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ABSTRACT

Intended to help state education agencies answer public criticism of the costs of education, this paper describes the data currently available on increases in educational costs and attempts to reveal the factors responsible. The paper first analyzes the various expenditure categories in school district budgets, determining that while school district salaries did not keep pace with inflation, increases in staff sizes caused overall salary expenditures to increase faster than the cost of living. Maintenance and operations, fixed charges, and other costs (including programs and services other than the standard K-12 educational program) contributed dramatically to educational costs rising faster than the cost of living. The paper concludes with an examination of the effects of grants from state and federal governments. It is noted that categorical grants usually fund programs or activities supplementing the regular programs, thus requiring increased expenditure. It is also suggested that increases in the proportion of school revenues provided at the state level have resulted only partially in reductions in local taxes, while the remainder of the increases has gone to support increased expenditure. Appendices present the techniques used in determining relative increases in expenditure categories. (Author/PGD)

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EDUCATIONAL EXPENDITURES: 1969-1979
AN ANALYSIS

Larry Picus

Presented to the Northwest Urban School Superintendents
Northwest Regional Educational Laboratory
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Portland, Oregon 97204

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INTRODUCTION

One of the most frequent complaints lodged against education today is that "schools cost too much." Although enrollments in public elementary and secondary schools declined during the 1970's the costs of education continued to climb at a rate in excess of the rate of inflation. As taxpayers become less willing to grant further increases in taxes to help fund educational expenditures, educators must be able to justify future requests for additional funding. Before they can do this, it is important to understand the pressures that caused the large increases of the past decade.

This paper is one of a series prepared for the Chief State School Officers in the Northwest by the Center for State Educational Policy Studies, on the issue of public confidence in education. The purpose of this series is to help the Chiefs and their staffs send out messages regarding their work and their successes to the public. This paper deals with the issue of educational costs, and the common perception that "schools cost too much."

On the surface, the evidence gives credence to this attitude. Educational expenditures over the past ten years have outpaced the rate of inflation. However, there are a number of expenditure areas where costs have not increased as rapidly as inflation including, average teacher salaries, expenditures for capital outlay and for interest on school debt. On the other hand, costs in other expenditure categories have increased at a rate much higher than the general rate of inflation. In many instances such as expenditures for Maintenance and Operations and Fixed Charges, there is little the schools can do to slow down the rapid increases in costs.

At the same time, the schools have been mandated to provide new services to children. One clear example is special education where the requirements of PL 94-142 have opened up new educational opportunities to handicapped children, at significant expense to the schools. Finally, there is some evidence that the changing pattern of educational revenues, away from local sources and to state sources, has also had a tendency to increase expenditure levels.

This paper will describe the data currently available on the increases in educational costs, and attempt to show those factors that have been responsible for the increase in educational costs. The purpose of the paper is to present the Chiefs with information that they can use to answer public criticism of the costs of education.

Figure 1 compares the increase in the total costs of education with the increase in the Consumer Price Index for Urban Consumers (CPI-U) from 1969 to 1979. Although the U. S. Department of Labor uses 1967 as its base year for the CPI-U, those figures have been adjusted so that in Figure 1, 1969 = 100. Total expenditure and total expenditure per pupil in Average Daily Attendance (ADA) have also been plotted in Figure 1 with 1969 = 100 as the base. Figure 1, therefore compares the compounded percentage increase over the previous year in educational expenditures with the compounded percentage increase over the previous year in the CPI-U.

It is clear from Figure 1, that both total expenditures and total expenditures per ADA have increased faster than the cost of living index. Between 1969 and 1979, the CPI-U increased a total of 103.6 percent, while total educational expenditures increased by 128.4 percent

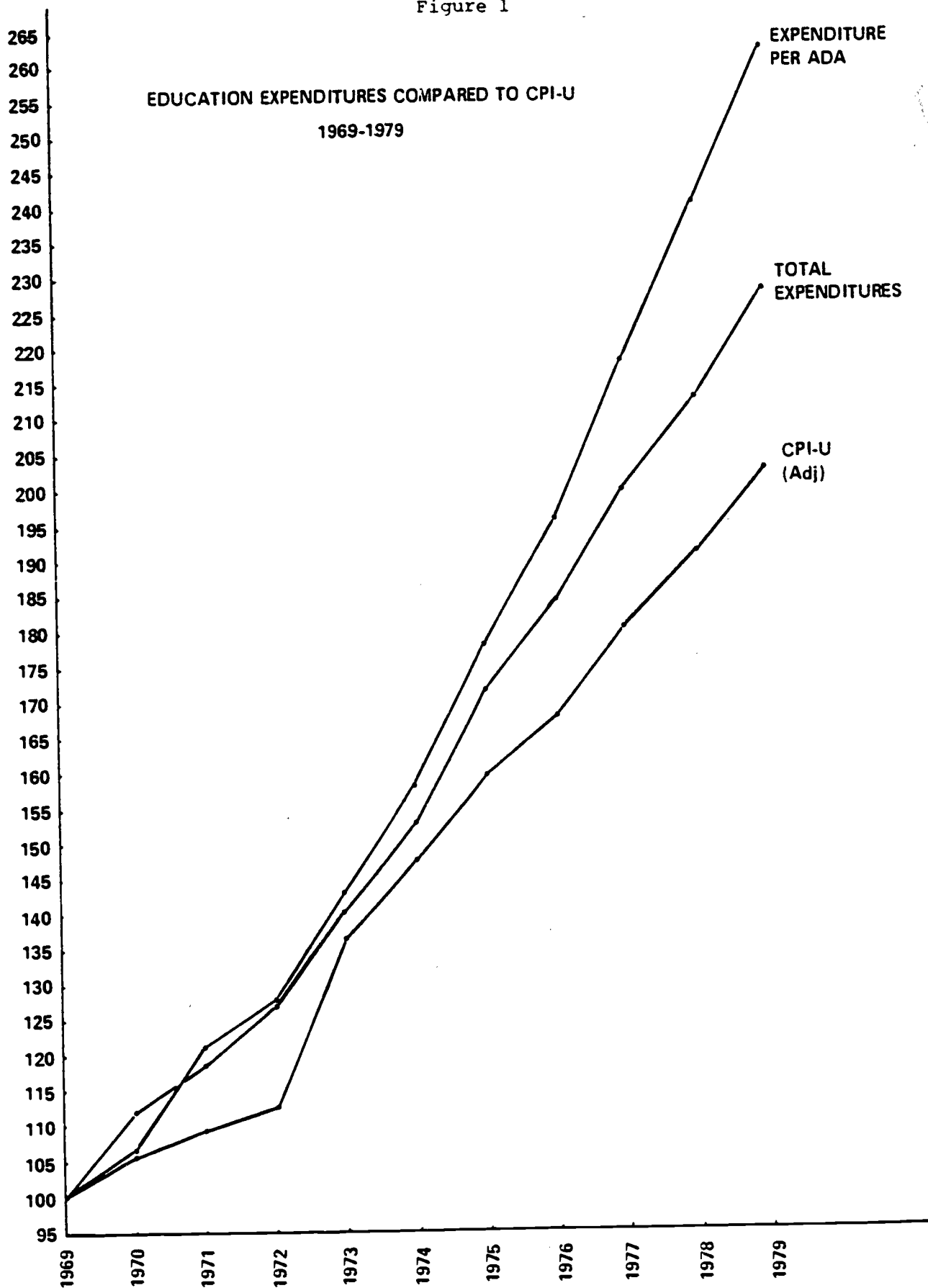
or 24.8 percent faster than the cost of living. Because the number of pupils enrolled in school declined during the 1970's (Figure 2) the costs of education per ADA increased even faster. The ten year increase in total expenditures per ADA was 162.5 percent or 58.9 percent faster than the cost of living. School district revenues also increased during the 1970's. Figure 3, shows that the ten year increase in school district revenues amounted to 132.7 percent or 29.1 percent above the rate of inflation.

Since this pattern is unlikely to change in the near future, it is essential that educators understand why costs have increased so dramatically, and be able to explain those increases to taxpayers who are increasingly unwilling to commit additional tax dollars to governmental agencies. In attempting to explain why total educational costs have increased 24.8 percent faster than the cost of living, three different approaches will be used in this paper. They can be summarized as follows:

1. An analysis of the various cost categories that comprise school district budgets to determine if there have been additional pressures that would cause costs to increase in excess of the rate of inflation.
2. Cost increases may be due to the fact that we place greater importance on education today than in the past. As a result, there have been improvements in the quality of the regular instructional program, and we are serving children who in the past were left out of the educational system.
3. There has been a shift in the financing of schools away from local sources toward state and federal sources. An understanding of economic theory relating to grants in aid from one level of government to another may help explain some of the increases in educational expenditures.

Each of these approaches is described on the following pages.

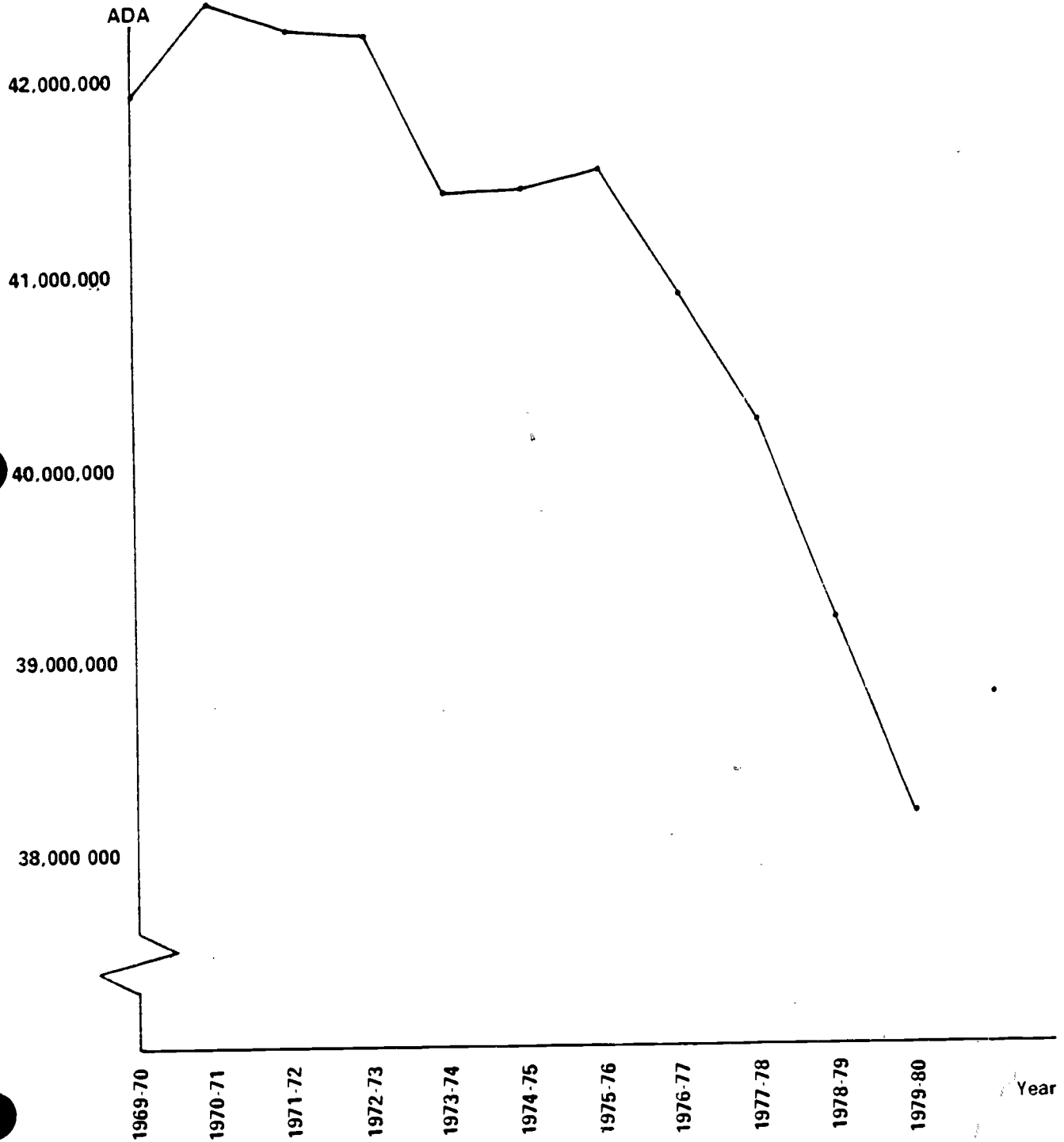
Figure 1



SOURCE: NEA, Estimates of School Statistics, 1979-80, and Bureau of Labor Statistics

Figure 2

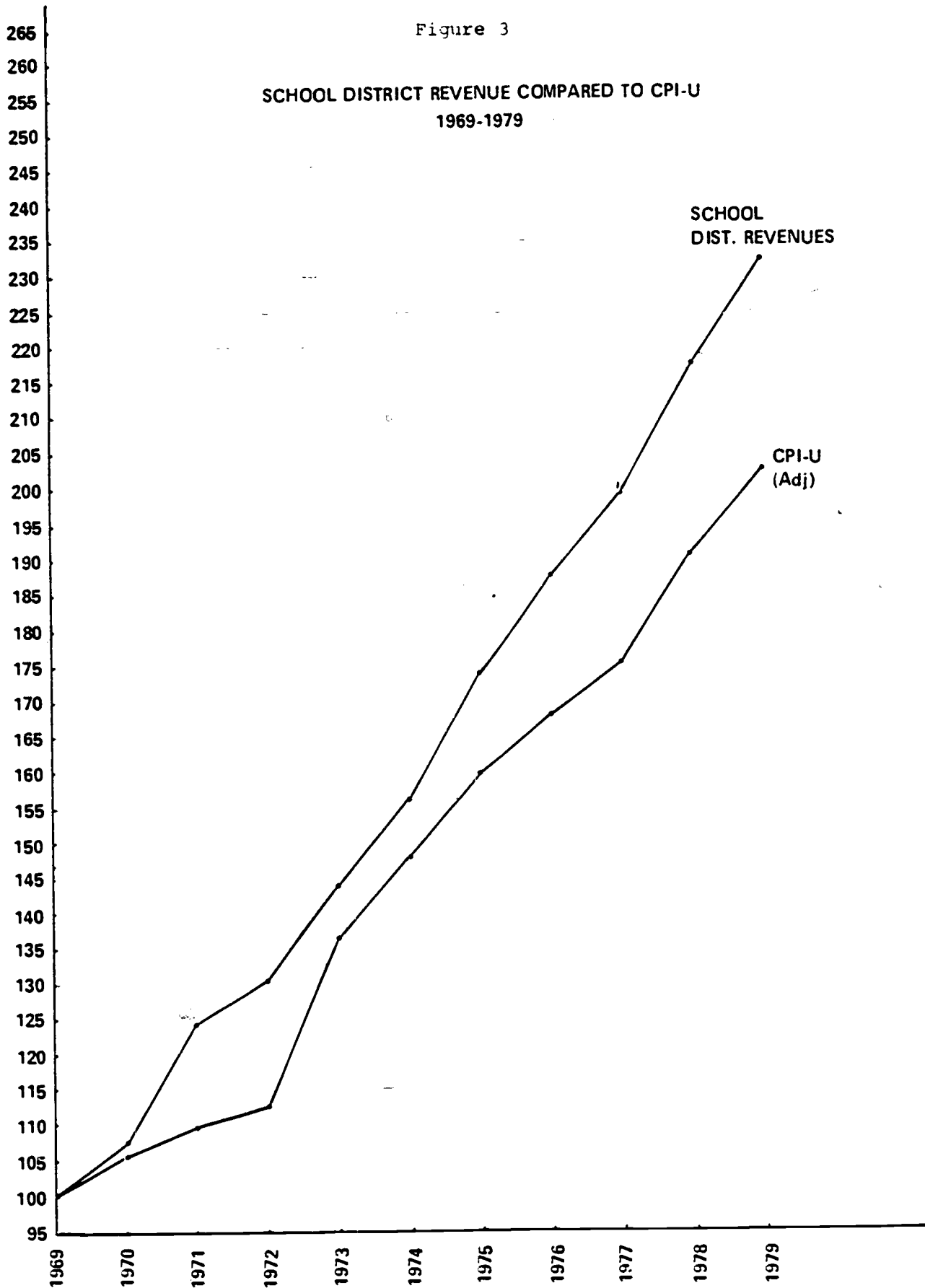
AVERAGE DAILY ATTENDANCE
1969-70 TO 1979-80



SOURCE: NEA

Figure 3

SCHOOL DISTRICT REVENUE COMPARED TO CPI-U
1969-1979



SOURCE: NEA and,
Bureau of Labor Statistics

THE EXPENDITURE CATEGORY APPROACH

One approach to explaining why educational expenditures have increased faster than the rate of inflation is to look at individual expenditure categories to see if increases in any of those categories exceeded the rate of inflation. Such real increases would help explain the 24.8 percent difference between educational costs and the cost of living.

Salary Increases

One of the most frequent assumptions is that the increases in educational costs are a result of increases in teacher and other staff salaries. In order to determine what impact salary increases have had on total educational expenditures, the increases in average salary of all instructional staff and of classroom teachers were compared with the CPI-U. The results of this comparison are displayed in Figure 4. As Figure 4 shows, salaries of instructional staff have not kept up with inflation since 1973.¹

Data on the salary increases for other classifications of school personnel are available only since 1976-77. This data, compiled through Educational Research Service, Inc., (ERS) is published in the form of a Composite Indicator of Changes which represents the percentage increase in salaries of all educational personnel from one year to the next. Figure 5 compares the annual percentage increase in the ERS Composite

¹The National Education Association defines instructional staff as classroom teachers, principals, supervisors, librarians, guidance and psychological personnel, and related instructional workers. Classroom teachers are those who work directly in the classroom, and comprise approximately 88 percent of the total instructional staff.

Indicator of Changes with the percentage increase in the CPI-U for the years 1976-77 to 1979-80. The Composite Indicator is also broken into six separate components. Figure 6, shows the percentage increase in each of the six components; Central Administrators, School Building Administrators, Classroom Teachers, Auxiliary Professional Personnel, Secretarial/Clerical Personnel, and Other Support Personnel.

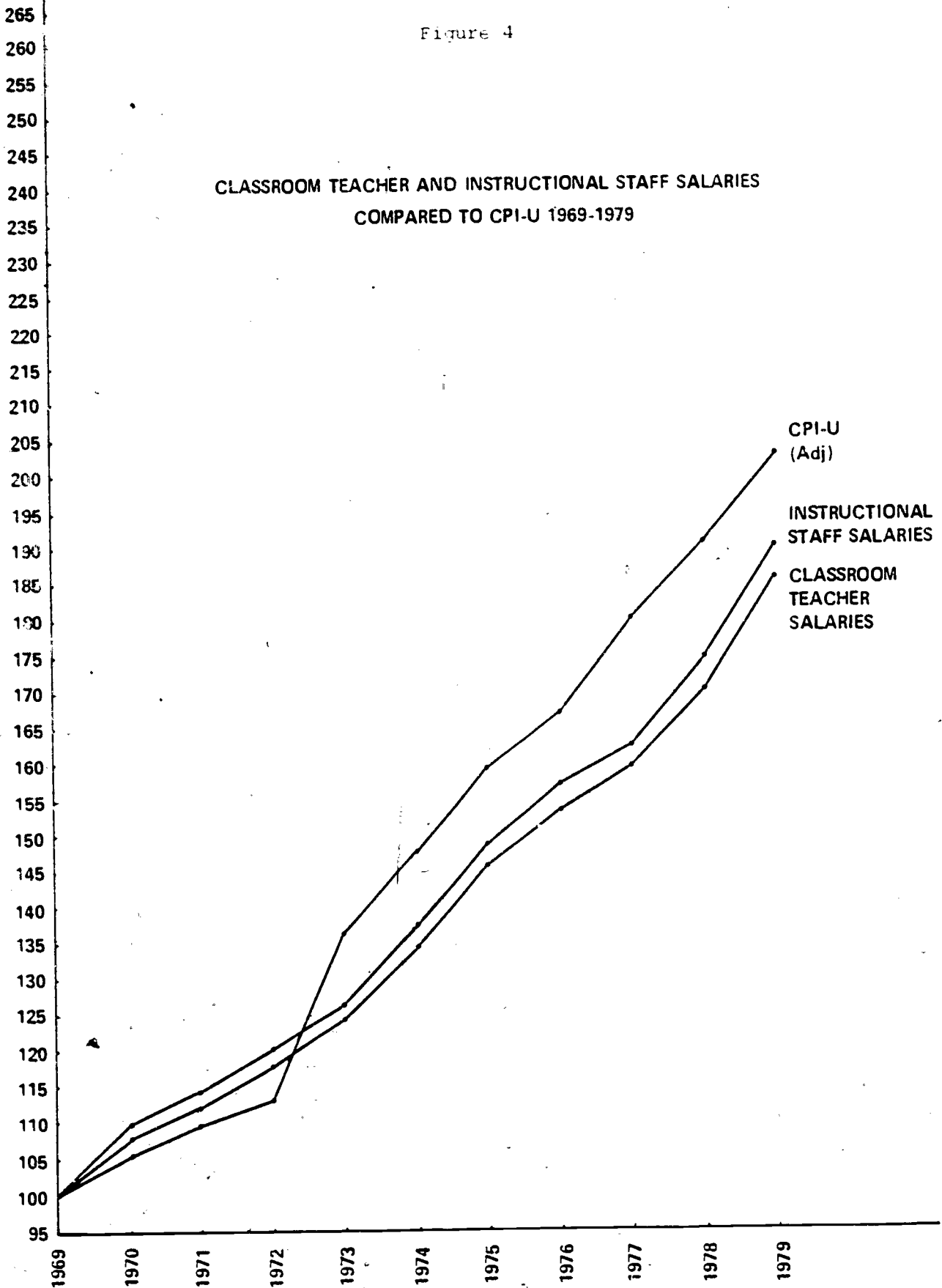
Figures 5 and 6 show that for all types of school district personnel, the increases in salaries have not kept pace with the rate of inflation. Therefore, salary increases alone do not explain the real increases in the costs of education.

However, the NEA estimates of the total number of instructional staff indicate that there has been a 10.3 percent increase in the number of instructional staff employed by school districts over the past ten years. (NEA: Estimates of School Statistics, 1979-80, page 13).

If teachers salaries represented 100 percent of educational expenditures, and those salaries had kept pace with inflation, a 10.3 percent increase in the number of staff members could be expected to account for a real increase of 10.3 percent in educational costs. However, the increase in instructional staff salaries over ten years was only 86.6 percent of the increase in the CPI-U. Additionally, instructional staff salaries constituted only 45 percent of total educational expenditures in 1979-80. Consequently, only 4.01 percent of the 24.8 percent increase can be explained by the increase in the number of instructional staff. (A detailed description of how this figure was arrived at is provided in Appendix A.)

Figure 4

CLASSROOM TEACHER AND INSTRUCTIONAL STAFF SALARIES
COMPARED TO CPI-U 1969-1979



SOURCE: NEA

Figure 5

ERS COMPOSITE INDICATOR COMPARED
TO THE CONSUMER PRICE INDEX

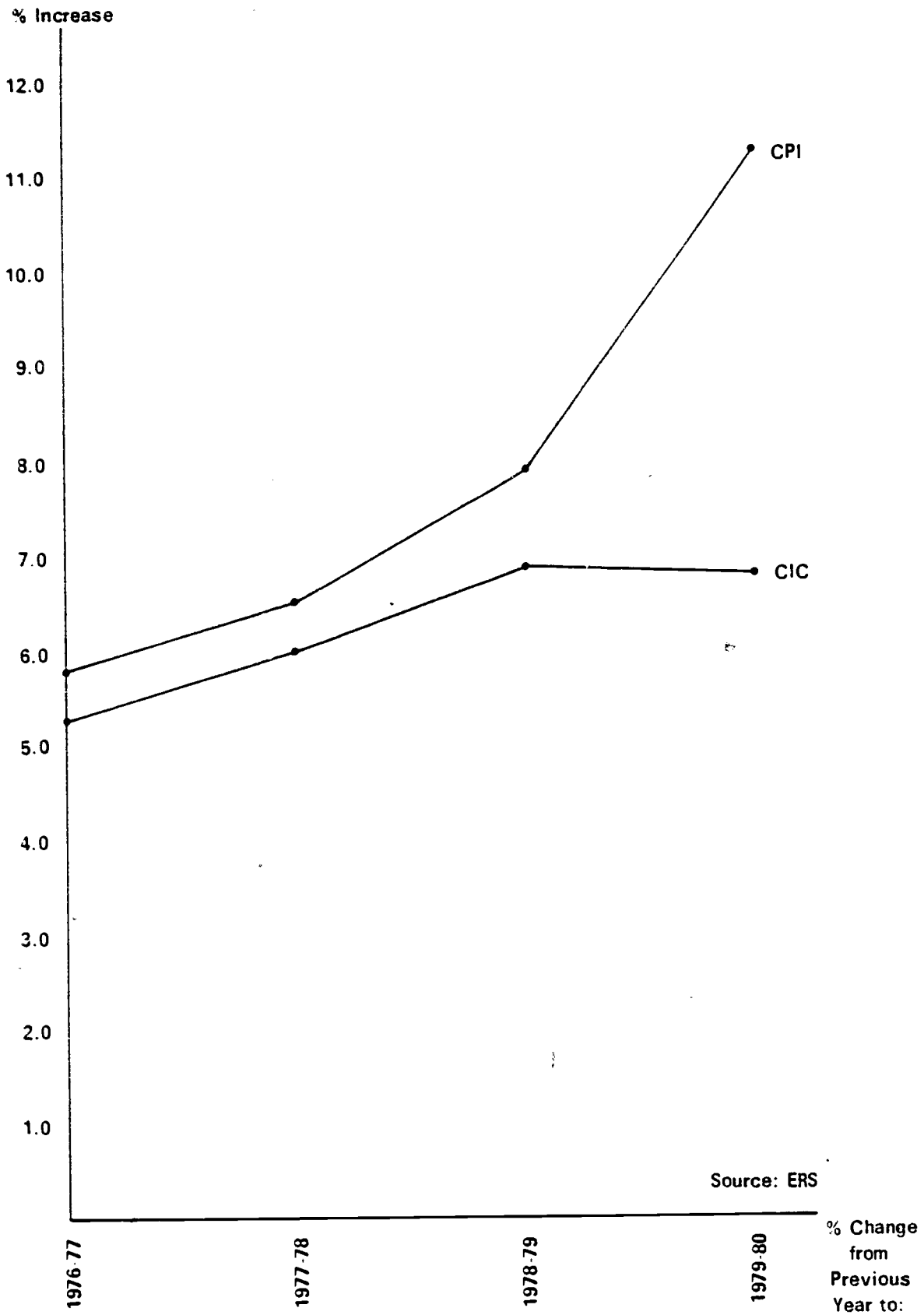
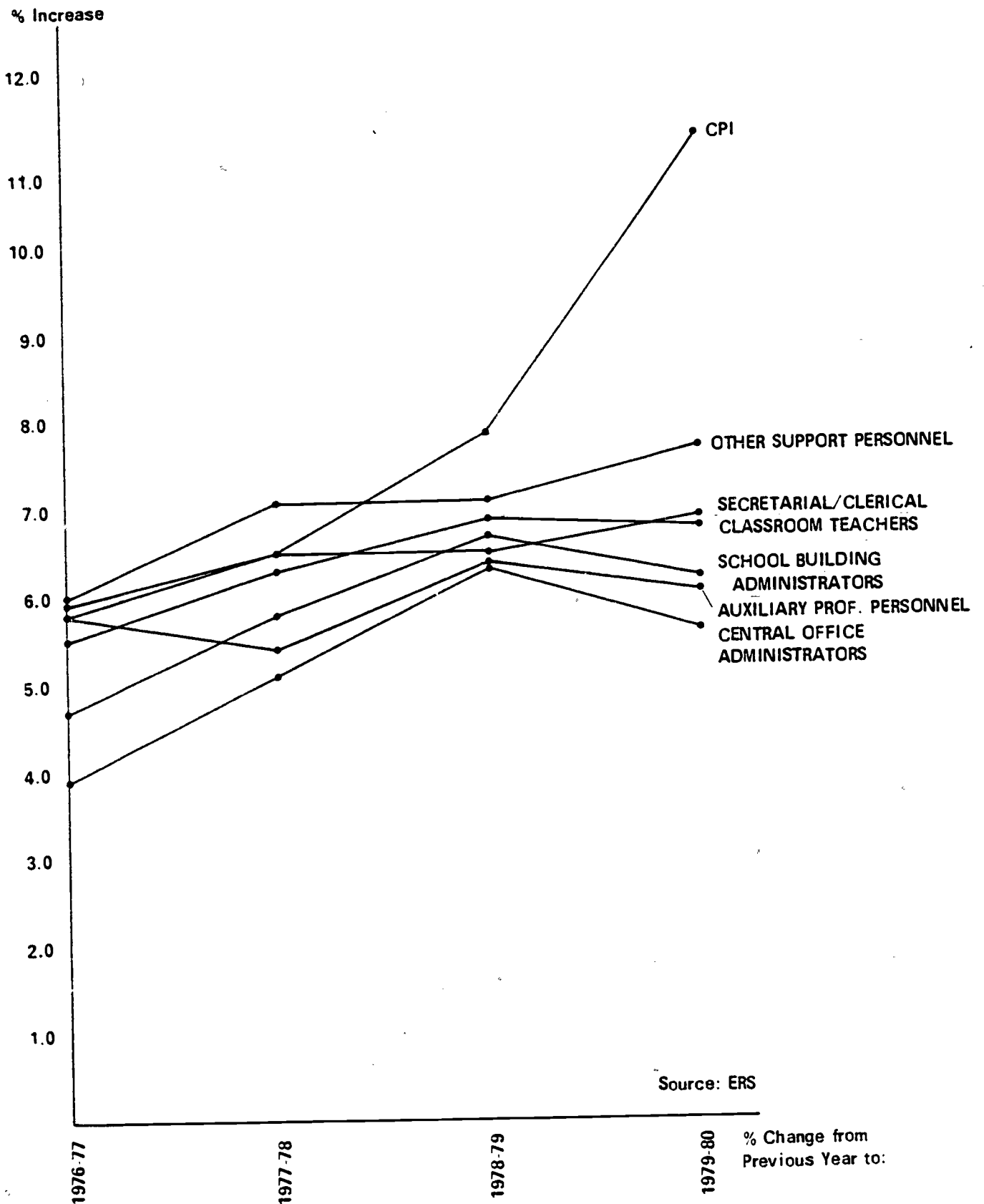


Figure 6

**INCREASE IN ERS COMPONENT INDICATORS OF CHANGE
COMPARED TO CPI**



Data on the number of other staff, Central Building Administrators and district support staff, is not available, so a similar analysis was not possible. However, it seems likely that the bulk of the increase in the number of educational staff members occurred in the ranges of instructional staff. This is because the NEA definition is broad enough to include most of the staff positions that have been created to provide the specialized services that districts now offer. Consequently, it is unlikely that an increase in the number of these personnel would have a significant impact on the total costs of education.

Expenditure Impacts

There are three categories where it appears likely that increases have exceeded the rate of inflation. These categories are: Maintenance and Operations, Fixed Charges, and Other Costs. The definitions of each category and why increases are likely to have exceeded the rate of inflation are included below:

Maintenance and Operations: These are charges for activities concerned with keeping the physical plant open, comfortable and safe for use, and for keeping the grounds, buildings and equipment in effective working condition and state of repair. Activities which maintain safety in buildings, on the grounds and in the vicinity of schools are also included.

Expenditures in this category have increase faster than the rates of inflation. In addition, these increases have exceeded the 24.8 percent real increase in educational expenditures. This increase is due largely to the rapid increases in fuel, oil and utilities over the past ten years.

Fixed Charges: These are charges of a generally recent nature which are not readily allocated to other expenditure categories. They consist of such charges as: \ school board contributions to employee retirement, insurance and judgements, rental of land and buildings, and interest on current loans.

Due to the recent trend granting employees more generous fringe benefits, as well as the continuing increases in insurance and legal costs, expenditures in this category have also exceeded the rate of inflation for the 10 year period.

Other Costs: This category includes other school services, Summer Schools, Adult Education, Community Colleges expenditures on K-12 students and all community services.

While the cost increases in this category were not as dramatic as the increases in Maintenance and Operations and Fixed Charges and costs have increased faster in this category than for education as a whole.

Estimates of 1979-80 expenditures in each of these categories were not available. The most recent year for which such data is available is 1976-77. To obtain estimates of 1979-80 expenditures, two methods were used. The first method extrapolated the rate of growth in expenditures in each category from 1969-70 to 1976-77 by comparing the rate of growth with the rate of inflation, and using the extrapolated rate of growth to determine 1979-80 expenditures. The second method used the rate of growth in total expenditures between 1976-77 and 1979-80 as the 1976-77 to 1979-80 rate of growth in expenditures for each category during the same period. Once estimates for 1979-80 were derived, total rate of growth for each category from 1969-70 to 1979-80 was calculated. Table 1 summarizes the findings of each of these two methods.

To determine the extent to which each of these cost categories explained the 24.8 percent real increase in educational expenditures, the rate of growth in each category in excess of the rate of inflation, was multiplied by each category's share of total 1979-80 expenditures. Based on these results, it appeared that the expenditure estimates derived from the method using the 1976-77 to 1979-80 growth rate were the more realistic estimates of actual costs. The results of this calculation and the projected impact of each category on the 24.8 percent real increase in expenditures is displayed in Table 2. (A detailed description of how these calculations were made is contained in Appendix B.)

TABLE 1

ESTIMATED 1979-80 EXPENDITURES AND 1969-70 to 1979-80
 RATES OF GROWTH IN MAINTENANCE AND OPERATIONS,
 FIXED CHARGES AND OTHER COSTS

Category	GROWTH RATE COMPARISON METHOD		GROWTH LIMITED BY INCREASE IN TOTAL EXPENDITURES	
	Estimated 1979-80 Expenditures (000)	Rate of Growth 1969-70 to 1979-80	Estimated 1979-80 Expenditures (000)	Rate of Growth 1969-70 to 1979-80
Maintenance and Operations	\$ 9,352,983	166.3%	\$ 9,097,538	159.03%
Fixed Charges	10,671,394	226.65%	10,059,254	207.91%
Other Costs	9,228,444	188.60%	8,858,823	177.04%

TABLE 2

ESTIMATED IMPACT OF EXPENDITURES FOR
 MAINTENANCE AND OPERATIONS, FIXED CHARGES
 AND OTHER COSTS ON THE REAL INCREASE IN
 TOTAL EXPENDITURES

	Rate of Growth 1969-70 in Excess of Growth in CPI-U	Percentage of of Total Expenditures	Impact on Real Increase
Maintenance and Operations	55.43%	9.79%	5.43%
Fixed Charges	104.31%	10.82%	11.29%
Other Costs	73.44%	9.53%	7.0%

There are two additional categories of expenditure that must be considered, Capital Outlay and Interest on School Debt. As Figure 7 shows, neither of these two categories of expenditure kept up with inflation during the ten year period under review. Consequently, these would be expected to have a negative impact on the increases in the costs of education. By subtracting the ten year rate of growth of these two categories with the ten year increase in inflation, and multiplying that figure by each category's relative share of the total expenditures, the estimated impacts are as follows:

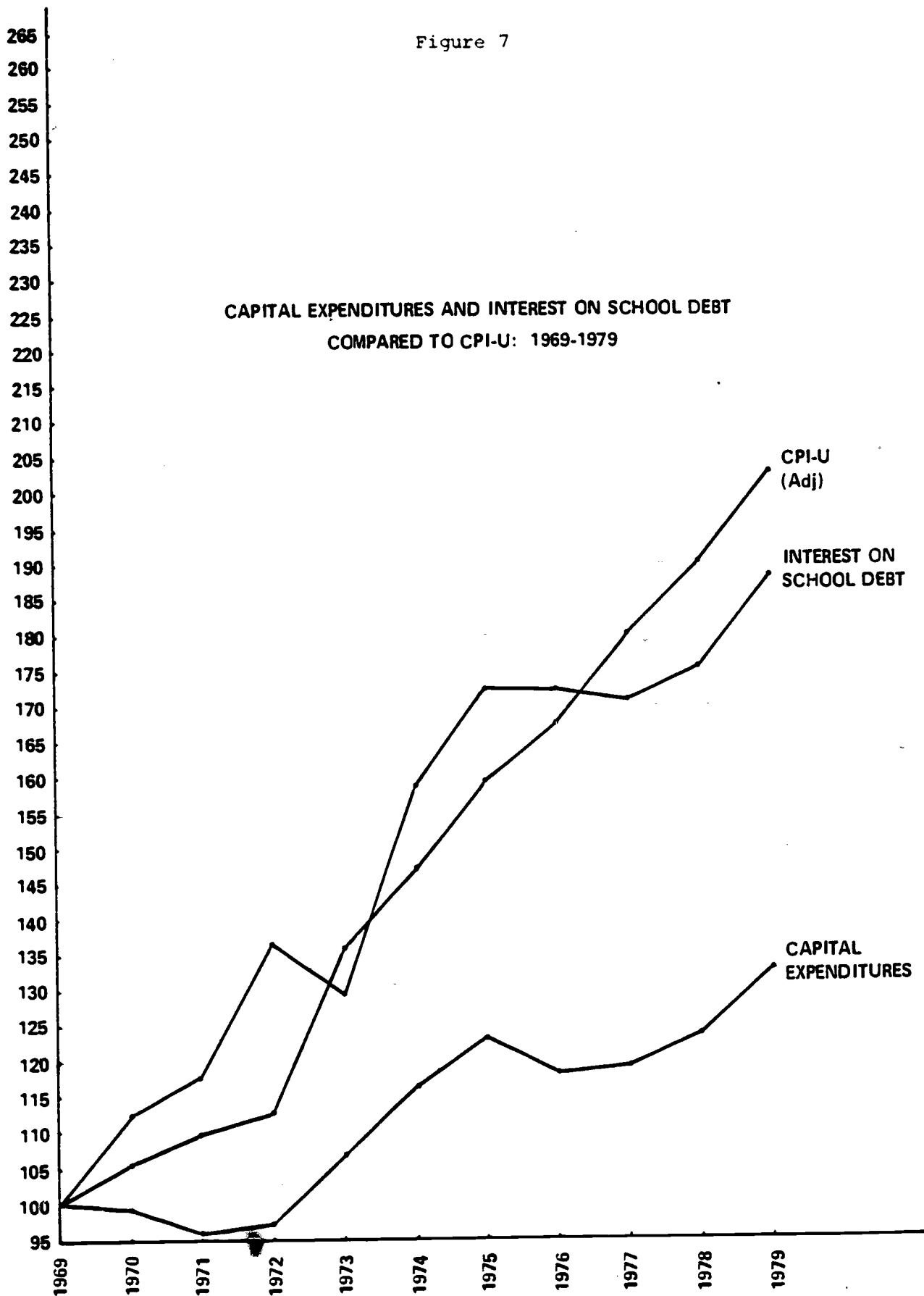
Capital Outlay -4.68 percent

Interest on School Debt -0.36 percent

(Appendix C describes in detail how these estimates were calculated).

The results of these estimates on the impact of increases in the number of Instructional Staff, Maintenance and Operations, Fixed Charges and Other Costs, as well as the decreases attributable to Capital Outlay and Interest on School Debt on total expenditures is summarized on the page 19.

Figure 7



SOURCE: NEA

Increase in Educational Expenditures 1969-70 to 1979-80	128.4%
Increase in CPI-U, December 1969 to December 1979	<u>103.6%</u>
Amount Educational Expenditures exceeded CPI-U	24.8%

Factors contributing to the increase

Increase in Instructional Staff	4.01%	
Increase in Maintenance and Operations	5.43%	
Increase in Fixed Charges	11.29%	
Increase in Other Costs	7.0%	
SUB-TOTAL		27.73%

Factors contributing to a decrease

Capital Outlay Expenditures	-4.68%	
Interest on School Debt	-0.36%	
SUB-TOTAL		-5.04%

Real increase explained by these estimates 22.69%

In summary, almost all of the real increase in expenditures can be explained by increases in the number of instructional staff, and the increases in expenditures for Maintenance and Operations, Fixed Charges and Other Costs.

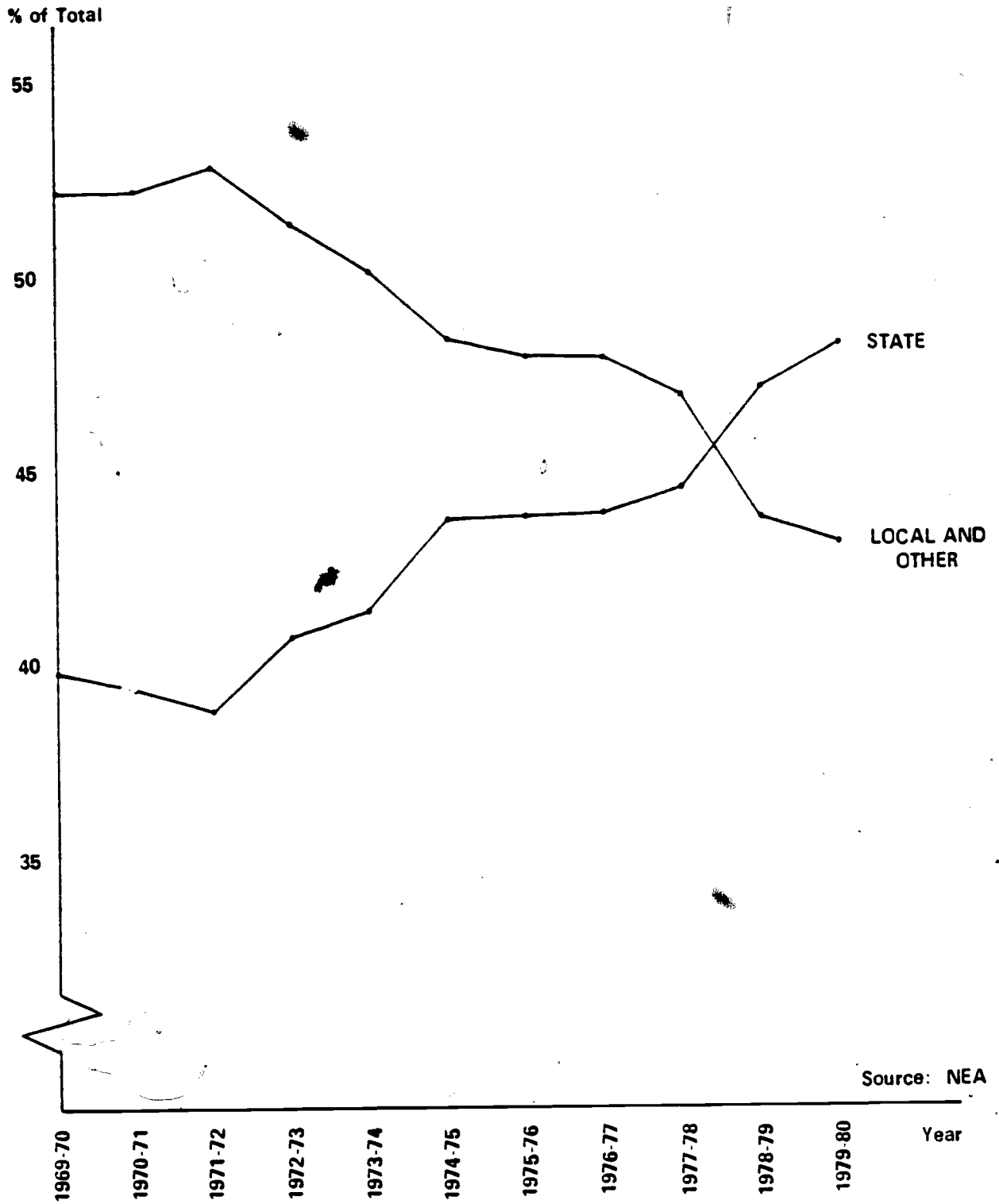
ECONOMIC THEORIES ON GRANTS IN AID

A third way to explain the increase in the costs of education can be found through a review of the economic literature regarding the expenditure effects of grants in aid from one level of government to another. According to NEA estimates, there has been a considerable shift in the source of school district revenues from local districts and to the state level in the last ten years. During that ten year period, state sources increased from 39.9 percent of total school district revenue to 48.1 percent of total revenue, while the local share decreased from 52.1 percent in 1969-70 to 42.5 percent in 1979-80. (See Figure 8) during this same period of time, the federal share of school district revenues remained relatively constant increasing from 8.0 percent in 1969-70 to 9.3 percent in 1979-80.

There are two general types of grants that higher levels of government can make to lower or local units of government such as school districts; categorical and non-categorical grants. A categorical grant is one that is given to the local government for a specific purpose and generally cannot be used to supplant or replace local revenues. Most of the money local districts receive from the federal government falls into this category. Examples of these grants include the money given to school districts to fund part of the costs of implementing PL 94-142, and Title I funds to provide compensatory education to economically disadvantaged children. The one major exception to this pattern of categorical grants from the federal level is PL 874 funds which are given to school districts that are impacted by large tracts of tax-exempt, federally-owned property, or large numbers of federal employees.

Figure 8

STATE AND LOCAL REVENUE RECEIPTS
1969-70 TO 1979-80



Source: NEA

Because most of this categorical money is designated for specific programs, and cannot be used to replace local funds, the impact of these grants to a local school district is generally to increase total educational expenditures. In the case of a matching grant, where the local district is required to pay for a portion of the program funded by the federal grant, if the district commits funds to a program that it would not have funded at all without the federal assistance, the tendency to increase educational expenditures would be enhanced.

The second type of grants are non-categorical grants, that is money that is distributed to local units of government with no restrictions. Most of the increases in state funds distributed to local school districts in the past decade have been of this nature. While it is difficult to determine exactly what impact an unrestricted grant from a state to a local school district will have, the evidence as developed by Wilde, Hirsch and Musgrave, indicates that part of the money received from the state will be used to replace local resources, and part of the money will be used as additional revenue for the school district.

An example of this concept is a school superintendent whose district receives an unrestricted grant from the state of one million dollars. The district is faced with three options; use all of the money for additional programs, use all of the money for local tax relief, or use part of the money for each purpose. If the district uses part of the money for each purpose, the result is lower local taxes and higher spending. As a result, increases in state aid to local school districts, unless accompanied by strict offset provisions, are likely to lead to increases in total educational expenditures, although those increased will not be as large as the total increase in state aid.

In summary, it is likely that at least part of the 24.8 percent increase in educational expenditures above the rate of inflation was caused by increases that were (1) mandated by another level of government and either partially or wholly paid for by that level of government; (2) a result of local districts receiving categorical matching grants to provide services or build structures that would not have been undertaken without the aid from the higher level of government; and (3) a result of increases in non-categorical aid from a higher level of government that was used to partially replace local revenue sources and partially used to increase expenditure levels.

APPENDIX A

APPENDIX A

Increase in expenditures due to increases in instructional staff salaries

Although the annual increase in instructional staff salaries did not keep pace with inflation between 1969-70 and 1979-80, there was a net increase in the number of instructional staff members employed by school districts. Consequently, it was anticipated that part of the 24.8 percent increase in total educational expenditures during that same time period was due to this increase in the number of staff. Determination of the impact on total expenditures was ascertained through the process described below.

The ten year increase in the CPI-U was 103.6 percent, while the increase in instructional staff salaries over the same period amounted to 90.2 percent, a difference of 13.4 percent. Stated differently, the increase in instructional staff salaries during the study period was 86.6 percent of the increase in the CPI-U.

If instructional staff salaries had increased at the same rate as the CPI-U, then a 10.3 percent increase in the number of personnel employed would translate to a real increase of 10.3 percent. However, since salaries only increased by 86.6 percent of the increase in the CPI-U, only 86.6 percent of the 10.3 percent is accounted for, or 8.92 percent.

However, even this figure must be adjusted since instructional staff salaries do not represent 100 percent of total educational expenditures. To determine what portion of total expenditures was represented by instructional staff salaries, it was necessary to estimate total

instructional staff salaries. This was done by multiplying the average (mean) salary of instructional staff, \$16,813, by the number of instructional staff members employed in school districts, 2,485,042. This resulted in a total expenditure of \$41,781,011,000, on 45 percent of the estimated 1979-80 expenditures of 92,924,458,000. (NEA: Estimates of School Statistics, 1979-80).

Because instructional staff salaries only represent 45 percent of total expenditures (\$41,781,011,000 : 92,924,458,000), the figure of 8.92 percent derived above was reduced by the portion of total expenditures devoted to instructional staff salaries, leaving a value of 4.01 percent (.45 x 8.92).

In summary, it appears that of the 24.8 percent real increase in educational expenditures between 1969-70 and 1979-80, 4.01 percent can be explained by the increase in the number of instructional staff members.

APPENDIX B

APPENDIX B

Increase in Expenditures Due to Increases in Maintenance and Operations, Fixed Charges and Other Costs

Figure B-1 shows the proportion of total educational expenditures devoted to various budget categories since 1919-20. Although the data for this chart was only available through 1976-77, some interesting patterns emerge. It is clear that three categories, Maintenance and Operations, Fixed Charges and Other Costs represent increasingly larger shares of the total. It is likely that the increases in each of the three categories have continued to increase at a rate faster than the rate of inflation.

However, before the impact of increases in these three categories could be determined, it was necessary to develop estimates of the 1979-80 expenditures for each category. Table B-1 displays how these estimates were developed, and the impact of those estimates on total educational expenditures. A description of each step is included below:

Step 1: The rate of growth in expenditures in each category between 1969-70 and 1976-77 was calculated. For simplicity, each category is called a factor and defined in the table as f.

Step 2: The rate of growth in the CPI-U from December 1969 to December 1976 was calculated. This rate of 67.7 percent is listed in all three columns.

Step 3: The increase in the CPI-U as a percentage of the increase in each factor was calculated using the following formula:

$$\frac{\text{Percent increase in the CPI-U}}{\text{Percent increase in the factor}}$$

Step 4: This row displays the increase in the CPI-U between December 1969 and December 1979 of 103.6 percent.

Step 5: The 1969-70 to 1979-80 assumed rate of growth for each factor was calculated using the following formula:

$$\frac{\frac{\text{The 1969-76 percentage increase in each factor}}{\text{The 1969-76 percent increase in CPI-U}}}{\text{The 1969-79 percent increase in CPI-U}}$$

Step 6: The amount that the assumed rate of growth for each factor exceeded the rate of growth in the CPI-U is displayed in this row.

Step 7: The estimated 1979-80 expenditures for each of the three categories are calculated by multiplying the 1969-70 expenditures by the assumed rate of growth for 1969-70 to 1979-80 period.

Step 8: The portion of total 1979-80 expenditures represented by each of the factors was calculated and displayed in this row.

Step 9: In order to determine the impact of each of these categories had on the real increase in total educational expenditures over the ten year period, each factor's share of total expenditures was multiplied by the amount the increase in that factor's expenditures exceeded the CPI-U. It was necessary to multiply the increase above the CPI-U by each factors' share of total expenditures to ascertain what impact the individual factor had on total expenditures.

As a result of these calculations, it was estimated that Maintenance and Operations accounted for 6.31 percent of the 24.8 percent real increase, while Fixed Charges accounted for 14.13 percent and Other Costs represented 8.44 percent of the total.

When these factors were added together with the other estimates for salary increases and for the impact of capital outlay and interest on school debt, more than the 24.8 percent in need of explanation resulted. Because of this difficulty, a second estimate of 1979-80 expenditures was developed by calculating the increase in total expenditures between 1976-77 and 1979-80, which amounted to 24.1 percent, and then calculating the estimated 1979-80 expenditures in each of the three categories by

assuming a 24.1 percent increase in expenditures between 1976-77 and 1979-80. Table 2 in the text shows the new estimates 1979-80 expenditures for Maintenance and Operations, Fixed Charges and Other Costs using this method, and calculates the ten year growth rate in expenditures for each category.

Maintenance and Operations	5.43%
Fixed Charges	11.29%
Other Costs	7.0%

Figure B-1

PERCENT OF TOTAL SCHOOL EXPENDITURES
BY CATEGORY
1919-20 TO 1976-77

Source: NCES Digest of Education Statistics 1979

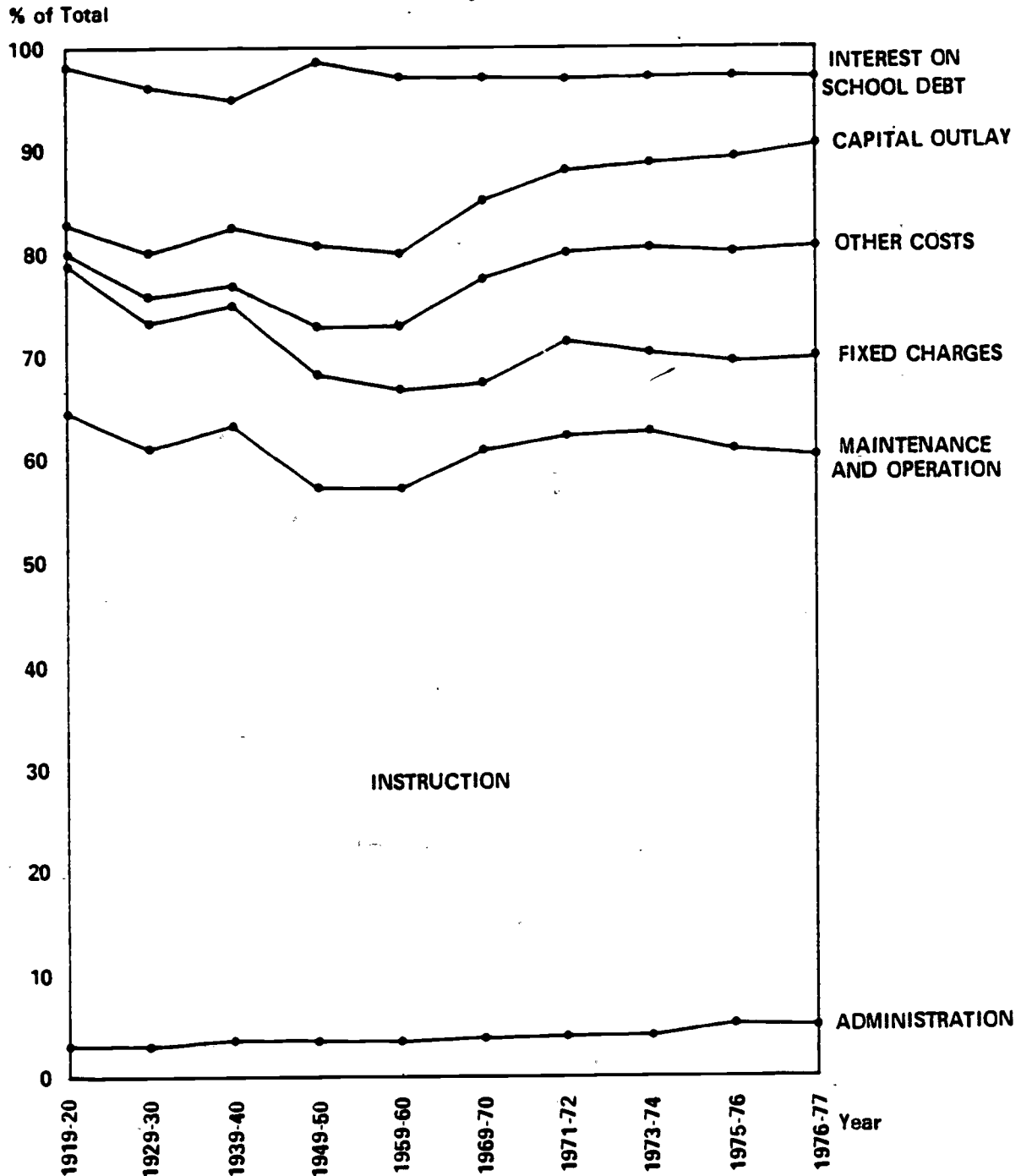


TABLE B-1

IMPACT OF MAINTENANCE AND OPERATIONS, FIXED CHARGES
AND OTHER COSTS

	Factors (f)		
	Maintenance and Operations	Fixed Charges	Other Costs
1. Percent increase in f, 1969-70 to 1976-77 (NCES)	108.7%	148.12%	128.24%
2. Percent increase in CPI-U December 1969 to December 1976	67.7%	67.7%	67.7%
3. Increase in CPI-U as a percent of increase in f (#2 : #1)	62.28%	45.71%	54.93%
4. Percent increase in CPI-U December 1969 to December 1979	103.6%	103.6%	103.6%
5. Assumed rate of growth in f 1969-70 to 1979-80 (#3) % x = 103.6	166.3%	226.65%	188.60%
6. Amount of assured rate of growth in CPI-U	62.7%	123.05%	85.0%
7. Estimated expenditures for f in 1979-80 (000) (1969-70 expenditures x assumed rate of growth)	\$9,352,983	\$10,671,394	\$9,228,444
8. Estimated expenditures as a percentage of total estimated 1979-80 expenditures (NEA)	10.06%	11.48%	9.93%
9. Amount of increase above CPI-U due to increase in f (Percent of total expenditure x amount increase exceeds CPI-U)	6.31%	14.13%	8.44%

APPENDIX C

APPENDIX C

Decrease in Expenditures Due to Capital Outlay and Interest Expenditures

As Figure 7 in the text indicates, expenditures for capital outlay and interest on school debt have not kept pace with inflation. Consequently, it was anticipated that they would have a negative impact on the attempted explanation of the real increase in total expenditures of 24.8 percent. To determine what this impact is, Table C-1 computes the amount by which the increase in the CPI-U exceeds the increase in the level of expenditures for each of these two categories, and multiplies this difference by the percentage of total expenditures that each represents. Since the increase in the CPI-U was greater than the increase in expenditures, the result of this multiplication is negative, resulting in a number which must be subtracted from the 24.8 percent increase figure.

TABLE C-1

IMPACT OF CAPITAL OUTLAY AND INTEREST
ON SCHOOL DEBT EXPENDITURES

	Factors (f)	
	Capital Outlay	Interest On School Debt
1. Percent increase in CPI-U December 1969 to December 1970	103.6	103.6
2. Percent increase in f 1969-70 to 1979-80	33.8	88.2
3. Amount CPI-U increase exceeds increase in f	69.8	15.4
4. f as a percent of total expenditures	6.71	2.37
5. Impact of f on increases above CPI-U	-4.68	[†] -0.36

BIBLIOGRAPHY

1. Dearman, Nancy B. and Valena White Plisko. The Condition of Education: 1979 Edition. (National Center for Education Statistics, U.S. Government Printing Office, Washington, D.C., 1979).
2. Dearman, Nancy B. and Valena White Plisko. The Condition of Education: 1980 Edition. (National Center for Education Statistics, U.S. Government Printing Office, Washington, D.C., 1980).
3. Educational Research Service, Inc. ERS Research Member, ERS Composite Indicator of Changes in Average Salaries and Wages Paid in Public Schools, Update 1979-80. (Educational Research Service, Inc., Arlington, Virginia, 1980).
4. Educational Research Service, Inc. Measuring Trends in Salaries and Wages in Public Schools: ERS Composite Indicator of Changes. (Educational Research Service, Inc., Arlington, Virginia, 1980).
5. Educational Research Service, Inc. Scheduled Salaries for Professional Personnel in Public Schools, 1979-80. (Educational Research Service, Inc., Arlington, Virginia, 1980).
6. Educational Research Service, Inc. Salaries Paid Professional Personnel in Public Schools, 1979-80. (Educational Research Service, Inc., Arlington, Virginia, 1980).
7. Educational Research Service, Inc. Wages and Salaries Paid Support Personnel in Public Schools, 1979-80. (Educational Research Service, Inc., Arlington, Virginia, 1980).
8. Frankel, Martin M. Ed. Projections of Education Statistics to 1986-87. (National Center for Education Statistics, U.S. Government Printing Office, Washington, D.C., 1978).
9. Grant, W. Vance and George Lind. Digest of Education Statistics: 1979. (National Center for Education Statistics, U.S. Government Printing Office, Washington, D.C., 1979).
10. Hirsch, Werner Z. The Economics of State and Local Government. (McGraw Hill Book Company, New York, 1970).
11. Musgrave, Richard A. and Peggy B. Public Finance in Theory and Practice. (McGraw Hill Book Company, New York, 1973).
12. National Education Association. Estimates of School Statistics 1979-80. (National Education Association, Washington, D.C., 1980).
13. Ornstein, Allen C. "Teacher Salaries: Past, Present, Future." Phi Delta Kappa, Vol. 61, N. 10, June 1980, pp. 677-679.
14. Wilde, James A. "The Expenditure Effects of Grants-in-Aid Programs." National Tax Journal, Vol. 21, N. 3, September 1968, pp. 340-348.