PATTERNS OF REVENUES FOR PUBLIC ELEMENTARY AND SECONDARY SCHOOL EDUCATION DERIVED AS A RESULT OF STATE LOTTERIES A CASE STUDY OF MICHIGAN AND NEW YORK

by

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Dissertation submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION in

Educational Administration

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May, 1987

Blacksburg, Virginia
The purpose of this investigation was to analyze and to describe the effects of lottery revenue on the earmarked function of public elementary and secondary education in Michigan and New York. In order to update lottery information and provide the necessary background data for this study, the current status and performance of lotteries in the District of Columbia and the 22 states operating lotteries in 1986 are included in this research.

An interrupted time-series design was employed to research the stability, reliability and yield of revenue from the state lotteries of Michigan and New York. Resultant data indicated that although in absolute dollars net lottery figures are impressive, they represent an unstable, low-yield portion of own source revenue in Michigan and New York. In addition, claims made by lottery proponents that net lottery revenue contributes to the expansion of the functional area
of public elementary and secondary education were not supported by these data.
DEDICATION

Having always wanted to give an academy award acceptance speech and realizing my opportunity here, I offer this address to express my gratitude.

My most sincere thanks go to the following:

My producer-parents, Mr. and Mrs. for their interest in this project;

My director, Mr. for his wisdom and advice;

My best supporting actor and best friend, Mr. for his help and encouragement; and

IBM for their technical achievement in the development of Lotus 1, 2, 3.

This document, however, is dedicated to my son, .
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Chapter I

INTRODUCTION

As early as 1966, the lottery was characterized as a "fickle form of finance" (Rosen and Norton). At that time only New Hampshire had a state lottery. A growing number of states have now instituted lottery games as a means of obtaining new and seemingly large reserves of "voluntary" public income. In 1986, the number of lottery states will reach 22 plus the District of Columbia; and will include 58 percent of the nation's population. The increase in the number of lotteries reflects a popularity rare among revenue sources. Is there justification for the highly publicized expectation that the use of lotteries will provide an important new source of revenue for state treasuries?

Proponents of the public lottery contend that it is the perfect and painless substitute for taxation (Groves, 1958). Their argument involves both pragmatic and theoretical elements. Lotteries are voluntary, popular, and entertaining. The momentum of the current trend toward lottery legislation is evidence of its popularity. Unlike taxes, contributions to the state treasuries through the purchase of lottery tickets are not compulsory. The lottery is an attractive option to revenue generation and serves to
relieve pressure on the fiscal system. The absolute net revenue performance has been noted: more than $4.9 billion was generated for state use in fiscal 1986 (Individual State Lottery Commissions). A substantial amount of this revenue has been earmarked for certain state functions. The earmarking of lottery revenue serves to stimulate positive support for lotteries as well as to provide financial support for various state functions.

Proponents of the lottery believe that the biggest lottery winners are the recipients of earmarked lottery proceeds—youngsters whose schools are enriched, the elderly whose programs are funded, the economic development, conservation and highway funds subsidized—all good causes that may not have been funded from traditional tax sources. So lotteries, it is claimed, represent billions of dollars in taxpayer relief.

Opponents of state lotteries emphasize the problems with lotteries, normally within the context of standard tax analysis: equity, yield, stability, collectability, and economic effects (Mikesell, 1982). In 1973, lottery revenues ranged from approximately 38 percent to 48 percent of total lottery sales, and they accounted for about 1 percent of all state general revenue from own sources in these states (Brinner and Clotfelter). In 1983, 10 years later, lottery revenues ranged from 21 percent (Connecticut) to 93 percent
(New Jersey) averaging 37 percent of total lottery sales. They accounted for about 2.4 percent of all state general revenue (Individual State Lottery Commissions). Opponents claim that the states have enacted a massive regressive tax, sugar-coating it as entertainment and needed for certain functional areas, i.e., education, senior citizens, roads (Mikesell, 1985).

State lotteries have continued to experience dramatic growth in the past two decades, in terms both dollar volume and number of states operating them. Many politicians hope that lotteries will turn out to be a panacea for the ills of the public treasury. The major justification for state operated lotteries is their revenue producing performance. This investigation focused upon claims by lottery proponents that net lottery revenue contributes to the expansion of functional areas, specifically public elementary and secondary education.

**Statement of Purpose**

The purpose of this investigation was to analyze and describe the effects of earmarked lottery revenue for public elementary and secondary education in Michigan and New York. The following research questions were considered:
1. Did the lottery revenue generated in Michigan and New York prove to be a stable, reliable, and high-yield source of revenue?

2. Were the claims made by lottery proponents that earmarked net lottery revenues contribute to the functional area of education supported by the available data?

The research was designed to be a valuable guide to the facts about lottery revenue in order to provide constructive and realistic recommendations in the public interest.

At present, state governments are being tempted by proposals to use lotteries as a means of raising revenues and spurring economic developments. Any state considering introduction of lotteries would do well to examine the record of those currently utilizing them. When the reality of earning is balanced against the promises of lottery promoters, a much clearer choice emerges as to whether or not it is appropriate to establish a lottery. States that are currently operating lotteries could also benefit from careful study of their experiences. Adequate research must be conducted to inform the citizenry of the benefits of lotteries, and to assist policy makers in discharging their responsibilities. This study was designed to add to the body of knowledge accumulated from previous research on state lotteries and should prove helpful to legislators, policy
makers, and administrators charged with the responsibilities for implementation and administration of the lottery program.

Limitations of the Study

This project was limited to an investigation of the effect of lottery-generated revenue on state financing of education in Michigan and New York, two states where lottery revenue is specifically dedicated for public elementary and secondary education.

While important moral and social issues must be considered in overall evaluations of state lotteries, these factors are not relevant for the purpose of this study. The fate of existing lotteries, and of the expansion of the lottery movement will be decided, to a large degree, on their performance as sources of revenue. The expectation of raising substantial revenues was the driving force and major justification for the enactment of legislation authorizing implementation of state lotteries. In the current environment of fiscal retrenchment at the national level, states will be required to raise increasing amounts of revenue to support programs previously funded with federal assistance.
Chapter II

REVIEW OF RELATED LITERATURE

Historical Background of Lotteries

The origins of modern lottery concepts have been traced to the prehistoric era. Archaeologists in Egypt uncovered artifacts believed to have been used for gaming as early as 3500 B.C. Biblical references to the use of "lots" for determining the distribution of property appear in both the Old and New Testaments (Ezell, 1960). The Roman emperors Nero and Augustus used lotteries extensively to distribute slaves and gifts during festive occasions. During the Middle Ages, Italian merchants used lotteries to dispose of unsold merchandise (Thomas and Webb, 1984).

The first public lotteries appeared in France during the mid-fifteenth century and soon spread to other countries throughout Europe. As the revenue potential of lotteries became apparent, sovereigns abolished private lotteries or required payments for royal sanction. Government chartered lotteries were used to support various charitable, religious, and military projects (Ezell, 1960). Substantial funds were raised to fund the construction of public projects (bridges, roads, fortifications) and to finance wars. The settlement of Jamestown by the Virginia Company of London was financed
largely by lotteries in England (Rosen and Norton, 1966). However, when the problems of abuse and corruption arose, the lotteries were banned or abolished. As the need for revenues again became paramount, lotteries often were reauthorized as a solution for fiscal problems (Thomas and Webb, 1984).

Lotteries in America

Lotteries were used extensively in the American colonies by individuals as well as churches and governments. Cash reserves were in short supply and it was difficult to dispose of any item of substantial worth if payment by cash was required. In 1776, the Continental Congress authorized a lottery to raise $1 million to finance the war against England (Muller, 1935). The greatest utilization of lotteries occurred during the period 1790-1840. Tax structures had not yet been developed and states turned to lotteries to finance internal improvements. Lotteries played an important role in the early American economic and social development (Rosen and Norton, 1966). Fraudulent practices and the increasing public sentiment that lotteries were immoral eventually led most states to ban their use. A brief revival of lotteries followed the Civil War, but again, widespread corruption occurred and by 1878, all states except Louisiana had abolished lotteries. The Louisiana lottery continued to operate until 1903. Federal legislation had
been passed forbidding the use of the postal system from sending lottery materials, and outlawing the importation and interstate carriage of lottery-related materials. It was finally forced to discontinue operations.

Although lottery bills frequently have been introduced in Congress, and in numerous state legislatures, all such proposals were rejected until 1964 when New Hampshire authorized the first modern lottery in the United States. New York approved a lottery in 1967 and was followed by New Jersey in 1971. By mid-1986, lotteries had been adopted by 22 states and the District of Columbia. Lottery enabling legislation is currently being considered in 22 other states (Thomas and Webb, 1984). More than 58 percent of the nation's population resides in lottery states.

Present Law and Federal Restrictions

The U.S. Commission on the Review of the National Policy Toward Gambling (Gambling in America, 1976) notes that a lottery is a form of gambling in which chances to share in a distribution of prizes are sold. The three essential elements of a lottery include (a) an investment by the player, (b) chance, and (c) a prize. One part of the U.S. Code offers the following statutory definition:

For the purpose of this subsection, the term "lottery" means the pooling of proceeds derived
from the sale of tickets or chances and allotting those proceeds or parts thereof to one or more chance takers or ticket purchasers. The term "lottery" does not include the placing or accepting of bets or wagers on sporting events or contests. (18 USC 1307 (d))

However, there is no definition of the term lottery which applies uniformly to the Code, and the term may be interpreted differently under State and Federal Law.

A common popular view of lotteries in the 19th century was that they were corrupt, fraudulent, and degenerative (Blakey, p. 74). With this attitude in mind, the Congress denied lotteries the use of the instruments of interstate commerce. Federal laws were passed restricting use by lotteries of postal, broadcasting, and other interstate commerce facilities (upheld in Champion v. Ames, 188 U.S. 321 (1903)).

In 1975, however, Congress exempted state-run lotteries from many of these restrictions. At that time, twelve state-run lotteries had already been placed in operation. Today, these restrictions and the exemptions for state-run lotteries are found in Chapter 61 of Title 18 of the United States Code (Sections 1301-1307). Section 1301 prohibits the importation or transportation in interstate commerce of
any paper, certificate, or instrument purporting
to be or to represent a ticket, chance, share, or
interest in or dependent upon the event of a
lottery, gift enterprise, or similar scheme,
offering prizes dependent in whole or in part upon
lot or chance, or any advertisement of, or list of
the prizes drawn or awarded by means of any such
lottery, gift enterprise, or similar scheme: ....
The mailing of items related to a "lottery, gift enterprise,
or similar scheme offering prizes dependent in whole or in
part upon lot or chance" is forbidden by 18 U.S.C. 1302. This
statute covers: (1) letters, packages, postcards or circulars
concerning such games, (2) lottery tickets (or parts thereof)
or other items representing a ticket, chance, share or
interest in a game, (3) checks, and (4) newspapers,
circulars, pamphlets or other publications containing an
advertisement for such games or containing a list of prizes
drawn or awarded.

The statutory exception to these provisions is 18 U.S.C.
1307 which exempts state-conducted lotteries from many of
these restrictions. This section defines a "lottery" as
"pooling of proceeds derived from the sale of tickets or
chances and allotting those proceeds or parts thereof by
chance to one or more chance takers or ticket purchasers."
Bets or wagers on sporting events or contests specifically are excluded from the exemption.

Section 1307(a) states that 18 U.S.C. 1301-1304 does not apply to information about lotteries (advertisements, lists of prizes or other information) run by a state if (1) contained in a newspaper published in that state or in an adjacent state which also conducts such a lottery, or (2) broadcast by a radio or television station licensed to a location in that state or an adjacent state which conducts such a lottery. Transportation and mailing of "equipment, tickets, or material" is permissible under Section 1307(b) (1) to addresses within a State concerning a lottery conducted by that State (under the authority of state law), or (2) to addresses within a foreign country if that material is designed to be used within that foreign country in a lottery authorized by the law of that country.

The 98th Congress considered legislation to further expand the exemptions contained in 18 U.S.C. 1307 to allow advertising of games which are state sponsored though not state-run. That proposal (S. 1876 and H.R. 5097), as reported to the full Senate by the Senate Judiciary Committee, would have amended 18 U.S.C. 1307 to remove existing prohibitions against disseminating information in interstate commerce, through the mails, or over the airwaves "concerning a lottery, gift enterprise, or similar scheme
authorized, licensed, and regulated by a state acting under authority of state law." The Senate Report (S. Rept. No. 98-537, 98th Cong., 2d Sess.) describes the effect of the operative section of the bill:

The Section affects only the free flow of information including commercial speech and does not change Federal law with regard to the mailing or transportation of lottery tickets, equipment, or payment for lottery tickets; the prohibitions of 18 U.S.C. 1301-1304 are modified only so far as they apply to "an advertisement, list of prizes, or information," which terms are drawn from the prohibiting statutes. Those statutes would therefore no longer prohibit the mailing of letters, newspapers, magazines and the like that contain articles, advertisements or other information dealing with legal, state regulated games, nor would they prohibit broadcast of advertisements or news stories about such games.

The types of games exempted would be determined by the "supervisory authority" of a state, not its actual regulatory practice:

Coverage under this Section of the bill extends only to communications concerning lotteries, gift enterprises, or similar schemes that are given
affirmative legal sanction by the State in which they are conducted and over the regular operation of which the State has supervisory authority. That small charitable and other non-profit lotteries because of size, frequency of operation, or other characteristics are exempted by law from more general State regulatory provisions does not deprive them of coverage under this bill. Moreover, the word "licensed" contemplates that the activity has complied with all substantive and procedural requirements set out under the necessary regulatory apparatus designed by the State, while it does not contemplate that the activity has received a formal "permit" where none is required by State law.

The full Senate took no action on the proposal. On the House side, subcommittee hearings were held on H.R. 5097 (an identical bill) but there was no further legislative action. The United States Justice Department has testified that it is not in opposition to such legislation.

Previously, we had taken a stand in opposition to bills such as this to prevent conflict with laws of States where lotteries are illegal, as well as those with authorized lotteries, but restrict the advertising permitted with respect thereto. Our
position has changed, Mr. Chairman, because of the action of the Supreme Court in *Bigelow v. Virginia*, which casts serious doubt upon the enforceability of the lottery statute as presently written.

Federal restrictions imposed on gambling enterprises exempt state-run lotteries. The exemptions allow the free flow of lottery information through newspapers and broadcast media. Mailing tickets and related information within a state, or to certain foreign countries, is permitted for state-run lotteries.

**Functional Characteristics of Lotteries**

A. Administrative Organization (Gambling in America, 1976)

In most states, the governor appoints a state commission "... That establishes the rules and regulations of the lottery, determines the types of games to be conducted, and performs other advisory functions . . ."

A few states require that commission members bring with them some specific skills. For example, Colorado requires that its commission include members with backgrounds in the areas of law enforcement, business, accounting or legal work. Also, Connecticut Lottery Commission members must have backgrounds in either law, computers, police science, or
business and finance; commission members in Ohio must have backgrounds in business, advertising, or public relations (Winch, 1985).

Not all state lottery systems have a commission; for example, Delaware, New York, and Pennsylvania do not have lottery commissions. In every state with a lottery, lottery executive directors manage the day-to-day operations of the lottery. Often they are assisted by deputy directors in charge of finance, marketing, computer operators, security, and other divisions of the lottery.

Some lottery commissions choose the executive director. In other states, this person is appointed by the governor.

B. Marketing of Lottery Games

The success of lottery games is measured by sales revenues which are dependent on marketing arrangements. Key marketing operations involve arrangements with lottery vendor suppliers and distributors, as well as advertising agencies.

The retailers who sell lottery game products to the public are indispensable to the whole state-run lottery process. These vendors are usually merchants operating retail establishments, such as drug stores, check cashing facilities, liquor stores, and others, who take on an agency role for the distribution of state lottery tickets. Lottery retail agents work for commissions on lottery sales;
commissions vary among the states, normally ranging from 5 to 6 percent of their sales (Ross, 1984).

Total vendor commissions involve millions of dollars. In FY 1983, Illinois paid out $33 million in vendor commissions; Michigan paid $34.5 million. During FY 1984, Washington paid nearly $9 million to its lottery vendors. Ohio returned $31 million in commissions and bonuses to its retailers during the same year (Winch, 1985). Ross reported that New York lottery merchants with on-line connections averaged $7,138 in sales during a week in early July, 1984. That translated into an average commission for that week of $428. Ross observed that such a figure could spell the difference between profit or loss for some small merchants.

Lottery vendors also experience both fixed up-front costs and online user (operational) costs for the privilege of selling lottery games. Some states require their agents to be bonded, while others do not. A few states require conditional bonding, e.g., only if credit is "poor, marginal or minimal" (Washington State), or as an alternative to a letter of credit (Pennsylvania) (Winch, 1985). Some state lotteries pass on to their retail vendors the increasingly expensive costs of the telecommunication line-installation and operation. Others, however, absorb these costs themselves (Winch, 1985).
Most state lotteries use telecommunication lines to connect retail agent terminals for on-line games to a central computer. The cost of these lines now demands careful management attention: "One of the issues most critical to the bottom lines of lotteries in the future will be the staggering rise in telecommunication costs" (Winch, 1985).

According to Ross (1984) the most difficult functions associated with lotteries involve design, installation, and servicing of the computerized systems. However, some lottery jurisdictions relieve their operations of such tasks by entering into contracts with service and equipment vendors who provide fully set-up lottery systems. Maryland, Massachusetts, Michigan, and Ohio are among the states that retain vendors to service their lottery operations.

Companies currently engaged in the distribution or manufacture of lottery tickets and equipment include: Scientific Games, Inc., a subsidiary of Bally Manufacturing; Ticketron, a division of Control Data; Amtot Systems, a division of General Instruments; and GTECH Corporation, a computer firm largely owned by the Bass family. Generally, these companies receive a percentage of lottery gross sales which varies among states. Scientific Games, Inc., is the dominant lottery vending company holding about 80 percent of the market; in 1983, Scientific Games sold more than 1.2 billion instant game tickets to 12 of the 18 lottery
operations. In addition, the company provides computer-aided lottery demographic and marketing analyses (Curry, 1984).

C. Promoting and Advertising State Lotteries

State operated lotteries depend substantially on public acceptance of their structure, including frequency of drawing, size of prize, flexibility and availability of prize pay-outs. Advertising and promotional activities are considered important in gaining public acceptance. The magnitude of the lottery prize is an important motivator of purchases. Most (non-lotto) individual lottery awards are prizes in the $2.00 to $10.00 range, or in the form of free opportunities to play again (Winch, 1985). Such low value prizes are widely distributed, so that most players are previous winners or know someone who has won. This positive player reinforcement is important in generating repeat customer sales. However, larger prizes are available and are extensively advertised to serve as the real thrust behind lottery sales.

Three basic products which allow players to choose their own numbers are popular: 3- and 4-digit numbers games, and lotto. Video-lottery terminals are the newest innovation to be introduced (State Lotteries: An Overview, 1984). In order to involve nonparticipants in the State-sponsored
games, lottery managers have developed new forms of legal lottery games to attract additional players (Winch, p. 18).

The instant games are constantly being redesigned to give them the impression of "newness." Instant games are seen as impulse buys. They do not benefit from the periodic, media-covered drawings as do the numbers games and lotto (Puncke, telephone interview, September, 1986). Lotto, another addition to the traditional lottery operation is an on-line game like the 3- and 4-digit numbers games, and has attracted national attention because of multimillion dollar jackpots. Lotto is threatening to dethrone the numbers games as the leading revenue grosser, and is already the leading lottery in New York State. Some lottery officials think lotto has helped expand the customer base for all games (Maryland State Lottery, telephone interview with M. Puncke, September, 1986).

Most state lotteries do not spend more than 2 percent of annual gross revenue on advertising and promotion (Mikesell). As a percentage of their general revenues, advertising budgets have actually fallen slightly since the mid-1970's (Mikesell). The U.S. Commission on the Review of the National Policy Toward Gambling (Gambling in America, 1976) observed that lottery advertising budgets (as a percent of gross sales) were "relatively small" when compared to those of private companies. The Commission explained
whereas consumer products in the private sector must compete with similar rival goods and services for public consumption, state lotteries exist as monopolistic promoters of an activity that offers an average profit of 40 percent (Gambling in America, 1976, p. 152).

After Federal laws banning lottery information broadcasting were rescinded in the mid-1970's, significant lottery advertising money shifted from printed media into radio and television.

In most lottery jurisdictions the largest percentage of media dollars are spent on television. . . Illinois, Pennsylvania and Arizona for instance, respectively direct 70 percent, 68 percent and 60 percent of their media money to TV. . . Following television in order of relative importance is either radio or newspaper advertising, depending on the lottery. New Hampshire which does virtually no television advertising spends 60 percent of its media dollars on newspaper advertising . . . (Winch, 1985).

There is no clear-cut relationship between advertising expenditures and lottery sales (Winch, 1985). In New York, "instant game sales had been relatively stagnant for six years, selling about $90 million a year despite heavy
promotion and frequent introduction of new versions . . ."
However, New York State Lottery advertising officials reported instant game sales growth of 45 percent across New York State during a 4-month period in 1984. The reason for the surge was a significant incremental boost in instant game television advertising (New York State Lottery, telephone interview, John Quin, February 2, 1987).

Lotteries are complex systems whose operations depend on a coordinated flow of goods and services. Vendor commissions and procurement expenditures provide millions of dollars in private sector revenues, and benefit a broad range of participants including advertising agencies, telecommunication line and service companies, game design companies, computer service and equipment companies, and tens of thousands of retail establishments.

Lottery Revenue Performance

State lottery revenues are generally divided into three categories: (1) operating expenses; (2) prize payments; and (3) net proceeds (or revenues). Lottery operating expenses usually range between 10 and 15 percent of total lottery sales. Some states place statutory limits on the amount of gross sales that can be used for expenses. Prize payouts generally remain as a relatively steady portion of total sales, about 45 to 50 percent. After deducting lottery
operation expenses (15 percent), and prize payouts (45-50 percent), the remaining portion of gross lottery revenues (35-40 percent) is net proceeds/revenues to state treasuries (Winch, 1985).

State lotteries have been a fiscal phenomenon since their modern reintroduction in 1964. Gross sales revenue has increased from $655 million (in eight states) in 1973, to $5.2 billion (in 17 states and the District of Columbia) in 1983. This represents an annual growth rate in lottery sales of about 23 percent (State Lotteries: An Overview, 1984). Gross sales are projected to reach $10 billion by 1986.

Net revenues (gross sales minus prizes and administrative expenses) to the lottery states have increased from $300 million in 1973 to $2.3 billion in 1983, and are projected to reach $5 billion by 1987 (State Lotteries: An Overview, 1984). In FY 1983, the net revenue from lotteries represented two percent of total state general revenue in states operating lotteries. In actual dollar amounts, lottery revenues made impressive contributions to state treasuries. Net lottery revenue in 1983 was $215 million in Illinois, $295 million in New Jersey, and $212 million in Pennsylvania (Individual State Lottery Commission). The average prize payout was 52.1 percent of gross sales, the average costs of lottery administration was 5.4 percent of gross sales and the average net revenue was 42.6 percent of
gross sales. The average per capita ticket sales receipts were $49.53, and the average per capita net revenue was $21.08 (Mikesell, 1985).

State Expenditure of Lottery Revenue

Most states place lottery receipts in their general revenue fund; therefore, it is impossible to calculate the impact of the lottery on any particular program or state service. However, several states have established lotteries with statutory requirements for the use of lottery revenue. In Pennsylvania, lottery revenue must be used to provide tax relief and other services to senior citizens. Colorado allocates a major portion of lottery revenue to parks and capital improvements, while Michigan distributes lottery revenue to cities and towns according to a revenue sharing formula. Four states (Michigan, New Hampshire, New Jersey and New York) dedicate lottery revenue to education. However, even when lottery revenue is earmarked for a specific purpose, it is difficult to quantify how many new dollars are being generated from the lottery. Does the lottery revenue placed in the education budget represent a net gain, or does it serve as a relief to other more traditional sources? Earmarking lottery revenues for specific programs may be more of a political ploy than an actual benefit (Thomas and Webb, 1984).
Arguments For and Against State Lotteries

Lotteries are criticized on economic, moral and social grounds. Opponents claim lotteries are an inefficient and ineffective means of raising public revenue (Rosen and Norton, 1966). They are a highly regressive form of taxation because a disproportionate share of the burden falls on lower-income players (Suits, 1979), and at best, lotteries can be expected to yield only 1 or 2 percent of the total revenue needed by state and local governments (Easy Money, 1974).

In rebuttal, proponents say it is unfair to compare lottery revenue and tax revenue. Lotteries provide benefits such as entertainment and the possibility of winning prizes, whereas taxes provide no such direct public enjoyment. However, even if considered a tax, it is a voluntary tax which one can escape simply by not playing. Although lottery revenue may be only a small percentage of total state and local government revenue, it is a significant amount, and often dedicated to noble purposes such as education and aid to senior citizens (Thomas and Webb, 1984).

Lottery proponents argue that legalized lotteries would be an effective weapon against organized crime, especially illegal gambling. However, there is little evidence to indicate that there has been a reduction in illegal gambling in lottery states (Gambling in America, 1976). Lotteries are
not competitive with "numbers" games which pay out a higher percentage of receipts and offer a choice in selecting number combinations. Credit often is extended in illegal games and winnings are not reported to the Internal Revenue Service (Easy Money, 1974). Further, opponents argue that lotteries have not deterred organized crime, but were actually responsible for an increase in individual crimes. Shoplifting, burglaries, and suicides are examples of individual crimes attributed to lottery overindulgence, however, there is no evidence to support such charges (State Lotteries: An Overview, 1984).

The 20 year history of State-run lotteries is a dynamic one, with the sponsoring agencies searching for means to expand the player base, experimenting with the introduction of new games, and expanding the retail distribution network. The proliferation of lotteries has been greater than expected; many writers questioned the staying-power of lotteries after the novelty effect had worn off, and almost everyone failed to foresee the phenomenal growth of sales and revenue. Researchers did not consider the possible effects on state revenue when fiscal retrenchment occurred at the federal level, nor did they accurately gauge public acceptance and political reality. The shortage of current information indicates a need for additional research of the current status and performance of state lotteries. In order
to update lottery information and to provide the necessary
background data for the current study, the following
information for the District of Columbia and for the 22
states operating lotteries in 1986, for the period FY
1976-1986 is reported in Chapter III:
1. State Lotteries: Authorization, Initial Operation, Use
   of Net Revenues.
3. Net Revenue from Lotteries as a Percent of State General
Chapter III

CURRENT STATUS OF LOTTERIES IN THE UNITED STATES
1976-1986

The New Hampshire legislature authorized a lottery in 1964, in order to finance local education and to avoid the levy of general sales and individual income taxes (Suits, 1979). New York followed with a lottery in 1967. In neither case did proceeds from the lottery meet expectations.

The lottery seemed likely to be a fiscal dud until the New Jersey lottery, started in 1971, broke new ground by marketing its games as entertainment and using techniques designed to serve the customers. In 1972, Stocker (p. 438) attributed the New Jersey success to

(a) lower price tickets; (b) more frequent drawings; (c) more numerous outlets; (d) numbered tickets in lieu of recording purchasers' names and addresses; (e) somewhat better odds; and (f) energetic promotion.

Largely because of the New Jersey success, 13 states were operating lotteries by the end of 1975. At that time, adoptions included all states north of the Mason-Dixon line from Illinois to the Atlantic Ocean, excluding Indiana and Vermont. Maryland was the only other lottery state.
Motives behind state adoption of lotteries varied. Some states implemented lotteries because of the revenue they feared would be lost to their lottery neighbors. More compelling was the lure of revenue without new or increased taxes (Heavey, 1973). In addition, the lottery offered substantial prizes for a few, entertainment for even more people, and the possibility of reducing illegal gambling. In the aftermath of the taxpayer revolt and in the era of reduced federal assistance, the continued attractiveness of lotteries to states is not surprising.

Charted in Table 1 is the chronological sequence of state adoptions of lotteries. In 1980, thirteen states had instituted lotteries. The number increased to seventeen states plus the District of Columbia in 1983. By 1986, twenty-two states plus the District of Columbia had lotteries. Eleven other states (Alaska, Hawaii, Montana, Nebraska, New Mexico, North Carolina, North Dakota, Oklahoma, South Dakota, Virginia, and Wyoming) could enact a lottery with only legislative action; the remaining seventeen (Alabama, Arkansas, Florida, Georgia, Idaho, Indiana, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Nevada, South Carolina, Tennessee, Texas, Utah, and Wisconsin) would require constitutional action to remove prohibition before instituting a lottery (The Book of States, 1984). As evident from an examination of the table, eleven states have
<table>
<thead>
<tr>
<th>State</th>
<th>Authorization</th>
<th>Initial Operation</th>
<th>Use of Net Revenues</th>
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<tbody>
<tr>
<td>California</td>
<td>Initiative (November 1984)</td>
<td>September 1985</td>
<td>Public Education</td>
</tr>
<tr>
<td>Colorado</td>
<td>Referendum</td>
<td>January 1983</td>
<td>Fifty percent for capital construction. Forty percent for conservation trust fund, ten percent for parks and recreation.</td>
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<tr>
<td>Connecticut</td>
<td>Legislation</td>
<td>February 1972</td>
<td>General Fund</td>
</tr>
<tr>
<td>Delaware</td>
<td>Legislation</td>
<td>November 1975</td>
<td>General Fund</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>Initiative</td>
<td>August 1982</td>
<td>General Fund</td>
</tr>
<tr>
<td>Illinois</td>
<td>Legislation</td>
<td>July 1974</td>
<td>General Fund</td>
</tr>
<tr>
<td>Iowa</td>
<td>Legislation</td>
<td>August 1985</td>
<td>Economic Betterment, Education Agricultural Projects, and</td>
</tr>
<tr>
<td>Maine</td>
<td>Referendum</td>
<td>June 1974</td>
<td>General Fund</td>
</tr>
<tr>
<td>Maryland</td>
<td>Initiative, Legislation, and a Referendum</td>
<td>May 1973</td>
<td>General fund effective 10/31/83, lottery profits allocated to 24 political subdivisions, to expire 10/84, legislation pending</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Legislation</td>
<td>March 1972</td>
<td>Distributed to 351 cities and towns for discretionary use. The first $3 million of lotto is allocated for the arts.</td>
</tr>
<tr>
<td>Michigan</td>
<td>Legislation</td>
<td>November 1972</td>
<td>Primary and Secondary education (earmarked 1981)</td>
</tr>
<tr>
<td>Missouri</td>
<td>Referendum November 1984</td>
<td>Early 1986</td>
<td>General fund</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>Legislation</td>
<td>March 1964</td>
<td>Education</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Referendum</td>
<td>January 1971</td>
<td>Education and State Institutions. $75,000 per year for compulsive gambling studies</td>
</tr>
<tr>
<td>New York</td>
<td>Referendum</td>
<td>September 1976</td>
<td>Elementary and Secondary Education</td>
</tr>
<tr>
<td>Ohio</td>
<td>Legislation</td>
<td>August 1974</td>
<td>General Fund, until 1983, Education since 1983</td>
</tr>
<tr>
<td>Oregon</td>
<td>Initiative November 1984</td>
<td>April 1985</td>
<td>Economic Development</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Legislation</td>
<td>March 1972</td>
<td>Senior Citizens</td>
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(Table 1 continued)
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<tr>
<th>State</th>
<th>Authorization</th>
<th>Initial Operation</th>
<th>Use of Net Revenues</th>
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<tr>
<td>Rhode Island</td>
<td>Referendum</td>
<td>May 1974</td>
<td>General Fund</td>
</tr>
<tr>
<td>Vermont</td>
<td>Referendum</td>
<td>February 1978</td>
<td>General Fund (debt retirement and capital construction)</td>
</tr>
<tr>
<td>Washington</td>
<td>Referendum</td>
<td>November 1982</td>
<td>General Fund</td>
</tr>
<tr>
<td>West Virginia</td>
<td>Referendum</td>
<td>November 1985</td>
<td>General Fund</td>
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</table>

Source: Assorted Annual Reports and The Book of States, Lexington: Council of State Governments.
earmarked at least a portion of lottery proceeds to specific purposes; education is one of the more frequent purposes, although more states place revenue in the general fund than direct it to any identified use.

**Are Lotteries a Significant Source of Revenue?**

There is little question that state-operated lotteries are big business. Consumers make sizeable purchases of this entertainment service, although the dollar amount of ticket sales varies widely across states. As indicated in Table 2, in fiscal year 1978, lottery ticket sales totalled approximately $1.8 billion with Vermont selling slightly more than $2 million in tickets and Michigan selling over $325 million in tickets. In 1980, Vermont sold over $2.9 million in tickets while Michigan sold over $483 million in tickets. Total sales for fiscal year 1980 exceeded $2.3 billion in the fourteen states operating lotteries that year. By 1983, total sales amounted to more than $5.3 billion with Vermont accounting for $4.6 million in sales and Pennsylvania accounting for $885 million in sales.

Total ticket sales indicate little more than the amount of consumer participation in lottery games. The more significant figure is the net amount of revenue that lotteries contribute to state treasuries—the amount remaining after prizes and administrative costs have been
Table 2. Lottery Ticket Sales and Net Revenue (after prizes and administrative costs) by State

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<td>71.0</td>
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<td>63.0</td>
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<td>110.0</td>
<td>42.0</td>
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<td>1.6</td>
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<td>Total:</td>
<td>1,108.3</td>
<td>487.0</td>
<td>1,469.0</td>
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<td>1,841.3</td>
<td>695.0</td>
<td>2,065.9</td>
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Source: Bureau of state lotteries, by individual state.
Table 2. Lottery Ticket Sales and Net Revenue (after prizes and administrative costs) by State (continued)

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Total: 2,394.5 988.5 2,926.9 1,181.3 3,853.0 1,525.6 5,308.6 1,938.8
Table 2. Lottery Ticket Sales and Net Revenue (after prizes and administrative costs) by State (continued)

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<tr>
<td>Total:</td>
<td>7,073.8</td>
<td>2,808.0</td>
<td>9,050.4</td>
<td>3,790.8</td>
<td>11,937.0</td>
<td>4,973.7</td>
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covered. Included in Table 2 is the net amount of revenue which states gain from gross lottery sales. Net lottery revenue ranged from 44 percent of gross sales in 1976 to 42 percent in 1986.

Table 3. Net Lottery Revenue as a Percent of Lottery Ticket Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Ticket Sales</th>
<th>Net Revenue</th>
<th>As a %</th>
</tr>
</thead>
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<tr>
<td>1976</td>
<td>1,108.3</td>
<td>487.0</td>
<td>44%</td>
</tr>
<tr>
<td>1986</td>
<td>11,937.0</td>
<td>4,973.7</td>
<td>42%</td>
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</table>

Aggregate net lottery revenue totaled $487 million in 1976 and grew to $4.974 billion by 1986. Without question, in absolute dollar terms, the total state net revenue derived from lotteries is not an insignificant fiscal resource.

To indicate the relative importance of lottery operations, arrayed in Table 4 is the percent of state general revenue, by individual state, accounted for by lotteries. However, when net revenue from state operated lotteries is expressed as a percentage of total state general revenue, it is clear that lotteries cannot be judged as major contributors to state revenue. In 1978, on average, 1 percent of state general revenue emanated from lotteries. By 1983 this figure had increased to 2.4 percent but in 1985 declined to 1.7 percent. During the 1976-1986 period, lottery revenue accounted for as little as 0.08% of general
Table 4. Net Lottery Revenue as Percent of State General Revenue, by State

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</table>

Average          | 1.0  | 0.9  | 0.9  | 0.9  | 1.1  | 2.3  | 1.2  | 2.4  | 1.6  | 1.7  |

Source: Lottery Revenue - Bureau of State Lotteries, individual states
State General Revenue - State Government Finance, Bureau of the Census, assorted years
revenue in Maine in 1980 and 1981; and as much as 3.6% of general revenue in Maryland in 1982.

Further indications of the minor place that lottery revenue occupies in total state fiscal resources are documented in Table 5. Lottery proceeds tend to be a small portion of state general revenue (averaging 1.6 percent in the lottery states in 1984) even of the small charge and miscellaneous revenue category of state revenue. This category roughly includes the non-utility "commercial" functions of the state. The relatively large percentages derived from lotteries in Pennsylvania, Maryland, New Jersey, and Illinois are the exceptions; and even in that large group, the highest share is only 25 percent of charge and miscellaneous revenue. When the lottery is included with 22 identifiable tax sources, its proceeds ranked 9th or lower in significance in only 12 of the 17 states in 1984. In Maryland, the lottery was the fourth largest source of such revenue behind the individual income tax, gross sales and gross receipts taxes, and motor fuel taxes. At the other extreme, net lottery revenue ranked 15th in the state of Vermont in 1984. The taxes it most frequently ranks immediately behind--motor vehicle license--are generally regarded as so insignificant as to be outside normal fiscal analysis. Thus, the absolute revenue importance of the lottery is small.
Table 5. Lottery Revenue Significance in Fiscal 1984

<table>
<thead>
<tr>
<th>State</th>
<th>Rank of Lottery Among State Tax Sources$</th>
<th>State Tax Immediately Ahead of Lottery</th>
<th>Net Lottery Proceeds As Percent of State Charge and Miscellaneous Revenue$</th>
</tr>
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<tbody>
<tr>
<td>Arizona</td>
<td>Eleven</td>
<td>Alcoholic Beverage</td>
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<td>Colorado</td>
<td>Eight</td>
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<td>4.9</td>
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<tr>
<td>Connecticut</td>
<td>Seven</td>
<td>Death</td>
<td>10.9</td>
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<tr>
<td>Delaware</td>
<td>Ten</td>
<td>Insurance Excise</td>
<td>3.4</td>
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<tr>
<td>Illinois</td>
<td>Seven</td>
<td>Motor Vehicle License</td>
<td>19.2</td>
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<tr>
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<td>Fifteen</td>
<td>Motor Vehicle Operators License</td>
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<td>Four</td>
<td>Motor Fuel</td>
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<tr>
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<td>Fourteen</td>
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<td>1.9</td>
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<td>Corporate Income</td>
<td>15.2</td>
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<td>Eight</td>
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<td>10.3</td>
</tr>
<tr>
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</tr>
<tr>
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<td>25.4</td>
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<td>Motor Vehicle License</td>
<td>3.9</td>
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<tr>
<td>Vermont</td>
<td>Fifteen</td>
<td>Death and Gift</td>
<td>0.6</td>
</tr>
<tr>
<td>Washington</td>
<td>Nine</td>
<td>Tobacco Excise</td>
<td>7.3</td>
</tr>
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</table>

$ The twenty-two separate taxes: general sales and gross receipts taxes, motor fuel taxes, taxes on tobacco products; public utility taxes; insurance taxes; alcoholic beverage taxes; parimutuals; amusement taxes; individual income taxes; corporation net income taxes; motor vehicle licenses; licenses for corporations in general; occupation and business licenses: motor vehicle licenses; hunting and fishing licenses; alcoholic beverage licenses; public utility licenses; amusement licenses; property taxes; severance taxes; death and gift taxes; document and stock transfer taxes.

$ In keeping with the Census definitions charge and miscellaneous revenue excludes revenue from utilities and state liquor stores.

An examination of Table 6 indicates that there has been a steady increase of average net revenue per capita raised from state lotteries during the 1976-1986 period. In 1978, state-operated lotteries generated an average of $8.23 per capita net revenue. By 1980, this amount had increased to $11.85 per capita and increased further to $17.88 per capita by 1983 and to $31.30 per capita in 1986. However, these figures are somewhat misleading because of the wide variation in per capita net revenue generated by lotteries among the states. In 1978, Maine generated only $1.58 per capita, while $27.01 per capita was generated in Maryland. In 1980, Maine generated only $0.80 per capita revenue from its lottery, while Maryland was raising $39.54 per capita. By 1983, every state received more than $2.00 per capita lottery revenue, carrying from $2.13 per capita in Vermont to $46.05 per capita in Maryland. The Maryland lottery has been the consistent leader in lottery sales per capita, despite the establishment of the District of Columbia lottery, a game expected to take lottery sales from Maryland.

Another aspect of revenue yield is the performance of lottery yield over time. At first glance it appears that lotteries provide a reliable and growing source of revenue for state governments. A review of Table 7 indicates that total net revenue generated by lotteries grew at relatively robust rates throughout the 1978-1986 period. Even during
Table 6. Per Capita Net Revenue from Lotteries, by State

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<td>California</td>
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1984 Statistical Abstract of the United States
1986 telephone interview, Ed Byerly, Bureau of the Census, U.S. Dept. of Commerce
Table 7. Growth of Net Revenue for State Lotteries, by state (percent of change)

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Source: Bureau of state lotteries, by individual state.
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the recession of 1980-1981, total lottery net revenues averaged a growth rate of 28.39 percent. Closer analysis, however, reveals a basic instability of lottery-generated revenue. The record of lottery net revenues on a state-by-state basis is checkered at best. Thirteen of the seventeen states which operated lotteries during the 1978-1984 period experienced decline for at least one year. These declines ranged from 0.8 percent in Michigan to 214.3 percent for Ohio. Most states experiencing increases in lottery revenue had sizeable fluctuations in the magnitude of increases. For example, Pennsylvania had a 97.8 percent increase between 1977 and 1978, a modest increase of 6.9 percent between 1980 and 1981, and a 45.1 percent increase between 1983 and 1984. Lottery revenue is affected by changing consumer preferences, introduction of new games, marketing efforts, competition from neighboring states' games and illegal games, and other factors outside state control.

Summary

On the basis of the information reported in this chapter, several observations can be made:

(1) State lotteries collected large amounts of money, ranging from $988.5 million in 1980 to $4.974 billion in 1986.

(2) Lotteries represent a small source of revenue for state governments, even when aggressively marketed.
(3) Lotteries are an unstable source of revenue.
Chapter IV

METHODOLOGY

The impact of lottery revenue on the earmarked function of public elementary and secondary education in Michigan and New York is described and analyzed on the following bases:

1. Did the lottery revenue generated in Michigan and New York prove to be a stable, reliable, high-yield source of revenue? In order to describe and to analyze the system of tax revenue in these states and to answer the above question, an analysis of the trends as evidenced by the following data were completed:

   A. Total and per capita revenue from state lotteries, by state, CPI Base 1986;
   B. Total and per capita revenue from state income tax, by state, CPI Base 1986;
   C. Total and per capita revenue from state sales tax, by state, CPI Base 1986; and
   D. Total and per capita revenue from property tax, by state, CPI Base 1986.

2. Were the claims made by lottery proponents that net lottery revenues contribute to the expansion of the functional area of public elementary and secondary education supported by the available data? In order to
describe the fiscal health of the state system of public elementary and secondary education in Michigan and New York and to answer the above question, the following data were collected for Michigan and New York:


B. Per public elementary and secondary pupil expenditures: Michigan, FY 1967-1986 and New York, FY 1962-1986; and


A discussion of the design and procedures used for collection and treatment of the data is contained in this chapter under the following headings: (1) Sample, (2) Research Design, and (3) Analysis.

Sample

The given general populations of Michigan and New York at each data collection point serve as the sample for this study.

Research Design

An interrupted time-series design (Hoole, p. 49) was employed in this study. Time-series data were collected from
the sample for a period at least five years before the intervention of the lottery through 1985, at the end of each fiscal year. Precluding the use of a control-group experiment, the time-series design has been determined to be the most useful for purposes of this research (Hoole, p. 50).

Threats to internal validity are recognized. Even if shifts in measurements are found, they could be attributable to other events occurring independently of the intervention treatment. However, an effort was made to examine and to describe the impact of the lottery while recognizing and describing as many rival explanations as possible. The use of multiple measurements preceding and following the lottery intervention increases the power of this design. These additional measurements permitted the researcher to make a more complete examination of the collected data. By examining two states, a replication of the study was achieved and further validation of conclusions was made possible.

Analysis

In order to adjust for inflation, actual dollars were converted to constant dollars using the Consumer Price Index (CPI) base 1986. Lotus 1-2-3 was employed to work with and to analyze the collected data. The Lotus spread sheet tabulated CPI base 1986 dollars, per capita in actual and CPI base 1986 dollars, and percent changes based on actual and
CPI base 1986 dollars for the following categories in Michigan and New York:

- Net Lottery Revenue
- Total General Revenue from Own Sources
- Total Tax Revenue
- Total State General Sales Tax Revenue
- Total State Property Tax Revenue
- Individual Income Tax Revenue
- Total Direct General Expenditures
- Total Direct Expenditures on Education

CPI base 1986 dollars and percent change based on actual and CPI base 1986 dollars were calculated for the following:

- Per Pupil Expenditures
- Average Teacher Salaries

From these tabulations Lotus graphics generated graphs which allowed this researcher a visual image of the trends in revenue and expenditure patterns under investigation. All data are summarized in narrative format.
Chapter V

DATA PRESENTATION AND ANALYSIS

Michigan and New York instituted their state lotteries in 1972 and 1968 respectively. New York earmarked lottery revenue for public elementary and secondary education in 1976. Michigan dedicated its lottery revenue to public elementary and secondary education in 1981. As indicated in Chapter I, the purpose of this study was to provide evidence that would permit the following two questions to be measured: (1) Was Michigan or New York able to rely on new revenues from its lottery as a stable, reliable, high-yield source of revenue? and (2) Were the claims made by lottery proponents that net lottery revenues have contributed to the expansion of the functional areas of public elementary and secondary education justified through data analysis?

During the 1980-1986 period, Michigan and New York were consistently among the top ten states in dollar amount of lottery ticket sales. Total ticket sale figures indicate the amount of consumer participation. The relevant figure is the amount that lotteries contribute to state revenue (Figures 1 and 2). In 1978, the lottery generated $141.3 million in net revenue in Michigan and $92.1 million in New York. By 1982, net lottery revenue totaled $218.1 million in Michigan and
Figure 1

MICHIGAN
Net Lottery Revenue

$106,834,000
$205,845,857

1979

$106,834,000
$205,845,857

Actual Dollars

1986 Base CP

Figure 1
New York
Net Lottery Revenue

Figure 2
$179.8 million in New York. In 1986, net lottery revenue
totaled $415.1 million in Michigan and $607.8 million in New
York. These figures suggest that, in absolute dollar terms,
et state revenue derived from lotteries was significant for
both states.

When net revenue from the state-operated lotteries of
Michigan and New York is expressed as a percentage of total
own source state revenue (Table 8), it is clear that lottery
revenue cannot be considered as one of the major contributors
to state revenue. During the 1976-1985 period, lottery
revenue accounted, on average, for 2.50 percent of own source
revenue in Michigan, and for the 1968-1985 period in New
York, lottery revenue accounted for .75 percent of own source
revenue. By no means do these figures indicate that
lotteries served as major contributors to own source revenue.

In actual dollar amounts there was a steady increase in
net revenue per capita raised by both the Michigan and New
York lotteries. In 1976, the lottery generated $12 per
capita net revenue in Michigan and $1 per capita in New York.
By 1980, this amount had increased to $23 in Michigan and to
$5 in New York. In 1985, the amounts had increased to $45
in Michigan and to $34 in New York (Appendix B).

When constant dollars based on the 1986 consumer price
index are considered, fluctuations in per capita lottery
revenue are noted. In 1976, the lottery generated $23 per
<table>
<thead>
<tr>
<th>Year</th>
<th>MICHIGAN Own Source Revenue</th>
<th>Lottery Revenue</th>
<th>Percent</th>
<th>NEW YORK Own Source Revenue</th>
<th>Lottery Revenue</th>
<th>Percent</th>
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<td>1973</td>
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<tr>
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<td>1985</td>
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</table>

Average: 2.50


Another aspect to revenue yield is the performance of lottery yield over time. At first glance, it appears that lotteries provide a reliable and growing source of revenue for state governments. Further examination of Figure 1 indicates that total net revenue generated by the Michigan lottery grew at relatively robust rates throughout the 1978-1980 period. A .27 percent decline in growth of lottery revenue is noted in 1981, followed in 1985 by a 59.06 percent increase in growth (Table 9). A review of Figure 2 will show that New York experienced seven years of decline in the growth of net lottery revenue during the 1968-1986 period but reported a 210 percent and 305 percent increase in growth in 1969 and 1977 respectively. When these figures are adjusted to reflect constant 1986 dollars even greater fluctuations in the growth of net lottery revenue become evident. In Michigan, a negative 9.54 percent decline in growth is noted in 1981, followed in 1985 by a 46.79 percent increase in growth. New York experienced eight years of negative growth
<table>
<thead>
<tr>
<th>Year</th>
<th>MICHIGAN</th>
<th></th>
<th></th>
<th>NEW YORK</th>
<th></th>
<th></th>
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<tr>
<td></td>
<td>Actual $</td>
<td>% Change</td>
<td>Adjusted $</td>
<td>% Change</td>
<td>Actual $</td>
<td>% Change</td>
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<td>131,555,853</td>
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<td>1976</td>
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<td>1984</td>
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<td>366,373,055</td>
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<td>1985</td>
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<td>15.48</td>
<td>415,052,004</td>
<td>13.29</td>
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<td></td>
</tr>
</tbody>
</table>

Source: Michigan and New York State Lottery Commissions
when adjusted dollars are considered. Sizeable increases in the percent of change in lottery revenue growth are noted in 1969 (193.9) and 1977 (280.3). Decreases in the growth of net lottery revenue are interspersed with sizeable growth fluctuations.

Graphically presented in Figures 3 and 4 are the actual dollars earned from revenue from state sales tax, state individual income tax, and total state taxes in Michigan and New York respectively. Michigan experienced only one decline in growth of total state tax revenue in 1980 (-1.16). State sales tax declined in growth in 1975 (-.83) and in 1976 (-9.12). Revenue from state individual income tax experienced declines in 1975 (-12.35), 1980 (1.41), and 1985 (-9.91). New York experienced no negative changes in the percent of growth of its total state tax or state sales tax revenue. Individual income tax revenue declined in 1965 (-.40), in 1973 (-.62), and in 1978 (-.46). Displayed in Figures 5 (Michigan) and 6 (New York) is revenue from total state taxes, state sales tax and individual state income tax when these figures are adjusted to a constant 1986 dollar. A more constant yield describes the sales and individual income revenue in Michigan. Continuous and steady growth describe this revenue in New York.

Despite their evident popularity, lottery revenue represents a small portion of total own source state revenue
MICHIGAN
Tax Structure in Actual Dollars

Figure 3
New York
Tax Structure in Actual Dollars.

Figure 4
MICHIGAN
Tax Structure Based on 1986 CPI

Figure 5
New York

Tax Structure Based on 1986 C.P.I.

Figure 6
in both Michigan and New York. The lottery revenue is subjected to the effects of swings in the business cycle, similar to other state revenue sources, in addition, lottery revenue also is affected by changing consumer preferences, competition from neighboring states' games and other factors outside the state's control. Neither Michigan nor New York was able to rely upon their lotteries for furnishing a stable, reliable, high-yield source of revenue.

Table 10. Average Percent Change in Property Tax Lottery Dedication

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan</td>
<td>4.13</td>
<td>3.50</td>
</tr>
<tr>
<td>New York</td>
<td>13.57</td>
<td>-100.0</td>
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</table>

Because of their common purpose, to provide education revenue, it is of interest to look at the growth of lottery revenue and property tax revenue in Michigan (Figure 7) and in New York (Figure 8). Before dedication of lottery revenue to education (1967-1981), property tax experienced an average annual change of 4.13 percent in Michigan. Since the dedication of lottery revenue (1982-1985), property tax has had an average annual change of 3.50 percent. In New York, property taxes experienced an average 13.57 percent annual growth during the period before lottery dedication.
MICHIGAN: Property Tax vs.
Lottery Revenue in Actual Dollars.

Figure 7
New York: Property Tax vs. Lottery Revenue in Actual Dollars.
(1962-1976) and a -100.0 percent decline after the dedication of the lottery (1977-1985).

When property tax and lottery revenue are expressed in adjusted 1986 dollars (Figures 9 and 10), the decline in the property tax effort is more obvious.

Provided in Tables 11 and 12 is information regarding state direct education expenditures as a percent of total state direct expenditures for Michigan and New York. Data are provided for a period ten years prior to the earmarking of the lottery in these states through 1985. If lottery revenues are not fungible it is expected that the percent of total direct general expenditure accounted for by education would increase. However, a decline in this percent occurred in the years following the earmarking of the lottery revenue in New York (1977) and only a .06 percent increase was realized in Michigan (1982). In Michigan expenditures for public elementary and secondary education represented 30.89 percent of state total direct general expenditures during the years before the earmarking of lottery revenue (1967-1981). During the years since earmarking (1982-1985), the average has reached only 24.09 percent. In New York, expenditures for public elementary and secondary education represented 23.17 percent of state total direct expenditures during the years before the earmarking of lottery revenue (1963-1976). During the years since earmarking (1977-1985), this average
MICHIGAN: Property Tax vs.
Lottery Revenue Based on 1986 C.P.I

Figure 9
New York: Property Tax vs.
Lottery Revenue Based on 1986 C P I.

Figure 10
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Direct General Expenditures</th>
<th>Expenditures on Education</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>1,552,700,000</td>
<td>612,400,000</td>
<td>39.44</td>
</tr>
<tr>
<td>1968</td>
<td>1,742,100,000</td>
<td>670,600,000</td>
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<tr>
<td>1969</td>
<td>1,928,600,000</td>
<td>739,800,000</td>
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<td>1970</td>
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<td>1975</td>
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<td><strong>30.89</strong></td>
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<td>1985</td>
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<td><strong>Average</strong></td>
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<td><strong>24.09</strong></td>
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Source: State Government Finance, assorted years.
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Direct General Expenditures</th>
<th>Expenditures on Education</th>
<th>Percent</th>
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<tbody>
<tr>
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<td>1967</td>
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<td>25.17</td>
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<tr>
<td>1968</td>
<td>3,147,200,000</td>
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Source: State Government Finance, assorted years.
has reached only 19.78 percent. Figures 11 and 12 depict state expenditures for public elementary and secondary education as a proportion of state total direct expenditures in actual and adjusted dollars for Michigan and New York respectively.

Table 13. Average Percent Change in Per Pupil Expenditures

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<tr>
<th>Lottery Dedication</th>
<th>Before</th>
<th>After</th>
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<tbody>
<tr>
<td>Michigan</td>
<td>11.99</td>
<td>9.18</td>
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<tr>
<td>New York</td>
<td>9.82</td>
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<tr>
<td>Actual Dollars</td>
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</table>

Per pupil expenditures (Figures 13 and 14) and average salaries paid to teachers (Figures 15 and 16) were employed as additional measurements of the fiscal growth of the systems of public education and in Michigan and New York. The average annual percent change in per pupil expenditure in Michigan before the earmarking of lottery revenue (1967-1981) was 11.99 percent. The average annual percent change during the period of earmarking lottery revenue for education (1982-1986) was 9.18 percent. The average annual percent change in per pupil expenditure in New York during the 1962-1976 period was 9.82 percent. The average annual percent change during the period of earmarking lottery
Michigan Total Direct Expenditures

General vs. Education

Figure 11
New York Total Direct Expenditures:

General vs. Education.

Figure 12
Figure 13
New York
Per Pupil Expenditures

$24,286

$3,700

0


□ Actual Dollars + 1986 C P I Dollars

Figure 14
Figure 15

MICHIGAN
Average Teacher Salary

(Thousands)


□ Actual Dollars

1986 Base C P I
New York

Average Teacher Salary

Dollars (Thousands)

$6,700

$24,286


Figure 16
revenue for education was 10.27 percent. During the years since dedicating lottery revenue to education in Michigan, the percent of change in per pupil expenditure was never greater than 9.58 percent (1982) and fell as low as 1.76 percent in 1983.

When per pupil expenditures are expressed in CPI base 1986 dollars, growth in percentages flatten out. The aggregate average annual percent of growth in per pupil expenditures in Michigan before the earmarking of lottery revenue (1968-1981) was 5.58 percent. The average annual percent growth during the period of earmarking lottery revenue for education (1982-1986) was 2.22 percent. The average annual percent growth in per pupil expenditure in New York during the 1963-1976 period was 4.97 percent. The average annual percent growth during the period of earmarking lottery revenue for public elementary and secondary education was 3.24 percent.

Table 14. Average Percent Change in Per Pupil Expenditure

<table>
<thead>
<tr>
<th>Lottery Dedication</th>
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<tr>
<td>Michigan</td>
<td>5.58</td>
<td>2.22</td>
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<td>3.24</td>
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<tr>
<td>CPI Base 1986 $</td>
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The average annual percent growth in teacher salaries before the dedicating of lottery revenue to public elementary and secondary education was 12.00 percent in Michigan (1968-1981) and 6.56 percent in New York (1963-1976). The average annual percent change in teacher salaries during the period of earmarking lottery revenue for public elementary and secondary education was 4.90 percent in Michigan (1982-1986) and 6.68 percent in New York (1977-1986).

Table 15. Average Percent Change in Salaries Paid to Teachers

<table>
<thead>
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<th>After</th>
</tr>
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<tr>
<td>Michigan</td>
<td>10.00</td>
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<td>6.56</td>
<td>6.68</td>
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Actual Dollars

When average teacher salaries are expressed in CPI base 1986 dollars differences again flatten out. The average annual percent change in teacher salaries before dedicating lottery revenue to public elementary and secondary education was 4.28 percent in Michigan (1968-1981) and 1.86 percent in New York (1963-1976). Since the dedication of lottery revenue to public elementary and secondary education this percent change has decreased to 1.60 percent in Michigan.

Table 16. Average Percent Change in Salaries Paid to Teachers

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<th>After</th>
</tr>
</thead>
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<tr>
<td>Michigan</td>
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<tr>
<td>New York</td>
<td>1.86</td>
<td>-.13</td>
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</table>

In order to examine the support the lottery provides for selected expenditure categories, attention must be given to whether lottery revenue directed to the earmarked function supports additional expenditure or whether it simply substitutes for other revenue which would have been appropriated for the function. If lotteries are, in practice, fungible, regardless of their legal earmarking, expenditures in functional categories to which the revenues are directed would not increase beyond their expected patterns once the lottery begins operation. Instead, legislators would use lottery revenue to replace other general revenue that otherwise would have been appropriated for the function. Conversely, if lottery revenues are not fungible, expenditures in earmarked functional categories would be expected to increase due to the additional revenues
being generated by a lottery. Claims made by lottery proponents that net lottery revenues contribute to the expansion of the functional area of public elementary and secondary education are not supported by data analyzed for Michigan and New York.
Government lotteries have existed for centuries and have become a much larger part of public finance at the state level in the United States in the last decade. Since their origin, lotteries have been used to solve pressing, often short-term dilemmas. They have been instrumental in disposing of property and in raising revenue, in both public and private ventures. Twenty-two states and the District of Columbia now operate state lotteries. Additional states currently debate the issues involved in state lottery adoption.

State governments are tempted by proposals to use lotteries as a means of raising revenue and spurring economic development. This research was designed to be a valuable guide to the facts about lottery revenue in order to provide constructive and realistic recommendations in the public interest. The purpose of this investigation was to analyze and describe the effects of earmarked lottery revenue for public elementary and secondary education in Michigan and New York.

In order to determine if the lottery revenue generated in Michigan and New York was a stable, reliable, and high

Despite the impressive absolute net revenue lottery figures, lottery revenue represents a small and unstable portion of total own source state revenue. For the period 1976-1985, Michigan net lottery revenue averaged only 2.5 percent of total state own source revenue. New York net lottery revenue averaged .75 percent of total state own source revenue during the 1968-1985 period. Not only is lottery revenue noted as a small portion of own source revenue but also it is an unstable portion of own source revenue. Declines in the annual average change of net lottery revenue of both Michigan and New York are interspersed with sizeable growth fluctuations.

A rationale for state lottery adoption is that the additional revenue is essential due to taxpayer resistance to new and higher taxes. Michigan and New York ranked 9th and 2nd respectively in the United States in per capita dollar amounts of tax revenue collected in 1984 (Thomas and
Webb, 1984). Typical of most lottery states they rank in the upper half when states are ranked according to per capita dollar amount of tax revenue. Trends in the patterns of traditional revenue sources for Michigan FY 1967-1985 and New York FY 1962-1985 are reported in this document. Although changes in growth of total state taxes, state sales tax, and individual income tax are not always positive; they represent a more steady, continuous, and predictable growth pattern than do the volatile patterns of state lottery revenue.

Lottery revenue is affected by swings in the business cycle, similar to other state revenue sources. In addition, the yield of lottery revenue is affected by changing consumer preferences, the introduction of new games, marketing efforts, competition from nearby states, and the propensity of the states' citizens to gamble.

Because of their common purpose, to provide revenue to public education, growth in property tax revenue and lottery revenue was explored. As has been stated, a major justification for the institution of state lotteries is the generation of additional state tax revenue. Clearly, a decline in property tax effort in Michigan and New York since the institution of their state lotteries is documented in this research. One of the greatest drawbacks of lotteries is the method used to substitute lottery revenue for more dependable, equitable, and traditional revenue. Citizens may
believe that once the game is subsidizing a popular cause such as public elementary and secondary education, little taxpayer effort is required from traditional revenue sources.

Perhaps the most obvious fiscal conclusion about lotteries is that they contribute small amounts of revenue when compared with total state own source revenues in Michigan and New York. In addition to the rather limited ability of the lotteries to generate high-yield revenue, it was found that lottery revenue represented a relatively small percent of state own source revenue. Further, lottery revenue in Michigan and New York represented a highly volatile and unpredictable source of state revenue. It was concluded in answer to question 1 of this research that neither Michigan nor New York could rely on revenue from their lottery to be a stable, reliable, high-yield source of revenue.

The spending cuts which have brought about increased attention to the need for additional state revenue and have provided further justification for state lotteries have been concentrated in the areas affected most by the decline in federal grants-in-aid, such as education, health, and income security. The earmarking of lottery revenue in these areas has become the rule. Michigan and New York dedicated their lottery revenue to public elementary and secondary education in 1981 and 1976 respectively.
Earmarking lottery revenue has these alleged advantages: it creates groups of supporters for the passage of lottery legislation, it emphasizes the contribution of the lottery to the attainment of "worthy" causes or objectives; and it may also thereby help neutralize objections to government operation of a gambling enterprise. Earmarking has these alleged disadvantages: it conflicts with the prescription usually advocated by those most knowledgeable about public finance that all state revenues should be placed in a single general fund from which all appropriations will be made by a Legislature which considers all public needs and establishes spending priorities; also, there is the possibility that programs receiving earmarked funds will receive less funds through general appropriation than they would have received if they were entirely dependent upon the latter. The question arises as to whether earmarked lottery revenues are an addition to total state revenue or a substitute for other revenue sources. Since lottery receipts represent only a fraction of total state revenues, any increase in funds to the dedicated area are unlikely.

The claims made by lottery proponents that net lottery revenues contribute to the functional area of public elementary and secondary education in Michigan and New York were a second focus of this study. Declines in the annual average growth in the three measured areas since the
dedication of lottery revenue to public elementary and secondary education in Michigan and New York provided evidence contrary to this claim. Michigan and New York were receiving less funds through general appropriation than they would have received if they were entirely dependent on the latter.

Since the intervention of the lottery in Michigan and New York, declines in state direct education expenditures as a percent of total direct general expenditures are noted. The aggregate average percent growth in per pupil expenditures has declined in Michigan and risen by only .45 percent in New York since the earmarking of lottery revenue for public elementary and secondary education. Declines in the aggregate average percent growth of salaries paid to classroom teachers since the intervention of the lottery is further evidence that in Michigan and New York, lottery revenue is viewed as a replacement for general fund allocation.

In Michigan and New York, lottery revenue is viewed as a replacement for other general revenue and reduces the general revenue contribution to the functional category by an amount at least equal to the lottery general revenue. The claims made by lottery proponents that lottery net revenue contributes to the support and expansion of functional areas were not supported by data analysis in Michigan and New York.
In addition, an erosion in public support for education is documented by declines in property tax effort since the earmarking of lottery revenue in Michigan and New York.

The author recognizes that the lottery, given its limited revenue gathering potential, is not a substitute for a broad based tax, but contends that it is a source of nontax revenue and produces funds that otherwise would not be available. The findings that lotteries provide a limited and very elastic revenue source are perhaps the most important outcomes of this study. Given the altered public attitude toward state lotteries and given the increasing pressure on existing revenue sources, it is probably inevitable that state lotteries will become increasingly available. But whatever else it may be, the state lottery is not a fiscal panacea, and it would be unwise to expect it to provide much in the way of budgetary relief to the earmarked functions. Contentions that lottery revenue contributes to the expansion of functional areas must be made with extreme caution.

Results of this research are best summarized by Adam Smith (1937), "The overweening conceit which the greater part of men have of their own abilities is an ancient evil . . . That the chance of gain is materially overvalued, we may learn from the universal success of lotteries."
Summary

On the basis of the evidence reported above, several conclusions can be drawn:

1. Lotteries represented a minor source of total state revenue for Michigan and New York.
2. Lotteries have proven to be an unstable source of revenue in Michigan and New York.
3. Claims about the use of lottery funds to enhance the functional area of public elementary and secondary education cannot be supported by the public school expenditure patterns in Michigan and New York.
BIBLIOGRAPHY


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Colorado State Lottery, Steve Berson, Acting Director, 700 Broadway, Suite 930, Denver, Colorado 80203, (303) 832-6242.

Connecticut State Lottery, J. Blaine Lewis, Jr., Unit Chief, P.O. Box 11424, Russell Road, Newington, Connecticut 06111, (203) 566-2912.

Delaware State Lottery, Albert Pavlic, Executive Director, Blud Hen Mall, Suite 202, Dover, Delaware 19901, (302) 736-5291.

District of Columbia Lottery, Douglass W. Gordon, Executive Director, 2041 Martin Luther King, Jr. Avenue SE, 4th Floor, Washington, DC 20020, (202) 433-8000.


Governmental Finances, Bureau of Census, U.S. Department of Commerce, assorted years.


Iowa State Lottery, Dr. Edward Stanek, Commissioner, 2015 Grand Avenue, Des Moines, Iowa 50312, (515) 281-7900.


Maryland State Lottery, Martin M. Puncke, Director, The Rotunda, Suite 350, 711 West 40th Street, Baltimore, Maryland 21211-2182, (301) 383-6311.
Massachusetts State Lottery Commission, James E. Hosker, Executive Director, 15 Rockdale Street, Braintree, Massachusetts 02814, (617) 848-7755.


Missouri State Lottery Commission, James W. Holmes, Executive Director, 911 Missouri Boulevard, Lower Level, P.O. Box 1603, Jefferson City, Missouri 65105, (314) 751-4050.


New Hampshire Sweepstakes Commission, George C. Jones, Executive Director, Fort Eddy Road, Concord, New Hampshire 03301, (603) 271-2391.

New Jersey Lottery, New Jersey Treasury Department, Dr. Joan Zielinski, Executive Director, CN 041, Trenton, New Jersey 08625, (609) 292-5394.

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Vermont Lottery Commission, James M. Bolton, Director, P.O. Box 420, South Barre, Vermont 05670, (802) 828-2274.

Washington State Lottery, Mary Faulk, Director, P.O. Box 9770, Olympia, Washington 98504, (206) 753-1412.

West Virginia Lottery, Ralph C. Peters, Director, 312 MacCorkle Avenue, P.O. Box 2067, Charleston, West Virginia 25327, (304) 348-0500.


Your number is up. (1984, April 30). The New Republic, 6.
GLOSSARY

Average Teacher Salary. Average state-wide teacher salary (National Education Association).

Direct Expenditure. Payments to employees, suppliers, contractors, beneficiaries, and other final recipients of government payments—i.e., all expenditure other than Intergovernmental Expenditures (Governmental Finances).

General Expenditure. All government expenditure other than the specifically enumerated kinds of expenditure classified as utility expenditure, liquor stores expenditure, and employee-retirement or other insurance trust expenditure (Governmental Finances).

Individual Income Taxes. Taxes on individuals measured by net income and taxes distinctively imposed on special types of income (e.g., interest, dividends, income from intangibles, etc.) (Governmental Finances).

Lottery. A form of gambling in which chances to share in a distribution of prizes are sold (Gambling in America).

Own Source Revenue. Includes taxes (property, sales and gross receipts, income), current charges, interest earnings, special assessment and others—does not include transfers from federal government (Governmental Finance).

Per Pupil Expenditure. Average state-wide per pupil expenditure (National Education Association).

Property Taxes. Taxes conditioned on ownership of property and measured by its value. Includes general property taxes related to property as a whole, real and personal, tangible or intangible, whether taxed at a single rate or at classified rates, and taxes on selected types of property, such as motor vehicles or certain or all intangibles (Governmental Finances).

Revenue. All amounts of money received by government from external sources—net of refunds and other correcting transactions—other than from issuance of debt, liquidation of investments, and as agency and private trust transactions (Governmental Finances).

Sales and Gross Receipts Taxes. Taxes, including: licenses at more than nominal rates, based on volume or value of
transfers of goods or services; upon gross receipts, or upon gross income; and related taxes based upon use, storage production (other than severance of natural resources), importation, or consumption of goods. Dealer discounts or "commissions" allowed to merchants for collection of taxes from consumers are excluded. Comprises: General Sales or Gross Receipts Taxes and Selective Sales and Gross Receipts Taxes. (Governmental Finances).

Taxes. Compulsory contributions exacted by a government for public purposes, except employee and employer assessments for retirement and social insurance purposes, which are classified as insurance trust revenue. All tax revenue is classified as general revenue and comprises amounts received (including interest and penalties but excluding protested amounts and refunds) from all taxes imposed by a government (Governmental Finances).
APPENDIX A

MICHIGAN AND NEW YORK
## MICHIGAN

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Source: Governmental Finances
## NEW YORK

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Source: Governmental Finances
APPENDIX B

MICHIGAN AND NEW YORK NET LOTTERY REVENUE
## MICHIGAN NET LOTTERY REVENUE

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Source: Michigan State Lottery Commission
# New York Net Lottery Revenue

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<tr>
<th>Year</th>
<th>Actual Dollars</th>
<th>Base 1986 CPI</th>
<th>Percent Change Base 1986 CPI</th>
<th>Per Capita Actual Dollars</th>
<th>Per Capita Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1965</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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</tr>
<tr>
<td>1966</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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</tr>
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<td>55.43%</td>
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<td>131,555,853</td>
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<td>7</td>
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<td>6</td>
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<tr>
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<td>88,457,300</td>
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<td>2</td>
<td>5</td>
<td>-46.07%</td>
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<td>1</td>
<td>2</td>
<td>304.81%</td>
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<td>5</td>
<td>10</td>
<td>-2.85%</td>
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<td>9</td>
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<tr>
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<td>8</td>
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<tr>
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<td>6</td>
<td>20.31%</td>
</tr>
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<td>6</td>
<td>7</td>
<td>74.56%</td>
</tr>
<tr>
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<td>179,800,000</td>
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<td>12</td>
<td>53.06%</td>
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<tr>
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<td>16</td>
<td>17</td>
<td>41.90%</td>
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<td>22</td>
<td>23</td>
<td>53.65%</td>
</tr>
<tr>
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<td>34</td>
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<td>1.30%</td>
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<tr>
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<td>607,800,000</td>
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<td>34</td>
<td>34</td>
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Source: New York State Lottery Commission
APPENDIX C

MICHIGAN AND NEW YORK TOTAL OWN SOURCE GENERAL REVENUE
<table>
<thead>
<tr>
<th>Year</th>
<th>Actual Dollars</th>
<th>Base 1986 CPI</th>
<th>Percent Change</th>
<th>Per Capita Actual Dollars</th>
<th>Per Capita Base 1986 CPI</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>NA</td>
<td>NA</td>
<td>25.10%</td>
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<td>1,142</td>
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<td>NA</td>
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<td>NA</td>
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Source: Governmental Finances
### NEW YORK TOTAL OWN SOURCE GENERAL REVENUE

<table>
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<th>Year</th>
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<th>Percent Change</th>
<th>Per Capita Actual Dollars</th>
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<th>Percent Change</th>
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<td>712</td>
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<td>897</td>
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<td>989</td>
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<td>1,068</td>
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<td>516</td>
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Source: Governmental Finances
APPENDIX D

MICHIGAN AND NEW YORK TOTAL TAX REVENUE
## MICHIGAN TOTAL TAX REVENUE

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<tr>
<th>Year</th>
<th>Actual Dollars</th>
<th>Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
<th>Per Capita Actual Dollars</th>
<th>Per Capita Base 1986 CPI</th>
<th>Percent Change Base 1986 CPI</th>
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<td>686</td>
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<td>768</td>
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<td>766</td>
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<td>883</td>
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<td>963</td>
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<td>959</td>
<td>20.60%</td>
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<td>996</td>
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<td>987</td>
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Source: Governmental Finances
## NEW YORK TOTAL TAX REVENUE

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<th>Per Capita Actual Dollars</th>
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<td>996</td>
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<td>964</td>
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<td>956</td>
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<td>879</td>
<td>998</td>
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<td>1,061</td>
<td>1,120</td>
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<td>1,164</td>
<td>1,187</td>
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Source: Governmental Finances
APPENDIX E

MICHIGAN AND NEW YORK GENERAL SALES TAX REVENUE
## MICHIGAN TOTAL STATE SALES TAX

<table>
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<tr>
<th>Year</th>
<th>Actual Dollars</th>
<th>Base 1986 CPI</th>
<th>Percent Change</th>
<th>Per Capita Actual Dollars</th>
<th>Per Capita Base 1986 CPI</th>
<th>Percent Change</th>
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<td>84</td>
<td>265</td>
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<tr>
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<td>271</td>
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</tr>
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<td>93</td>
<td>263</td>
<td>-1.65%</td>
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<td>878,097,000</td>
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<td>98</td>
<td>264</td>
<td>1.68%</td>
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<tr>
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<td>987,737,000</td>
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<td>285</td>
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<td>298</td>
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<td>285</td>
<td>7.96%</td>
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Source: Governmental Finances
## NEW YORK TOTAL STATE GENERAL SALES TAX

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<th>Year</th>
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<th>Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
<th>Per Capita Actual Dollars</th>
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<th>Percent Change Base 1986 CPI</th>
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Source: Governmental Finances
APPENDIX F

MICHIGAN AND NEW YORK INDIVIDUAL INCOME TAX
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<th>Per Capita</th>
<th>Per Capita</th>
<th>Percent Change</th>
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<td>Actual Dollars</td>
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<td>Base 1986 CPI</td>
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Source: Governmental Finances
APPENDIX G

MICHIGAN AND NEW YORK PROPERTY TAX
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<th>Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
<th>Per Capita Actual Dollars</th>
<th>Per Capita Base 1986 CPI</th>
<th>Percent Change Base 1986 CPI</th>
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Source: Governmental Finances
## NEW YORK PROPERTY TAX

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Source: Governmental Finances
APPENDIX H

MICHIGAN AND NEW YORK TOTAL DIRECT GENERAL EXPENDITURES
## MICHIGAN TOTAL DIRECT GENERAL EXPENDITURES

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Source: Governmental Finances
### NEW YORK TOTAL DIRECT GENERAL EXPENDITURES

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<th>Percent Change</th>
<th>Per Capita Actual Dollars</th>
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Source: Governmental Finances
APPENDIX I

MICHIGAN AND NEW YORK DIRECT EXPENDITURES ON EDUCATION
## MICHIGAN TOTAL DIRECT EXPENDITURES ON EDUCATION

<table>
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<tr>
<th>Year</th>
<th>Actual Dollars</th>
<th>Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
<th>Per Capita Actual Dollars</th>
<th>Per Capita Base 1986 CPI</th>
<th>Percent Change Base 1986 CPI</th>
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Source: Governmental Finances
## NEW YORK TOTAL DIRECT EXPENDITURES ON EDUCATION

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<th>Year</th>
<th>Actual Dollars</th>
<th>Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
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Source: Governmental Finances
APPENDIX J

MICHIGAN AND NEW YORK PER PUPIL EXPENDITURES
### MICHIGAN PER PUPIL EXPENDITURES

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<tr>
<th>Year</th>
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<td>1969</td>
<td>757</td>
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<td>1,031</td>
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<td>9.62%</td>
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<td>1.16%</td>
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<td>11.85%</td>
<td>-1.53%</td>
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<tr>
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<td>3.23%</td>
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<td>-1.49%</td>
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<td>1.97%</td>
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<tr>
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<td>7.61%</td>
<td>3.88%</td>
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<tr>
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Source: National Education Association
### NEW YORK PER PUPIL EXPENDITURES

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<th>Percent change</th>
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Source: National Education Association
APPENDIX K

MICHIGAN AND NEW YORK AVERAGE TEACHER SALARY
### MICHIGAN AVERAGE TEACHER SALARY

<table>
<thead>
<tr>
<th>Year</th>
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<th>Percent Change Base 1986 CPI</th>
<th>Percent Change Actual Dollars</th>
<th>Base 1986 CPI</th>
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<td>NA</td>
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<td>617</td>
<td>1,946</td>
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<td>1.83%</td>
</tr>
<tr>
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<td>757</td>
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<td>22.69%</td>
<td>16.45%</td>
</tr>
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<td>11.23%</td>
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</tr>
<tr>
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<td>2,794</td>
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<td>3,402</td>
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<td>3,565</td>
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<td>3,703</td>
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<td>3,782</td>
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</tr>
</tbody>
</table>

Source: National Education Association
NEW YORK AVERAGE TEACHER SALARY

<table>
<thead>
<tr>
<th>Year</th>
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<th>Base 1986 CPI</th>
<th>Percent Change</th>
<th>Percent Change</th>
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Source: National Education Association
The vita has been removed from the scanned document