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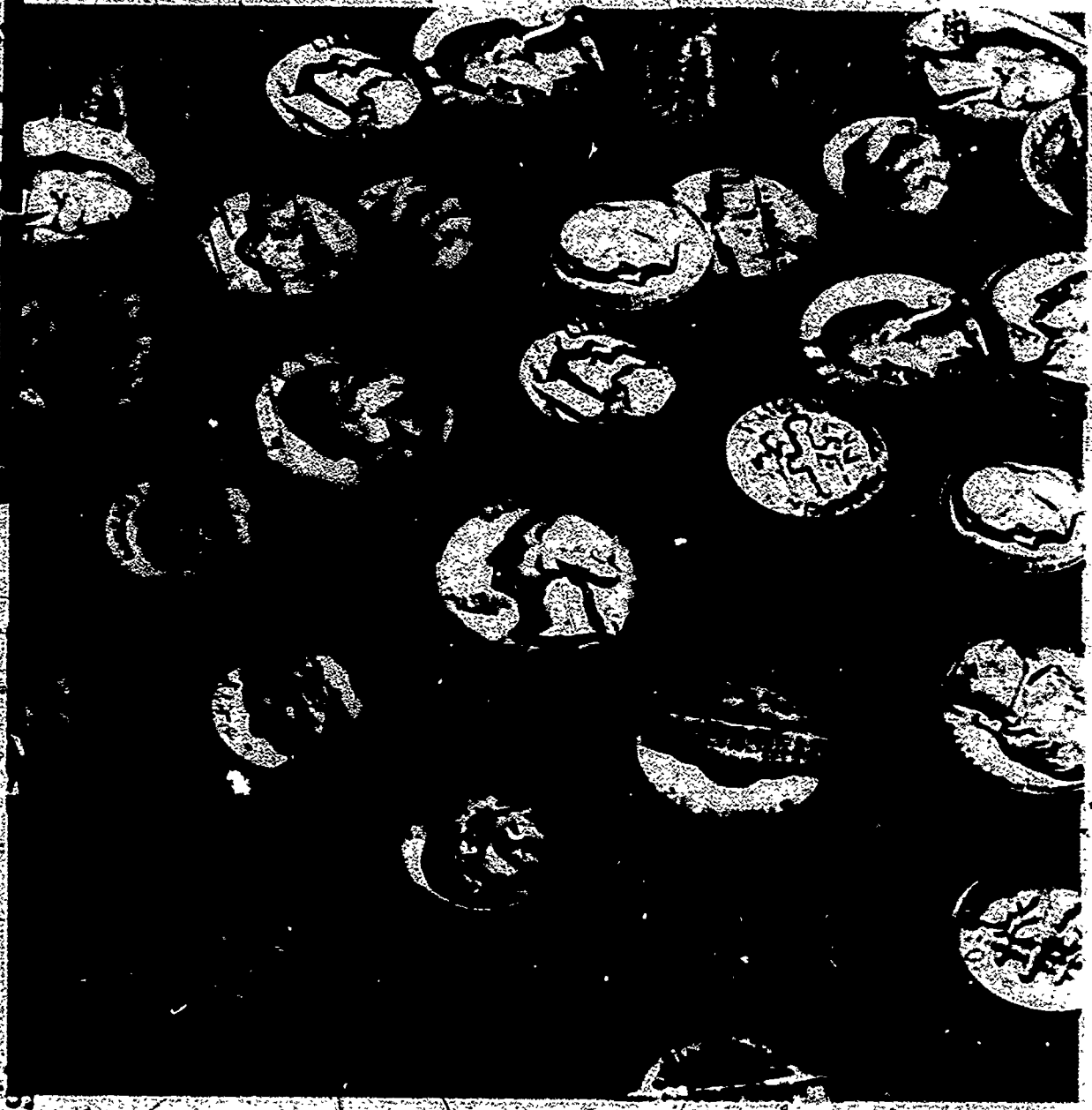
ABSTRACT

To help Ohio's educators, legislators, and others understand school finance reforms and equalization plans, this manual provides an overview of the state's public elementary and secondary school financing and explores issues and options in educational finance. An introductory chapter traces the legal history of school finance reform, explaining the significance of Serrano v. Priest and other cases in six states. Chapter two reviews the fiscal structure of Ohio's state and local governments and discusses the concepts of fiscal effort and fiscal performance. Moving from the broader governmental context, chapter three describes Ohio's current plan for state educational aid and the levels of aid it grants to districts. The chapter explains how to compute the state's equal yield formula--a "district power" equalizing plan--and gives exercises to help the reader learn to apply it. Also included are descriptions of Ohio's categorical aid for vocational and special education, disadvantaged students, and others. Finally, chapter four analyzes statewide disparities in school districts' wealth, expenditures, and tax rates and examines their relationships to the school finance formula. Appended is a brief update on recent legislative changes in the state's aid plan. (Author/RW)

MONEY AND EDUCATION

A GUIDE TO OHIO SCHOOL FINANCE



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MONEY AND EDUCATION

A GUIDE TO OHIO SCHOOL FINANCE

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July 1981

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FOREWORD

This publication is the result of a National Institute of Education grant to the American Federation of Teachers.

A "Guide to Ohio School Finance" is one of a series of handbooks prepared for use at workshops designed to assist teachers, administrators, legislators and other interested parties in understanding and dealing with the intricacies of school finance equalization plans in their states. In the past, these issues have been debated in relative isolation by a handful of experts.

States were selected for analysis either because they are currently undergoing significant changes in their education finance systems or because current within state disparities suggest that the development of new finance legislation is a topic of growing concern. Workshops have been conducted in California, Connecticut, Florida, Illinois, Michigan, Missouri, Ohio, New York, Pennsylvania, Rhode Island and Texas.

It is our hope that through the dissemination of these handbooks, to a wider audience, people representing diverse points of view will be able to effectively take part in the debates and decisions affecting the financing of our nation's schools.

Lauren Weisberg
Project Officer

Educational Finance
Program

ACKNOWLEDGMENTS

The AFT Project on Teachers and School Finance Reform is the product of the foresight of AFT leadership, and a grant from the National Institute of Education, Department of Education. Recent events--court challenges to school finance plans, declining enrollments, rising education costs spurred by inflation and increased mandatory programming, and shrinking revenues resulting from tax limitation initiatives--have made school finance a critical educational issue affecting every teacher, every parent and every child in the nation's public schools. Each year, state and local governments spend billions of dollars on education. Yet, the decisions regarding how educational revenues are to be raised and more importantly how revenues are to be distributed among schools have been left to the few legislators, administrators, and policymakers who understand the complexities of school finance.

The American Federation of Teachers has long been a leader at the national, state and local levels in the struggle for more money for our public schools. The AFT recognizes that to be successful in maintaining quality public education requires the informed participation of teachers, administrators, parents and the general public in key policy decision-making.

The manual on Ohio School Finance represents one of many initiatives by the American Federation of Teachers to provide its members and other public interest leaders with the basic knowledge and skills to deal effectively with the issues surrounding the financing of our public schools. The authors hope you will use this manual as a guide to understanding the Ohio school finance plan and as a resource for exploring future policy issues in Ohio school finance.

The authors gratefully acknowledge the invaluable assistance of Helen Nemorin of the AFT Economic Research staff for typing the manuscript and preparing it for publication and the imaginative talents of Charles Glendinning for the cover design.

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CHAPTER I

INTRODUCTION

School finance is the most basic educational issue, for without proper financing our system of public education cannot survive. Under the American federal system, the responsibility of providing for elementary and secondary education is reserved for the states. Traditionally, most states have delegated the largest part of this responsibility to local government units, leaving them also with the largest share of financial responsibility for public schools. Since the nineteenth century, local property taxes have served as the major source of revenue for public education. Unequal abilities to support public services and different ideas on what constitutes appropriate local tax effort and spending levels have created wide disparities in educational expenditures per pupil among local school districts in almost all states. It is the existence of these wide disparities in educational expenditures which has been the prime factor behind the recent school finance reform movement.

The school finance reform movement marked its beginning with the landmark case of Serrano vs. Priest in California in the early 1970's. The California Supreme Court ruled that the state's public school financing system "with its substantial dependence on local property taxes and resultant wide disparities in school revenue"[1] was in violation of the equal protection clause of both the California state constitution and the Fourteenth Amendment of the U.S. Constitution. Central to the Court's decision was its finding that equal educational opportunity was being denied the young people of California because under the state's school finance plan the quality of a child's education, as evidenced by per pupil expenditures, was directly dependent upon the wealth of the child's parents and neighbors. Furthermore, the state's distribution of aid to districts on a uniform per pupil basis, regardless of district wealth, only exacerbated the existing disparities in school district educational offerings. The court also found that taxpayers in poor districts could not "freely choose to tax (themselves) into an excellence" which their tax rolls could not provide.[2] In its ruling, the court raised two fundamental issues: educational expenditure equity and tax burden equity. However, the overriding

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[1] Serrano vs. Priest, 96 Col. Rptr. 601, 487 p. 2d 1241 (1971).

[2] Serrano vs. Priest.

concern of the court lay with achieving greater equity among school districts in spending for education.

Shortly after the original Serrano case (1971), a federal District Court in Texas found the Texas' system of school finance to be unconstitutional under the Fourteenth Amendment. On appeal, the Rodriguez vs. San Antonio case was heard by the U.S. Supreme Court. In 1973, the Supreme Court reversed the lower court's decision, finding that 1) education was not a fundamental interest afforded protection under the Federal Constitution (Fourteenth Amendment) and 2) there was no suspect classification of poor against whom discrimination had been practiced. The court maintained that the Texas school finance plan was structured so as to preserve local autonomy over education and not to promote wealth discrimination. Paramount to the Court's decision was a fear that a national mandate to reform state school finance laws would cause too great a shift in the traditional distribution of powers among state and federal governments in the field of education.[3]

The impact of the Rodriguez decision was to effectively close the federal courts t any consideration of school finance reform. At the time of the decision, many reformers felt that the weight of such an opinion from the U.S. Supreme Court would negatively influence state courts. Fortunately, the Serrano case remained unaffected by the U.S. Supreme Court's decision since it also was based on an interpretation of the state constitution's equal protection clause. Despite the Rodriguez decision, litigation based on state constitutional grounds did continue in various states.

Within a matter of weeks after the Rodriguez decision, the New Jersey Supreme Court ruled in Robinson vs. Cahill that New Jersey's plan for public school financing violated that state's constitution because the plan failed to provide for a "thorough and efficient system of free public schools." The court stated that the obligation to provide for a "thorough and efficient system" of education was clearly the state's, and that regardless of the reason, "if the local government cannot carry the burden, the state must itself meet its continuing obligation."[4] It is interesting to note in this case that the

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[3] John Jennings, "School Finance Reform: The Challenge Facing Connecticut," Journal of Education Finance, Vol. 4, No. 4, p. 397.

[4] Robinson vs. Cahill, 62NJ 473, 303 A. 2d 273 (1973).

New Jersey Supreme Court clearly accepted educational expenditure levels as a measure of the quality of educational opportunity being provided in school districts.

The Horton vs. Meskill case followed in 1977. The Connecticut school finance plan was ruled unconstitutional by the Connecticut Supreme Court on grounds that it violated both an education rights clause and the equal protection clause of the state constitution. The court maintained that since it was the state's constitutional responsibility to "provide a substantially equal educational opportunity" for its youth, a system of school finance which relied primarily on local funding and yet provided no significant state equalizing aid was unconstitutional. The court further found that since public education was a fundamental right under the state constitution's equal protection provision, any infringement of that right must be strictly scrutinized. Unlike the U.S. Supreme Court's finding in Rodriguez, the Connecticut Supreme Court held that local control of education was not a "compelling state interest" justifying different treatment for education among districts.

In Cincinnati vs. Walter, an Ohio Supreme Court ruled (1979) that Ohio's school finance plan was constitutional, overturning the decision of two lower courts which ruled in 1977 and in 1978 that Ohio's equal yield formula was unconstitutional. The lower courts held that Ohio's school finance plan, which distributed state aid according to local tax effort, violated the state's "thorough and efficient" education clause since local effort, or the inclination of taxpayers to support property tax initiatives, was not necessarily a reflection of voter preference for education but rather an indicator of the socioeconomic class or wealth of the district. Furthermore, the differences in district expenditures per pupil and resultant variations in educational quality attributed to the school finance plan, violated the state constitution's equal protection clause.

In its finding, the Ohio Supreme Court said the state's plan was constitutional because local control of education "provides a rational basis for supporting the disparity in per pupil expenditures." Additionally, the present financing system meets the condition for a "thorough and efficient" education because "no part or any number" of the school districts in the state are starved for funds or lack of teachers, buildings or equipment. "The fact that a better financing system could be devised which would be more efficient or

more thorough is not material," the court said. The case is now being appealed by the plaintiffs to the U.S. Supreme Court.

In the 1978 New York case, Levittown vs. Nyquist, the New York school finance plan was declared unconstitutional. In its findings, the court adopted the concepts, of "municipal overburden" and "educational overburden." In recognizing the role of municipal overburden, the court required that the greater burden placed on city taxes to provide revenues for widespread social services must be taken into account in apportioning state funds for public education. Similarly, the court recognized that certain school districts, particularly large urban districts, are overly burdened with high educational need children such as handicapped, disadvantaged, and limited English speaking children. This fact coupled with the higher cost of purchasing educational services in the cities leads to the limited ability of some districts to meet the demand for educational services.

Since Serrano vs. Priest, more than thirty school finance cases have been filed in state and federal courts.[5] Some of the most significant cases have been presented here as a brief overview of the judicial history of the reform movement. While the turmoil of school finance reform may not reach directly into the classroom, the impact of the movement will have an effect on the funds available for the education of each and every child. For this reason it is imperative that teachers, other school professionals, and those concerned about public education become knowledgeable about school finance issues and actively engage in policy debates.

The purpose of this manual is to provide an overview of the way public elementary and secondary schools are financed in Ohio, place school finance in the context of government finances, and explore some of the school finance policy issues and options. Chapter II of this manual looks at state and local government fiscal structures in Ohio with emphasis on fiscal performance and effort. This chapter is offered as background information for the larger discussion of school finance strategies, for without an understanding of local and state financial capacities, meaningful and well integrated reform measures cannot be conceived. Chapter III explains the current Ohio state school

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[5] Jay Moskowitz and Joel Sherman, "School Finance Litigation: The Use of Data Analysis," Journal of Education Finance, 1979. Vol. 4, No. 4, p. 322.

financing plan with emphasis on how state aid to school districts is distributed. Lastly, Chapter IV provides an introduction to the issues surrounding school finance reform by examining statewide disparities in school district educational expenditures, wealth, and tax rates. Some commentary is offered on the effects of these disparities and their relationship to state financing formulas.

CHAPTER II

FISCAL STRUCTURE OF OHIO STATE AND LOCAL GOVERNMENT

Social and Economic Features of Ohio

Ohio is a major industrial state in the Great Lakes region with an estimated 1977 population of 10,701,000, making it the sixth largest state in the United States in population. Like many of its neighbors in the Great Lakes region and in the Northeast, Ohio's population has been stabilizing over the past decade. Between 1970 and 1977 total births in Ohio exceeded total deaths by 507,000 but a net outmigration of 464,000 over the same period left the state with only a net gain of 43,000 people.

The metropolitan nature of Ohio's population is demonstrated by the fact that 80 percent of the state's people live in metropolitan areas and only 20 percent in non-metropolitan areas. The ten largest metropolitan areas in the state, with their populations, are:

Cleveland	1,967,000
Cincinnati	1,079,000
Columbus	1,072,000
Dayton	837,000
Akron	670,000
Toledo	653,000
Youngstown-Warren	544,000
Canton	403,000
Lorain-Elyria	266,000
Hamilton-Middletown	247,000

Over 72 percent of Ohio's population live in these ten metropolitan areas.

Ohio was originally settled by Americans who moved along the Ohio River or moved north from Kentucky into the southwestern corner of the state. Yankee farmers and merchants from New York State and New England later moved into Ohio from the northeast. German immigrants came to the Cincinnati area after political turmoil in their homeland in the late 1840's. These were followed in the late 19th and early 20th centuries by a diverse set of ethnic groups who made rapid urbanization possible.

Today the population of Ohio is approximately 10 percent non-white with major ethnic groups being German, Italian, Polish, British, and Hispanic.

In 1972, in addition to the state government, there were 3,259 local governmental units in Ohio. These included 88 counties, 1,320 townships, 936 municipalities, 640 independent school districts, and 275 special districts. In fiscal year 1977, the state of Ohio had direct general expenditures of $3.9 billion and over 3,000 local governments had direct general expenditures of $7.9 billion. Therefore, total state and local governmental expenditures in Ohio in fiscal year 1977 came to almost $12 billion.

Ohio has a diversified economy, with a heavy emphasis on industry. The economic base of the state rests on seven major foundations:

1. Machinery, especially metalworking machinery
2. Transportation equipment, especially motor vehicles and equipment
3. Finance, insurance, and real estate
4. Primary metal industries, especially blast furnaces and basic steel products
5. Fabricated metal products, especially metal stampings and fabricated structural metal products
6. Electrical equipment and supplies, especially household appliances and electrical industrial apparatus
7. Agriculture, especially dairy products, cattle, soybeans, and corn.

Personal income in Ohio for the calendar year 1976 totaled $68.5 billion, or $6,412 per capita. This places Ohio close to the national average of $6,399 in per capita personal income. The statewide average federal adjusted gross income on all 1976 returns was $13,645 per return. The highest average income was $37,186 for the Ottawa Hills Local School District in Lucas County and the lowest was $8,531 in North Bass Local School District in Ottawa County.

State and Local Finances

State and local governments generally derive most of their revenues from five major sources: intergovernmental transfers, property tax, general sales tax, income tax, and charges and miscellaneous revenues. A healthy revenue policy usually requires a balance among all of these sources. Ohio state and local general revenue is shown in Table 1.

Table 1
General Revenue
Ohio State and Local Governments
1976-77
(millions of dollars)

	State of Ohio		Ohio State & Local Govts.	
	Amt.	%	Amt.	%
Total General Revenue	$6,061.5	100.0	$7,889.1	100.0
From Federal Government	1,656.4	27.3	604.5	7.7
From State Government	--	--	2,614.7	33.1
From Local Governments	45.7	0.8	--	--
Total Taxes	3,570.8	58.9	3,285.8	41.6
Property Tax	108.3	1.8	2,560.3	32.5
General Sales Tax	1,135.5	18.7	67.8	0.9
Income Tax	930.4	15.3	553.5	7.0
Charges and Misc. Revenues	788.6	13.0	1,384.0	17.5

SOURCE: AFT Department of Economic Research calculations based on U.S. Bureau of the Census, Governmental Finances in 1976-77, (Series GF 77 No. 5).

State Revenues

The largest single revenue source for the state of Ohio is the federal government, which provides over 27 percent of all Ohio state general revenues. From its own sources, the largest revenue producers for the state of Ohio are the general sales tax (18.7 percent of general revenues), the income tax (15.3 percent), and charges and miscellaneous revenues (13.0 percent). Other taxes make up the other 25 percent of Ohio's revenue.

The general sales tax is levied at a rate of 4 percent with exemptions for food bought for off-premises consumption and medicine.

The Ohio state individual income tax is relatively low with rates ranging from 0.5 percent for the first $5,000 of income to 3.5 percent for income over $40,000. The individual income tax is fairly progressive with estimated average effective tax rates listed below for selected income levels:

$ 5,000	0.3 percent
7,500	0.4 percent
10,000	0.6 percent
17,500	1.1 percent
25,000	1.6 percent
50,000	2.4 percent

This places Ohio state income tax liability at approximately 10 percent of the federal individual income tax liability.

Local Revenues

Together state aid and the local property tax provide almost two-thirds of all local government general revenue in Ohio. The next largest revenue sources are charges and miscellaneous revenues (17.5 percent) and federal aid (7.7 percent). Such a heavy dependence on state aid and the property tax has a bad effect on the ability of local governments to provide services. If increased revenues are not granted by the state legislature in the form of state aid, then local governments have little choice but to face the wrath of the homeowners by raising the local property tax rates. As has been amply demonstrated over the past few years, local voters are most hesitant to increase local property tax rates. Therefore, while nominally independent, Ohio local governments have become fiscal wards of the state.

State Expenditures

The state of Ohio provides over $2.5 billion annually in aid to local governments and spends just under $4 billion in direct general expenditures (see Table 2). The largest categories of state direct general expenditures are public welfare ($953 million), higher education ($900 million), health and hospitals ($515 million), and highways ($472 million). Together, these four constitute 72 percent of all direct state spending. It should be noted that in most of these four areas, much federal aid is received by the state. Other significant areas of state direct spending include interest on the general debt ($173 million), general governmental functions ($143 million), other education, including the state department of education ($140 million), and police protection ($44 million).

Local Expenditures

Direct general expenditures of all Ohio local governments are also presented in Table 2. The largest single category of local spending is expenditures for local schools which in 1976-77 totaled $3.6 billion, or 45.2 percent of all local government spending. The next largest expenditure category was health and hospitals, which totaled $553 million, or 7 percent of all local expenditures.

Table 2
Direct General Expenditures
Ohio State and Local Governments
1976-77
(millions of dollars)

	State of Ohio		Ohio Local Govts.	
	Amt.	%	Amt.	%
Direct General Expenditures	$3,943.7	100.0	$7,927.8	100.0
Education	1,039.5	26.4	3,829.1	48.3
Local Schools	—	—	3,582.7	45.2
Higher Education	899.9	22.8	246.4	3.1
Other Education	139.6	3.5	—	—
Highways	472.4	12.0	461.5	5.8
Public Welfare	952.9	24.2	374.5	4.7
Health and Hospitals	514.6	13.0	553.4	7.0
Police	44.0	1.1	387.8	4.9
Fire	—	—	213.2	2.7
Sewerage & Sanitation	—	—	377.5	4.8
Local Parks & Recreation	—	—	144.6	1.8
General Government	143.3	3.6	286.5	3.6
Interest	173.4	4.4	232.2	2.9
All Other Expenditures	603.7	15.3	1,067.7	13.5

SOURCE: AFT Department of Economic Research calculations based on U.S. Bureau of the Census, Governmental Finances in 1976-77, (Series GF 77 No. 5).

Other large expenditure items include highways ($462 million), police protection ($388 million), sewerage and sanitation ($378 million), public welfare ($375 million), general government ($287 million), and higher education ($246 million).

Fiscal Performance and Tax Effort

The amounts of revenue raised by governments are often not meaningful in themselves, but can take on meaning when compared to similar data from other states or when compared to some measure of revenue raising capacity.

Various indicators of fiscal effort are provided in Table 3. In all indicators, Ohio ranks well below the national average in fiscal effort (column 3 on Table 3). Ohio state and local taxes per capita were $641 in 1976-77, or 79 percent of the national average of $813. Ohio property taxes per capita also below the national average $299 versus $289. In addition, between

Table 3
Indicators of Fiscal Effort
Ohio State and Local Gvoernments

	Ohio	United States Average	Ohio / US X 100
1. State and Local Taxes Per Capita, 1976-77	$ 641	$ 813	79
2. Property Taxes Per Capita, 1976-77	249	289	86
3. Increase in Property Taxes Per Capita, 1971-72 to 1976-77	38%	43%	88
4. State and Local Taxes as Percentage of Personal Income	10.0%	12.8%	78
5. Property Taxes as Percentage of Personal Income	3.9%	4.6%	85
6. Average State and Local Taxes by Income Class			
$10,000 - 14,999	$ 829	$1,131	73
15,000 - 19,999	1,111	1,503	74
20,000 - 24,999	1,402	1,869	75
25,000 - 34,999	1,775	2,409	74
35,000 - 49,999	2,558	3,368	76
50,000 - 99,999	3,971	5,384	74

SOURCE: Lines 1-5; AFT Department of Economic Research calculations from U.S. Bureau of the Census data.

Line 6; Money magazine, compiled from Internal Revenue Service data.

1971-72 and 1976-77, property taxes in Ohio have not been increasing as rapidly as they have been nationally.

Since states' capacities to raise revenues vary because of differing income levels, another way of measuring effort is to look at revenues raised as a percentage of personal income. Lines 4 and 5 of Table 3 show Ohio state and local taxes and Ohio property taxes as a percentage of the state's personal income. For total state and local taxes, Ohio's effort is 22 percent below the national average, and property tax effort is 15 percent below the national average.

Line 6 of the table shows an estimate of the average amount of taxes paid by Ohio families by income class and compares this to the U.S. average. In every income class, Ohio residents pay approximately 75 percent of the national average in state and local taxes. Preliminary calculations would seem to indicate

that Ohio's state and local tax system is probably mildly regressive. This position is further supported by data from the Advisory Commission on Inter-Governmental Relations (ACIR).

A more sophisticated and meaningful way to analyze tax effort is the representative tax system approach. This approach, the product of the now classic 1962 ACIR study, Measures of State and Local Fiscal Capacity, by Selma Muskin and Alice Rivlin, relates state and local fiscal capacity to average tax rates. The resulting tax effort measure indicates whether a state overuses or underuses various tax sources.

The representative tax system approach determines tax capacity as the amount of tax revenue a state could raise through state and local taxes if it taxed at a rate identical to the average tax rate assessed in the nation. In effect, the system is called representative in that a uniform and average tax system is applied to the tax bases of each state.

Under the representative tax system, a state's tax effort is a comparison of the amount of revenue raised by particular taxes or all taxes together and the amount that could be raised under the average national tax rate.

The tax rates under the representative system are average tax rates and not necessarily ideal tax rates. However, they do provide a meaningful way to compare state-local tax systems for the various states, and to analyze state and local tax structures.

Table 4 shows measures of Ohio tax effort under the representative tax system approach. An index of effort (column 3) less than 100 indicates underutilization of the tax and an effort over 100 indicates overutilization. In the event of underutilization, the difference between the "potential amount" and the "collected amount" shows the amount lost in 1975 because of low tax effort.

Note that Ohio underutilizes all tax sources except taxes on tobacco products, licenses for corporations, alcoholic beverage licenses, and farm property taxes. In 1975, Ohio lost over $230 million in revenue because of underutilization of the individual and corporate income taxes. By having lower than average property taxes, the 1975 revenue loss was almost $600 million. General sales tax revenue loss totaled another $500 million for 1975. While altering any tax rates is a politically and economically complex undertaking, these three examples show how by taxing at national average tax rates Ohio state and local governments could

have generated an additional $1.33 billion in 1975 from income taxes, property taxes, and the general sales tax. This is not an admonition to raise taxes, but an example of potential effects of changes in tax policies.

Table 4
Tax Effort Under Representative Tax System
Ohio State and Local Governments
1975
(dollar amounts in thousands)

Tax	Potential Amount	Amount Collected	Index of Effort
All Taxes	$7,049,000	$5,648,479	80
General Sales Tax	1,484,391	989,425	67
Selective Sales Taxes	941,965	878,873	93
Motor Fuels Tax	414,602	371,409	90
Alcoholic Beverages Taxes	72,061	70,467	98
Tobacco Products Taxes	161,436	190,334	118
Insurance Taxes	86,042	76,614	89
Public Utilities Taxes	178,378	148,606	83
Parimutual Taxes	25,194	21,448	85
Amusement Taxes	4,252	0	0
Individual Income Tax	1,118,024	953,622	85
Corporation Net Income Tax	335,779	267,315	80
Licenses	295,158	355,088	120
Motor Vehicle Licenses	214,662	214,151	100
Motor Vehicle Operators	16,486	12,753	77
Corporations Licenses	43,775	108,285	247
Alcoholic Beverage Licenses	9,913	12,418	125
Hunting and Fishing Licenses	10,332	7,481	72
Property Taxes	2,773,616	2,175,534	78
Residential Property	1,219,628	919,855	75
Commercial and Industrial Property	1,165,828	909,553	78
Farm Property	90,866	100,300	110
Public Utility Property	297,294	245,826	83
Death and Gift Taxes	68,037	24,730	36
Severance Tax	32,120	3,892	12

SOURCE: D. Kent Halstead, Tax Wealth in Fifty States, National Institute of Education, 1978.

CHAPTER III

STATE SUPPORT FOR PUBLIC ELEMENTARY AND SECONDARY EDUCATION IN OHIO

Public Education in Ohio

There are 616 public school districts in Ohio ranging from large city districts like Cleveland, Columbus, Cincinnati, and Toledo to small rural school districts educating a few hundred pupils. These school districts operate over 4,100 public schools in the state educating about two and a quarter million pupils. The 4,100 schools include 3,100 elementary schools and over 1,000 secondary schools.

Like many states in its region of the United States, Ohio has been experiencing declining public school enrolments in the last few years. Table 5 shows Ohio public school enrollment trends from 1972-73 to 1977-78. Since 1972-73, Ohio public school enrollments have shown a net loss of 222,000 pupils. Elementary enrollments have shown a steady decline over this period, while secondary enrollments have declined since a peak enrollment in 1973-74.

Total expenditures for elementary and secondary education have risen from $2.5 billion in 1973-74 to $3.4 billion in 1977-78 (see Table 6). In terms of constant purchasing power, the total expenditure per pupil has risen over the same period from $1,033 to $1,138, a gain of about $100 per pupil or 10 percent. Between 1976-77 and 1977-78, total expenditure per pupil actually declined in constant dollars.

State Support for Public Education

Public funding for education in Ohio can be traced from the federal Land Ordinances of 1785 and 1787 which specified that the income from one section of each township in the Northwest Territory was to be used for the purposes of education. The Ohio Constitution also requires the General Assembly to provide for a "thorough and efficient system of common schools throughout the State" (Art. VI, Section 2).

As in many states, in the 19th and early 20th centuries, the local real property tax provided the almost exclusive means of funding local public schools. Education remained a local responsibility and local property wealth supported

Table 5
Ohio Public School Enrollment
1972-73 to 1977-78
(in thousands)

	Enrollment					
	Elementary		Secondary		Total	
	Total	Change	Total	Change	Total	Change
1972-73	1,698	--	741	--	2,439	--
1973-74	1,617	-81	761	+20	2,378	-61
1974-75	1,585	-32	773	+12	2,358	-20
1975-76	1,535	-50	757	-16	2,292	-66
1976-77	1,504	-31	745	-12	2,249	-43
1977-78	1,476	-28	741	- 4	2,217	-32

SOURCE: National Center for Education Statistics

Table 6
Ohio Public School Expenditures
1973-74 to 1977-78

	Total Expenditures (in millions)	Total Expenditures Per Pupil	
		Current Dollars	1973-74 Purchasing Power
1973-74	$2,457	$1,033	$1,033
1974-75	2,749	1,166	1,052
1975-76	2,942	1,284	1,060
1976-77	3,363	1,495	1,167
1977-78	3,446	1,554	1,138

SOURCE: AFT Department of Economic Research calculations from National Center for Education Statistics data.

the state's school system.

In the 1920's states, led by New York State, began to increase their support for public education and to equalize the funds available for education in each district. In New York, Strayer and Haig, with refinements by Mort, developed a finance plan which ensured a minimum support level for each pupil, called a foundation program.

Ohio, in 1935, initiated the School Foundation Program, financed by a three percent retail sales tax, which raised the state's share of total educational costs to about 50 percent. This Foundation Program continued, with numerous modifications, for forty years. By 1964-65, state support had dropped to 30 percent with the property tax supporting 60 percent of public school costs. The state share increased after that, but remained in the range of 30 to 35 percent.

In 1975, the Ohio General Assembly replaced the School Foundation program with the equal yield formula. The equal yield formula is a district power equalizing (DPE) plan designed to provide an equal amount of funds per pupil for each district with the same tax rate. The equal yield formula was not fully funded until the 1977-78 biennial session of the General Assembly.

In Cincinnati vs. Walter, the Ohio "equal yield" formula for school finance was challenged on state constitutional grounds by the Cincinnati school board as a class action suit representing Ohio school boards and school children. On December 5, 1977, a Hamilton County Court declared the Ohio school finance plan in violation of both the equal protection provision and the "thorough and efficient" education clause of the state constitution. The court said that Ohio's distribution of state aid should not be dependent upon local tax effort, or the inclination of taxpayers to support education since tax effort was not necessarily a reflection of voter preference for education but rather an indicator of the socioeconomic status or wealth of the school district.

On appeal, the case was heard by an Ohio state appellate court which essentially upheld the lower court's decision in late 1978. In its finding the appellate court said the state had shown that it was trying to provide a thorough and efficient education, thereby satisfying that part of the state constitution; but the differences in district educational spending per pupil and the resultant variations in quality of educational services did violate the state's equal protection clause. As in Horton vs. Meskill, the court rejected any arguments the differences in education among school districts are justified by the

state's interest in assuring local control of education.

The case was appealed again, this time to the Ohio Supreme Court. On June 14, 1979, the Supreme Court overturned the two lower courts' decisions, finding that the state's "equal yield" school finance formula did not violate either the thorough and efficient clause or the equal protection clause, even though the formula results in unequal educational expenditures among districts. The court said local control "provides a rational basis for supporting the disparity in per pupil expenditures." The court maintained that the present financing system meets the condition for a "thorough and efficient" education because "no part or any number" of the school districts in the state are starved for funds or lack teachers, buildings or equipment. "The fact that a better financing system could be devised which would be more efficient or more thorough is not material," the court said.

The case is now in appeal to the U.S. Supreme Court.

The Equal Yield Formula

Under the current Ohio school finance plan, funds for Ohio public elementary and secondary education come from four main sources: local revenues, federal aid, state basic support, and state categorical aid. This plan is designed to equalize the funds available, on a per pupil basis, for education.

Under the equal yield formula, the basic state support guarantees each school district a certain number of dollars per pupil for each mill of school taxes levied by the local school district. (A mill is one-tenth of a cent, $.001. As a tax rate, one mill is a rate of $1 tax for each $1000 of assessed valutation. A 20 mill tax rate on a $50,000 home would yield a tax of $1,000 $20 \times \frac{50,000}{1,000} = 20 \times 50 = 1,000$.) The purpose of this type of formula is to allow poor districts to provide as much money per pupil for education as rich districts without having to levy a higher tax rate.

In order to participate in the basic state support program, each Ohio school district must:

1. Tax at the rate of at least 20 mills for current operating expenses;
2. Have a minimum number of days in the school year, currently 182 for those schools on an annual school operation plan; and
3. Adopt a teacher salary schedule in accordance with state law.

Under the equal yield formula, the state guarantees $960 per pupil for those districts levying a tax of 20 mills and guarantees an additional $42 per mill for those districts levying from 20 to 30 mills. Basic support is computed using average daily membership, equalized valuation, and the equalized millage rate to determine the equalized valuation per pupil and the local yield per pupil per mill.

Before looking at the state guarantee, we will learn how to calculate the average daily membership and the local yield per pupil per mill. Understanding these two concepts are necessary before basic state aid can be calculated.

Average Daily Membership

The basic ADM is determined by adding the following:

1. One-half of kindergarten ADM.
2. The ADM of grades 1-12.
3. The ADM (full-time equivalency) of pupils enrolled in an approved vocational unit.
4. One quarter (25 percent) of those pupils attending a joint vocational school (JVS) or a contract vocational school. There is also an averaging procedure for ADM for those districts with declining enrollments.

The calculation of basic ADM is shown in Table 7.

Table 7
Calculation of Basic ADM

	District			
	A	B	C	D
Kindergarten ADM x 0.5	100 x 0.5 = 50	200 x 0.5 = 100	150 x 0.5 = 75	1000 x 0.5 = 500
Grades 1-12 x 1	1000 x 1 = 1000	2200 x 1 = 2200	1250 x 1 = 1250	126,000 x 1 = 126,000
Voc. Ed. (FTE) x 1	100 x 1 = 100	100 x 1 = 100	75 x 1 = 75	15,000 x 1 = 15,000
JVS x 0.25	40 x 0.25 = 10	100 x 0.25 = 25	12 x 0.25 = 3	2,000 x 0.25 = 500
BASIC ADM	1160	2425	1403	142,000

Exercises on Basic ADM

1. Calculate the basic ADM for each of the following districts:

	A	B	C	D
Kindergarten pupils	122	50	84	1,012
Pupils in grades 1-12	1,400	575	1,038	14,238
Voc Ed (FTE) pupils	52	36	40	983
Pupils in JVS	20	24	48	204
Basic ADM	___	___	___	___

2. Calculate the basic ADM for the following districts:

	E	F
Kindergarten pupils	44	880
Pupils in grades 1-12	502	10,025
Voc Ed (FTE) pupils	12	180
Pupils in JVS	12	160
Basic ADM	___	___

Local Yield Per Pupil Per Mill

The equalized millage rate is computed by the Ohio Department of Education by the first of July each year for the preceding tax year. The equalized valuation is the assessed real property valuation for local tax collection equalized to the average of the reappraised counties plus the personal tangible property valuation. To obtain the equalized valuation per pupil, the equalized valuation is divided by the basic ADM. The equalized valuation per pupil divided by 1000 equals local yield per pupil per mill:

equalized value = EV

$$\text{equalized value per pupil} = \frac{EV}{ADM}$$

$$\text{local yield per pupil per mill} = \frac{\frac{EV}{ADM}}{1000} \quad \text{or} \quad \frac{EV}{ADM} \times .001$$

Exercises on Local Yield

Compute the local yield per pupil per mill for the following school districts:

	A	B	C	D	E
Equalized value	$33,000,000	126,000,000	80,000,000	44,000,000	16,000,000
ADM	1,100	3,000	2,000	2,200	500
Answer	$30	___	___	___	___

The State Guarantee

The state guarantees a local district a certain number of dollars per pupil depending on the district's tax rate. For the required first 20 mills, the state guarantees each district $48 per mill, or $960 ($48 x 20 mills). For each mill levied beyond 20 up to a maximum of 30 mills, the state guarantees an additional $42 per mill. Table 8 shows the state guaranteed revenue per pupil and how it is determined for millage between 20 and 30.

Table 8
The State Guarantee Per Pupil

Millage Rate	First 20 Mills	+	Above 20 Mills	=	Total Guaranteed Revenue Per Pupil
20	$960 ($48 x 20)	+	0	=	$ 960
21	960	+	$42 ($42 x 1)	=	1,002
22	960	+	$84 ($42 x 2)	=	1,044
25	960	+	$210 ($42 x 5)	=	1,170
30	960	+	$420 ($42 x 10)	=	1,380

The Local Contribution

The local contribution is simply the local yield per pupil per mill (LY/P/M) multiplied by the local millage rate. However, if the local millage rate exceeds 30 mills, then the local contribution is the local yield per pupil per mill multiplied by 30. For example, if a district has a LY/P/M of $30 and a tax rate of 25 mills, the local contribution would be $30 x 25 mills, or $750. Or, if the same district had a tax rate of 32 mills, the local contribution would be $30 x 30 mills, or $900.

Basic State Aid

The basic state aid is the state guarantee minus the local contribution. Table 9 shows the basic state aid for some hypothetical school districts.

Table 9
Basic State Aid Per Pupil

District	Equalized Millage Rate	State Guarantee Per Pupil	Local Yield Per Pupil Per Mill	Local Contribution Per Pupil	State Aid Per Pupil
			A. Effect of Property Wealth		
A	20	$960	20	$400	$560
B	20	$960	30	$600	$360
C	20	$960	40	$800	$160
D	20	$960	50	$1,000	$ 0
			B. Effect of Tax Effort		
E	20	$960	30	$600	$360
F	25	$1,170	30	$750	$420
G	30	$1,380	30	$900	$480
H	35	$1,380	30	$900	$480

Computing Basic State Aid

Basic state aid is actually computed using a simplified method not requiring the separate computation of the state guarantee and the local contribution. However, it is important to understand the role of the state guarantee and the local contribution in order to understand the equalization principle of the Ohio formula. The simplified method for computing Ohio basic state aid is as follows:

1. $48 minus local yield per pupil per mill (LY/P/M) times 20 mills.
2. $42 minus local yield per pupil per mill (LY/P/M) times the number of equalized mills, or fraction, in excess of 20 mills, but not exceeding 30 mills.
3. The sum of the two equals basic state aid.

For example, the district above with an LY/P/M of $30 and a millage rate of 25 would compute its basic state aid as follows:

($48 - $30) x 20 mills = $18 x 20 mills = $360
($42 - $30) x 5 mills = $12 x 5 mills = 60
Basic State Aid Per Pupil = $420

The result is the same as the longer method used above which resulted in a state guarantee of $1,170 per pupil for the 25 mills and a local contribution of $750 ($30 LY/P/M x 25 mills), with state aid being $420 ($1,170 - $750). Total basic state aid is the basic state aid per pupil multiplied by the ADM. In other words, if the school district in the examble above had an ADM of 23,000, its total basic state aid would be $9,660,000 ($420 x 23,000).

Exercises on Basic State Aid

Local yield per pupil per mill = LY/P/M

Equalized millage rate = EM

1. Find the basic state aid per pupil of the following school districts:

   a. LY/P/M = $42; EM = 22

   b. LY/P/M = $20; EM = 28

   c. LY/P/M = $45; EM = 20

   d. LY/P/M = $18; EM = 21.5

   e. LY/P/M = $30; EM = 28.75

   f. LY/P/M = $40; EM = 33

2. Find the total basic state aid for the following school districts:

   a. LY/P/M = $48; EM = 23; ADM = 1,000

   b. LY/P/M = $37; EM = 30; ADM = 20,000

   c. LY/P/M = $27; EM = 34; ADM = 12,500

Entitlement Provision

The entitlement provision in the Ohio formula is a hold-harmless device to protect certain districts from changes in the basic state aid formula. Under this provision a district is guaranteed no less basic state aid than that received in fiscal year 1975, prior to the institution of the present formula. This assists Ohio districts with above average equalized property value per pupil by guaranteeing them more basic state aid than the formula would otherwise provide.

Adjustment Factors

Certain adjustments are also made in basic state support for the number, training and experience of professional personnel. The adjustments include:

1. A deduction for those districts employing fewer than 40 classroom teachers per 1000 pupils in 1978-79.
2. An adjustment (deduction or addition) for classroom teachers training and experience through a comparison of the average annual classroom teacher salary based on the state minimum salary schedule, and the state average annual salary of all classroom teachers in Ohio.
3. A deduction for districts not employing 4 educational service personnel per 1000 pupils.

Basic State Support

Basic state support is determined as the adjusted state support (basic support and adjustments) or, if larger, the fiscal 1977 unadjusted basic state aid with current fiscal year adjustments.

Categorical Program Funding

Under the Ohio School finance program there is a system of categorical programs, in addition to the basic state aid program, which provide funding for certain types of educational programs, according to specific formulas. Categorical programs provide sizeable amounts of state aid for most Ohio districts. For example, in 1978-79, categorical program funds will comprise 39.1 percent of all state aid for Cleveland City School District, 46.6 percent for Columbus, 61.6 percent for Cincinnati, 50.3 percent for Toledo, and 32.2 percent for Akron. There are five major types of categorical aid in Ohio.

Vocational Education Aid

For each approved vocational education unit, aid is provided for 115 percent of the teacher salary allowance based on the state minimum salary plus $4,000 for classroom and other expenses. If it yields a greater amount, vocational aid can be computed on a per pupil basis at 105 percent of basic state support per pupil.

Special Education Aid

Categorical aid for special education units is 115 percent of the teacher salary allowances based on the state minimum salary schedule, plus $870 per unit for additional costs for approved units for gifted, child study, occupational or physical therapy, speech and hearing supervisions, and coordination of special education units, and $4,540 per unit for approved units of more severely handicapped students including mentally retarded, blind, deaf, physically handicapped, and others.

Disadvantaged Pupil Impact Aid (DPIA)

To be eligible for disadvantaged pupil impact aid, a district must have at least 500 ADC (aid to dependent children) pupils or have ADC children of at least 10 percent of the previous years' ADM. Eligible districts receive from $7.50 to $98.00 per pupil based on the percentage of ADC children in the district. The aid per pupil is multiplied by the current year ADM (minus the one-half kindergarten ADM).

The current DPIA funding formula is:

Percent of Total ADM	Allotment/Pupil
More than 500 ADC, but less than 10%	$ 7.50
10 - 14.5%	7.50
14.5 - 18.5%	24.50
18.5 - 22%	53.50
22 - 26.5%	65.00
26.5 - 31.5%	71.50
31.5 - 38.5%	85.00
38.5% or more	98.00

This allotment is multiplied by the total number of students in ADM, less the 1/2 of the kindergarten, and added to the basic aid of the district. This is general fund money with no required expenditure. Ninety-seven of the 616 districts now participate in this program.

Approved Extended Service

An additional salary allowance is paid for approved, certificated school personnel, with the exception of superintendents and principals, who serve beyond the regular school year. Such an allowance is proportionate to the length of the additional service.

Transportation Operating Allowance

The State Board of Education establishes formulas for calculating approved transportation operational costs. The formulas are based on the number of pupils, the number of average daily miles, and the type of transportation provided within the district.

Total State Aid

Total state aid is the sum of the basic state support and total categorical program funding. Table 10 shows the origin of state aid for Cleveland, Cincinnati, and Toledo for 1978-79.

Table 10
1978-79 State Aid Per ADM
Cleveland, Cincinnati, and Toledo

	Cleveland	Cincinnati	Toledo
Basic ADM	96,965	53,040	43,649
Equalized Value Per Pupil	$31,767	$43,245	$36,895
Total State Aid Per ADM	$ 718	$ 558	$ 654
Basic State Support	438	214	325
Categorical Programs	281	343	329
Vocational	75	82	106
Special Education	99	120	116
DPIA	97	90	68
Approved Extended Ser.	1	4	3
Transportation	8	47	36

SOURCE: AFT Department of Economic Research calculations from Ohio Department of Education, Division of Computer Services and Statistical Reports, Financial Profile, (9/15/78).

CHAPTER IV

STUDYING OHIO'S SCHOOL FINANCE PLAN

Over the past decade, school finance reform has been attempted in several states. These reform efforts generally resulted from court challenges to the existing school finance systems on the grounds that they violated equal-protection provisions in state constitutions or law. In the simplest instances, inequities were based on the relationship between property value per pupil (wealth) and expenditures per pupil (level of educational services). Courts held that for school finance programs to be equitable, the level of educational services provided could not be dependent upon the wealth of the district in which the pupil resided. By equalizing the ability of school districts to raise revenues for educational purposes at a given rate of taxation, fiscal neutrality would be achieved. Ohio's equal yield formula, a district power equalizing plan, is an example of a school finance program designed to bring about fiscal neutrality.

Fiscal neutrality does not necessarily result in any lessening of the disparities in per pupil expenditures among districts, but only demands that such disparities not be a function of wealth. Disparities in expenditure levels may result from the desire of some districts to offer a higher level of educational services through higher tax rates. A district power equalizing formula, or any other program designed to achieve fiscal neutrality has the practical effect of equalizing the wealth behind each pupil.

Wealth has traditionally been defined as "property value per pupil" because of the dependence of school districts on the property tax for raising local revenues. Some economists claim that a more adequate measure of wealth is average family income since all taxes, regardless of the tax base, are paid out of income. This adds another dimension of wealth equalization for school finance since property wealth and income are not always highly correlated, as shown by the following two pairs of Ohio school districts:

	Property Value/Pupil	Average Income/Return
Toledo City	$36,895	$13,206
Strongsville City	$36,441	$18,011
Euclid City	$68,936	$13,636
ilton Unioh Ex. Vill.	$21,607	$13,681

This clearly demonstrates that the definition of wealth has a great effect on the results of any plan to equalize wealth.

As already mentioned, another definition of equity is equalized expenditure per pupil. This equity standard focuses on services to students rather than on the taxpayers who provide the resources for those services. Under this concept of equity, disparities in expenditures per pupil are allowed as long as they are based on some rational measure of differing student need. Thus far, the only school finance plan which comes close to providing equity in expenditures is full state assumption of educational financing.

In studying any state's school finance plan, the first question to be considered and answered is what kind of equity is desired. Equity considerations can apply to either the process of equalization or the results of equalization or both.

This chapter looks at disparities in the capacities of school districts in Ohio to raise revenues for public schools and considers both disparities in property wealth and income. Also examined are disparities in tax effort and expenditure disparities. The purpose of this chapter is not to suggest an approach to equity, but to show ways in which the different approaches to equity can be analyzed.

Disparities in Capacity

In this section, we will consider disparities in two measures of fiscal capacity: property value per pupil and household income. Ohio's equal yield program is designed to compensate for disparities in property value per pupil. Therefore, for purposes of the Ohio school finance formula, the tax base is defined in terms of equalized property value per pupil in ADM.

To investigate disparities in school district tax bases, we developed a sample of 20 Ohio districts representing large city, small city, suburban, and rural school districts. Table 11 shows those 20 districts arranged on the basis of equalized property value per ADM from the wealthiest district to the poorest district.

An examination of the data in Table 11 demonstrates the large disparity that exists among the 20 districts in tax base. There are a number of ways these data can be summarized.

The simplest summary is the range, the difference between the highest and

Table 11
Property Value Per ADM, 1978-79
Sample of 20 Ohio School Districts

District	Total Equalized Property Value	ADM	Equalized Property Value Per ADM
Euclid City	$ 469,317,098	6,808	$ 68,936
Cincinnati City	2,293,724,470	53,040	43,245
Jackson Local	201,184,716	4,669	43,089
Medina City	162,638,498	4,149	39,199
Toledo City	1,610,433,649	43,649	36,895
Strongsville City	188,984,205	5,186	36,441
Painesville Local	148,501,479	4,354	34,107
Findlay City	240,921,509	7,095	33,957
Scioto Darby City	129,820,470	3,917	33,143
Lorain City	428,659,634	13,295	32,242
Cleveland City	3,080,262,975	96,965	31,767
Benjamin Logan Local	54,794,922	1,767	31,010
Rittman Ex. Vill.	39,377,758	1,382	28,492
Gordham Fayette Local	15,696,850	571	27,490
Louisville City	94,252,300	3,728	25,282
Jennings Local	9,682,646	416	23,276
Milton Union Ex. Vi l.	46,995,290	2,175	21,607
Valley View Local	41,880,400	2,200	19,037
Streetsboro City	36,771,871	2,114	17,394
Licking Valley Local	28,883,162	1,867	15,470
TOTAL	$9,322,783,902	259,347	$642,079

SOURCE: Ohio State Department of Education, Division of Computer Services and Statistical Reports, Financial Profile, (9/15/78).

lowest values. The range indicates the extremes or how widely dispersed the districts are. For this sample, the range is $53,466, the difference between the values for Euclid, $68,936, and Licking Valley, $15,470 ($68,936 - $15,470 = $53,466). A variance of the range is the ratio of the highest value to the lowest value. In our sample the range ratio is $\frac{68,936}{15,470}$ or 4.46:1. The range ratio shows that Euclid has a tax base 4.46 times the tax base of Licking Valley.

Another way to summarize data is to compute a simple, arithmetic average. The average or mean equalized property value per ADM in our sample of 20 districts is $32,104, rounded off to the nearest whole dollar. This is computed by dividing

$642,079, the sum of the equalized property values per ADM for all 20 districts, by 20, the number of districts:

$$\frac{\$642,079}{20} = \$32,103.95 \text{ or } \$32,104$$

This simple average of the 20 district equalized property values per ADM adds another dimension to the range data.

However, the simple average can be misleading if there are wide disparities in the number of pupils in the districts, as there are in our sample. In computing the simple mean, equal weight is given to each of the values for per pupil expenditures, which themselves represent "averages" of total expenditures per total ADM. As an example in the above calculation of the simple mean, the equalized property value per ADM of $31,767 for Cleveland with an ADM of 96,965, counted the same as the similar figure of $23,278 for Jennings, which has an ADM of only 416. This can lead to distortion in arriving at an "average" value for the data.

The problem can be eliminated by calculating a weighted average or weighted mean for the sample. This would be obtained by dividing the total equalized property value for the 20 districts ($9,322,783,902) by the total ADM (259,347). The weighted mean is $35,947:

$$\frac{\$9,322,783,902}{259,347} = \$35,947.14 \text{ or } \$35,947.$$

Note that the weighted mean ($35,947) is higher than the simple mean ($32,104), indicating that the districts in the sample with the higher equalized property value per ADM tend to have a higher ADM.

When the data is arranged in size order, as the equalized property values per ADM are in Table 11, the median value is the middle value. With 20 districts in our sample, the middle value falls between the 10th and 11th values. The median is found by computing a value half way in between these two. The 10th value is $32,242 (Lorain) and the 11th value is $31,767 (Cleveland). Thus, the median is:

$$\frac{\$32,242 - \$31,767}{2} = \frac{475}{2} = \$237.50$$

$$\$31,767 + \$237.50 = \$32,004.50 \text{ or } \$32,005$$

To the nearest whole dollar the median value is $32,005.

The simple mean, weighted mean, and median are all called measures of central tendency because they describe some center point or value in the data. When analyzing disparities, it is useful to compare actual district data to one or all

of the measures of central tendency.

In looking at these data, we know, for instance, that Cleveland is below the simple mean, weighted mean, and median; however, in considering the range, Cleveland is actually only slightly below in each of these measures of central tendency.

We can summarize these data on the sample of 20 Ohio school districts as follows:

Range:	$53,466 (68,936 to 15,470)
Range Ratio:	4.61:1
Simple Mean:	$32,104
Weighted Mean:	$35,947
Median:	$32,005

Exercises

1. Develop a summary table, such as the one above for the following districts in Table 11:

Louisville Strongsville
Medina Valley View
Milton Union

2a. Develop a summary table for Cincinnati, Cleveland, and Toledo.

b. How does the 3 district summary compare to the 20 district sample?

Statewide Wealth Disparities

It is difficult to represent the entire state with a sample of only 20 school districts. Because of the computation problems of dealing with all 616 Ohio school districts, the AFT Department of Economic Research has developed a systematic sample of 130 Ohio districts which were chosen to be representative of the whole state.

Table 12 shows the summary data for the systematic sample of 130 districts. Because this sample is larger than the sample of 20 districts used above, the extreme values (wealthiest and poorest) are greater, providing a larger range and range ratio.

The weighted mean of $35,650 in the larger sample is very close to the weighted mean of $35,947 in the sample of 20 districts, telling us that our small sample of 20 districts may not be totally unrepresentative of the state as a whole.

Another way of analyzing disparities is to look at the distribution of the equalized property values per ADM in the larger sample. Table 13 and Figure 1 show that information. The figure graphically points out that over 65 percent of the districts in this sample have a tax base per pupil of between $20,000 and $39,999. Only 5.4 percent of the districts have a tax base per pupil which exceeds $50,000.

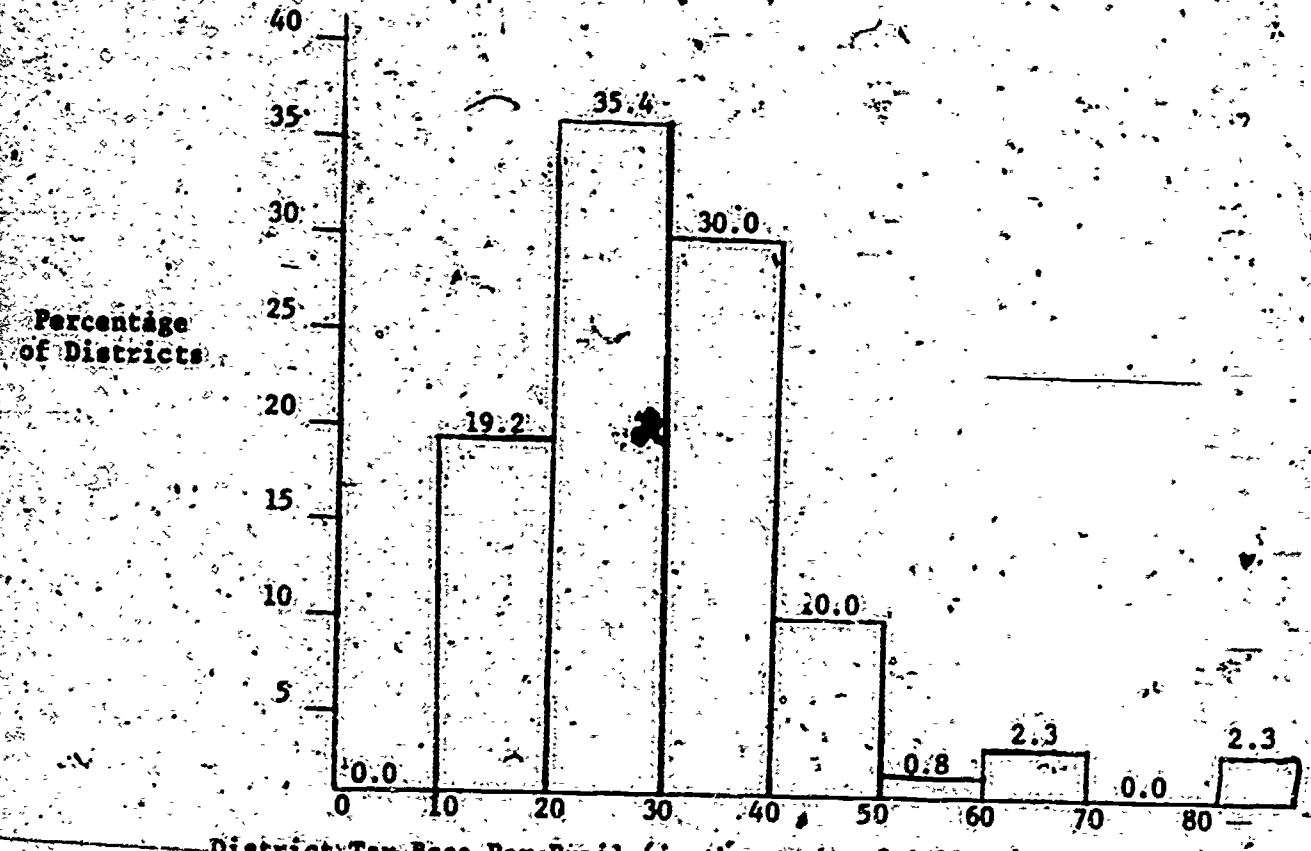
Table 12
Summary Measures of Wealth
Sample of 130 Ohio School Districts

Wealthiest District (Equalized Property Value Per ADM)	$392,913
Poorest District (Equalized Property Value Per AMD)	$ 13,578
Range (wealthiest - poorest)	$379,335
Range Ratio (wealthiest ÷ poorest)	28.94:1
Weighted Mean	$ 35,650
Simple Mean	$ 33,971
Median	$ 28,695

SOURCE: Computed by AFT Department of Economic Research from Ohio State Department of Education data.

Table 13 and Figure 1
Distribution of Tax Bases Per Pupil
Sample of 130 Ohio School Districts

Tax Base Per Pupil	Number of Districts	Percentage of Districts
Under $10,000	0	0.0
10,000 - 19,999	25	19.2
20,000 - 29,999	46	35.4
30,000 - 39,999	39	30.0
40,000 - 49,999	13	10.0
50,000 - 59,999	1	0.8
60,000 - 69,999	3	2.3
70,000 - 79,999	0	0.0
Above $80,000	3	2.3
TOTAL	130	100.0



SOURCE: Computed by AFT Department of Economic Research from Ohio State Department of Education data.

Disparities in Tax Effort

The previous section showed that the equalized property values per ADM for Ohio school districts were concentrated in the middle ranges with few districts at each extreme. In Chapter III, we learned that Ohio's equal yield formula is designed to compensate for tax base disparities, with the expenditure per pupil becoming a function of the locally determined tax rate, or tax effort.

Table 14 shows the equalized millage rate for the 20 districts in our small sample. Recall, that the Ohio formula requires a school district to levy at least 20 mills in order to receive basic state support. The lowest district in the small sample, Louisville, levied a tax of 20.95 mills, while the highest district, Painesville, levied a tax of 36.60 mills. In this sample, the mean tax rate was 28.41 mills and the median, 28.79 mills.

For the larger sample of 130 districts, Table 15 shows the distribution of tax rates. Three districts in the sample tax at less than the 20 mill threshold for basic state support. There is a fairly broad distribution of tax rates with the largest interval being the 26.2 percent of districts which tax in the 26 to 29 mill range. Also note, that 20.8 percent of the districts tax just over the 20 mill threshold in the 20 to 23 mill range.

Table 14
Equalized Millage
(Sample of 20 Ohio School Districts)

District	Equalized Millage
Painesville Local	36.60
Cleveland City	33.62
Strongsville City	31.14
Cordhan Fayette Local	30.98
Licking Valley Local	30.39
Findlay City	30.34
Toledo City	29.95
Scioto Darby City	29.00
Euclid City	28.98
Streetsboro City	38.83
Lorain City	28.74
Rittman Ex. Vill.	28.64
Valley View Local	28.35
Madina City	27.29
Jackson Local	26.51
Jennings Local	26.14
Milton Union Ex. Vill.	24.29
Cincinnati City	23.80
Benjamin Logan Local	23.56
Louisville City	20.95
AVERAGE OF SAMPLE	28.41

SOURCE: Ohio State Department of Education, Division of Computer Services and Statistical Reports, Financial Profile, (9/15/78).

Table 15
Distribution of Tax Rates
Sample of 130 Ohio School Districts

	Number	Percent
below 20 mills	3	2.3
20.00 to 22.99 mills	27	20.8
23.00 to 25.99 mills	20	15.4
26.00 to 28.99 mills	34	26.2
29.00 to 31.99 mills	25	19.2
32.00 mills or above	21	16.2
TOTAL	130	100.1

SOURCE: Computed by AFT Department of Economic Research from Ohio State Department of Education Data.

It is interesting to look at these disparities in relation to the tax base, as is shown in Table 16. The largest single group are those districts which are relatively poor ($20,000 to $29,999 tax base) and tax at a low rate (20.00 to 22.99 mills). These are poorer districts which are not willing to tax themselves very highly, even if it would mean more state aid. The other two large groups are those districts with average tax bases ($30,000 to $39,999) which tax at an average rate (26.00 to 28.99 mills), or an above average rate (29.00 to 31.99 mills). Most of the very high tax rate districts (32.00 mills and above) are average or below average in tax base per pupil.

Table 16
Distribution of Tax Rates and Tax Bases
Sample of 130 Ohio School Districts

Tax Rate / Tax Base	Below 20 mills	20.00 to 22.99 mills	23.00 to 25.99 mills	26.00 to 28.99 mills	29.00 to 31.99 mills	32.00 mills and above
Below $20,000 EPV[1] Per ADM	0	5	5	6	4	5
20,000 - 29,999	0	13	9	9	8	7
30,000 - 39,999	0	4	5	12	10	8
40,000 - 49,999	0	5	1	4	2	1
40,000 and above	3	0	0	3	1	0

[1] EPV is equalized property value

SOURCE: Computed by AFT Department of Economic Research from Ohio State Department of Education Data.

Expenditure Disparities

While the Ohio school finance plan was designed to equalize tax base efforts rather than to equalize expenditures per pupil, it is important to look at expenditure disparities. Table 17 shows the expenditures per pupil for our small sample of 20 Ohio districts, along with tax base and tax rate information. In this sample, there is an expenditure range of 2.03:1 with a high of $1,844 per pupil and a low of

$909 per pupil. It is difficult to discern a pattern in these data, except that there appears to be more high tax districts among the high spending districts and more low tax districts among the low spending districts. This should not be surprising, given the purpose of Ohio's formula.

However, for the small sample of 20 districts, the correlation between expenditures per pupil and property value per pupil (.73) is greater than the correlation between expenditures per pupil and equalized millage rate (.39). For this sample, in any event, expenditures per pupil are more a function of property wealth than tax rates.

Table 17
Tax Base, Tax Effort, Expenditures Per Pupil, and Household Income
Sample of 20 Ohio School Districts

Districts	Equalized Property Value Per ADM 1978-79	Equalized Millage 1978-79	Expenditure Per Pupil 1976-77	Average Household Income 1976
Euclid	$68,936	28.98	$1,844	$13,636
Cleveland	31,767	33.62	1,729	11,405
Cincinnati	43,245	23.80	1,498	13,266
Toledo	36,895	29.95	1,374	13,206
Medina	39,199	27.29	1,369	15,957
Painesville	34,107	36.60	1,308	15,118
Findlay	33,957	30.34	1,307	14,555
Lorain	32,242	28.74	1,305	13,649
Scioto Darby	33,143	29.00	1,260	15,125
Rittman	28,492	28.64	1,210	12,889
Strongsville	36,441	31.14	1,204	18,011
Cordham Fayette	27,490	30.98	1,196	11,864
Jennings	23,276	26.14	1,196	13,438
Streetsboro	17,394	28.83	1,163	13,274
Jackson	43,089	26.51	1,043	16,788
Benjamin Logan	31,010	23.56	1,130	12,100
Valley View	19,037	28.35	977	14,180
Licking Valley	15,470	30.39	975	12,539
Milton Union	21,607	24.29	940	13,681
Louisville	25,282	20.95	909	13,574

Table 18 shows the larger sample of 130 districts ranked in deciles by equalized property value per pupil. The average expenditure per pupil does not vary greatly through the first 5 deciles. The average expenditure per pupil in the lower 5 deciles are concentrated around the $1,000 to $1,100 range with low coefficients of variation within the deciles. In the upper 5 deciles, the average expenditure per pupil begins to rise with each decile and the coefficients of variation become higher, denoting greater variation within the decile.

Thus far, we have considered a number of different ways of looking at disparities in tax base, tax effort, and expenditures per pupil among Ohio school districts. Keep in mind the statement in the early part of this chapter that the way one analyzes a school finance plan for a state depends on how one defines equity and what one wants to equalize.

Table 18
Expenditure Per Pupil by Average Equalized Value
Per Pupil Deciles, 1976-77
Sample of 130 Ohio School Districts

Decile	Average Equalized Value/Pupil	Expenditure/Pupil Min.	Avg.	Max.	Coefficient of Variation
Total	33,971	842	1,193	3,089	23.1%
1	15,973	957	1,032	1,163	6.4%
2	18,731	926	1,094	1,435	12.9%
3	22,336	860	1,020	1,196	10.2%
4	25,130	909	1,107	1,224	9.1%
5	27,812	842	1,062	1,210	10.4%
6	30,343	958	1,177	1,553	18.4%
7	33,546	933	1,238	1,729	17.9%
8	36,112	1,093	1,345	1,882	17.5%
9	40,624	899	1,244	1,536	15.5%
10	89,101	1,153	1,616	3,089	30.6%

SOURCE: Computed by the AFT Department of Economic Research from Ohio State Department of Education Data.

Looking At Ohio's Large Cities

The severe financial hardships of Ohio's large city school districts have been well documented in the news media over the past few years. For a state like Ohio with a number of large urban centers, it is important and useful to consider specific urban features which might have a bearing on the ability of the cities to support public education.

Table 19 shows some of the pertinent characteristics of the five largest Ohio cities: Cleveland, Columbus, Cincinnati, Toledo and Akron. Together they have approximately one-fifth of the state's population.

In equalized property value per ADM, only Cincinnati and Toledo are above the state mean, with Columbus only slightly below the mean. In general, it could be said that these cities exhibit no different or special characteristics in terms of the state defined tax base for public education.

It is worthy of note that all five cities are well above the state mean in expenditures per pupil for public elementary and secondary education. Cleveland, at $1,729 per pupil, is 45 percent above the state mean, Akron 30 percent above, Cincinnati 25 percent above, Toledo 15 percent above, and Columbus 14 percent above the state mean.

Table 19
Characteristics of Five Largest Ohio Cities

	Ohio	Cleveland	Columbus	Cincinnati	Toledo	Akron
Population, 1975 (in thousands)	10,735	639	536	413	368	252
Percent of Total State Population	100.0	6.0	5.0	3.8	3.4	2.3
ADM		96,965	79,485	53,040	43,649	40,083
Eq. Value/ADM	35,650	31,767	35,352	43,245	36,895	31,556
Expend./Pupil	1,193	1,729	1,362	1,497	1,374	1,553
Percent Pop. AFDC[1]	4.9	7.1	6.7	5.0	5.3	5.1
Av. Household Income, 1976	13,645	11,405	12,264	13,266	13,206	12,643

[1] Percent Population AFDC is the percent of the total population which are recipients of Aid to Families with Dependent Children.

Source: Compiled by AFT Department of Economic Research from various sources.

Above average expenditures per pupil are often the result of greater educational needs of the district's student population. While there is no single measure of educational need, a good proxy measure is the percentage of population receiving benefits under aid to families of dependent children (AFDC). As Table 19 shows, all five of the largest cities in Ohio exceed the state mean in AFDC population, with Cleveland having the greatest percentage of AFDC recipients followed by Columbus, Toledo, Akron, and Concinnati, in that order.

It is interesting and important to note that while all five cities are near the state average in equalized property value per pupil, they are all below the state average in another measure of ability to pay, household income. Only Cincinnati and Toledo come even close to the state average household income, and Akron, Columbus, and Cleveland are $1,000 or more below the average. These five cities are expected, under the Ohio school finance plan, to shoulder a local burden for raising revenues which would seem disproportionately large considering the below average household income. It should be noted, however, that the state recognizes the greater need because of AFDC children under the Disadvantaged Pupil Impact Aid in the state plan.

Concluding Remarks

There are many ways to look at disparities and inequities in school finance and their effects on the ability of governments to offer quality educational programs for all students. This chapter has attempted to identify some of those factors, measures, and issues which can be important in such an analysis. The development of a new school finance plan or the reform of an existing plan rests heavily on values placed on different goals for the plan. One type of approach might be used to achieve the wealth equalization required under fiscal neutrality, while a very different method would be chosen to achieve expenditure equalization. These values and goals must be carefully examined and discussed before a sensible and rational policy can be pursued. This entire manual has outlined various finance issues, but the ultimate road to school finance reform is a dual highway embodying the inseparable aspects of both finance and politics. You may have a fairly thorough introduction to the financial or economic environment of school finance policy, but the political environment must also be considered if the policy is to meet with success.

Appendix A

SB59: RECENT CHANGES IN THE OHIO STATE AID PLAN

Since the final edit of this Guide, Senate Bill Number 59 (SB59) passed the Ohio legislature, amending the state's school finance plan. This appendix is provided to update the text on those fundamental provisions of the school finance plan which have been changed by the new legislation.

Basic State Aid

Prior to the passage of SB59, the Ohio state aid formula guaranteed school districts $48 per pupil for educational spending for the first required 20 mills levied by the school district. State aid under this formula was the difference between the state guaranteed amount for educational spending and the local yield per pupil.

Under SB59, the state guaranteed level of spending for the first required 20 mills has been increased to $59 per pupil for 1980 and $65 per pupil for 1981.

The additional "incentive" aid for each additional mill beyond 20, levied by a school district, up to 30 mills remains at $42 per pupil for 1980-1981.

Hold Harmless Provision

The hold harmless provision is an entitlement provision designed to protect certain districts against changes in the formula which might result in substantial reductions in state aid to those districts.

For 1980, SB59 provides that all districts with an equalized valuation less than $59,000 per pupil are entitled to basic state aid in an amount not less than 107 percent of their basic state aid for fiscal year 1979 (FY79). If a district's equalized valuation is greater than $59,000 per pupil, 1980 basic state aid cannot be less than FY79 basic aid.

For 1981, SB59 provides that all districts with an equalized valuation less than $65,000 per pupil be entitled to basic state aid in an amount not less than 110 percent of the district's FY79 basic state aid. Similarly, for districts with equalized valuations per pupil above $65,000 basic state aid cannot fall below the district's FY79 basic aid apportionment.

The Cap on Basic Aid

While the hold harmless provision defines the minimum amount of aid a district is entitled to, the cap provision defines the maximum amount of basic aid a district can receive. For 1980, SB59 limits the maximum amount of basic state aid a district can receive to 135 percent of its FY79 basic state aid. In 1981, this cap is increased to 140 percent of a district's FY79 basic aid.

Categorical Programs - Vocational Education Aid

For 1980, SB59 provides that for each approved vocational education unit, state aid is provided for 115 percent (unchanged over 1979) of the teacher salary allowance based on the state minimum salary (which has increased to $9,500 for 1980) PLUS $5,000 (an increase of $1,000 or 25% over 1979) for classroom and other expenses.

For 1981, the state minimum salary level for teachers will increase from $9,500 to $10,100 and the classroom and other expense allowance will increase from $5,000 to $5,500.

Categorical Programs - Special Education Aid

For 1980-81, SB59 provides that for each special education unit, categorical state aid is 115 percent (unchanged over 1979) of the teacher salary allowance based on the state minimum salary schedule (which increases as noted above); PLUS $925 per unit (an increase of $55 or 6.3% over 1979) for additional costs for approved units for gifted, child study, occupational or physical therapy, speech and hearing supervisions and coordination of special education units; PLUS $5,000 per unit (an increase of $460 or 10% over 1979) for approved units of more severely handicapped students including mentally retarded, blind, deaf, physically handicapped, and others.

Categorical Programs - Disadvantaged Pupil Impact Aid

SB59 revises the formula for computing Disadvantaged Pupil Impact Aid for 1980-81 as follows:

Percent of Total	1980 Allotment Per Pupil	1981 Allotment Per Pupil
More than 500 ADC, but less than 10%	$ 10.00	$ 10.00
10.0 - 14.5%	10.00	10.00
14.5 - 18.5%	30.00	30.00
18.5 - 22.0%	106.00	112.00
22.0 - 26.5%	117.50	123.50
26.5 - 31.5%	149.00	150.00
31.5 - 38.5%	162.50	163.50
38.5% or more	175.00	176.50

Appendix B

ANSWERS TO THE EXERCISES

I. Exercise on Basic ADM

1A.

Kindergarten ADM x 0.5	122 x 0.5 =	61
Grades 1-12 x 1	1400 x 1 =	1400
Voc Ed (FTE) x 1	52 x 1 =	52
JVS x 0.25	20 x 0.25 =	5
	TOTAL ADM	1518

1B. 612

1C. 1132

1D. 15,778

2E. 539

2F. 10,685

II. Exercises on Local Yield

$$\text{Local Yield Per Pupil Per Mill} = \frac{\text{Equalized Valuation}}{\frac{\text{ADM}}{1{,}000}}$$

A. $LY/P/M = \frac{33{,}000{,}000}{\frac{1{,}000}{1{,}000}} = \frac{30{,}000}{1{,}000} = 30$

B. 42

C. 40

D. 20

E. 32

III. Exercises on Basic State Aid

$$\text{Basic State Aid/Pupil} = (\$48 - LY/P/M) \times 20 + (\$42 - LY/P/M) \times (EM - 20)$$

Where EM cannot exceed 30

1A. State Aid Per Pupil = ($48 - 42) x 20 + ($42 - 42) x (22 - 20)

= (6 x 20) + (0 x 2)

= 120 + 0

= 120

1B. State Aid Per Pupil = ($48 - 20) x 20 + ($42 - 20) x (28 - 20)

= (28 x 20) + (22 x 8)

= 560 + 176

= 736

1C. State Aid Per Pupil = ($48 - 45) x 20 + ($42 - 45) x (20-20)

= (3 x 20) + (-3 x 0)

= 60 + 0

= 60

1D. State Aid Per Pupil = ($48 - 18) x 20 + ($42 - 18) x (21.5 - 20)

= (30 x 20) + (24 x 1.5)

= 600 + 36

= 636

1E. State Aid Per Pupil = ($48 - 30) x 20 + ($42 - 30) x (28.75 - 20)

= (18 x 20) + (12 x 8.75)

= 360 + 105

= 465

1F. State Aid Per Pupil = ($48 - 40) x 20 + ($42 - 40) x (30 - 20)

= (8 x 20) + (2 x 10)

= 160 + 20

= 180

NOTE: EM cannot exceed 30

2A. 0

2B. State Aid Per Pupil = ($48 - 37) x 20 + ($42 - 37) x (30 - 20)

= (11 x 20) + (5 x 10)

= 220 + 50

= 270

Total State Aid = 270 x 1,000

= 270,000

2C. State Aid Per Pupil = ($48 - 27) x 20 + ($42 - 27) x (30 - 20)

= (21 x 20) + (15 x 10)

= 420 + 150

= 570

Total State Aid = 570 x 12,500

= 7,125,000

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