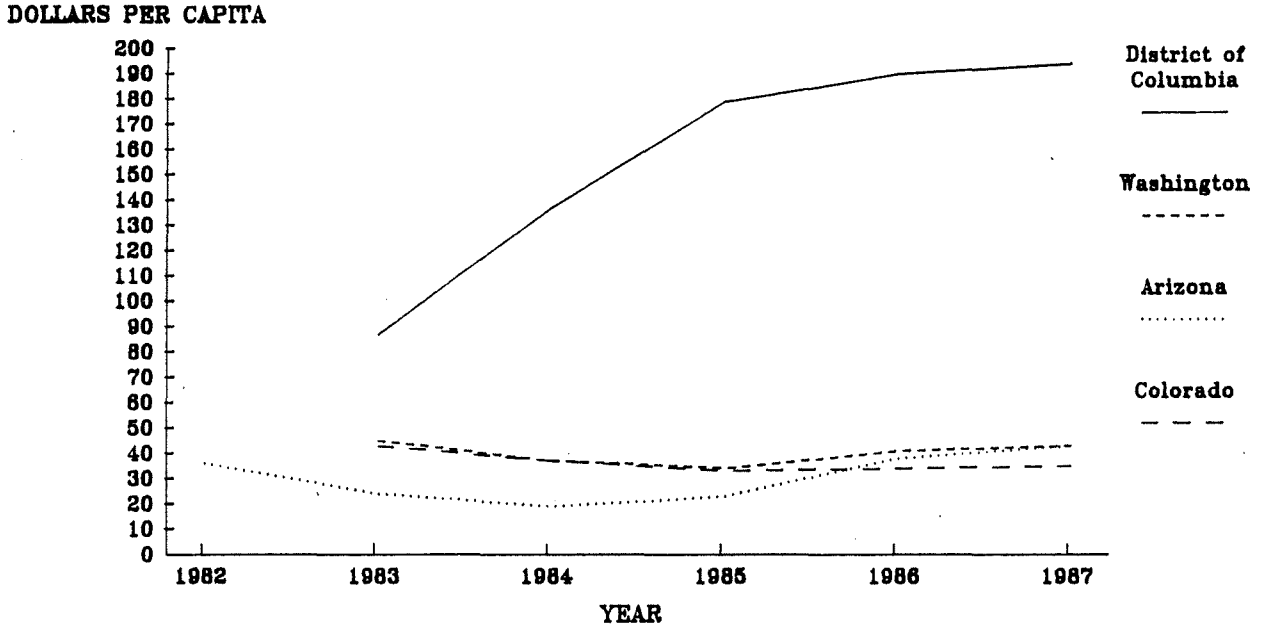
Lottery revenue is prone to fluctuation, as might be expected from an activity which puts government into the marketplace not as a tax collector but as the seller of a product.

The history of some representative lotteries (shown in Figure 5) illustrates the volatility of lottery sales. Of the four lotteries begun in 1981 and 1982 the District of Columbia has experienced a sharp increase in sales but the three others (Washington, Colorado and Arizona) have had mostly flat or declining sales, with some modest increases in 1987. Even more volatility can be seen in the sales for the established lotteries in Illinois, Pennsylvania and Ohio. The mostly flat sales in these three states during the 1970s gave way to major increases in the early 1980s, followed by a slowing of growth in the mid-1980s. An examination of lottery revenue from 1978 to 1983 led Professors John Mikesell and C. Kurt Zorn of the Indiana University School of Public and Environmental Affairs to conclude that *"a state cannot rely on net revenue from its lottery to be a stable, reliable source of revenue."*

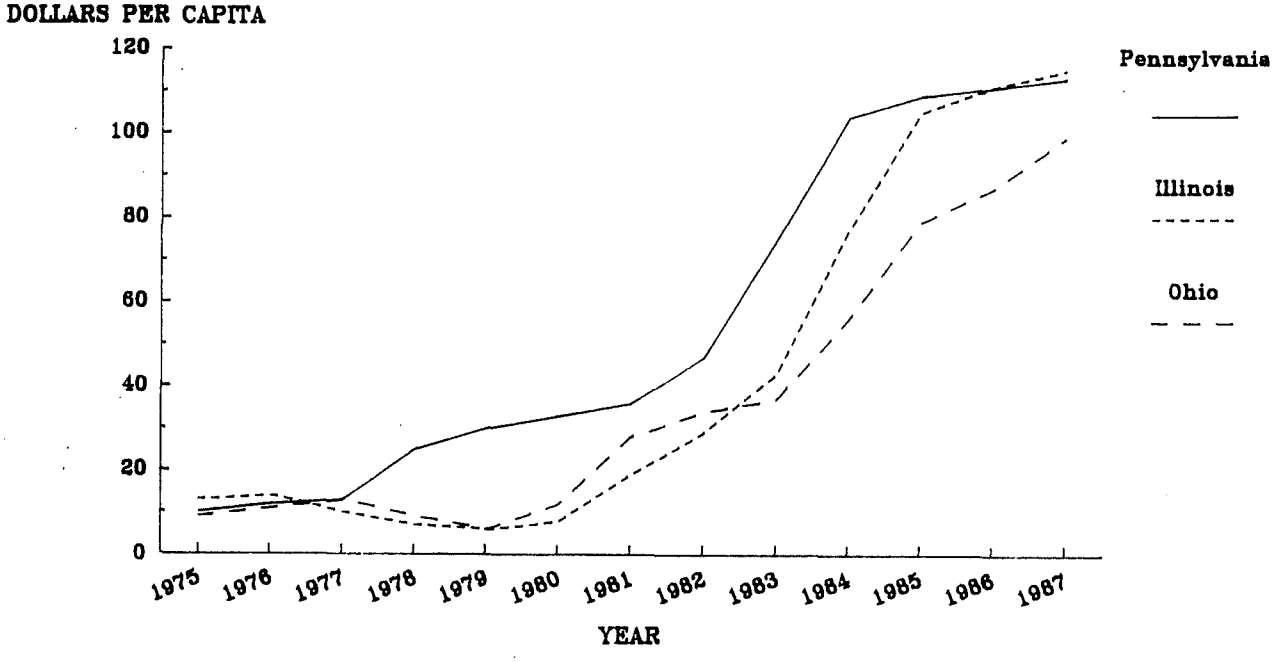
Many explanations can be offered for the up-and-down nature of lottery markets. Most of them relate to the fact that public interest in lotteries has a tendency to wane over time and must be periodically renewed. The three established lotteries were producing unimpressive (by today's standards) sales until the introduction of on-line games, with multi-million dollar lotto jackpots attracting new players and higher spending. A third phase now seems to have set in, as described in a recent article in a lottery trade publication:

> *For mature lotteries the introduction of lotto was the key factor in double- and even triple-digit growth in the past few years. But now these same agencies are finding further increases increasingly difficult. In 1986 10 of the 23 operating lotteries achieved less than a 10 percent sales increase. Lottery experts project the addition of new games will only help maintain sales at their present level, rather than dramatically boost sales.*

Figure 5
PER CAPITA LOTTERY SALES FOR
FOUR NEWER LOTTERIES 1982-1987



PER CAPITA SALES FOR THREE
ESTABLISHED LOTTERIES 1975-1987



Research Department
Minnesota House of Representatives

Another pattern has emerged for newer lotteries, as the same article describes:

> *It is not unusual for [a lottery] agency to start out with good sales and then suffer significant dropoffs in subsequent years because the start-up game, the instant ticket, is typically a big success initially but then demand dies down. An on-line game like lotto or the daily numbers game starts with small sales but eventually exceeds instant sales. As a result, it may take a new lottery three or four years to catch up with its first year sales success.*

When these industry-wide trends are combined with the effect in individual lotteries of variations in game design and marketing it is clear that lottery revenues are, as the article says, "extremely volatile." The fact that the lottery industry is still unsure of what types of games will succeed lotto as the next new lottery product suggests that this instability is likely to continue.

Are lotteries an expensive way to raise revenue?

This is another way of asking how efficient lotteries are. The answer depends on what lotteries are being compared to.

Lotteries are unquestionably an expensive way to raise public revenue when compared to taxes. As Table 4 on page 12 shows, lotteries on the average spend about 10% of their gross revenues on administrative costs (including retailer commissions), which might be considered the cost of collection. By contrast in fiscal 1988 the Minnesota Department of Revenue collected about $5.4 billion on a budget of about $57 million, a cost of collection of just over 1%. Lotteries cannot compare to taxation in efficiency as revenue-raisers.

On the other hand, lotteries can appear highly efficient if measured like private business -- comparing gross sales to net profit. In fiscal 1987 the net income to state governments from lotteries was about 40% of gross sales. The Fortune 500's most profitable retailing company in 1986, McDonald's Corp., had a net income of 11.6% of gross sales. The average figure for the Fortune "Service 500" retailing companies was 2.4%.

This comparison is flawed because corporations pay taxes before they calculate their net income. Lotteries do not. In fact the lotteries' net return to the state might accurately be regarded as being itself a tax rather than a net profit. Comparing lottery net profits to a government-operated business such as state-operated liquor stores, shows an advantage for lotteries but not a large one: state liquor stores in fiscal 1984 had a net profit margin of about 31%. State liquor wholesaling operations in Mississippi and Wyoming, which might be somewhat more comparable to lotteries than retail operations, had a combined net profit margin of 15.5% in 1984.

Since lotteries as a government enterprise are unique, their efficiency might better be compared to each other than to any other business or government activity. In 1987 lotteries varied substantially in their efficiency. Connecticut had the lowest operating cost percentage (4.9%) and Iowa had the highest (21.3%). Several factors can affect a state's overhead cost percentage, including administrative efficiencies, expense caps written into law and economies of scale resulting from high gross revenues.

Do lotteries contribute to compulsive gambling?

The prevailing opinion among lottery observers is that lotteries are less likely to contribute to compulsive gambling than other forms of legal and illegal gambling, but this does not necessarily mean that lotteries and compulsive gambling have no connection.

Statistics on the number of compulsive gamblers are not conclusive but the state Department of Human Services' 1986 report to the Legislature on compulsive gambling estimates that there are between 15,000 and 20,000 compulsive gamblers in Minnesota and as many as 240,000 persons who have had at least periodic problems with gambling. State-funded programs for compulsive gamblers exist in only a handful of states, and in only three (Connecticut, Ohio and Iowa) are they funded with revenue from lotteries or other legal gambling. In Minnesota the Legislature appropriated $50,000 in general fund money in 1984 for a Department of Human Services compulsive gambling demonstration project. It resulted in a 1986 report to the Legislature, but the state does not have an ongoing service for compulsive gamblers.

The American Psychiatric Association describes the essential features of compulsive gambling as "a chronic and progressive failure to resist impulses to gamble and gambling behavior that compromises, disrupts or damages personal, family or vocational pursuits." One of the foremost contemporary writers on compulsive gambling, Dr. Robert Custer of the Mental Health and Behavioral Science Center of the U. S. Veterans Administration, contends that compulsive gambling arises from an individual's basic emotional needs for affection, approval, recognition and self-confidence. One strategy for dealing with a failure to satisfy these needs is an escape into fantasy and illusion. For some of these people, as Custer writes, gambling represents that fantasy:

> *The gambler finds that gambling makes him feel liked, accepted, important, powerful -- things for which he has hungered -- and that it also relieves his anxiety and depression, making him feel relaxed and contented. Since gambling brings theses rewards, the gambler . . . will repeat the act until it becomes a habit.*

In Custer's view "It is generally those who win early and consistently in their gambling career who become the compulsive gamblers." This view is echoed by Arnold Wexler, vice president of the National Council on Compulsive Gambling, who argues that the two things that keep compulsive gamblers going are the "big win" in the early stages and the availability of credit.

Some forms of gambling are more likely than others to satisfy the urges of compulsive gamblers. According to Wexler, what "a compulsive lives and dreams for" is "quick action." Dr. Dana Moore, a clinical psychologist associated with Custer, believes that fast payoffs and the ability to bet steadily larger sums increase the potential addictiveness of individual games. Moore ranks horse race betting, sports betting, casino gambling and stock options, in order, as the four

most addictive forms of gambling. A scholarly study of the commercial gambling business (Vicki Abt, James F. Smith and Eugene Martin Christiansen, The Business of Risk: Commercial Gambling in Mainstream America) classifies gambling forms somewhat differently in their appeal to compulsive gamblers:

> *Compulsive gambling is more commonly observed, and probably more commonly occurs, in casino gaming than in any other form of commercial gambling. The only other gambling game that in our experience attracts compulsive gamblers in significant numbers is sports betting.*

These analyses leave lotteries low on the list of games appealing to compulsive gamblers. Moore believes that lotteries are not as addictive as other games because of their slim likelihood of winning. Custer's theory that compulsive gambling is fueled by a need to re-create an early "big win" has little place for lotteries since they create far more losers than winners; he writes that a gambler who loses early and often is most likely to abandon gambling and turn to something else for gratification. Custer also sees lotteries as operating too slowly to satisfy a compulsive gambler's need for "action." In an interview Custer noted that of the compulsive gamblers he has treated for the Veterans Administration not more than 2% have been lottery players.

In Iowa the clinical social worker who answers the state-supported compulsive gambling hotline receiving about 40 calls per month attributes "between one and five" of those monthly calls to lottery related problems, and says that the hotline (financed by a percentage of lottery revenues) is mainly handling problems related to sports betting, pari-mutuel betting and stocks and bonds.

The relatively modest direct connection between compulsive gambling and lotteries does not necessarily mean that a connection is nonexistent. The Congressionally-chartered Commission on the Review of the National Policy Toward Gambling, also known as the National Gambling Commission, in its widely-quoted 1976 final report noted that its gambling-behavior survey found that the incidence of compulsive gambling was significantly higher in Nevada (at that time the state with the largest array of legalized gambling) than in the rest of the country. This higher incidence, the Commission commented, was "consistent with the hypothesis that widespread availability of gambling in a legal form leads a portion of those classified as potential compulsive gamblers to actualize their potential compulsion." Custer also notes that since 1976 there has been "a great expansion in legal gambling throughout the country and with it an inevitable increase in the number of compulsive gamblers." If, as is increasingly recognized, compulsive gambling is a disease the public health specialist's view would be that, as the Human Services Department's compulsive gambling report noted,

> *Increasing availability of a condition will result in an increasing number of people who contract that condition . . . If [increasing the availability of gambling increases the number of gamblers] there will be a greater likelihood that some gamblers who were previously at risk will become compulsive gamblers when exposed to an attractive gambling opportunity."*

It is therefore possible for lotteries to contribute to compulsive gambling by exposing more people to gambling generally. The characteristic experience of the great majority of compulsive gamblers, exposure to gambling at an early age (exposure which Custer feels is more often accidental than intentional), is made more likely by the nearly universal availability of lotteries in lottery states, an accessibility matched by no other form of gambling. "Our problem with the

lottery," says Monsignor Joseph A. Dunne, president of the National Council on Compulsive Gambling, "is that it brings gambling into the areas where it didn't exist before."

Lotteries can encourage exposure to gambling not only through accessibility but also by breaking down social or individual barriers to gambling. Prof. Charles Clotfelter of Duke University describes this effect:

> *By legalizing betting, the government inevitably makes a kind of moral statement. Besides its other functions, the law serves an instructional role. Legalization implies a sanction of a legalized activity.*

This sanction is all the more apparent in lotteries, where the government is not only allowing gambling but actively encouraging it.

It seems reasonable to believe that for large numbers of people lotteries do not serve as a stepping stone toward compulsive gambling. As Custer points out, those who succumb to compulsive gambling are vulnerable because of a combination of traits of temperament and personality. In the absence of these characteristics a lottery is unlikely to "create" a compulsive gambler. Moreover a potential compulsive gambler who begins by playing lotteries is likely to soon move on to some more gratifying game. Nevertheless the contribution that lotteries make to the overall availability and acceptability of gambling means that they cannot be considered entirely free of responsibility for the problem.

That responsibility could grow as lotteries evolve. Lottery directors are considering, or at least discussing, new products that involve not only video lotteries but also sports card betting (already tried once, unsuccessfully, in Delaware and a few times in Canada). More than existing lottery games these new products contain features that tend to appeal to compulsive gamblers, such as fast action, a real or imagined skill element and a social setting. If these games really represent the future of lotteries it is reasonable to expect that lotteries will contribute more to compulsive gambling than they do now.

Do lotteries have an effect on crime or illegal gambling?

In the early years of lotteries lottery opponents argued that lotteries would encourage crime and corruption. Proponents argued that lotteries would discourage illegal gambling by providing a legal alternative. After over 20 years of lottery history it now appears that there is only inconclusive evidence to support either argument.

The possibility that state lotteries would drive out illegal gambling is raised less frequently now than in the 1960s. As early as 1971 gambling researchers David Weinstein and Lillian Deitch reported in their book The Impact of Legalized Gambling that "the lottery in its present form does not provide a meaningful alternative to the illegal numbers game." Since then several other reports have reiterated that lotteries cannot compete effectively with illegal gambling's credit betting, higher prize payout, faster payoffs and tax-free winnings. A 1978 study of gambling law enforcement by the federal Law Enforcement Assistance Administration concluded that *"There is no evidence, from this study or any others that have been done to date, that legalization of commercial gambling does law enforcement agencies any favors. Excluding the special case of Nevada, increasing*

the number of available legal gambling options has not been shown to reduce illegal gambling."

It is reasonable to believe that this would hold true in Minnesota. A 1977 newspaper survey of illegal gambling in Minnesota found that over 90% of it involved bookmaking. This is consistent with the most recent estimates for illegal gambling nationally, which (with the familiar warnings that estimates of the volume of illegal gambling can at best be only informed guesses) show that sports betting and horse books account for 83% of the illegal handle. Lotteries are ill-equipped to compete effectively with sports betting not only because of the illegal games' credit, prize and tax-avoidance advantages but because of the element of skill, which plays an important role in sports betting and is wholly absent in lotteries.

There is also little conclusive evidence to show that lotteries directly contribute to crime. There has been at least one allegation of corruption and some attempted fixing and ticket-forging in state lotteries, but these have not been so widespread as to constitute a trend. An early study of lottery operations in New York, New Hampshire and New Jersey by a legalized gambling task force organized by the California attorney general's office concluded that "the law enforcement problems attending state-operated lotteries on the East Coast are minimal to nonexistent."

Nonetheless the possibility has been raised that simply by their existence lotteries create or promote a culture that sanctions gambling, and that in such a culture the distinction between legal and illegal gambling is often lost. An example of this view is given by Jonathan Goldstein, former U. S. Attorney in New Jersey, who says, "The state lotteries begin to blur people's ethical and moral values. They make gambling respectable and thus create new clienteles for organized crime to prey upon." Although the actual role of organized crime in illegal gambling has been vigorously disputed the broader point in this argument is worth considering.

Do the poor buy a disproportionate number of lottery tickets?

The allegation that most lottery ticket buyers are low-income, unskilled and uneducated is not sustained by the evidence. However, there are indications that in at least some instances the poor are overrepresented in the lottery-playing population.

The standard response of lottery administrators to the charge that "the poor buy more" is that the typical lottery player is not poor, uneducated or on welfare. As California lottery director Mark Michalko put it, the typical lottery player is "middle-education, middle-income, middle-everything." Surveys of lottery players in various states provide additional evidence on this point:

-- A study of Washington state lottery players in 1986 showed that the typical player was male, married, with some college or technical school training, and with an average annual household income of $28,900.

-- Of Iowa's lottery players 63% have at least a high-school education and 57% have an annual income of over $15,000.

-- The average income of Arizona's lottery players in 1985, according to then-director Charles Buri, was about $20,000.

-- A state-commissioned study of players of legalized gambling in Connecticut found that Connecticut lottery players "do not differ substantially from the Connecticut population as a whole."

-- A 1985 survey of Michigan lottery players showed that persons in the $10,000-and-under income category made up 18% of the total population but only 17% of the lottery-playing population. The $20,000-29,000 income category had the highest percentage of lottery players.

-- A survey of California lottery players done by the Los Angeles Times in 1987 reported, "Neither very rich nor trapped in poverty, the vast majority [of players] earn from $10,000 to $40,000 a year. About 54% fall below California's median family income level of $29,000 per year. Only 8% earn $60,000 or more."

-- A national telephone survey on lottery playing in 1986 indicated that the most likely income group to play lotteries was the $30,000-39,000 category, of which 63% were players. This group was followed by the $20,000-29,000 category (55%) and the under-$15,000 category (45%).

-- A study in 1982 of lottery players in New York, Pennsylvania, Illinois, Michigan and New Jersey, done by Dr. John Koza of Scientific Games, Inc. (a major lottery game supplier) found that "the poor participate in state lottery games at levels disproportionately less than their percentage of the population," and that the highest level of participation was found in the $18,000-34,000 category.

Generalizations about "typical" players can occasionally obscure the fact that different lottery games appeal to different groups of people, and that some games are more likely than others to appeal to the poor. Scientific Games' Koza in a 1982 study of the demographics of gambling consumers in New Jersey developed gambling participation indices for different income groups, with an index of 100 meaning that the income group is represented in the participants in that activity in exactly the same proportion as it is represented in the total population. Persons with household income of $6,700 or less had a participation index of 125 for three-digit numbers and 109 for four-digit numbers, but their participation index was below 100 for both lotto and instant games. When Koza classified players into five life-style categories and determined the lottery game participation level for each he found that "survivors" (the "most disadvantaged portion of American society") had a participation index of 261 for three-digit numbers and 139 for four-digit numbers, with instant games at 106 and lotto at 66.

Much of the differences among games probably results from the fact that the legal numbers game inherited many of the demographics of its illegal forerunner, particularly in the eastern states. Different demographics for different lottery products are also the natural result of lottery administrators' seeking to identify different markets and develop products best suited to exploit each market -- to the lottery marketer, for instance, lotto appeals to the "upscale" market which needs a large jackpot to capture its attention, and instant games appeal to younger players who are seeking instant gratification in a variety of products.

The appeal of numbers to low-income groups would not necessarily carry over to western states like Minnesota, which have little tradition of illegal numbers games. The Washington state and Washington, D. C. lottery, for example, are about the

same age but the percentage of total lottery revenue attributable to numbers is ten times higher in the D. C. lottery than in Washington state. Nationally, numbers' share of total lottery revenue fell from 73% in 1982 to 36% in 1986, at least partly as a result of lotteries moving into western and midwestern states that have little familiarity with the game. Nevertheless the fact that lottery games exist that continue to especially appeal to low-income persons is something of a warning signal to any lottery.

The question of whether the poor participate in lottery ticket-buying out of proportion to their representation in the general population is not the same as whether lotteries are or are not regressive. The fact that low-income groups do not predominate among lottery players does not preclude the possibility that lotteries are regressive as revenue-raisers. That issue is addressed in the next question.

Are lotteries a regressive way of raising revenue?

Although the applicability of regressivity to lotteries has been disputed, most specialists in public finance who have studied the question have concluded that lotteries are regressive revenue-raising measures.

The American Political Dictionary defines a regressive tax as "any tax in which the burden falls relatively more heavily upon low income groups than upon wealthy taxpayers." By this generally-accepted definition, if lower-income groups spend a greater percentage of their income on lottery tickets than higher-income groups the lottery is regressive.

The first major evidence of lottery regressivity came with the public opinion survey done for the National Gambling Commission in 1974. The Commission's final report showed that lottery purchases as a percent of income declined as income rose, and that the percent of income spent on lottery tickets in the lowest-income category ($5,000 per year) was almost four times higher than the average for all income groups (Table 9). The regressivity index the report gave to lotteries showed lottery revenue was more regressive than most gambling revenue (behind only numbers and sports cards) and more than twice as regressive as all sales and excise taxes.

Subsequent studies have generally reached the same conclusion, to the point where Professors Mikesell and Zorn can conclude that the regressivity of state lotteries *"has been demonstrated frequently and decisively. From the standpoint of government finance, there is no doubt that state lotteries violate the standard of vertical equity [by reducing the net income of low income groups relative to that of high income groups]."*

Lottery supporters question the whole idea of applying progressivity and regressivity arguments to lotteries. They contend that while these measurements are appropriate for taxes because of the compulsory nature of taxation, they are not appropriate for an entirely voluntary consumer act such as buying a lottery ticket. They further argue that as a consumer item a lottery ticket's price is no more regressive than the price of bread or milk. Lottery critics would respond by saying that the concept of regressivity as a measure of tax equity comes from a desire not to have public finance increase disparities in personal income, and that it is therefore proper to apply it to all sources of public finance.

If regressivity is accepted as an appropriate standard for lotteries we can assume that a Minnesota lottery would probably make the state's overall public finance system only slightly less progressive because of the lottery's relatively small contribution to total public revenues.

Most of the studies that declare lotteries regressive are now several years old. Some date from a time when numbers games, the games with the greatest appeal to low-income persons, contributed a far higher percentage of lottery revenues than they do now. The growing popularity and market dominance of the more "upscale" games such as lotto may eventually change lottery demographics enough to affect the overall question of regressivity.

Table 9
LOTTERY EXPENDITURES AS PERCENT OF INCOME FOR VARIOUS INCOME GROUPS

(Survey results 1975)

Income	*Percent of Income Spent on Lotteries*
Under $5,000	.30
$5,000 - 10,000	.23
$10,000 - 15,000	.13
$15,000 - 20,000	.06
$20,000 - 30,000	.06
$30,000 and over	.02
All groups	.08

Source: Commission on the Review of the National Policy Toward Gambling, Gambling in America (1975).

How would a lottery affect Minnesota horse racing?

Lotteries' adverse effect on the pari-mutuel racing industry has often been alleged by racing interests but it has been very difficult to demonstrate. The effect of a hypothetical Minnesota lottery on a still-unsettled horse racing market in the state is especially difficult to assess.

For a number of years the racing industry has maintained that lotteries are in competition with racing for the gambling dollar, and that the competition is unfair. Thoroughbred Racing Association president James E. Bassett said at that organization's 1986 meeting:

> *Lotteries are a most serious threat to racing. The states that grant licenses to racetracks not only compete with racing through lotteries, but spend millions in advertising for the lotteries and little, if any, to promote racing. It's apparent that state governments don't care about double standards.*

Supporters of this view have cited a 1984 economic analysis of the New York state harness racing industry which questioned the future viability of that industry primarily because of competition from state-sponsored gambling, including lotteries and off-track betting, for a limited number of gambling dollars. A study by the Kentucky Thoroughbred Association also reported that introduction of lotteries in seven states over a five-year period corresponded with a decline in racing attendance and betting handle over the same period.

Holders of this view have cited the experiences of Florida and California in the weeks immediately following the inauguration of lottery sales in each state. In Florida the Gulfstream thoroughbred track, Pompano Park harness track and Hollywood Greyhound Park all experienced a decrease in their attendance and handle in their racing seasons following the launch of the Florida lottery, as did the state's pari-mutuel jai alai frontons. Robert Strub, president of Santa Anita racetrack in California, told a racing meeting in 1986 that the attendance at both Santa Anita and Hollywood Park racetracks declined following the launch of the California lottery in October of 1985.

Such an impact, if it exists, would have consequences for Minnesota. A 1987 report from the state Department of Revenue tax research division found that the state's new horse racing industry has had a significant impact on the state's economy, being responsible for the creation of over 2,800 jobs and an increase in the gross state product of $81 million.

Lottery interests argue that racing's problems, whatever they may be, are not the fault of lotteries. Scientific Games' Koza claims:

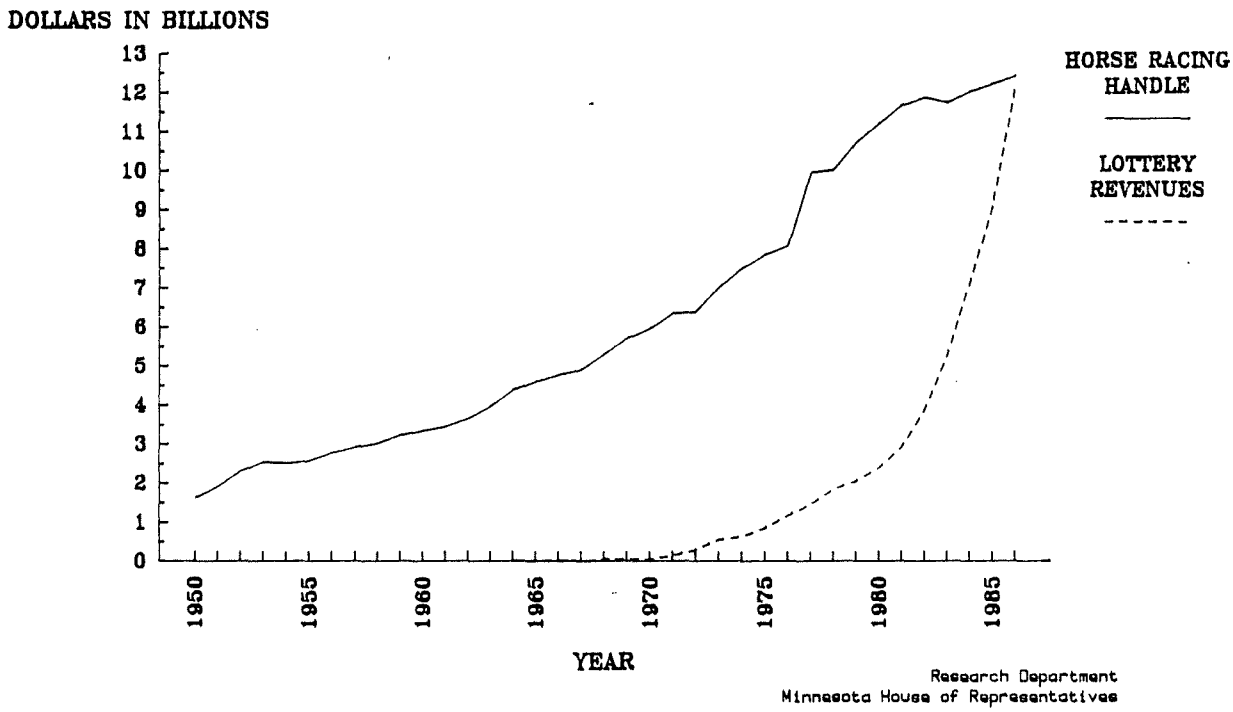
> *The racing industry is in a decline in both lottery and non-lottery states. So they cannot blame their problems on the emergence of selected lottery states. If you look at the demographics of horse race players, you see that tracks appeal to a very narrow market and they simply haven't marketed their*

product successfully. When the lottery comes in, there is no evidence that it hurts the racing industry.

The lottery industry further argues that lotteries are not only not a threat to racing but a potential asset for it. There have been tie-ins between lotteries and racing ever since the first New Hampshire sweepstakes drawing in 1964 was based on the results of a horse race, and both New Hampshire and Pennsylvania have held several combined lottery-racing events. A number of U. S. racetracks also serve as lottery ticket agents. The most recent joint effort was the 1988 Triple Crown instant lottery game produced by an agreement between racing's Triple Crown Productions and the Illinois and Massachusetts lotteries.

The evidence on the effect of lotteries on the racing industry is far from conclusive. Figure 6 shows the total U. S. horse racing betting handle since 1950 and lottery gross revenue since 1964. Both have been increasing throughout that time, although the rate of growth in lotteries has been considerably faster. Looking at individual states also does not settle the matter. Although the Los Angeles area tracks may have experienced a decline immediately after the start of the California lottery, total betting handle at California's five largest tracks actually increased by 3.8% in 1986, the first full year of lottery operations, compared to 1985 which had less than three months of lottery sales.

Figure 6
U.S. HORSE RACING HANDLE AND LOTTERY GROSS REVENUES 1950-1986



Any attempt to relate track statistics to the presence or absence of a lottery is complicated by the fact that horse racing generally has a serious long-term marketing problem. The decline of the sport's fan base is illustrated by Figure 7, which shows a continuing fall in average daily attendance at horse tracks beginning nearly twenty years ago, long before the emergence of lotteries as a competitive factor. (Horse racing betting handle has increased not as the result of more fans but because per capita betting levels have more than tripled since 1950.) While not equal in its effects throughout the country this problem is widespread: as Abt, Smith and Christiansen put it, "Along the eastern seaboard and in parts of the middle west pari-mutuel horse racing is a mature and perhaps a declining industry." While Santa Anita's Strub contended in 1986 that because of the California lottery his track had "lost the casual bettor," Tom Aronson of the American Horse Council argues, "I don't think the lottery robs the racetrack of $2 bettors. I think there are fewer $2 bettors, period."

There are many factors that have gone into creating this problem, among them the aging of the racing fan base and the inability of track operators to generate new markets. Increased competition for the leisure and recreational dollar have come not only from lotteries and other forms of legalized gambling but, as the Minnesota Horsemen's Benevolent and Protective Association notes, from "increased entertainment options ranging from expanded professional sports seasons to home video decks," making it "increasingly difficult for racing to maintain, let alone increase, its share of the public's discretionary dollar." With so many elements bearing on the health of racing it is difficult to separate and measure the single variable of a lottery.

Figure 7
AVERAGE DAILY RACING ATTENDANCE 1950-1985

There is an added reluctance to single out the lottery as a factor in the health of racing; the two activities seem to appeal to quite different markets. Three of the chief characteristics of horse betting as a gambling activity are that it requires a degree of skill, it occurs within a social setting and it is relatively inaccessible. In each of these, horse betting differs drastically from lotteries. The patterns of betting in the two games also differ. If, as the national survey of lottery buying habits indicates, one out of two adults in lottery states is a lottery customer the average annual purchase of lottery players in 1987 was about $245. At Minnesota's Canterbury Downs in 1987 the average daily per capita bet was about $108. This means the average Canterbury Downs patron bet more in three days of race-going than the average U. S. lottery player spent on lottery tickets in a year.

Some figures in the racing industry have begun to question the industry's long-standing opposition to lotteries. Churchill Downs president Tom Meeker, accepting the likelihood of an eventual Kentucky lottery, says, "Rather than spending our money to fight it, let's develop business programs that can make our product more inviting than the lottery product." Aronson argues that since racing has been so unsuccessful in its efforts to exclude lotteries "it's about time racing dropped [that] effort and started the effort to work with them." Some racing figures believe that if the two gambling forms compete, racing will eventually prevail precisely because of its complexities, which offer a more lasting challenge than the lottery's random operations.

Although their competition may not extend over the entire gambling market, racing and lotteries may well compete for two segments of that market, the novice gambler and the casual gambler. The novice gambler has not developed any "brand loyalty" to a specific form of gambling. These gamblers, who in the absence of any competition might have patronized racetracks long enough to become familiar with horse handicapping, might in a competitive market turn to lotteries because they are easy to play and easy to find. Something similar may be true of the casual gambler, for whom "the particular game is more or less unimportant." The competition for the novice gambler can cut both ways: while it could siphon potential fans away from racing it could also have the effect of opening new markets for racing by introducing novice players to legalized gambling. This may have a variety of social implications but for racing, as the American Horse Council's Aronson says, "There is as good an argument lotteries will contribute to a general desire on the part of populations to gamble as they will to eat away at the core bettor at the racetrack."

The competition between racing and lotteries for the casual gambler, who is likely to respond to a game's easy play and widespread availability, may be more one-sided. The traditional forms of horse race betting cannot match the convenience of lotteries, which one racing writer calls "the fast-food of gaming." Innovations such as telephone betting and off-track betting are racing's attempt to make betting more convenient but they cannot attack the lottery's edge in ease of play.

The absence of a clear-cut national answer in this debate makes the effect of a Minnesota lottery on the state's existing and proposed tracks difficult to assess. Canterbury Downs is facing the fact of competition for the gambling and recreational dollar from a high-volume charitable gambling industry (see next question) and the likelihood of further competition from new tracks elsewhere in Minnesota and in Wisconsin. It is barred by the Minnesota constitution from exploring many of the off-track betting options which some racing people see as the sport's best defense against lottery competition. Further, Minnesota is still a

relatively new racing market with some unanswered questions about its future direction. The major reduction in pari-mutuel taxes passed by the 1988 Legislature has removed some of the immediate uncertainty over the future of horse racing in the state but it did not settle the question of the industry's long-term profitability.

In such an unsettled situation a state lottery is one more complicating factor. Minnesota still in all likelihood has a higher percentage of casual and novice gamblers in its pari-mutuel market than many states with a longer racing history. For this share of the market a lottery might pose some competition. In the long run the lottery might either enter into an active partnership with racing or serve indirectly to bolster racing's market by expanding public awareness and acceptance of gambling. The question is still open as to whether in the present Minnesota racing market there is a place for the long view.

How would a lottery affect charitable gambling in Minnesota?

The answer to this question could be anything from "very little" to "a lot." More than for most questions, the answer to this depends on the types of games a Minnesota lottery might offer.

Charitable gambling in Minnesota is a large enough industry to make the effect of a lottery worth considering. The volume of charitable gambling in Minnesota on a per capita basis is among the highest in the country. Minnesotans gambled over a half-billion dollars with charitable gambling operations in 1987, some four times as much as they bet on horse racing at Canterbury Downs.

Minnesota's charitable gambling laws permit five different types of gambling: pull-tabs (including jar tickets), bingo, raffles, paddlewheels and tipboards. For years Minnesotans have tended to think of charitable gambling in terms of the neighborhood bingo game in a church basement or veteran's club, but today charitable gambling mostly means pull-tabs sold in clubs, bingo halls and bars. Pull-tabs (tickets where players pull off tabs or strips to reveal winning combinations) represent over 80% of Minnesota's charitable gambling volume, giving the state the second-highest reported per capita sales of any of the states that report charitable gambling figures. Minnesota's $103 in per capita pull-tab sales in 1987 actually exceeded the average per capita lottery ticket sales in fourteen lottery states.

Pull-tabs have little in common with on-line lottery games since pull-tabs offer far smaller prizes and no player involvement. Pull-tabs bear a superficial resemblance to instant tickets since they offer immediate winning and immediate payout, but the two games differ substantially in structure and context. Instant tickets sell for $1 or $2 and offer prizes in the thousands or hundreds of thousands of dollars, with correspondingly long odds on top prizes. Pull-tabs usually sell for 50 cents or $1 and by state law cannot offer a top prize of more than $250. Pull-tabs in Minnesota paid back about 80% of the gross as prizes in 1987 while state lotteries rarely pay back more than 50%. Odds on winning a cash prize with a pull-tab are usually at least twice as favorable as for typical instant lotteries.

The social context of the two games are also quite different. Instant tickets are sold by retailers such as grocery stores and convenience stores while pull-tabs are sold in places that are more social than commercial centers. Further, pull-tab profits can usually be identified with specific charitable or philanthropic activities

such as hospitals, youth sports or civic activities The ultimate disposition of lottery profits is usually harder for the public to recognize.

In spite of these differences some charitable gambling operators still feel that the lottery is a threat to their activities, and their well-organized opposition is widely credited with defeating the proposed lottery amendment twice in North Dakota. The fears of charitable gambling operators about the lottery are similar to those of the racing industry -- that there are only so many gambling dollars to go around and that gains for a state lottery are too likely to be made at the expense of charitable gambling. As in the case of racing, there are some in the charitable gambling field who believe that their product will eventually prevail because of its superiority as a gambling game. John Jacobsen, director of the National Association of Fundraising Ticket Manufacturers, predicts that instant ticket sales for new lotteries

> *will follow the same pattern as other states. They'll start out huge. You might even see a little blip in pull-tab sales for a couple of weeks. After that, the pull-tab sales will go back up and the instant lottery sales will head for the basement.*

In spite of the fears of charitable organizations it seems likely that a lottery and charitable games can co-exist as long as they do not infringe on each other's territory. Richard Tessier, who has extensive experience in charitable gambling regulation as both a North Dakota assistant attorney general and as president of the National Association of Gaming Regulatory Agencies, sees it in this way:

> *The lotteries are going after consumers in the supermarkets and 7-Elevens, the charity crowd only deals with fraternal clubs and bars. So there isn't as much direct competition between the two because they're going after different dollars.*

The fears of the charities may be justified in a situation where a lottery chooses to go into direct competition by selling pull-tabs or similar games themselves. This has already happened in Iowa and Oregon and may happen later this year in Wisconsin. In both Iowa and Oregon the lotteries not only are offering pull-tabs but are selling them in bars and taverns and, in the case of Iowa, in clubs and bingo halls as well. (In neither state had there previously been a large volume of legal pull-tab sales by charities.) In Iowa the lottery's sales of pull-tabs has demonstrated that dollars spent on pull-tabs do not necessarily represent an equivalent loss in instant ticket sales, suggesting the probability of a separate market for each type of game.

The lotteries' ability to compete with charitable pull-tabs is limited by their smaller prize payouts (60 to 65% of the gross in Iowa and Oregon compared to 80% for Minnesota charities). They will also have difficulty recruiting and retaining social and fraternal clubs as sales agents with a 5% commission when these same clubs can sell their own pull-tabs and retain between 10% and 15% of the gross. Nonetheless a decision by a Minnesota lottery to sell pull-tabs or someday install video lotteries in social and fraternal locations would represent an unmistakable effort to cut into a market now monopolized by non-profit organizations and would be at least a potential threat to the continued growth of charitable gambling.

If a lottery is legalized would Indian tribes be able to conduct lotteries?

Although the legal issues surrounding Indian gambling have yet to be finally settled, it appears that Indian tribes already have the power to conduct lotteries on reservation land. They are not doing so now and would be unlikely to do so if a state lottery is established.

For several years Indian tribes in Minnesota and elsewhere have been conducting bingo and other gambling on reservation land in various states without being bound by the gambling laws and regulations of those states. They have been doing so on the basis of federal court interpretations of federal law, which have held that while a state can enforce criminal laws on reservation land it cannot enforce "civil-regulatory" laws. These courts have held that a state law that authorizes and regulates a form of gambling is civil-regulatory rather than criminal in nature, and therefore does not apply on reservations. This interpretation was upheld by the U. S. Supreme Court in February 1987. Under this interpretation various Indian tribes in Minnesota have been conducting bingo with prizes far in excess of what non-profit organizations can offer under Minnesota law. Some of these reservation bingo facilities have branched out into other forms of gambling authorized by Minnesota law, notably pull-tabs.

Raffles is one of the forms of gambling that can be conducted by non-profit organizations in Minnesota, and therefore by Indian tribes without state restrictions. Since a raffle is no more than a ticket lottery it appears that an Indian tribe could conduct one on reservation land without state limitations on the maximum prize -- in theory an Indian tribe could conduct a million dollar "raffle." This is an unattractive proposition because the Indian exemption from state gambling law applies only on Indian land, so that while tickets for such a raffle could be sold to non-Indians they could not be sold off reservations. A raffle for which tickets could be sold only on a reservation is probably not sufficiently profitable to bother with. Since this situation would not be affected by establishment of a state lottery it is unlikely that a lottery would bring about any increase in the scope of Indian gambling.

This conclusion might have to be modified if a Minnesota lottery were to venture into video lotteries or sports betting. Betting on video games or sports events is not presently legal anywhere in Minnesota, although video lotteries in the form of "video poker" and similar games are now being operated on some Indian land under a cloud of legal uncertainty. Operation of either of these gambling forms by the state would probably remove any legal obstacles to their operation on Indian reservations, resulting in potentially a very sizeable increase in reservation gambling.

APPENDIX 1.

FORECASTING LOTTERY REVENUES

The method used in this report to forecast revenues for a Minnesota lottery rests on three assumptions:

1. National averages for state lottery revenues are not the most appropriate figures on which to base a forecast for a state such as Minnesota. National statistics are dominated by a few large lotteries. Of the total revenue for the 23 lotteries operating in fiscal 1987 over half came from just five states -- New York, California, Pennsylvania, Illinois and Massachusetts. These states, with an average population three and a half times greater than Minnesota's, have the sales capacity to generate prizes well beyond anything a Minnesota lottery could produce. Additionally they are in an entirely different stage of maturity from a new lottery, with some of the oldest and highest-grossing lotteries experiencing a significant reduction in their rate of growth in 1987 (for the results of this slowing of growth see Figure 4).

2. New lotteries will generally follow a pattern of beginning with instant ticket sales and subsequently introducing an on-line game (usually lotto) some six to twelve months later. This has been the case with the lotteries established in 1985 and 1986, These lotteries have also generally followed a pattern of experiencing their heaviest per capita sales in the first week of instant-ticket sales, followed by a gradual falloff as the games lose their novelty. When on-line games are introduced they usually start slowly and do not approach instant revenues until players become more familiar with them and jackpots reach impact levels. It is reasonable to assume that Minnesota would follow a similar pattern.

3. While per capita sales are useful for comparing lotteries and giving an immediate picture of their sales effectiveness they are not the best figures to use in forecasting lotteries. They reflect total population but do not take into consideration the amount of money the population has for discretionary expenditures such as lottery tickets. Sales as a percentage of total personal income in each state is a more appropriate measure.

   These assumptions led to a forecasting method that utilized four lotteries in their second or third year of operation. These states -- Iowa, Missouri, Oregon and West Virginia -- all began with instant games and added one or more on-line games within 6 to 11 months after the beginning of instant sales. Each experienced a sales decline in their second year of operation. Their populations are between 2.8 million and 5.1 million and their most recent total personal income between $43.7 billion and $76.5 billion.

   The first four quarters of sales experience in each of these states was used to forecast Minnesota lottery revenues in the first year of operation. (In each of these states sales started after the beginning of a quarter so the quarterly figures were annualized based on 45 to 51 weeks of sales data.) The next four quarters of sales in each state were then used to forecast second-year sales in Minnesota. In each case sales were determined as a percentage of personal income for the period being measured, and the four-state average applied to Minnesota's current personal income to produce the Minnesota forecast.

   The results of this method are shown in Table A-1, which shows forecasts for a Minnesota lottery in the first and second years of operation. For each forecast a subsequent series of forecasts shows the net revenue to the state using three different percentages:

   a) 40% of gross revenue, the approximate national average;
   b) 30% of gross revenue, the minimum level called for in one of the lottery enabling bills introduced in the last legislative session (§. F. 727/H. F. 1270);

c) 20% of gross revenue, the percentage specified in the other lottery enabling bill in the last session (S. F. 937/H. F. 633),

The forecast shows gross lottery revenue of $267 million in the first year of operation, with a decline to $163 million in the second year. Net revenue ranges from $33 million to $107 million depending on the year and the percentage of gross retained by the state.

When this method is used to forecast the revenues for the states actually being used as models there are some significant discrepancies between the forecast sales and the actual sales, especially in the first-year forecasts. The range of discrepancies in the second-year forecasts is somewhat smaller but still contains a 10% underestimation in West Virginia and a 17% overestimation for Missouri.

A forecast for Minnesota lottery sales beyond the second year of operation is complicated by the shortage of appropriate states to use as models. Only four lotteries began operations between 1978 and 1982 and of these two cannot be considered because of special circumstances (the District of Columbia lottery because of its essentially municipal nature and the Colorado lottery because of its continuing inability to offer on-line games). The two remaining states are Washington and Arizona, which began sales on November 15, 1982 and July 1, 1981 respectively. The same analysis used for the first and second year forecasts were used for these two states to produce the fifth-year forecast shown in Table A-1. The forecast level of $190 million in gross sales is an increase from the second-year forecast but still well below the first-year level.

Table A-1

	First Year	Second Year	Fifth Year
		(in millions)	
Gross Revenue	$267	$163	$190
Net Revenue			
40% of Gross	107	65	76
30% of Gross	80	49	57
20% of Gross	53	33	38

APPENDIX 2.

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