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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(ABSTRACT)

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.
2. Lottery Ticket Sales and Net Revenue FY 1976-1986.
3. Net Revenue from Lotteries as a Percent of State General Revenue FY 1976-1986.
4. Lottery Revenue Significance in FY 1984.
5. Per Capita Net Revenue from Lotteries FY 1976-1986.
6. Growth of Net Revenue for State Lotteries FY 1976-1986.

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 1. State Lotteries: Authorization, Initial Operation, and Use of Net Revenues

State	Authorization	Initial Operation	Use of Net Revenues
Arizona	Initiative	July 1981	Yearly minimum set by legislature for local transportation assistance. Balance to general fund.
California	Initiative (November 1984)	September 1985	Public Education
Colorado	Referendum	January 1983	Fifty percent for capital construction. Forty percent for conservation trust fund, ten percent for parks and recreation.
Connecticut	Legislation	February 1972	General Fund
Delaware	Legislation	November 1975	General Fund
District of Columbia	Initiative	August 1982	General Fund
Illinois	Legislation	July 1974	General Fund
Iowa	Legislation	August 1985	Economic Betterment, Education Agricultural Projects, and
Maine	Referendum	June 1974	General Fund
Maryland	Initiative, Legislation, and a Referendum	May 1973	General fund effective 10/31/83, lottery profits allocated to 24 political subdivisions, to expire 10/84, legislation pending
Massachusetts	Legislation	March 1972	Distributed to 351 cities and towns for discretionary use. The first $3 million of lotto is allocated for the arts.
Michigan	Legislation	November 1972	Primary and Secondary education (earmarked 1981)
Missouri	Referendum November 1984	Early 1986	General fund
New Hampshire	Legislation	March 1964	Education
New Jersey	Referendum	January 1971	Education and State Institutions. $75,000 per year for compulsive gambling studies
New York	Referendum	September 1976	Elementary and Secondary Education
Ohio	Legislation	August 1974	General Fund, until 1983, Education since 1983
Oregon	Initiative November 1984	April 1985	Economic Development
Pennsylvania	Legislation	March 1972	Senior Citizens

(Table 1 continued)

Table 1. State Lotteries: Authorization, Initial Operation, and Use of Net Revenues (continued)

State	Authorization	Initial Operation	Use of Net Revenues
Rhode Island	Referendum	May 1974	General Fund
Vermont	Referendum	February 1978	General Fund (debt retirement and capital construction)
Washington	Referendum	November 1982	General Fund
West Virginia	Referendum November 1984	November 1985	General Fund

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

(millions of dollars)

	1976		1977		1978		1979	
	Sales	Net Revenue	Sales	Net Revenue	Sales	Net Revenue	Sales	Net Revenue
Arizona								
California								
Colorado								
Connecticut	71.0	31.9	63.0	25.0	110.0	42.0	119.0	43.0
Delaware	6.7	2.0	6.3	1.9	5.4	1.6	12.0	4.2
District of Columbia								
Illinois	163.9	72.8	110.5	45.7	83.5	37.1	68.0	27.9
Iowa								
Maine	8.3	2.6	6.4	1.5	6.8	1.5	6.6	1.4
Maryland	59.7	25.8	164.0	58.6	281.0	111.9	332.1	130.0
Massachusetts	123.2	47.5	152.8	47.1	157.2	46.9	162.3	49.8
Michigan	226.7	106.8	251.2	114.4	326.5	141.3	411.6	177.2
Missouri								
New Hampshire	14.5	5.7	10.0	2.7	14.0	4.0	11.0	3.5
New Jersey	158.4	66.1	194.0	77.9	238.3	92.2	297.9	116.9
New York			196.5	94.8	195.8	92.1	188.1	90.9
Ohio	120.6	48.3	142.5	58.7	100.9	39.9	68.0	21.1
Oregon								
Pennsylvania	137.6	70.8	152.2	71.1	295.9	74.6	354.4	77.1
Rhode Island	17.7	6.7	19.6	8.3	24.0	9.2	29.7	11.9
Vermont					2.0	.7	5.2	1.8
Washington								
West Virginia								
Total:	1,108.3	487.0	1,469.0	607.7	1,841.3	695.0	2,065.9	756.7

Source: Bureau of state lotteries, by individual state.

Table 2. Lottery Ticket Sales and Net Revenue (after prizes and administrative costs) by State (continued)

(millions of dollars)

	1980		1981		1982		1983	
	Sales	Net Revenue	Sales	Net Revenue	Sales	Net Revenue	Sales	Net Revenue
Arizona					114.1	36.6	74.9	31.8
California								
Colorado							203.3	41.7
Connecticut	129.9	54.5	150.1	57.7	169.1	71.0	188.4	80.5
Delaware	16.0	5.6	20.1	7.5	25.6	9.5	30.1	11.0
District of Columbia					15.8	4.2	54.4	12.0
Illinois	97.3	35.8	213.6	88.7	333.4	142.9	493.9	214.9
Iowa								
Maine	6.0	0.9	6.4	1.1	9.7	2.4	13.1	3.7
Maryland	372.0	166.7	385.6	171.4	457.4	199.0	462.8	198.2
Massachusetts	196.9	66.3	224.2	71.5	279.8	87.0	352.1	108.4
Michigan	483.6	214.9	502.4	214.3	525.0	218.1	552.1	222.2
Missouri								
New Hampshire	12.2	3.8	11.0	3.0	12.4	3.6	13.8	3.7
New Jersey	348.6	142.3	417.0	181.4	517.8	214.9	693.1	295.4
New York	184.6	85.6	236.2	103.0	424.9	179.8	645.0	275.2
Ohio	125.0	37.5	296.0	110.1	363.9	144.0	397.8	145.0
Oregon								
Pennsylvania	387.4	160.8	427.0	158.1	562.3	197.9	885.4	212.4
Rhode Island	32.1	13.0	34.8	13.0	38.0	13.7	43.7	14.8
Vermont	2.9	0.8	2.5	0.5	3.8	1.0	4.6	1.1
Washington							200.1	66.8
West Virginia								
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)

(millions of dollars)

	1984		1985		1986	
	Sales	Net Revenue	Sales	Net Revenue	Sales	Net Revenue
Arizona	59.3	18.0	72.9	22.0	121.0	37.0
California					1,760.0	689.0
Colorado	103.2	40.7	110.1	32.0	104.7	29.1
Connecticut	254.4	105.4	344.5	148.8	429.1	190.9
Delaware	33.1	14.0	38.7	15.0	41.1	16.7
District of Columbia	86.3	25.3	112.8	35.5	119.9	40.0
Illinois	886.1	379.8	1,204.2	517.8	1,284.2	540.2
Iowa					100.9	36.5
Maine	16.0	4.5	15.9	4.4	38.8	11.8
Maryland	536.8	216.9	681.0	250.1	718.3	323.4
Massachusetts	692.2	242.0	980.7	320.0	1,140.0	394.7
Michigan	585.2	236.4	885.5	359.4	999.4	415.1
Missouri					57.8	26.0
New Hampshire	17.2	5.7	15.2	4.3	34.3	10.7
New Jersey	848.0	356.1	924.6	464.1	990.1	494.1
New York	890.3	390.5	1,271.2	600.0	1,317.0	607.8
Ohio	603.0	250.0	854.6	338.6	937.0	370.0
Oregon			41.8	14.2	89.4	30.4
Pennsylvania	1,240.0	431.2	1,290.0	582.5	1,320.0	586.2
Rhode Island	52.9	18.4	52.0	18.6	57.5	21.5
Vermont	5.1	1.3	5.2	1.2	12.4	3.3
Washington	164.7	71.8	149.5	62.3	181.2	69.3
West Virginia					82.9	30.0
Total:	7,073.8	2,808.0	9,050.4	3,790.8	11,937.0	4,973.7

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

	Ticket Sales	Net Revenue	As a %
1976	1,108.3	487.0	44%
1986	11,937.0	4,973.7	42%

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

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Arizona							1.3	1.0	0.5	0.5
California										
Colorado								1.3	1.1	0.7
Connecticut	1.6	1.1	1.6	1.5	1.8	1.7	1.8	1.9	2.1	2.6
Delaware	0.3	0.3	0.2	0.5	0.6	0.8	0.9	0.9	1.1	0.9
District of Columbia							0.3	0.7	1.3	1.7
Illinois	0.8	0.6	0.4	0.3	0.3	0.7	1.2	1.8	2.7	3.3
Iowa										
Maine	0.3	0.2	0.2	0.1	0.08	0.08	0.2	0.3	0.3	0.2
Maryland	0.8	1.7	2.8	2.9	3.4	3.3	3.6	3.3	3.3	3.5
Massachusetts	1.0	1.0	0.8	0.8	1.0	1.0	1.0	1.3	2.6	3.1
Michigan	1.6	1.4	1.6	1.8	2.1	1.9	1.9	1.8	1.6	2.4
Missouri										
New Hampshire	1.4	0.6	0.7	0.6	0.6	0.4	0.5	0.4	0.6	0.4
New Jersey	1.6	1.5	1.6	1.8	2.0	2.2	2.3	2.9	3.0	3.5
New York		0.5	0.5	0.4	0.4	0.4	0.7	1.0	1.1	1.6
Ohio	0.9	1.0	0.6	0.3	0.5	1.2	1.4	1.3	1.9	2.3
Oregon										0.4
Pennsylvania	0.9	0.8	0.8	0.7	1.4	1.3	1.5	1.5	2.8	3.5
Rhode Island	0.9	1.0	1.0	1.1	1.1	1.0	1.0	0.9	1.1	1.0
Vermont			0.1	0.3	0.1	0.07	0.1	0.1	0.1	0.1
Washington								1.0	1.1	0.8
West Virginia										
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

State	Rank of Lottery Among State Tax Sources[a]	State Tax Immediately Ahead of Lottery	Net Lottery Proceeds As Percent of State Charge and Miscellaneous Revenue[b]
Arizona	Eleven	Alcoholic Beverage	3.6
Colorado	Eight	Insurance Excise	4.9
Connecticut	Seven	Death	10.9
Delaware	Ten	Insurance Excise	3.4
Illinois	Seven	Motor Vehicle License	19.2
Maine	Fifteen	Motor Vehicle Operators License	1.8
Maryland	Four	Motor Fuel	18.0
Massachusetts	Eight	Death	8.9
Michigan	Six	Motor Vehicle License	10.7
New Hampshire	Fourteen	Public Utility Excise	1.9
New Jersey	Five	Corporate Income	15.2
New York	Eight	Motor Fuel	10.3
Ohio	Seven	Motor Vehicle License	10.3
Pennsylvania	Five	Motor Fuel	25.4
Rhode Island	Eight	Motor Vehicle License	3.9
Vermont	Fifteen	Death and Gift	0.6
Washington	Nine	Tobacco Excise	7.3

[a] 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.

[b] In keeping with the Census definitions charge and miscellaneous revenue *excludes* revenue from utilities and state liquor stores.

Source: U.S. Bureau of Census, State Government Finances in 1984 (GR84 No. 3) Washington: U.S. Government Printing Office, 1985.

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

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	AVERAGE
Arizona							15.86	10.73	7.66	6.90	11.15	10.46
California											25.54	25.54
Colorado								13.28	12.81	9.90	8.91	11.23
Connecticut	10.23	8.04	13.55	13.80	17.55	18.48	22.71	25.65	33.43	46.88	59.85	24.56
Delaware	3.44	3.26	2.74	7.22	9.41	12.58	15.83	18.15	22.84	24.12	26.38	13.27
District of Columbia							6.77	19.27	40.57	56.66	63.96	37.45
Illinois	6.49	4.06	3.30	2.48	3.13	7.73	12.47	18.71	33.00	44.89	46.76	16.64
Iowa											12.80	12.80
Maine	2.44	1.37	1.41	1.26	0.80	0.96	2.10	3.22	3.91	3.80	10.09	2.85
Maryland	6.23	14.16	27.01	31.34	39.54	40.27	46.58	46.05	49.87	56.94	72.46	39.13
Massachusetts	8.18	8.14	8.13	8.63	11.56	12.42	15.15	18.80	41.74	54.95	67.67	23.22
Michigan	11.73	12.53	15.37	19.25	23.21	23.27	23.93	24.50	26.05	39.55	45.39	24.07
Missouri											5.13	5.13
New Hampshire	6.98	3.18	4.61	3.97	4.11	3.22	3.81	3.85	5.79	4.32	10.46	4.94
New Jersey	9.01	10.63	12.58	15.95	19.33	24.50	28.93	39.55	47.38	61.37	64.84	30.37
New York		5.29	5.19	5.15	4.88	5.87	10.23	15.58	22.02	33.74	34.20	14.22
Ohio	4.51	5.49	3.71	1.97	3.47	10.20	13.37	13.49	23.25	31.52	34.41	13.22
Oregon										5.29	11.26	8.28
Pennsylvania	5.97	6.03	6.35	6.57	13.55	13.31	16.66	17.86	36.23	49.15	49.31	20.09
Rhode Island	7.19	8.91	9.81	12.84	13.72	13.69	14.37	15.49	19.09	19.19	22.05	14.21
Vermont			1.50	3.75	1.61	0.92	1.86	2.13	2.42	2.31	6.18	2.52
Washington								15.53	16.51	14.13	15.52	15.42
West Virginia											15.63	15.63
Average	6.87	7.01	8.23	9.58	11.85	13.39	15.66	17.88	24.70	29.77	31.30	16.75

Sources: Population: 1976-1983 and 1985 State Government Finance
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)

	1976-1977	1977-1978	1978-1979	1979-1980	1980-1981	1981-1982	1982-1983
Arizona							-13.1
California							
Colorado							
Connecticut	-21.6	+ 68.0	+ 2.4	+ 26.8	+ 5.8	+ 23.1	+ 13.4
Delaware	-5.0	-15.8	+ 162.5	+ 33.3	+ 33.9	+ 26.7	+ 15.8
District of Columbia							+ 183.1
Illinois	-37.3	-18.7	-24.9	+ 28.3	+ 147.9	+ 61.2	+ 50.3
Iowa							
Maine	-42.8	+ 3.5	-10.6	-35.0	+ 22.0	+ 118.2	+ 55.0
Maryland	+ 127.1	+ 91.0	+ 16.2	+ 28.2	+ 2.8	+ 16.1	-0.4
Massachusetts	-1.0	-0.2	+ 6.0	+ 33.3	+ 7.8	+ 21.7	+ 24.6
Michigan	+ 7.1	+ 23.5	+ 25.4	+ 21.3	-0.3	+ 1.8	+ 1.9
Missouri							
New Hampshire	-52.9	+ 48.6	-12.3	+ 7.5	-20.3	+ 19.7	+ 2.2
New Jersey	+ 17.9	+ 18.3	+ 26.8	+ 21.8	+ 27.5	+ 18.5	+ 37.4
New York		-2.8	-1.3	-5.8	+ 20.3	+ 74.6	+ 53.1
Ohio	+ 21.7	-32.0	-47.1	+ 77.8	+ 193.6	+ 30.8	+ 0.7
Oregon							
Pennsylvania	+ 0.4	+ 4.9	+ 3.4	+ 108.6	-1.7	+ 25.2	+ 7.3
Rhode Island	+ 25.0	+ 10.2	+ 30.0	+ 8.9	+ 0.4	+ 5.0	+ 8.0
Vermont			+ 153.6	-55.4	-42.2	+ 103.4	+ 15.3
Washington							
West Virginia							
Average	+ 3.2	+ 15.3	+ 23.6	+ 21.4	+ 28.4	+ 39.0	+ 30.3

Source: Bureau of state lotteries, by individual state.

Table 7. Growth of Net Revenue for State Lotteries, by state (percent of change) (continued)

	1983-1984	1984-1985	1985-1986	AVERAGE
Arizona	-43.4	+ 22.2	+ 68.2	+ 8.5
California				
Colorado	-2.4	-21.4	-9.1	-11.0
Connecticut	+ 31.0	+ 41.1	+ 28.3	+ 21.8
Delaware	+ 27.3	+ 7.1	+ 11.3	+ 29.7
District of Columbia	+ 110.6	+ 40.3	+ 12.9	+ 86.7
Illinois	+ 76.8	+ 36.3	+ 4.3	+ 32.4
Iowa				
Maine	+ 22.2	-2.0	+ 167.9	+ 29.8
Maryland	+ 9.4	+ 15.3	+ 29.0	+ 33.5
Massachusetts	+ 123.2	+ 32.2	+ 23.2	+ 27.1
Michigan	+ 6.4	+ 52.1	+ 15.4	+ 15.5
Missouri				
New Hampshire	+ 53.4	-23.8	+ 149.4	+ 17.2
New Jersey	+ 20.6	+ 30.3	+ 6.5	+ 22.6
New York	+ 41.9	+ 53.6	+ 1.3	+ 26.1
Ohio	+ 72.4	+ 35.5	+ 9.3	+ 36.3
Oregon			+ 113.7	+ 113.7
Pennsylvania	+ 103.0	+ 35.1	+ 0.6	+ 28.7
Rhode Island	+ 24.2	+ 1.2	+ 15.7	+ 12.9
Vermont	+ 15.1	-3.9	+ 170.6	+ 44.6
Washington	+ 7.5	-13.2	+ 11.2	+ 1.8
West Virginia				
Average:	+ 38.8	+ 18.8	+ 43.7	+ 30.4

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:

A. State direct education expenditures as a percent of state direct general expenditures: Michigan, FY 1967-1985, and New York, FY 1963-1985;

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

C. Average salaries paid classroom teachers: Michigan, FY 1967-1986, and New York, FY 1962-1986.

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

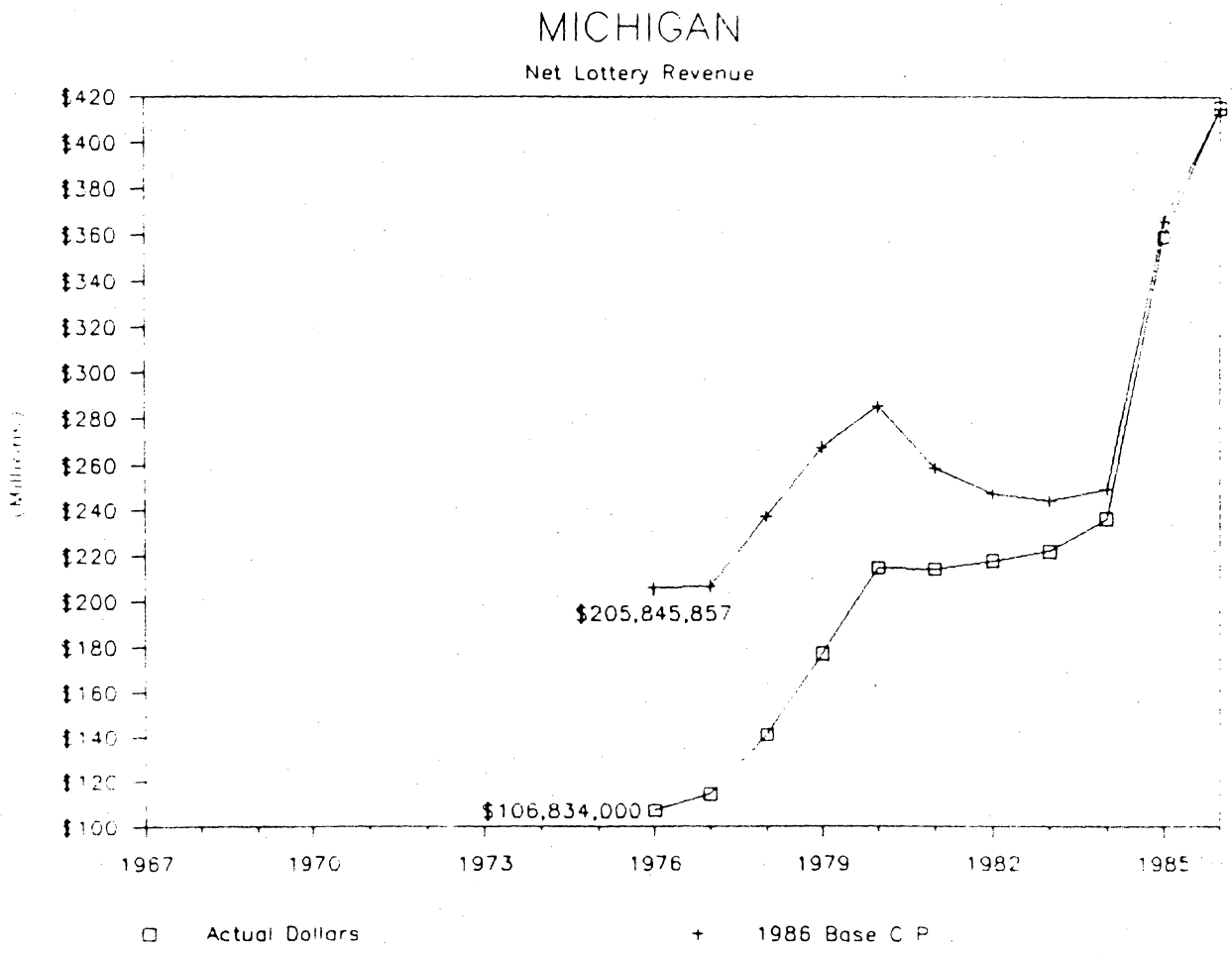
MICHIGAN
Net Lottery Revenue
$420
$400
$380
$360
$340
$320
$300
$280
$260
$240
$220
$200
$180
$160
$140
$120
$100
1967
1970
1973
1976
1979
1982
1985
$205,845,857
$106,834,000
Actual Dollars
1986 Base C P

Figure 1

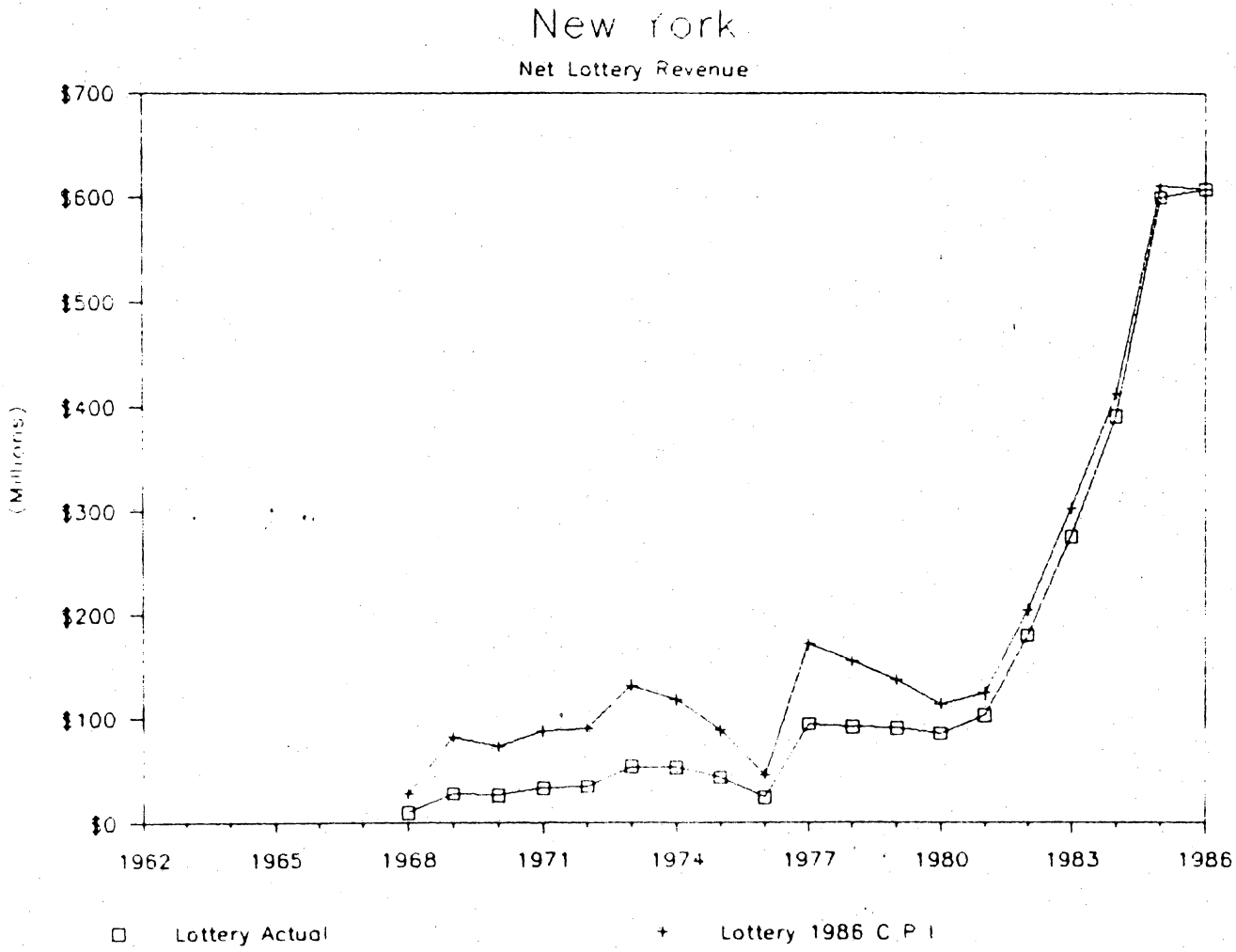
New York
Net Lottery Revenue
(Millions)
$700
$600
$500
$400
$300
$200
$100
$0
1962
1965
1968
1971
1974
1977
1980
1983
1986
Lottery Actual
Lottery 1986 C P I

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, net 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 8. Lottery Revenue As a Percent of State Own Source Revenue

Year	MICHIGAN Own Source Revenue	MICHIGAN Lottery Revenue	MICHIGAN Percent	NEW YORK Own Source Revenue	NEW YORK Lottery Revenue	NEW YORK Percent
1968				5,177,700,000	8,880	.17
1969				6,057,400,000	27,504,480	.45
1970				6,903,700,000	25,986,382	.38
1971				7,111,500,000	32,505,602	.46
1972				8,000,400,000	34,304,047	.43
1973				9,424,500,000	53,319,379	.57
1974				10,100,900,000	52,798,619	.52
1975				10,695,900,000	43,420,575	.41
1976	4,607,000,000	106,834,000	2.32	11,598,700,000	23,418,430	.20
1977	5,763,500,000	114,375,000	1.98	12,927,700,000	94,800,000	.73
1978	6,556,600,000	141,258,000	2.15	12,682,500,000	92,100,000	.73
1979	7,302,000,000	177,208,000	2.42	13,348,100,000	10,100,000	.68
1980	7,460,400,000	214,901,000	2.88	14,677,600,000	85,600,000	.58
1981	7,908,200,000	214,312,000	2.71	16,027,300,000	103,000,000	.64
1982	8,213,100,000	281,116,000	2.66	18,121,800,000	179,800,000	.99
1983	9,020,700,000	222,161,072	2.46	19,295,800,000	275,200,000	1.43
1984	10,715,100,000	236,369,623	2.21	22,499,100,000	390,500,000	1.74
1985	11,144,064,000	359,411,967	3.23	25,350,697,000	600,000,000	2.37
		Average:	2.50		Average	.75

Source: Lottery Revenue: Bureau of State Lotteries, individual states.
Own Source Revenue: State Government Finance, assorted years.

capita in Michigan. The Michigan lottery revenue rose to $31 per capita in 1980 but decreased to $27 in 1982 and 1983. In New York, the lottery generated $2 per capita revenue in 1968 and $34 per capita in 1985 and 1986. In the intervening years, the New York Lottery revenue rose and fell from $7 in 1973 to $6 in 1974, from $8 in 1979 to $6 in 1980 (Appendix B).

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 9. Net Lottery Revenue

Year	MICHIGAN Actual $	% Change	Adjusted $	% Change	NEW YORK Actual $	% Change	Adjusted $	% Change
1968					8,880,720		27,988,757	
1969					27,504,480	209.71	82,262,944	193.91
1970					25,986,382	-5.52	73,378,571	-10.80
1971					32,505,602	25.09	88,003,625	19.93
1972					34,304,047	5.53	89,907,814	2.16
1973					53,319,379	55.43	131,555,853	46.32
1974					52,798,619	-0.98	117,393,815	-10.77
1975					43,420,575	-17.76	88,457,300	-24.65
1976	106,834,000		205,845,857		23,418,430	-46.07	45,106,231	-49.01
1977	114,375,000	7.06	206,826,401	0.48	94,800,000	304.81	171,527,934	280.28
1978	141,258,000	23.50	237,408,403	14.79	92,100,000	-2.85	154,788,332	-9.76
1979	177,208,000	25.45	267,685,801	12.75	90,900,000	-1.30	137,311,684	-11.29
1980	214,901,000	21.27	285,772,606	6.76	85,600,000	-5.83	113,902,107	-17.05
1981	214,312,000	-0.27	258,518,697	-9.54	103,000,000	20.33	124,174,743	9.02
1982	218,116,000	1.77	247,859,091	-4.12	179,800,000	74.56	201,241,854	64.48
1983	222,161,072	1.85	244,401,619	-1.39	275,200,000	53.06	302,867,560	48.29
1984	236,369,623	6.40	249,598,335	2.13	390,500,000	41.90	412,215,365	36.10
1985	359,411,967	52.06	366,373,055	46.79	600,000,000	53.65	611,545,624	48.36
1986	415,052,004	15.48	415,052,004	13.29	607,800,000	1.30	607,800,000	-0.61

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

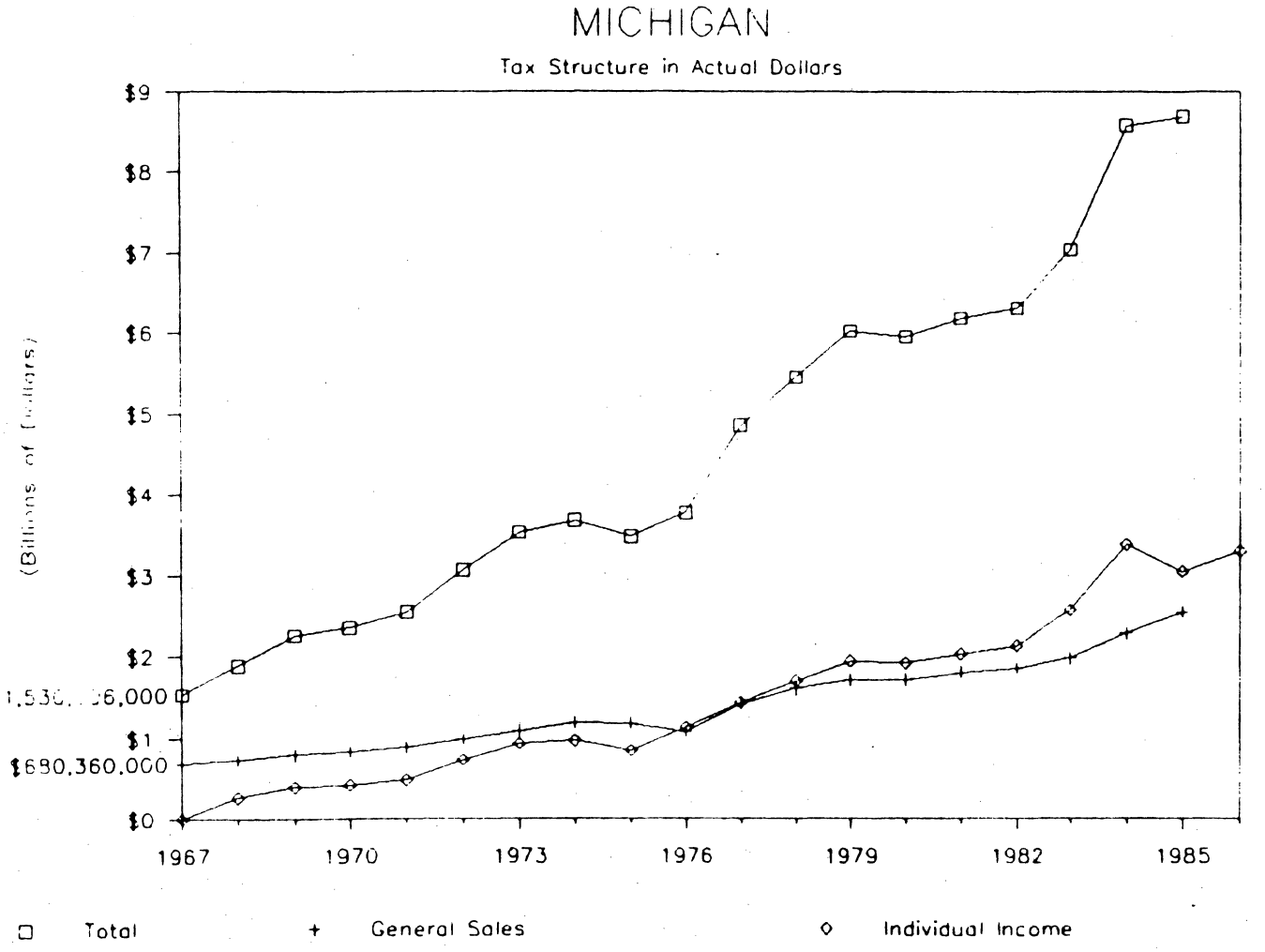
MICHIGAN
Tax Structure in Actual Dollars
(Billions of Dollars)
$9
$8
$7
$6
$5
$4
$3
$2
$1
$0
1,530,[illegible]6,000
$690,360,000
1967
1970
1973
1976
1979
1982
1985
Total
General Sales
Individual Income

Figure 3

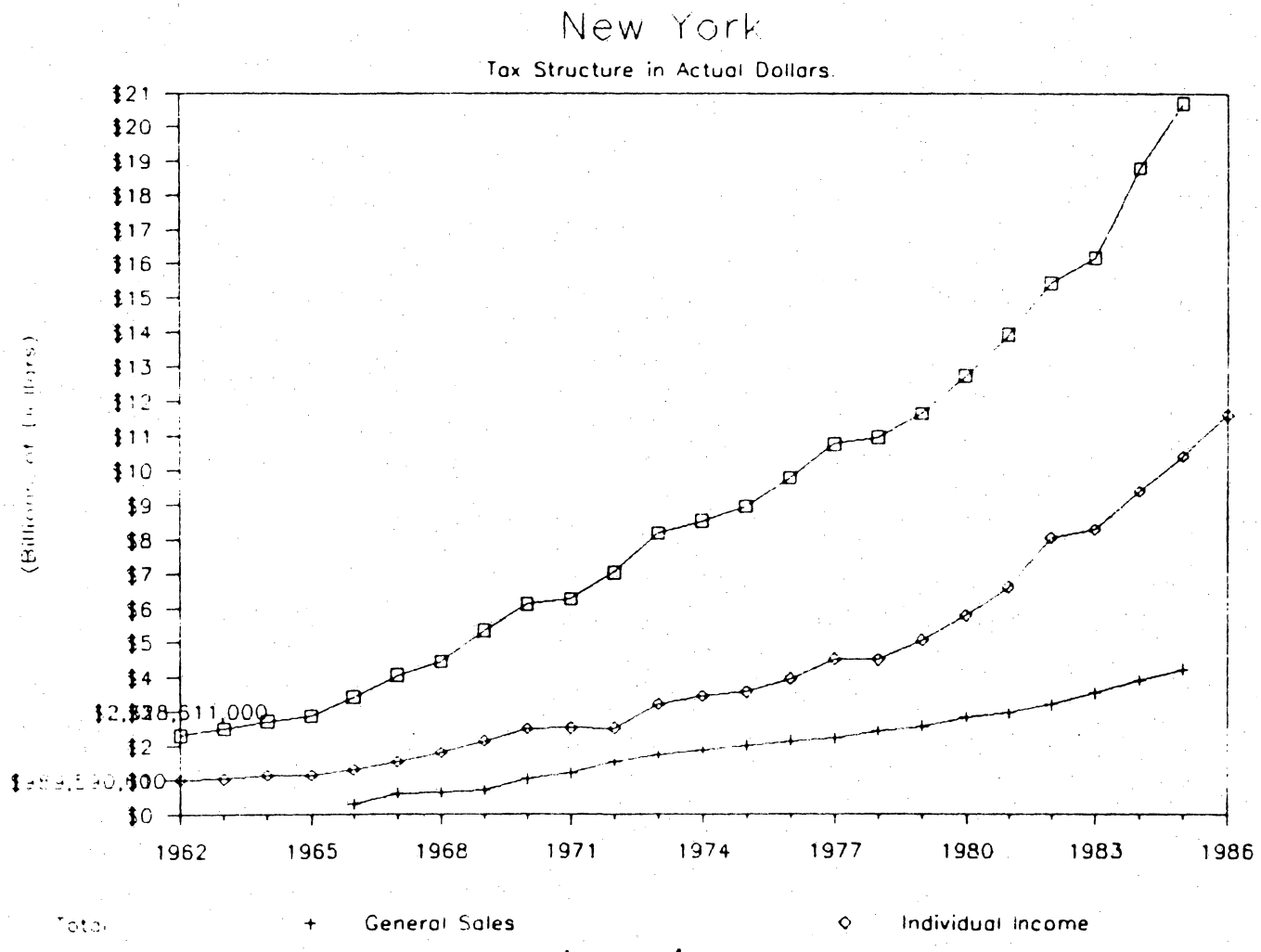
New York
Tax Structure in Actual Dollars.
$21
$20
$19
$18
$17
$16
$15
$14
$13
$12
$11
$10
$9
$8
$7
$6
$5
$4
$2
$0
1962
1965
1968
1971
1974
1977
1980
1983
1986
+ General Sales
◇ Individual Income

Figure 4

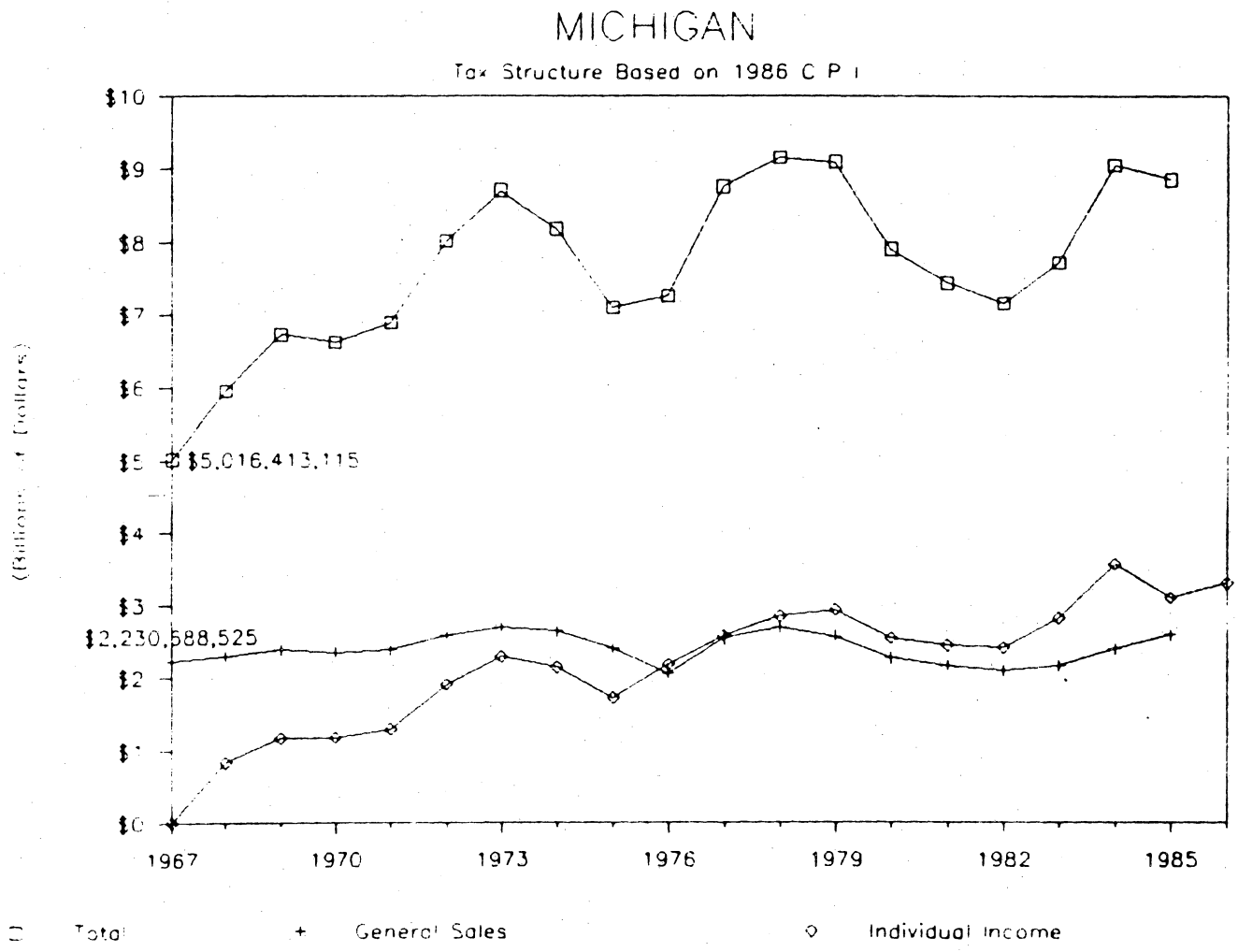
MICHIGAN
Tax Structure Based on 1986 C P I
$10
$9
$8
$7
$6
$5
$4
$3
$2
$1
$0
$5,016,413,115
$2,230,588,525
1967
1970
1973
1976
1979
1982
1985
Total
General Sales
Individual Income

Figure 5

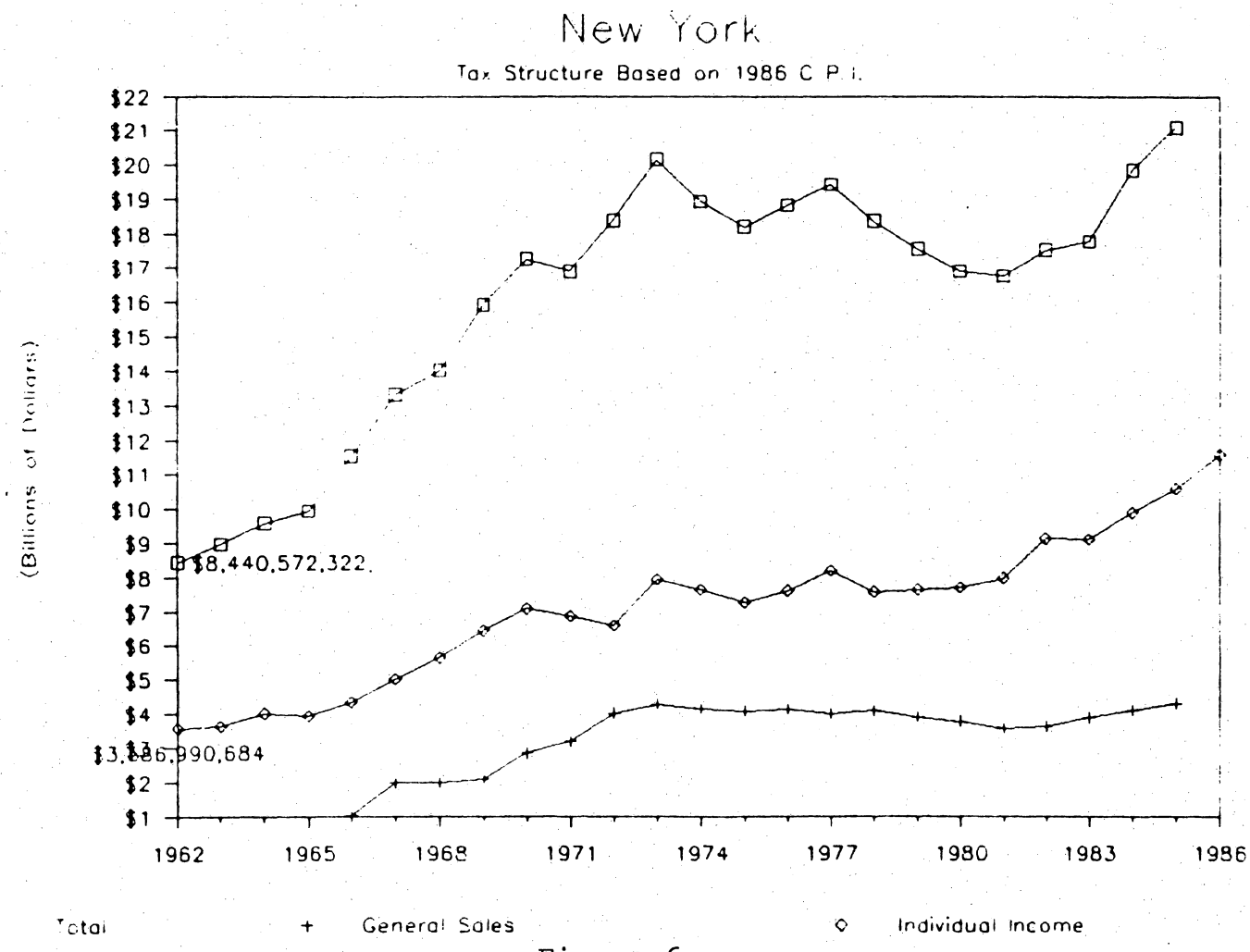
New York
Tax Structure Based on 1986 C P I.
(Billions of Dollars)
$22
$21
$20
$19
$18
$17
$16
$15
$14
$13
$12
$11
$10
$9
$8
$7
$6
$5
$4
$3
$2
$1
$8,440,572,322.
$3,886,990,684
1962
1965
1968
1971
1974
1977
1980
1983
1986
Total
+ General Sales
◇ Individual Income

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

	Before	After
Michigan	4.13	3.50
New York	13.57	-100.0

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

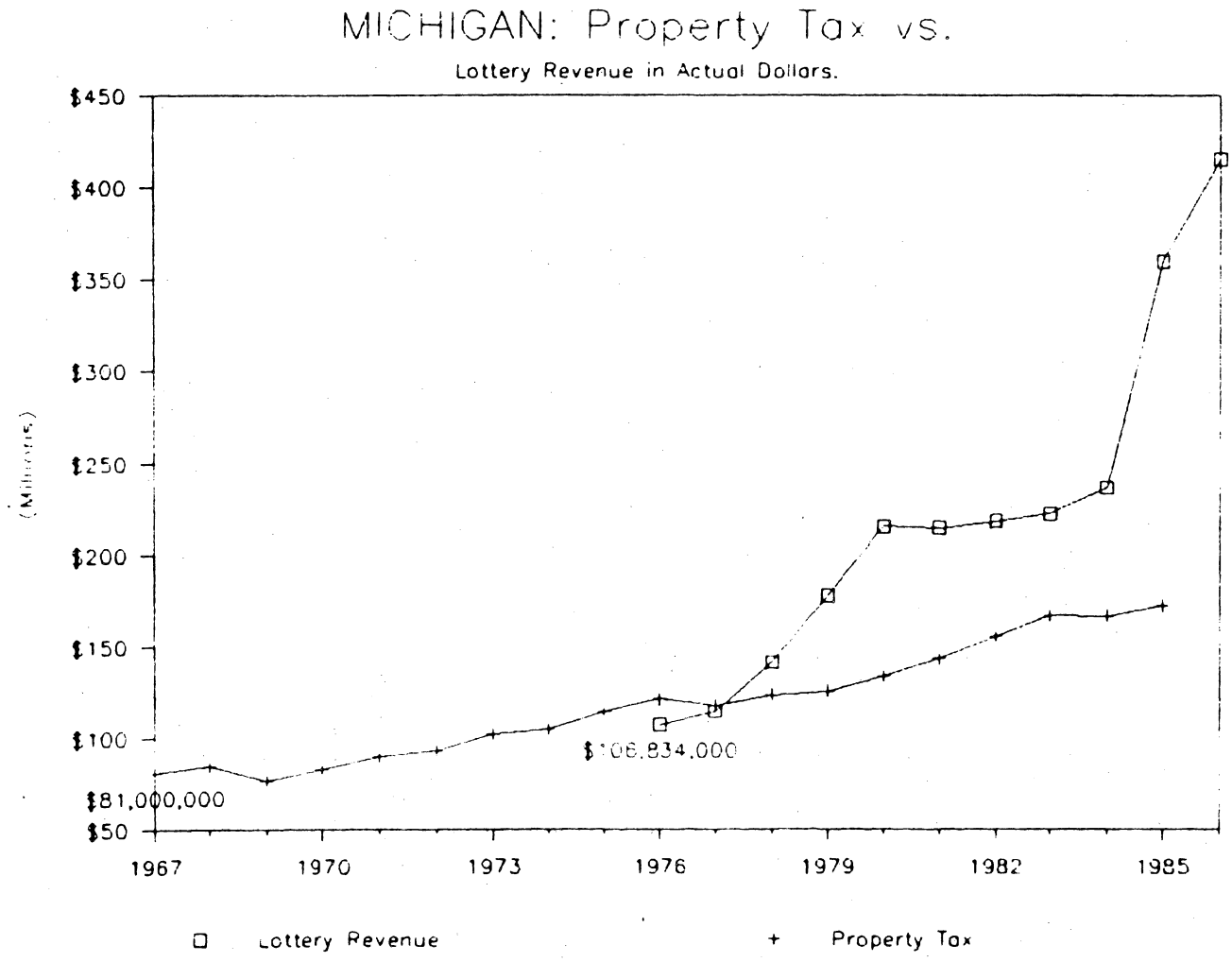
MICHIGAN: Property Tax vs.
Lottery Revenue in Actual Dollars.
$450
$400
$350
$300
$250
$200
$150
$100
$50
$81,000,000
$106,834,000
1967
1970
1973
1976
1979
1982
1985
Lottery Revenue
Property Tax

Figure 7

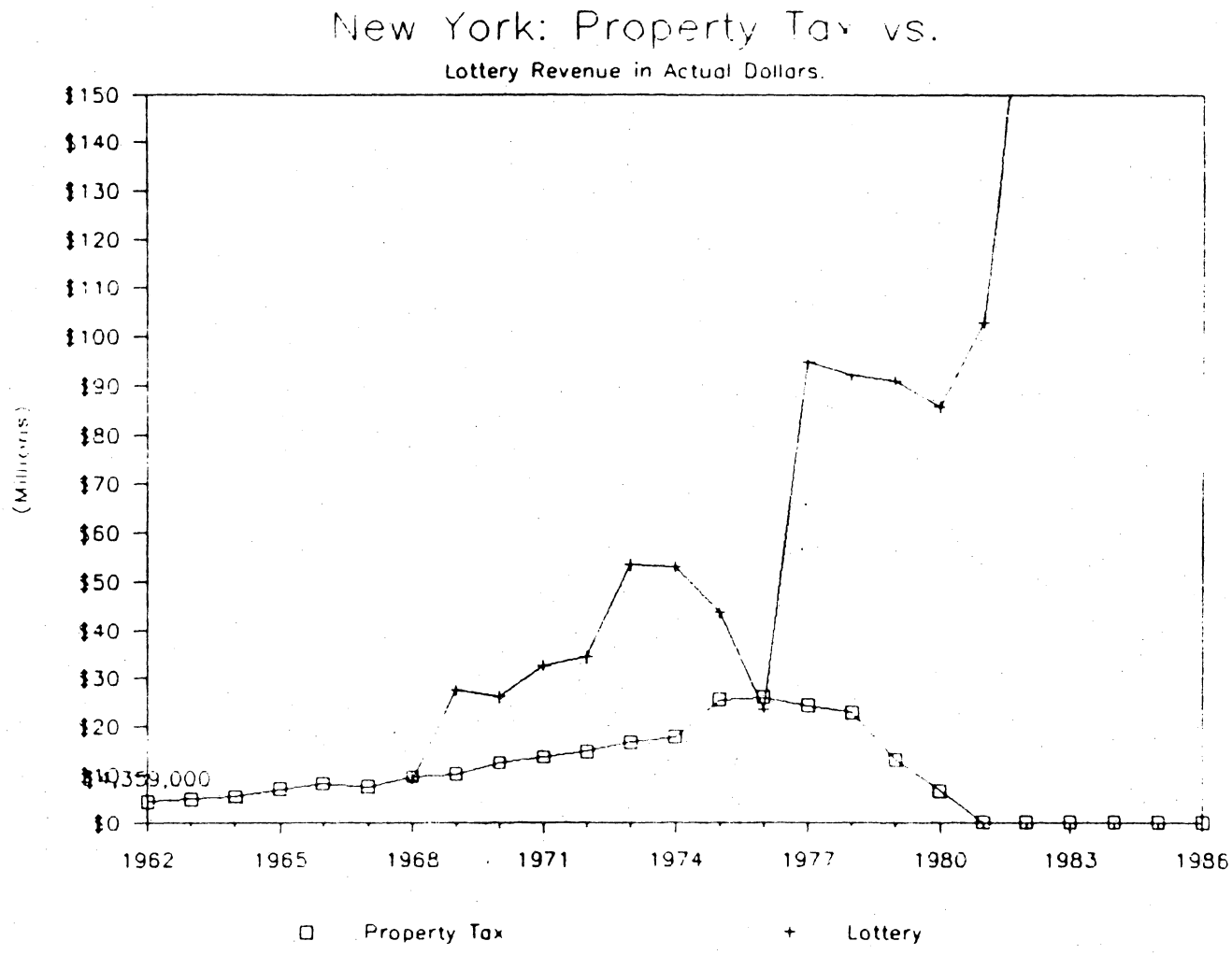
New York: Property Tax vs.
Lottery Revenue in Actual Dollars.
(Millions)
$150
$140
$130
$120
$110
$100
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
1962
1965
1968
1971
1974
1977
1980
1983
1986
Property Tax
Lottery

Figure 8

(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

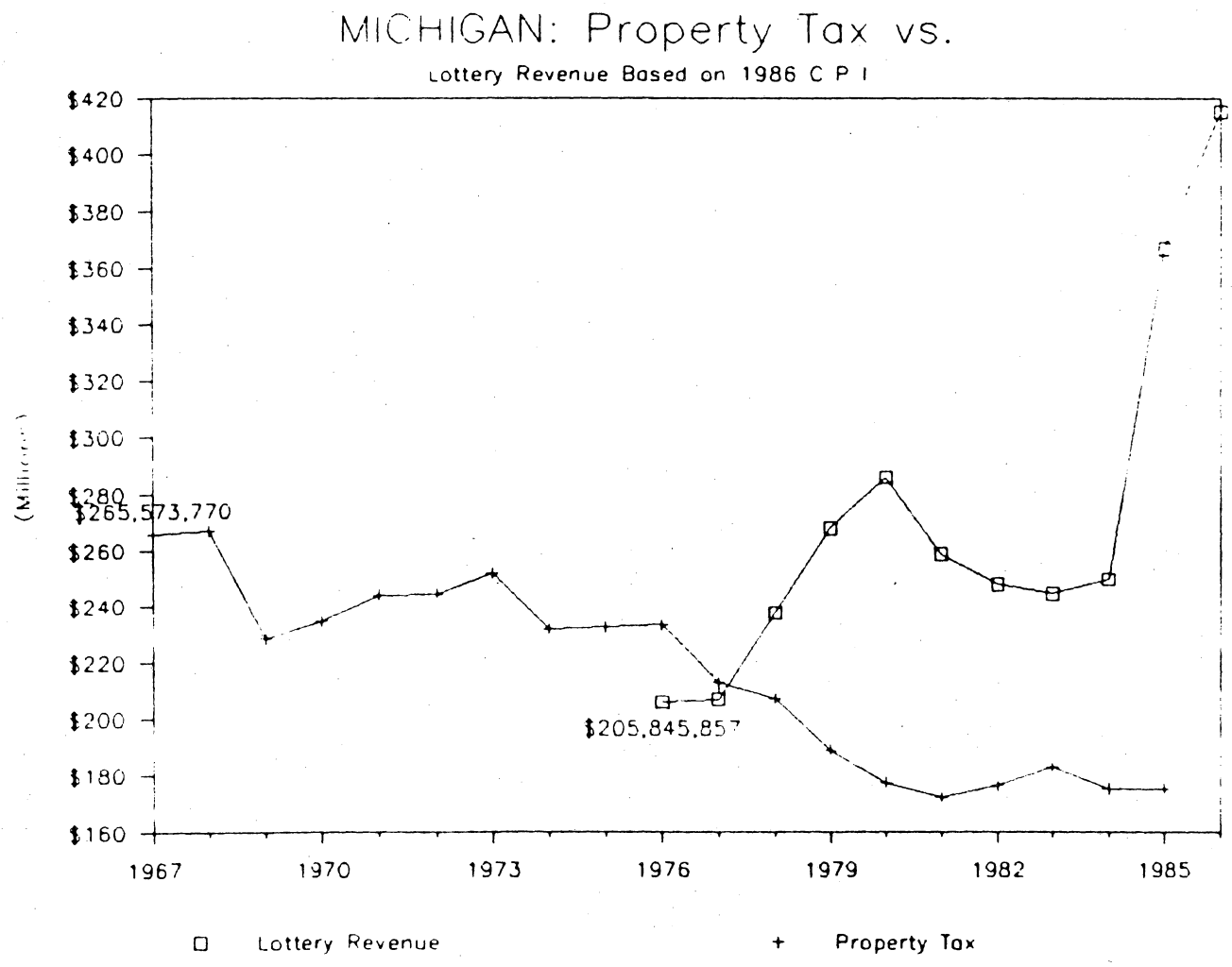
MICHIGAN: Property Tax vs.
Lottery Revenue Based on 1986 C P I
$420
$400
$380
$360
$340
$320
$300
$280
$260
$240
$220
$200
$180
$160
$265,573,770
$205,845,857
1967
1970
1973
1976
1979
1982
1985
Lottery Revenue
Property Tax

Figure 9

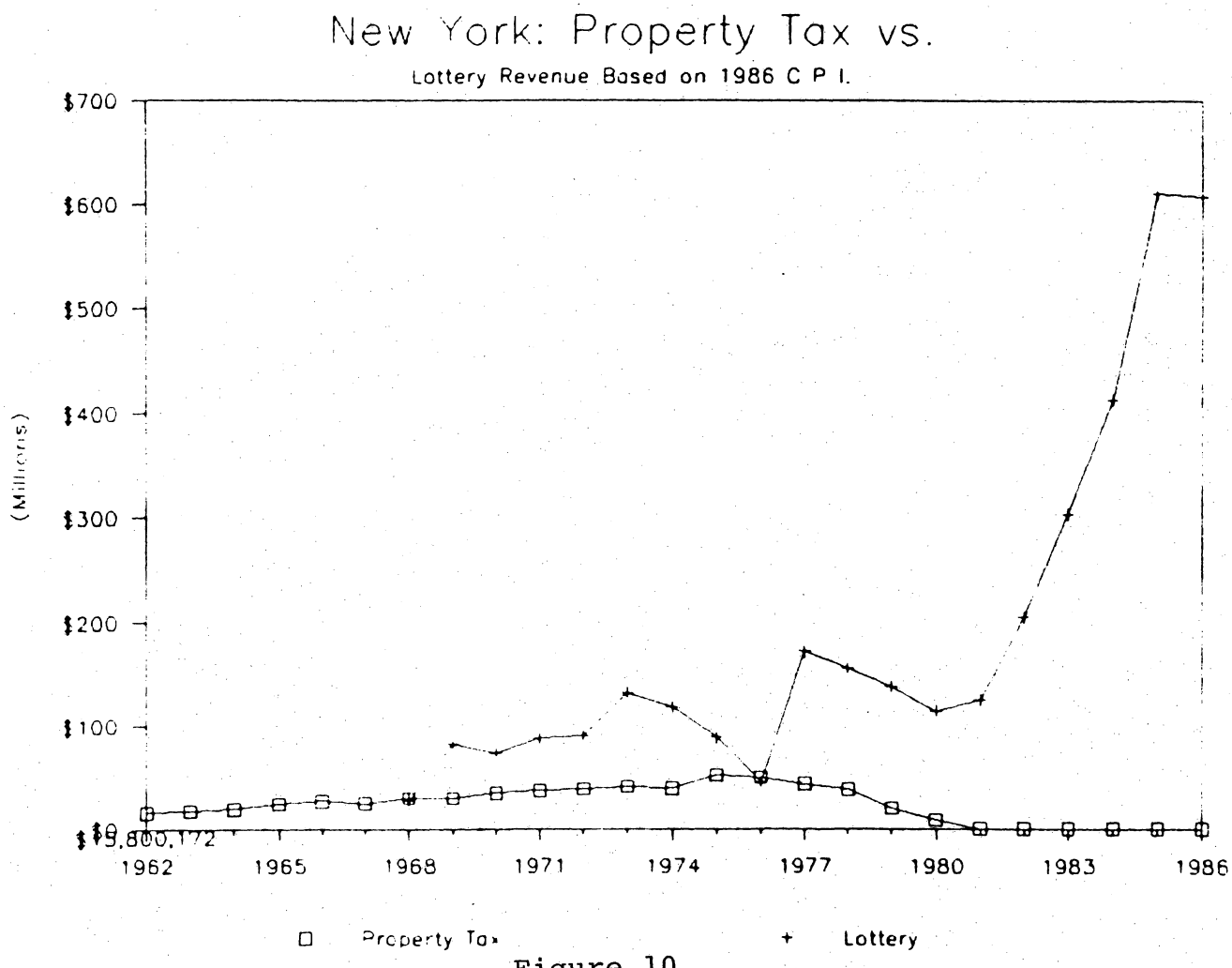
New York: Property Tax vs.
Lottery Revenue Based on 1986 C P I.
(Millions)
$700
$600
$500
$400
$300
$200
$100
$0
$9,800,172
1962
1965
1968
1971
1974
1977
1980
1983
1986
Property Tax
Lottery

Figure 10

Table 11. Michigan Total Direct Expenditures on Education as a Percent of Total Direct General Expenditures

Year	Total Direct General Expenditures	Expenditures on Education	Percent
1967	1,552,700,000	612,400,000	39.44
1968	1,742,100,000	670,600,000	38.49
1969	1,928,600,000	739,800,000	38.36
1970	2,146,300,000	801,900,000	37.36
1971	2,481,400,000	829,700,000	33.44
1972	2,912,900,000	867,400,000	29.78
1973	3,279,800,000	965,400,000	29.43
1974	3,629,500,000	1,080,700,000	29.78
1975	4,268,900,000	1,183,300,000	27.71
1976	4,512,900,000	1,235,900,000	27.39
1977	4,800,900,000	1,296,400,000	27.00
1978	5,291,300,000	1,479,200,000	27.96
1979	5,938,400,000	1,567,200,000	26.39
1980	6,934,400,000	1,734,200,000	25.01
1981	7,178,200,000	1,852,200,000	25.80
		Average:	30.89
1982	7,681,700,000	1,986,300,000	25.86
1983	8,311,800,000	1,895,800,000	22.81
1984	9,358,100,000	1,978,500,000	21.14
1985	9,633,700,000	2,067,800,000	21.46
		Average	24.09

Source: State Government Finance, assorted years.

Table 12. New York Total Direct Expenditures on Education as a Percent of Total Direct General Expenditures

Year	Total Direct General Expenditures	Expenditures on Education	Percent
1963	1,787,200,000	283,500,000	15.86
1964	1,922,100,000	388,800,000	20.23
1965	1,930,600,000	418,500,000	21.68
1966	2,215,200,000	526,500,000	23.77
1967	2,772,400,000	697,700,000	25.17
1968	3,147,200,000	780,600,000	24.80
1969	3,474,500,000	785,600,000	22.61
1970	3,890,000,000	940,600,000	24.18
1971	4,599,900,000	1,238,100,000	26.92
1972	5,255,900,000	1,402,500,000	26.68
1973	5,424,600,000	1,354,400,000	24.97
1974	6,201,300,000	1,419,200,000	22.89
1975	7,122,200,000	1,621,700,000	22.77
1976	7,742,100,000	1,691,900,000	21.85
		Average	23.17
1977	8,175,200,000	1,653,700,000	20.23
1978	7,770,300,000	1,828,300,000	23.53
1979	9,137,800,000	1,986,300,000	21.74
1980	11,091,700,000	2,169,300,000	19.56
1981	12,221,500,000	2,329,100,000	19.06
1982	13,682,800,000	2,516,400,000	18.39
1983	15,794,300,000	3,046,000,000	19.29
1984	17,694,800,000	3,085,600,000	17.44
1985	19,961,600,000	3,358,100,000	16.82
		Average	19.78

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 Lottery Dedication

	Before	After
Michigan	11.99	9.18
New York	9.82	10.27
	Actual Dollars	

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

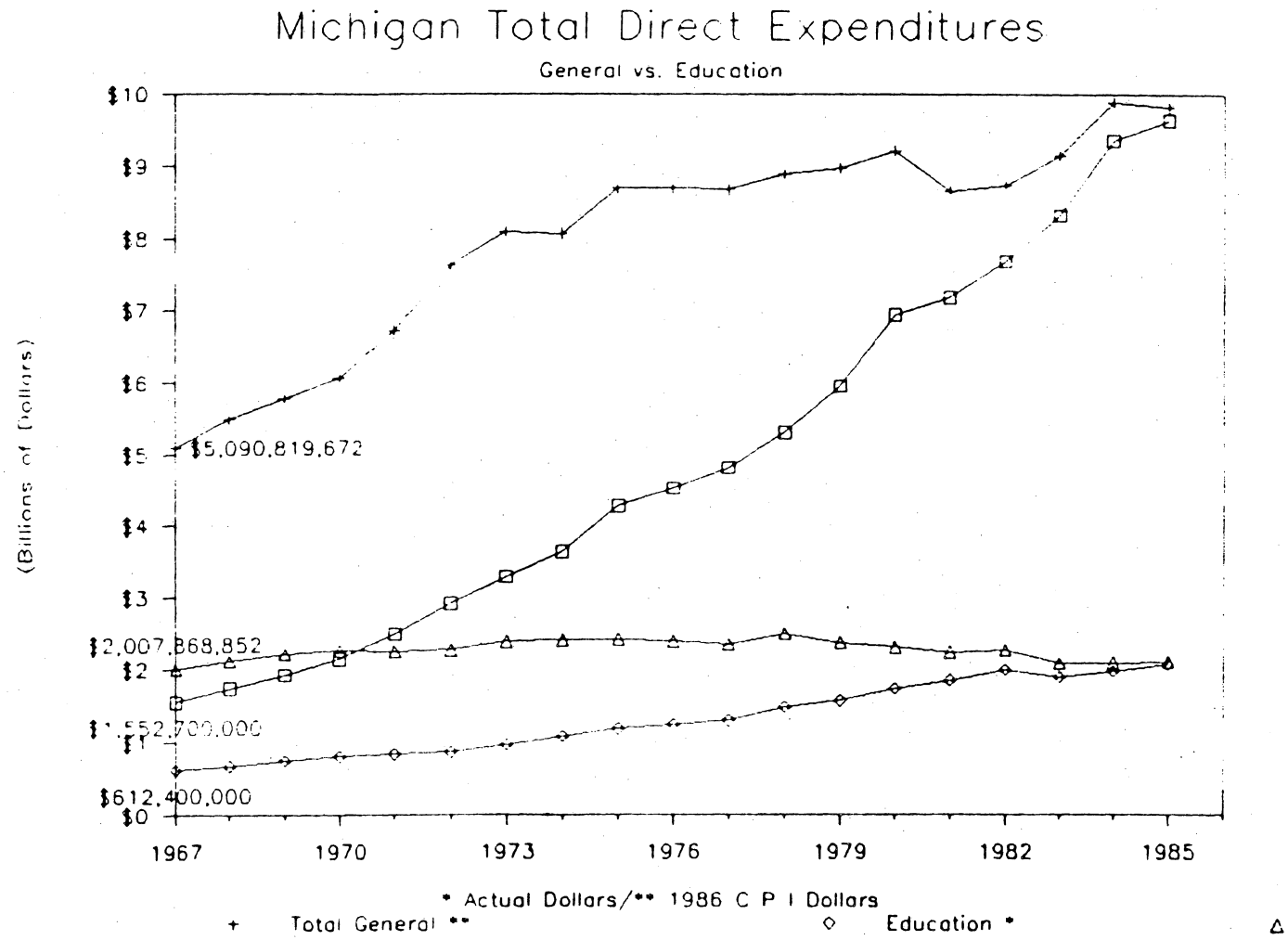
Michigan Total Direct Expenditures
General vs. Education
(Billions of Dollars)
$10
$9
$8
$7
$6
$5
$4
$3
$2
$1
$0
$5,090,819,672
$2,007,868,852
$612,400,000
1967
1970
1973
1976
1979
1982
1985
* Actual Dollars/** 1986 C P I Dollars
+ Total General **
◇ Education *
△

Figure 11

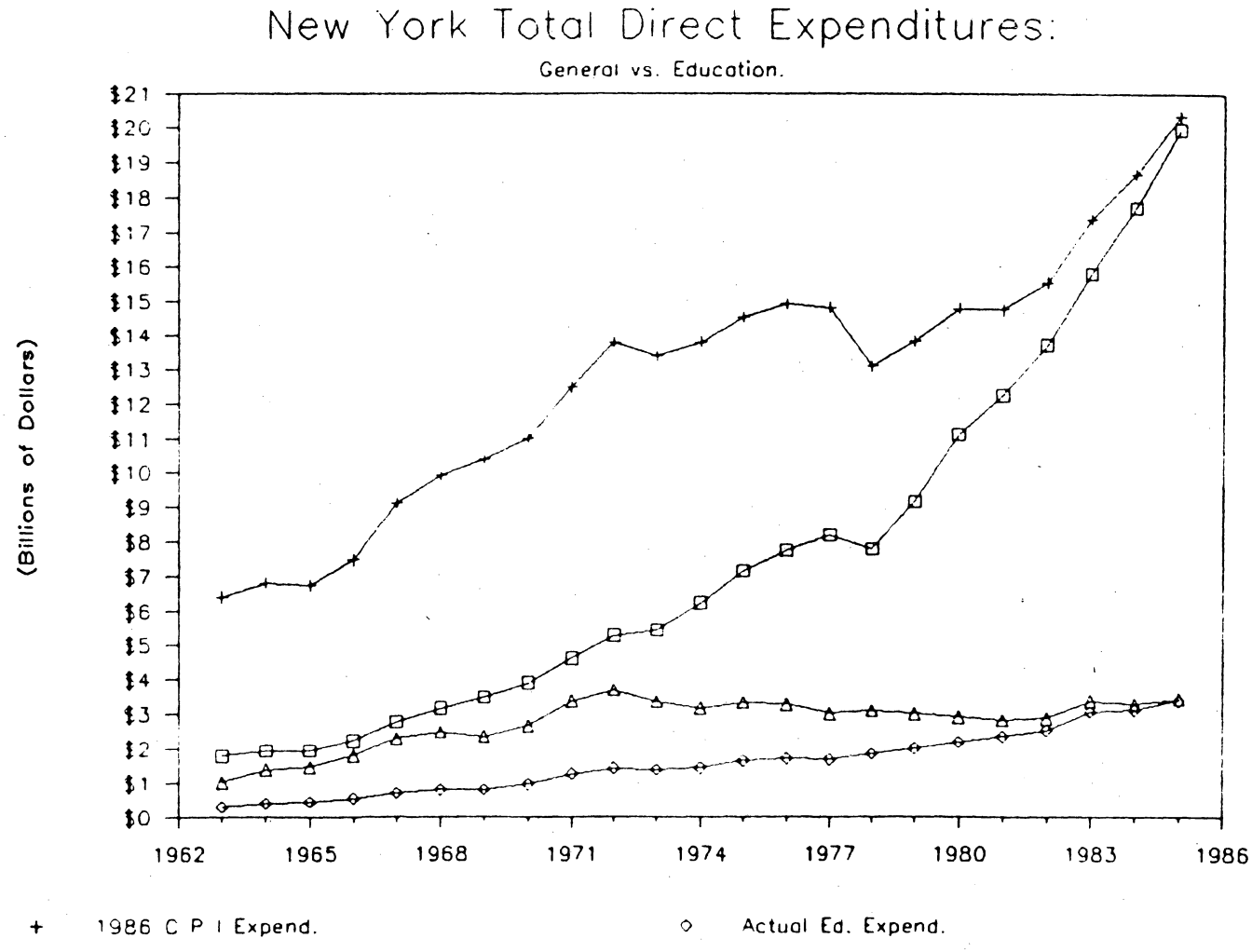
New York Total Direct Expenditures:
General vs. Education.
(Billions of Dollars)
$21
$20
$19
$18
$17
$16
$15
$14
$13
$12
$11
$10
$9
$8
$7
$6
$5
$4
$3
$2
$1
$0
1962
1965
1968
1971
1974
1977
1980
1983
1986
+ 1986 C P I Expend.
◇ Actual Ed. Expend.

Figure 12

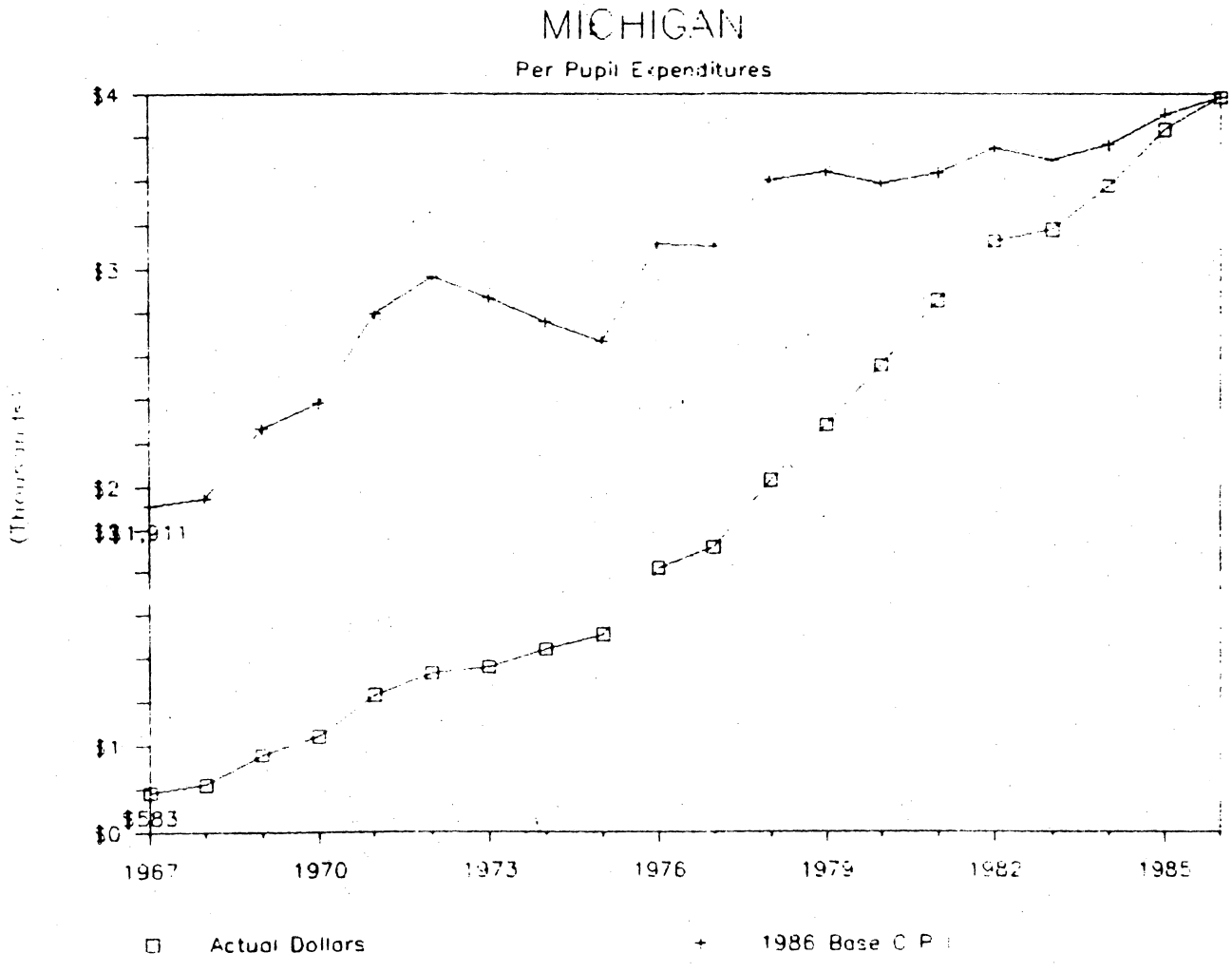
MICHIGAN
Per Pupil Expenditures
$4
$3
$2
$1
$0
$1,911
$583
1967
1970
1973
1976
1979
1982
1985
Actual Dollars
1986 Base C P I

Figure 13

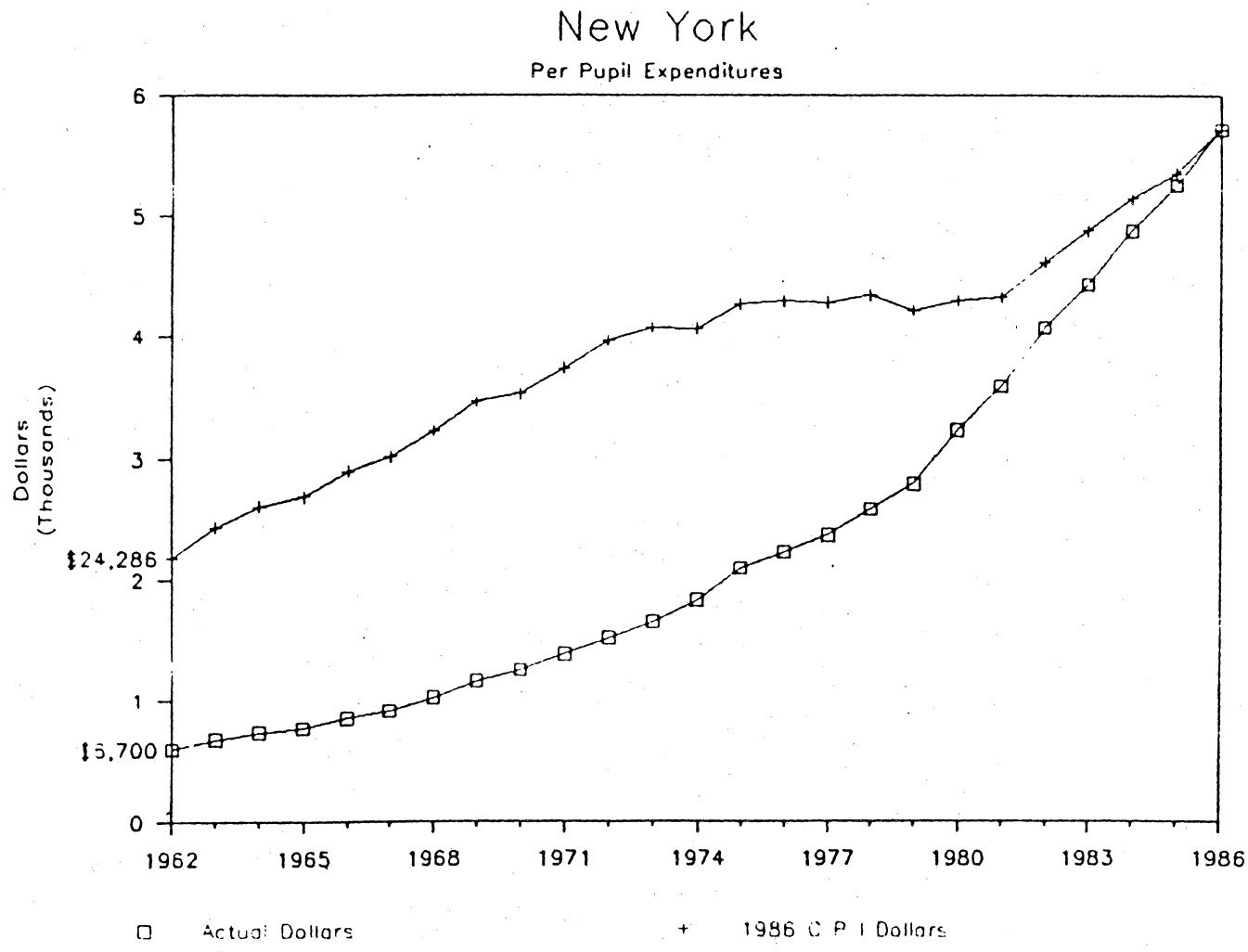
New York
Per Pupil Expenditures
Dollars (Thousands)
6
5
4
3
2
1
0
$24,286
$5,700
1962
1965
1968
1971
1974
1977
1980
1983
1986
Actual Dollars
1986 C P I Dollars

Figure 14

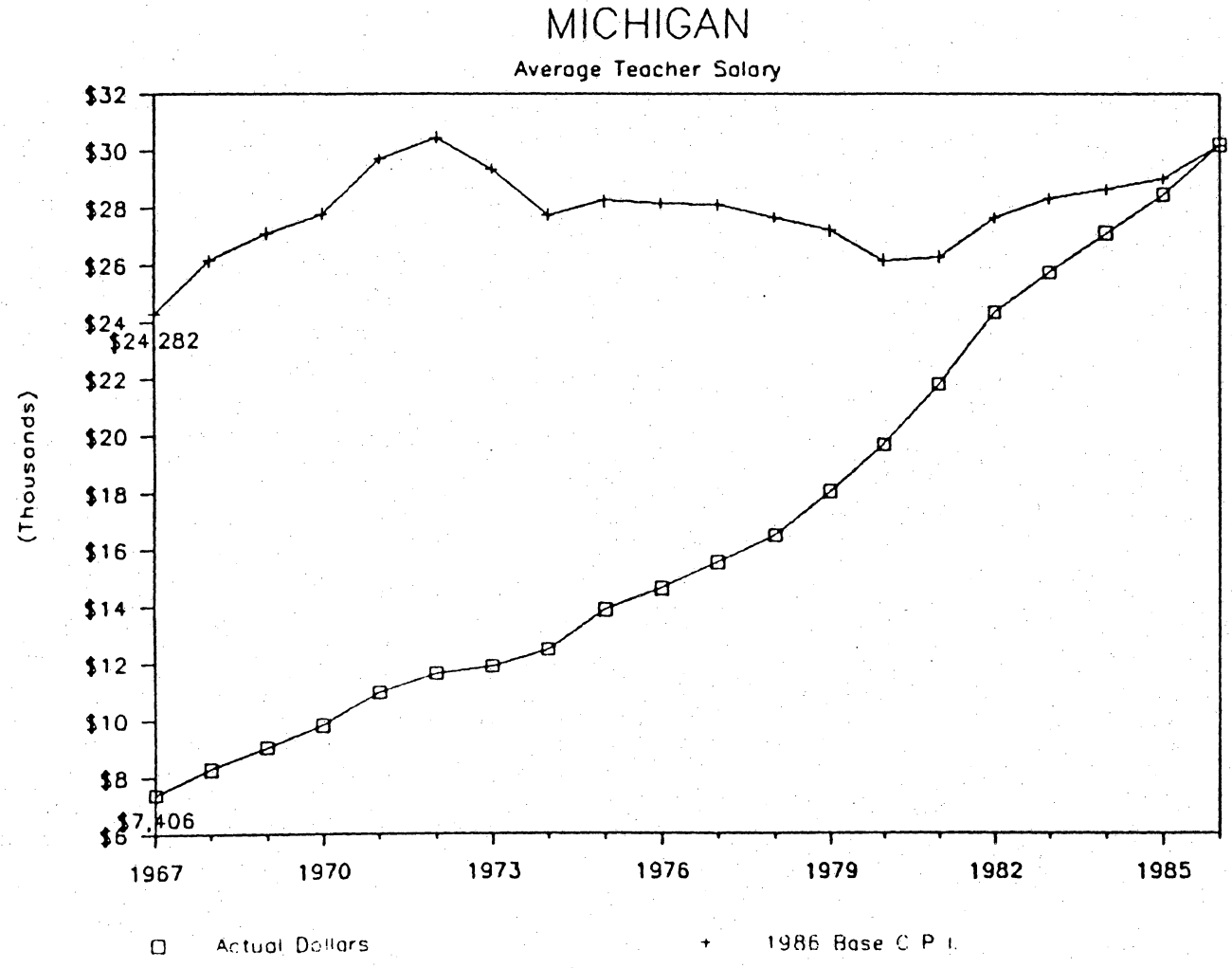
MICHIGAN
Average Teacher Salary
(Thousands)
$32
$30
$28
$26
$24
$22
$20
$18
$16
$14
$12
$10
$8
$6
$24,282
$7,406
1967
1970
1973
1976
1979
1982
1985
Actual Dollars
1986 Base C P I

Figure 15

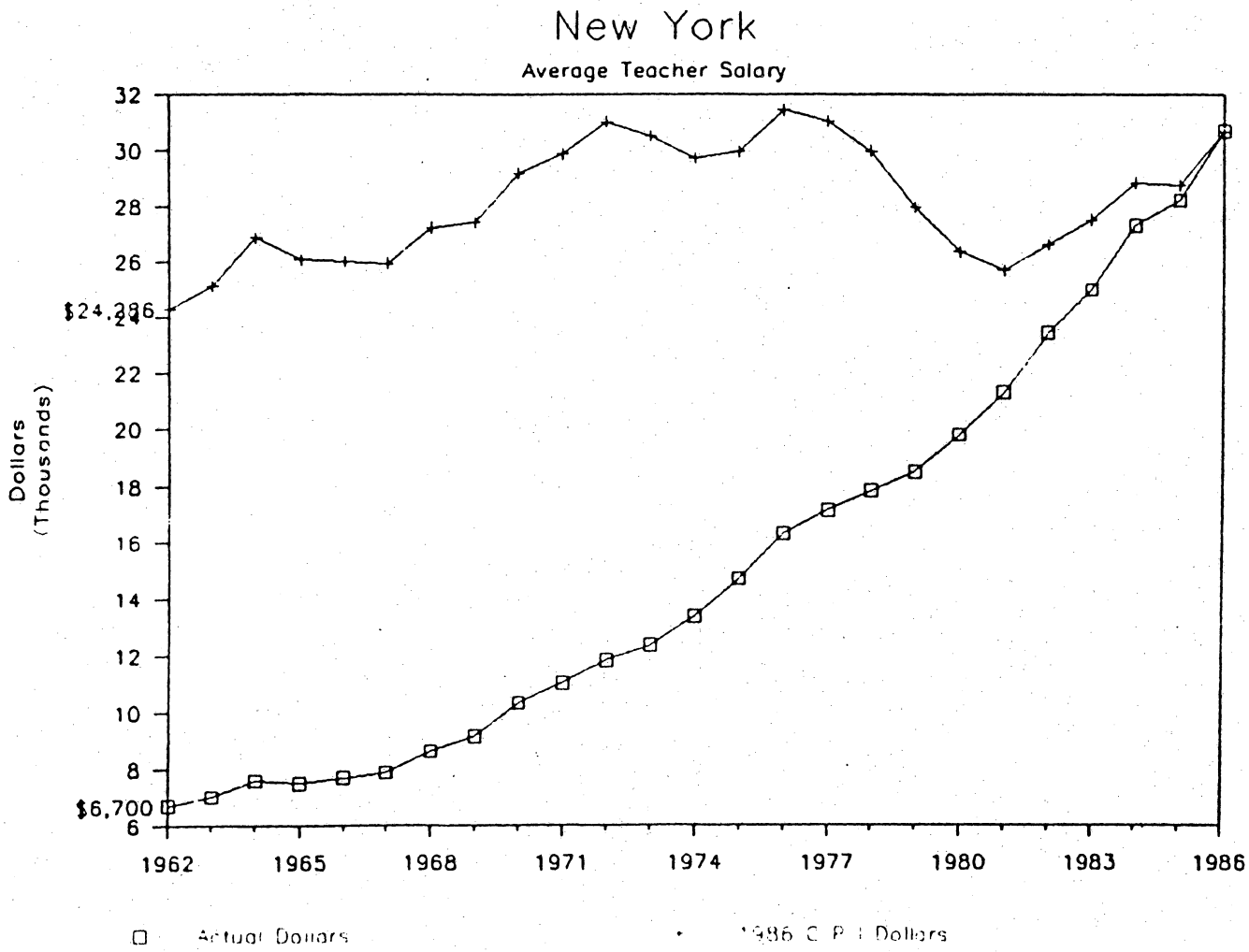
New York
Average Teacher Salary
Dollars (Thousands)
32
30
28
26
$24,286
22
20
18
16
14
12
10
8
$6,700
6
1962
1965
1968
1971
1974
1977
1980
1983
1986
Actual Dollars
1986 C.P.I. Dollars

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 Lottery Dedication

	Before	After
Michigan	5.58	2.22
New York	4.97	3.24
	CPI Base 1986 $	

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

	Lottery Dedication	
	Before	After
Michigan	10.00	4.90
New York	6.56	6.68
	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

(1982-1986) and decreased to -.13 percent in New York (1977-1986).

Table 16. Average Percent Change in Salaries Paid to Teachers

	Lottery Dedication	
	Before	After
Michigan	4.28	1.60
New York	1.86	-.13
	CPI Base 1986 $	

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.

Chapter VI

CONCLUSIONS AND SUMMARY

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

yield source of revenue, total net lottery revenue was reported for Michigan FY 1976-1986 and for New York FY 1968-1986. In 1986, net lottery revenue totaled $415.1 million in Michigan and $607.8 million in New York. The volatile increases in net lottery revenue in Michigan FY 1984-1986 and New York FY 1981-1986 are due primarily to the ingenious new lottery games designed to attract greater numbers of lottery players.

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.

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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.

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

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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

Year	CPI Base 1967	CPI Base 1986	Population
1967	$100	30.5	8,584,000
1968	104	31.7	8,673,000
1969	110	33.4	8,766,000
1970	116	35.4	8,901,000
1971	121	36.9	8,997,000
1972	125	38.2	9,082,000
1973	133	40.5	9,045,000
1974	148	45.0	9,098,000
1975	161	49.1	9,157,000
1976	171	51.9	9,104,000
1977	182	55.3	9,129,000
1978	195	59.5	9,189,000
1979	217	66.2	9,207,000
1980	247	75.2	9,258,000
1981	272	82.9	9,210,000
1982	289	88.0	9,115,000
1983	298	90.9	9,069,000
1984	311	94.7	9,075,000
1985	322	98.1	9,088,000
1986	328	100.0	9,145,000

Source: Governmental Finances

NEW YORK

Year	CPI Base 1967	CPI Base 1986	Population
1962	90.6	27.6	17,498,000
1963	91.7	27.9	17,708,000
1964	92.9	28.3	17,870,000
1965	94.5	28.8	18,070,000
1966	97.2	29.6	18,205,000
1967	100.0	30.5	18,335,000
1968	104.2	31.7	18,186,000
1969	109.8	33.4	18,321,000
1970	116.3	35.4	18,260,000
1971	121.3	36.9	18,391,000
1972	125.3	38.2	18,366,000
1973	133.1	40.5	18,265,000
1974	147.7	45.0	18,111,000
1975	161.2	49.1	18,120,000
1976	170.5	51.9	18,084,000
1977	181.5	55.3	17,924,000
1978	195.4	59.5	17,748,000
1979	217.4	66.2	17,648,000
1980	246.8	75.2	17,557,000
1981	272.4	82.9	17,558,000
1982	289.1	88.0	17,569,000
1983	298.4	90.9	17,667,000
1984	311.1	94.7	17,735,000
1985	322.2	98.1	17,783,000
1986	328.4	100.0	17,772,000

Source: Governmental Finances

APPENDIX B

MICHIGAN AND NEW YORK NET LOTTERY REVENUE

MICHIGAN NET LOTTERY REVENUE

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	NA	NA	NA	NA	NA	NA
1968	NA	NA	NA	NA	NA	NA
1969	NA	NA	NA	NA	NA	NA
1970	NA	NA	NA	NA	NA	NA
1971	NA	NA	NA	NA	NA	NA
1972	NA	NA	NA	NA	NA	NA
1973	NA	NA	NA	NA	NA	NA
1974	NA	NA	NA	NA	NA	NA
1975	NA	NA	NA	NA	NA	NA
1976	$106,834,000	$205,845,857	NA	$12	$23	NA
1977	114,375,000	206,826,401	7.06%	13	23	0.48%
1978	141,258,000	237,408,403	23.50%	15	26	14.79%
1979	177,208,000	267,685,801	25.45%	19	29	12.75%
1980	214,901,000	285,772,606	21.27%	23	31	6.76%
1981	214,312,000	258,518,697	-0.27%	23	28	-9.54%
1982	218,116,000	247,859,091	1.77%	24	27	-4.12%
1983	222,161,072	244,401,619	1.85%	24	27	-1.39%
1984	236,369,623	249,598,335	6.40%	26	28	2.13%
1985	359,411,967	366,373,055	52.06%	40	40	46.79%
1986	415,052,004	415,052,004	15.48%	45	45	13.29%

Source: Michigan State Lottery Commission

NEW YORK NET LOTTERY REVENUE

Year	Actual Dollars	Base 1986 CPI	Percent Change Base 1986 CPI	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Actual Dollars
1962	NA	NA	NA	NA	NA	NA
1963	NA	NA	NA	NA	NA	NA
1964	NA	NA	NA	NA	NA	NA
1965	NA	NA	NA	NA	NA	NA
1966	NA	NA	NA	NA	NA	NA
1967	NA	NA	NA	NA	NA	NA
1968	$8,880,720	$27,988,757	NA	$0	$2	NA
1969	27,504,480	82,262,944	193.91%	$2	4	209.71%
1970	25,986,382	73,378,571	-10.80%	1	4	-5.52%
1971	32,505,602	88,003,625	19.93%	2	5	25.09%
1972	34,304,047	89,907,814	2.16%	2	5	5.53%
1973	53,319,379	131,555,853	46.32%	3	7	55.43%
1974	52,798,619	117,393,815	-10.77%	3	6	-0.98%
1975	43,420,575	88,457,300	-24.65%	2	5	-17.76%
1976	23,418,430	45,106,231	-49.01%	1	2	-46.07%
1977	94,800,000	171,527,934	280.28%	5	10	304.81%
1978	92,100,000	154,788,332	-9.76%	5	9	-2.85%
1979	90,900,000	137,311,684	-11.29%	5	8	-1.30%
1980	85,600,000	113,902,107	-17.05%	5	6	-5.83%
1981	103,000,000	124,174,743	9.02%	6	7	20.33%
1982	179,800,000	204,241,854	64.48%	10	12	74.56%
1983	275,200,000	302,867,560	48.29%	16	17	53.06%
1984	390,500,000	412,215,365	36.10%	22	23	41.90%
1985	600,000,000	611,545,624	48.36%	34	34	53.65%
1986	607,800,000	607,800,000	-0.61%	34	34	1.30%

Source: New York State Lottery Commission

APPENDIX C

MICHIGAN AND NEW YORK TOTAL OWN SOURCE GENERAL REVENUE

MICHIGAN TOTAL OWN SOURCE GENERAL REVENUE

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	NA	NA	NA	NA	NA	NA
1968	NA	NA	NA	NA	NA	NA
1969	NA	NA	NA	NA	NA	NA
1970	NA	NA	NA	NA	NA	NA
1971	NA	NA	NA	NA	NA	NA
1972	NA	NA	NA	NA	NA	NA
1973	NA	NA	NA	NA	NA	NA
1974	NA	NA	NA	NA	NA	NA
1975	NA	NA	NA	NA	NA	NA
1976	$4,607,000,000	$8,876,685,934	NA	$506	$975	NA
1977	5,763,500,000	10,422,242,315	25.10%	631	1,142	17.41%
1978	6,556,600,000	11,019,495,798	13.76%	714	1,199	5.73%
1979	7,302,000,000	11,030,211,480	11.37%	793	1,198	0.10%
1980	7,460,400,000	9,920,744,681	2.17%	806	1,072	-10.06%
1981	7,908,200,000	9,539,445,115	6.00%	859	1,036	-3.84%
1982	8,213,100,000	9,333,068,182	3.86%	901	1,024	-2.16%
1983	9,020,700,000	9,923,762,376	9.83%	995	1,094	6.33%
1984	10,715,100,000	11,314,783,527	18.78%	1,181	1,247	14.02%
1985	11,144,064,000	11,359,902,141	4.00%	1,226	1,250	0.40%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

NEW YORK TOTAL OWN SOURCE GENERAL REVENUE

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	NA	NA	NA	NA	NA	NA
1963	$2,801,000,000	$10,031,062,159	NA	$158	$566	7.46%
1964	3,049,300,000	10,779,226,265	7.46%	171	603	4.47%
1965	3,240,500,000	11,261,166,138	4.47%	179	623	15.18%
1966	3,839,100,000	12,970,786,420	15.18%	211	712	18.01%
1967	4,660,900,000	15,306,395,600	18.01%	254	835	6.61%
1968	5,177,700,000	16,318,202,303	6.61%	285	897	11.02%
1969	6,057,400,000	18,117,032,423	11.02%	331	989	7.60%
1970	6,903,700,000	19,494,196,733	7.60%	378	1,068	-1.24%
1971	7,111,500,000	19,253,228,359	-1.24%	387	1,047	8.91%
1972	8,000,400,000	20,968,326,895	8.91%	436	1,142	10.90%
1973	9,424,500,000	23,253,236,664	10.90%	516	1,273	-3.42%
1974	10,100,900,000	22,458,602,302	-3.42%	558	1,240	-2.98%
1975	10,695,900,000	21,789,910,422	-2.98%	590	1,203	2.53%
1976	11,598,700,000	22,340,252,669	2.53%	641	1,235	4.70%
1977	12,927,700,000	23,390,945,895	4.70%	721	1,305	-8.88%
1978	12,682,500,000	21,314,907,881	-8.88%	715	1,201	-5.40%
1979	13,348,100,000	20,163,367,249	-5.40%	756	1,143	-3.14%
1980	14,677,600,000	19,530,485,575	-3.14%	836	1,112	-1.07%
1981	16,027,300,000	19,322,192,805	-1.07%	913	1,100	6.54%
1982	18,121,800,000	20,585,261,570	6.54%	1,031	1,172	3.16%
1983	19,295,800,000	21,235,726,273	3.16%	1,092	1,202	11.84%
1984	22,499,100,000	23,750,255,352	11.84%	1,269	1,339	8.79%
1985	25,350,697,000	25,838,513,019	8.79%	1,426	1,453	NA
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

APPENDIX D

MICHIGAN AND NEW YORK TOTAL TAX REVENUE

MICHIGAN TOTAL TAX REVENUE

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	$1,530,006,000	$5,016,413,115	NA	$178	$584	NA
1968	1,885,629,000	5,948,356,467	23.24%	217	686	18.58%
1969	2,248,779,000	6,732,871,257	19.26%	257	768	13.19%
1970	2,345,090,000	6,624,548,023	4.28%	263	744	-1.61%
1971	2,543,856,000	6,893,918,699	8.48%	283	766	4.07%
1972	3,062,365,000	8,016,662,304	20.38%	337	883	16.29%
1973	3,527,642,000	8,710,227,160	15.19%	390	963	8.65%
1974	3,681,154,000	8,180,342,222	4.35%	405	899	-6.08%
1975	3,485,965,000	7,099,725,051	-5.30%	381	775	-13.21%
1976	3,769,500,000	7,263,005,780	8.13%	414	798	2.30%
1977	4,843,700,000	8,758,951,175	28.50%	531	959	20.60%
1978	5,444,900,000	9,151,092,437	12.41%	593	996	4.48%
1979	6,017,700,000	9,090,181,269	10.52%	654	987	-0.67%
1980	5,947,700,000	7,909,175,532	-1.16%	642	854	-12.99%
1981	6,177,000,000	7,451,145,959	3.86%	671	809	-5.79%
1982	6,307,200,000	7,167,272,727	2.11%	692	786	-3.81%
1983	7,022,700,000	7,725,742,574	11.34%	774	852	7.79%
1984	8,568,700,000	9,048,257,656	22.01%	944	997	17.12%
1985	8,684,163,000	8,852,357,798	1.35%	956	974	-2.17%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

NEW YORK TOTAL TAX REVENUE

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	$2,328,611,000	$8,440,572,322	NA	$133	$482	NA
1963	2,506,284,000	8,975,612,493	7.63%	142	507	6.34%
1964	2,712,900,000	9,590,057,696	8.24%	152	537	6.85%
1965	2,862,300,000	9,946,871,111	5.51%	158	550	3.72%
1966	3,415,700,000	11,540,286,831	19.33%	188	634	16.02%
1967	4,056,300,000	13,320,889,200	18.75%	221	727	15.43%
1968	4,447,200,000	14,015,935,509	9.64%	245	771	5.22%
1969	5,329,900,000	15,941,158,106	19.85%	291	870	13.74%
1970	6,116,500,000	17,271,355,116	14.76%	335	946	8.34%
1971	6,248,100,000	16,915,713,438	2.15%	340	920	-2.06%
1972	7,018,500,000	18,394,855,547	12.33%	382	1,002	8.74%
1973	8,170,000,000	20,157,986,476	16.41%	447	1,104	9.58%
1974	8,516,400,000	18,935,584,022	4.24%	470	1,046	-6.06%
1975	8,939,200,000	18,211,124,566	4.96%	493	1,005	-3.83%
1976	9,780,100,000	18,837,447,742	9.41%	541	1,042	3.44%
1977	10,743,200,000	19,438,385,014	9.85%	599	1,084	3.19%
1978	10,934,200,000	18,376,618,628	1.78%	616	1,035	-5.46%
1979	11,633,700,000	17,573,629,623	6.40%	659	996	-4.37%
1980	12,716,800,000	16,921,382,172	9.31%	724	964	-3.71%
1981	13,918,200,000	16,779,503,965	9.45%	793	956	-0.84%
1982	15,438,000,000	17,536,628,156	10.92%	879	998	4.51%
1983	16,178,000,000	17,804,474,531	4.79%	916	1,008	1.53%
1984	18,817,000,000	19,863,396,978	16.31%	1,061	1,120	11.56%
1985	20,702,069,000	21,100,432,836	10.02%	1,164	1,187	6.23%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

APPENDIX E

MICHIGAN AND NEW YORK GENERAL SALES TAX REVENUE

MICHIGAN TOTAL STATE SALES TAX

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	$680,360,000	2,230,688,525	NA	$79	$260	NA
1968	727,495,000	2,294,936,909	6.93%	84	265	2.88%
1969	794,768,000	2,379,544,910	9.25%	91	271	3.69%
1970	828,491,000	2,340,370,056	4.24%	93	263	-1.65%
1971	878,097,000	2,379,666,667	5.99%	98	264	1.68%
1972	987,737,000	2,585,698,953	12.49%	109	285	8.66%
1973	1,092,300,000	2,697,037,037	10.59%	121	298	4.31%
1974	1,187,200,000	2,638,222,222	8.69%	130	290	-2.18%
1975	1,177,400,000	2,397,963,340	-0.83%	129	262	-9.11%
1976	1,070,000,000	2,061,657,033	-9.12%	118	226	-14.02%
1977	1,407,000,000	2,544,303,797	31.50%	154	279	23.41%
1978	1,596,900,000	2,683,865,546	13.50%	174	292	5.49%
1979	1,702,700,000	2,572,054,381	6.63%	185	279	-4.17%
1980	1,706,700,000	2,269,547,872	0.23%	184	245	-11.76%
1981	1,792,700,000	2,162,484,922	5.04%	195	235	-4.72%
1982	1,843,700,000	2,095,113,636	2.84%	202	230	-3.12%
1983	1,969,400,000	2,166,556,656	6.82%	217	239	3.41%
1984	2,273,100,000	2,400,316,790	15.42%	250	264	10.79%
1985	2,542,053,000	2,591,287,462	11.83%	280	285	7.96%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

NEW YORK TOTAL STATE GENERAL SALES TAX

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	NA	NA	NA	NA	NA	NA
1963	NA	NA	NA	NA	NA	NA
1964	NA	NA	NA	NA	NA	NA
1965	NA	NA	NA	NA	NA	NA
1966	$298,437,000	$1,008,299,494	NA	$16	$16	NA
1967	604,327,000	1,984,609,868	102.50%	33	33	96.83%
1968	630,912,000	1,988,402,119	4.40%	35	35	0.19%
1969	698,759,000	2,089,913,075	10.75%	38	38	5.11%
1970	1,012,036,000	2,857,718,163	44.83%	55	55	36.74%
1971	1,175,898,000	3,183,552,376	16.19%	64	64	11.40%
1972	1,532,795,000	4,017,317,462	30.35%	83	83	26.19%
1973	1,734,100,000	4,278,575,808	13.13%	95	95	6.50%
1974	1,863,200,000	4,142,687,068	7.44%	103	103	-3.18%
1975	2,000,900,000	4,076,275,186	7.39%	110	110	-1.60%
1976	2,148,900,000	4,138,995,660	7.40%	119	119	1.54%
1977	2,218,200,000	4,013,536,529	3.22%	124	124	-3.03%
1978	2,432,906,000	4,088,875,795	9.68%	137	137	1.88%
1979	2,588,700,000	3,910,437,351	6.40%	147	147	-4.36%
1980	2,844,900,000	3,785,515,235	9.90%	162	162	-3.19%
1981	2,965,300,000	3,574,906,461	4.23%	169	169	-5.56%
1982	3,196,800,000	3,631,370,183	7.81%	182	182	1.58%
1983	3,531,900,000	3,886,983,780	10.48%	200	200	7.04%
1984	3,900,400,000	4,117,297,846	10.43%	220	220	5.93%
1985	4,229,025,000	4,310,402,886	8.43%	238	238	4.69%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

APPENDIX F

MICHIGAN AND NEW YORK INDIVIDUAL INCOME TAX

MICHIGAN INDIVIDUAL INCOME TAX

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	$0	$0	NA	$0	$0	NA
1968	$263,362,000	$830,794,953	NA	30	96	NA
1969	390,177,000	1,168,194,611	48.15%	45	133	40.61%
1970	415,345,000	1,173,290,960	6.45%	47	132	0.44%
1971	475,938,000	1,289,804,878	14.59%	53	143	9.93%
1972	728,885,000	1,908,075,916	53.15%	80	210	47.94%
1973	925,319,000	2,284,738,272	26.95%	102	253	19.74%
1974	965,704,000	2,146,008,889	4.36%	106	236	-6.07%
1975	846,427,000	1,723,883,910	-12.35%	92	188	-19.67%
1976	1,130,609,000	2,178,437,380	33.57%	124	239	26.37%
1977	1,425,726,000	2,578,166,365	26.10%	156	282	18.35%
1978	1,695,746,000	2,849,993,277	18.94%	185	310	10.54%
1979	1,943,941,000	2,936,466,767	14.64%	211	319	3.03%
1980	1,916,626,000	2,548,704,787	-1.41%	207	275	-13.21%
1981	2,028,437,000	2,446,848,010	5.83%	220	266	-4.00%
1982	2,126,630,000	2,416,625,000	4.84%	233	265	-1.24%
1983	2,567,038,000	2,824,024,202	20.71%	283	311	16.86%
1984	3,383,794,000	3,573,172,122	31.82%	373	394	26.53%
1985	3,048,512,000	3,107,555,556	-9.91%	335	342	-13.03%
1986	3,309,190,000	3,309,190,000	8.55%	362	362	6.49%

Source: Governmental Finances

NEW YORK INDIVIDUAL INCOME TAX

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	$989,590,000	$3,586,990,684	NA	$57	$205	NA
1963	1,018,704,000	3,648,226,757	2.94%	58	206	1.71%
1964	1,136,263,000	4,016,671,358	11.54%	64	225	10.10%
1965	1,131,731,000	3,932,914,925	-0.40%	63	218	-2.09%
1966	1,285,881,000	4,344,478,605	13.62%	71	239	10.46%
1967	1,527,087,000	5,014,953,708	18.76%	83	274	15.43%
1968	1,787,897,000	5,634,792,464	17.08%	98	310	12.36%
1969	2,151,634,000	6,435,306,062	20.34%	117	351	14.21%
1970	2,506,435,000	7,077,500,034	16.49%	137	388	9.98%
1971	2,530,207,000	6,850,123,486	0.95%	138	372	-3.21%
1972	2,514,557,000	6,590,427,125	-0.62%	137	359	-3.79%
1973	3,211,930,000	7,924,852,081	27.73%	176	434	20.25%
1974	3,431,993,000	7,630,781,999	6.85%	189	421	-3.71%
1975	3,558,584,000	7,249,621,499	3.69%	196	400	-5.00%
1976	3,948,808,000	7,605,797,931	10.97%	218	421	4.91%
1977	4,526,975,000	8,190,956,419	14.64%	253	457	7.69%
1978	4,506,245,000	7,573,443,490	-0.46%	254	427	-7.54%
1979	5,057,867,000	7,640,310,592	12.24%	287	433	0.88%
1980	5,780,045,000	7,691,113,363	14.28%	329	438	0.66%
1981	6,612,289,000	7,971,643,567	14.40%	377	454	3.65%
1982	8,034,066,000	9,126,209,873	21.50%	457	519	14.48%
1983	8,275,754,000	9,107,766,802	3.01%	468	516	-0.20%
1984	9,373,945,000	9,895,221,916	13.27%	529	558	8.65%
1985	10,395,165,000	10,595,196,108	10.89%	585	596	7.07%
1986	11,582,305,000	11,582,305,000	11.42%	652	652	9.32%

Source: Governmental Finances

APPENDIX G

MICHIGAN AND NEW YORK PROPERTY TAX

MICHIGAN PROPERTY TAX

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	$81,000,000	$265,573,770	NA	$9	$31	NA
1968	84,600,000	266,876,972	4.44%	10	31	0.49%
1969	76,200,000	228,143,713	-9.93%	9	26	-14.51%
1970	83,000,000	234,463,277	8.92%	9	26	2.77%
1971	90,000,000	243,902,439	8.43%	10	27	4.03%
1972	93,300,000	244,240,838	3.67%	10	27	0.14%
1973	101,900,000	251,604,938	9.22%	11	28	3.02%
1974	104,300,000	231,777,778	2.36%	11	25	-7.88%
1975	114,100,000	232,382,892	9.40%	12	25	0.26%
1976	121,000,000	233,140,655	6.05%	13	26	0.33%
1977	117,700,000	212,839,060	-2.73%	13	23	-8.71%
1978	123,400,000	207,394,958	4.84%	13	23	-2.56%
1979	125,200,000	189,123,867	1.46%	14	21	-8.81%
1980	133,400,000	177,393,617	6.55%	14	19	-6.20%
1981	142,800,000	172,255,730	7.05%	16	19	-2.90%
1982	155,200,000	176,363,636	8.68%	17	19	2.38%
1983	166,300,000	182,948,295	7.15%	18	20	3.73%
1984	166,100,000	175,395,987	-0.12%	18	19	-4.13%
1985	172,054,000	175,386,340	3.58%	19	19	-0.01%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

NEW YORK PROPERTY TAX

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	$4,359,000	$15,800,172	NA	NA	$1	NA
1963	4,808,000	17,218,617	10.30%	NA	1	8.98%
1964	5,400,000	19,088,913	12.31%	$0	1	10.86%
1965	6,900,000	23,978,413	27.78%	0	1	25.61%
1966	8,000,000	27,028,807	15.94%	0	1	12.72%
1967	7,400,000	24,301,600	-7.50%	0	1	-10.09%
1968	9,400,000	29,625,336	27.03%	1	2	21.91%
1969	10,000,000	29,908,925	6.38%	1	2	0.96%
1970	12,400,000	35,014,273	24.00%	1	2	17.07%
1971	13,600,000	36,819,786	9.68%	1	2	5.16%
1972	14,700,000	38,527,374	8.09%	1	2	4.64%
1973	16,600,000	40,957,476	12.93%	1	2	6.31%
1974	17,700,000	39,354,638	6.63%	1	2	-3.91%
1975	25,400,000	51,745,409	43.50%	1	3	31.48%
1976	25,900,000	49,885,982	1.97%	1	3	-3.59%
1977	24,200,000	43,786,667	-6.56%	1	2	-12.23%
1978	22,800,000	38,318,936	-5.79%	1	2	-12.49%
1979	13,000,000	19,637,534	-42.98%	1	1	-48.75%
1980	6,500,000	8,649,109	-50.00%	0	0	-55.96%
1981	NA	NA	NA	NA	NA	NA
1982	NA	NA	NA	NA	NA	NA
1983	NA	NA	NA	NA	NA	NA
1984	NA	NA	NA	NA	NA	NA
1985	NA	NA	NA	NA	NA	NA
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

APPENDIX H

MICHIGAN AND NEW YORK TOTAL DIRECT GENERAL EXPENDITURES

MICHIGAN TOTAL DIRECT GENERAL EXPENDITURES

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	$1,552,700,000	$5,090,819,672	NA	$181	$593	NA
1968	1,742,100,000	5,495,583,596	12.20%	201	634	7.95%
1969	1,928,600,000	5,774,251,497	10.71%	220	659	5.07%
1970	2,146,300,000	6,062,994,350	11.29%	241	681	5.00%
1971	2,481,400,000	6,724,661,247	15.61%	276	747	10.91%
1972	2,912,900,000	7,625,392,670	17.39%	321	840	13.39%
1973	3,279,800,000	8,098,271,605	12.60%	363	895	6.20%
1974	3,629,500,000	8,065,555,556	10.66%	399	887	-0.40%
1975	4,268,900,000	8,694,297,352	17.62%	466	949	7.80%
1976	4,512,900,000	8,695,375,723	5.72%	496	955	0.01%
1977	4,800,900,000	8,681,555,154	6.38%	526	951	-0.16%
1978	5,291,300,000	8,892,941,176	10.21%	576	968	2.43%
1979	5,938,400,000	8,970,392,749	12.23%	645	974	0.87%
1980	6,934,400,000	9,221,276,596	16.77%	749	996	2.80%
1981	7,178,200,000	8,658,866,104	3.52%	779	940	-6.10%
1982	7,681,700,000	8,729,204,545	7.01%	843	958	0.81%
1983	8,311,800,000	9,143,894,389	8.20%	917	1,008	4.75%
1984	9,358,100,000	9,881,837,381	12.59%	1,031	1,089	8.07%
1985	9,633,700,000	9,820,285,423	2.95%	1,060	1,081	-0.62%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

NEW YORK TOTAL DIRECT GENERAL EXPENDITURES

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	NA	NA	NA	NA	NA	NA
1963	$1,787,200,000	$6,400,397,819	7.55%	$101	$361	NA
1964	1,922,100,000	6,794,592,465	0.44%	108	380	6.16%
1965	1,930,600,000	6,709,090,370	14.74%	107	371	-1.26%
1966	2,215,200,000	7,484,276,543	25.15%	122	411	11.55%
1967	2,772,400,000	9,104,561,600	13.52%	151	497	21.65%
1968	3,147,200,000	9,918,814,587	10.40%	173	545	8.94%
1969	3,474,500,000	10,391,856,102	11.96%	190	567	4.77%
1970	3,890,000,000	10,984,316,423	18.25%	213	602	5.70%
1971	4,599,900,000	12,453,480,297	14.26%	250	677	13.38%
1972	5,255,900,000	13,775,239,904	3.21%	286	750	10.61%
1973	5,424,600,000	13,384,212,171	14.32%	297	733	-2.84%
1974	6,201,300,000	13,788,130,806	14.85%	342	761	3.02%
1975	7,122,200,000	14,509,494,293	8.70%	393	801	5.23%
1976	7,742,100,000	14,912,056,540	5.59%	428	825	2.77%
1977	8,175,200,000	14,791,932,121	-4.95%	456	825	-0.81%
1978	7,770,300,000	13,059,194,063	17.60%	438	736	-11.71%
1979	9,137,800,000	13,803,374,057	21.38%	518	782	5.70%
1980	11,091,700,000	14,758,971,961	10.19%	632	841	6.92%
1981	12,221,500,000	14,733,996,329	11.96%	696	839	-0.17%
1982	13,682,800,000	15,542,827,810	15.43%	779	885	5.49%
1983	15,794,300,000	17,382,198,794	12.03%	894	984	11.83%
1984	17,694,800,000	18,678,792,414	12.81%	998	1,053	7.46%
1985	19,961,600,000	20,345,715,208	NA	1,123	1,144	8.92%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

APPENDIX I

MICHIGAN AND NEW YORK DIRECT EXPENDITURES ON EDUCATION

MICHIGAN TOTAL DIRECT EXPENDITURES ON EDUCATION

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1967	$612,400,000	$2,007,868,852	NA	$71	$234	NA
1968	670,600,000	2,115,457,413	9.50%	77	244	5.36%
1969	739,800,000	2,214,970,060	10.32%	84	253	4.70%
1970	801,900,000	2,265,254,237	8.39%	90	254	2.27%
1971	829,700,000	2,248,509,485	3.47%	92	250	-0.74%
1972	867,400,000	2,270,680,628	4.54%	96	250	0.99%
1973	965,400,000	2,383,703,704	11.30%	107	264	4.98%
1974	1,080,700,000	2,401,555,556	11.94%	119	264	0.75%
1975	1,183,300,000	2,409,979,633	9.49%	129	263	0.35%
1976	1,235,900,000	2,381,310,212	4.45%	136	262	-1.19%
1977	1,296,400,000	2,344,303,797	4.90%	142	257	-1.55%
1978	1,479,200,000	2,486,050,420	14.10%	161	271	6.05%
1979	1,567,200,000	2,367,371,601	5.95%	170	257	-4.77%
1980	1,734,200,000	2,306,117,021	10.66%	187	249	-2.59%
1981	1,852,200,000	2,234,258,142	6.80%	201	243	-3.12%
1982	1,986,300,000	2,257,159,091	7.24%	218	248	1.02%
1983	1,895,800,000	2,085,588,559	-4.56%	209	230	-7.60%
1984	1,978,500,000	2,089,229,145	4.36%	218	230	0.17%
1985	2,067,800,000	2,107,849,134	4.51%	228	232	0.89%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

NEW YORK TOTAL DIRECT EXPENDITURES ON EDUCATION

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Per Capita Actual Dollars	Per Capita Base 1986 CPI	Percent Change Base 1986 CPI
1962	NA	NA	NA	NA	NA	NA
1963	$283,500,000	$1,015,282,443	NA	$16	$57	NA
1964	388,800,000	1,374,401,722	37.14%	22	77	35.37%
1965	418,500,000	1,454,342,857	7.64%	23	80	5.82%
1966	526,500,000	1,778,833,333	25.81%	29	98	22.31%
1967	697,700,000	2,291,246,800	32.52%	38	125	28.81%
1968	780,600,000	2,460,163,532	11.88%	43	135	7.37%
1969	785,600,000	2,349,645,173	0.64%	43	128	-4.49%
1970	940,600,000	2,656,002,064	19.73%	52	145	13.04%
1971	1,238,100,000	3,351,954,163	31.63%	67	182	26.20%
1972	1,402,500,000	3,675,826,018	13.28%	76	200	9.66%
1973	1,354,400,000	3,341,735,237	-3.43%	74	183	-9.09%
1974	1,419,200,000	3,155,485,985	4.78%	78	174	-5.57%
1975	1,621,700,000	3,303,761,042	14.27%	89	182	4.70%
1976	1,691,900,000	3,258,768,094	4.33%	94	180	-1.36%
1977	1,653,700,000	2,992,149,201	-2.26%	92	167	-8.18%
1978	1,828,300,000	3,072,741,658	10.56%	103	173	2.69%
1979	1,986,300,000	3,000,464,213	8.64%	113	170	-2.35%
1980	2,169,300,000	2,886,540,194	9.21%	124	164	-3.80%
1981	2,329,100,000	2,807,916,446	7.37%	133	160	-2.72%
1982	2.516,400,000	2,858,477,205	8.04%	143	163	1.80%
1983	3,046,000,000	3,352,233,244	21.05%	172	190	17.27%
1984	3,085,600,000	3,257,187,528	1.30%	174	184	-2.84%
1985	3,358,100,000	3,422,718,932	8.83%	189	192	5.08%
1986	NA	NA	NA	NA	NA	NA

Source: Governmental Finances

APPENDIX J

MICHIGAN AND NEW YORK PER PUPIL EXPENDITURES

MICHIGAN PER PUPIL EXPENDITURES

Year	Actual Dollars	Percent Change Base 1986 CPI	Percent Change Actual Dollars	Base 1986 CPI
1967	$583	$1,911	NA	NA
1968	617	1,946	5.83%	1.83%
1969	757	2,266	22.69%	16.45%
1970	842	2,379	11.23%	4.94%
1971	1,031	2,794	22.45%	17.47%
1972	1,132	2,963	9.80%	6.06%
1973	1,159	2,862	2.39%	-3.43%
1974	1,239	2,753	6.90%	-3.79%
1975	1,308	2,664	5.57%	-3.25%
1976	1,616	3,114	23.55%	16.88%
1977	1,716	3,103	6.19%	-0.34%
1978	2,024	3,402	17.95%	9.62%
1979	2,278	3,441	12.55%	1.16%
1980	2,548	3,388	11.85%	-1.53%
1981	2,850	3,438	11.85%	1.46%
1982	3,123	3,549	9.58%	3.23%
1983	3,178	3,496	1.76%	-1.49%
1984	3,376	3,565	6.23%	1.97%
1985	3,633	3,703	7.61%	3.88%
1986	3,782	3,782	4.10%	2.12%

Source: National Education Association

NEW YORK PER PUPIL EXPENDITURES

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Percent change Base 1986 CPI
1962	$601	$2,178	NA	NA
1963	680	2,435	13.14%	11.79%
1964	737	2,605	8.38%	6.98%
1965	773	2,686	4.88%	3.11%
1966	857	2,895	10.87%	7.79%
1967	918	3,015	7.12%	4.12%
1968	1,024	3,227	11.55%	7.05%
1969	1,159	3,466	13.18%	7.41%
1970	1,250	3,530	7.85%	1.82%
1971	1,381	3,739	10.48%	5.93%
1972	1,513	3,965	9.56%	6.06%
1973	1,649	4,069	8.99%	2.60%
1974	1,829	4,067	10.92%	-0.05%
1975	2,095	4,268	14.54%	4.95%
1976	2,231	4,297	6.49%	0.68%
1977	2,368	4,285	6.14%	-0.29%
1978	2,585	4,344	9.16%	1.40%
1979	2,790	4.215	7.93%	-2.99%
1980	3,231	4,299	15.81%	2.01%
1981	3,591	4,329	11.14%	0.70%
1982	4,069	4,622	13.31%	6.77%
1983	4,434	4,880	8.97%	5.57%
1984	4,880	5,151	10.06%	5.57%
1985	5,260	5,361	7.79%	4.07%
1986	5,710	5,710	8.56%	6.51%

Source: National Education Association

APPENDIX K

MICHIGAN AND NEW YORK AVERAGE TEACHER SALARY

MICHIGAN AVERAGE TEACHER SALARY

Year	Actual Dollars	Percent Change Base 1986 CPI	Percent Change Actual Dollars	Base 1986 CPI
1967	$583	$1,911	NA	NA
1968	617	1,946	5.83%	1.83%
1969	757	2,266	22.69%	16.45%
1970	842	2,379	11.23%	4.94%
1971	1,031	2,794	22.45%	17.47%
1972	1,132	2,963	9.80%	6.06%
1973	1,159	2,862	2.39%	-3.43%
1974	1,239	2,753	6.90%	-3.79%
1975	1,308	2,664	5.57%	-3.25%
1976	1,616	3,114	23.55%	16.88%
1977	1,716	3,103	6.19%	-0.34%
1978	2,024	3,402	17.95%	9.62%
1979	2,278	3,441	12.55%	1.16%
1980	2,548	3,388	11.85%	-1.53%
1981	2,850	3,438	11.85%	1.46%
1982	3,123	3,549	9.58%	3.23%
1983	3,178	3,496	1.76%	-1.49%
1984	3,376	3,565	6.23%	1.97%
1985	3,633	3,703	7.61%	3.88%
1986	3,782	3,782	4.10%	2.12%

Source: National Education Association

NEW YORK AVERAGE TEACHER SALARY

Year	Actual Dollars	Base 1986 CPI	Percent Change Actual Dollars	Percent Change Base 1986 CPI
1962	6,700	$24,286	NA	NA
1963	7,020	25,140	4.78%	3.52%
1964	7,600	26,866	8.26%	6.86%
1965	7,500	26,063	-1.32%	-2.99%
1966	7,700	26,015	2.67%	-0.19%
1967	7,900	25,944	2.60%	-0.28%
1968	8,638	27,224	9.34%	4.93%
1969	9,168	27,421	6.14%	0.72%
1970	10,336	29,186	12.74%	6.44%
1971	11,034	29,873	6.75%	2.35%
1972	11,828	31,000	7.20%	3.77%
1973	12,359	30,494	4.49%	-1.63%
1974	13,362	29,709	8.12%	-2.57%
1975	14,700	29,947	10.01%	0.80%
1976	16,315	31,424	10.99%	4.93%
1977	17,149	31,029	5.11%	-1.26%
1978	17,831	29,968	3.98%	-3.42%
1979	18,512	27,964	3.82%	-6.69%
1980	19,812	26,362	7.02%	-5.73%
1981	21,326	25,710	7.64%	-2.47%
1982	23,437	26,623	9.90%	3.55%
1983	25,000	27,513	6.67%	3.34%
1984	27,319	28,838	9.28%	4.82%
1985	28,213	28,756	3.27%	-0.29%
1986	30,678	30,678	8.74%	6.68%

Source: National Education Association

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