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A case study of inflationary pressures upon a selected Iowa school district

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A CASE STUDY OF INFLATIONARY PRESSURES UPON A SELECTED IOWA SCHOOL DISTRICT

A Thesis Abstract

Submitted

In Partial Fulfillment

of the Requirements for the Degree

Specialist in Education

UNIVERSITY OF NORTHERN IOWA

by

Dean W. Meier

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ABSTRACT

The problem of the study was to determine the reliability of using the Consumer Price Index (CPI) or the Gross National Product (GNP) deflator to control the budgets of Iowa schools. The study centered on how accurately either index measured the inflationary pressures on a selected Iowa district from the 1972-73 school year to the 1979-80 school year.

To determine the accuracy of either index, an Education Price Index (EPI) was computed using the financial records of the Corwith-Wesley Community School District. The EPI was then compared with both the CPI and the GNP deflator. It was hypothesized that both indexes would be less than the EPI and that the difference would be $13,500 or more as measured in current dollars.

The prominent findings were (1) the CPI was not lower than the EPI, (2) the GNP deflator was 3 percentage points lower than the EPI or $22,073 lower as measured in current dollars, (3) all categories of the budget, except salaries, exceeded the CPI by 27 or more percentage points, (4) the non-salary items combined, experienced an inflationary rate 45 percentage points higher than the CPI, (5) the salary items experienced an inflationary rate 32 percentage points less than the CPI, (6) the salary items experienced an increase 39 percentage points less than the rate of salary increases received by the average of all manufacturing jobs in Iowa.

The major conclusions of the study were:

1. The different categories of the school budget experience a wide variety of inflationary rates.

2. Categories of the budget, over which the school district can not control prices, all experience price increases in excess of the CPI or GNP deflator.

3. Salaries in the Corwith-Wesley Community School District are increasing slower than the CPI; 41 percent vs. 73 percent in the last seven years.

4. Salary increases in the Corwith-Wesley system are inadequate when compared with the average salary increases received by all manufacturing jobs in Iowa; 41 percent vs. 80 percent in the last seven years.

5. Teachers, by accepting salary increases for less than the CPI, are subsidizing the Corwith-Wesley Community School District.

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has been approved as meeting the thesis requirement for the Degree of Specialist in Education

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INTRODUCTION

In recent years, much concern has been expressed about the ability of Iowa's small rural school districts to survive. At PURE's (People United for Rural Education) national convention in February 1980, Dr. James Jess, superintendent of CAL Community Schools and national advisor for PURE said, "If nothing is done by the Legislature (Iowa) this year (to ease the financial burden on small rural districts), there will be no small schools five years from now." (28:1)

The Corwith-Wesley Community School District appears to be an example of Dr. Jess' statement. The Corwith-Wesley School District is located in Hancock and Kossuth Counties. It is a basically rural district encompassing the towns of Corwith (pop. 400) and Wesley (pop. 500) as well as a large farming area. (43:302) The kindergarten through twelfth grade enrollment was 322 students during the 1979-80 school year. (4:3) In an effort to maintain programs, the district has already passed an enrichment levy and a school house levy (3:7) but still experiences financial difficulty and must make major changes in the next one or two years or lose important educational programs. (5:1)

How did Corwith-Wesley and other small schools get into such a position? Prior to 1971, school districts drew up budgets based upon the previous year's expenses and anticipated changes. Although some state aid was forthcoming, it generally appeared that schools were

funded to whatever level local school boards deemed appropriate and residents were taxed accordingly. (8:2) The Iowa School Foundation Program, enacted in 1971, addressed the problem of rapidly increasing property taxes amid nationwide cries that rich schools in rich districts produced better educated graduates than did poor schools in poor districts. This was an obvious case of unequal educational opportunity. (8:2)

The Iowa School Foundation Program addressed both of these problems. First, state aid helped all districts reach a foundation base, a minimum to be spent on each child, in an effort to give all students in Iowa an equal educational opportunity regardless of the wealth of the district in which they lived. (22:381) Second, the Iowa School Foundation Program calculated a controlled budget, based upon enrollment, in an effort to slow down rapidly increasing school budgets and property taxes. The controlled budget of a school district was allowed to increase only if the state controller announced an allowable growth based upon the Consumer Price Index (CPI), and state revenues (ability to pay). (8:7) However, the aforementioned enrichment levy allows districts to ask voters to tax themselves for more money beyond the controlled budget, but it is difficult to pass and currently is in existence in only twenty-three Iowa school districts. (17:3) Consequently, most Iowa school districts must survive with the controlled budget.

Much has been written about the role of school enrollment, notably that declining enrollment has been a limiting factor for the school budget, especially as it relates to the fixed costs a school district faces. The other major component of school funding, allowable growth,

has not received as much attention. The reason for the lack of attention seems to be that many people have confused the widespread use of the CPI with its accuracy. (31:24) As previously noted, the CPI has been used to help compute the allowable growth for Iowa school districts. For 1981-82, however, the state legislature introduced the Gross National Product deflator, which replaced the CPI, as a new index to measure inflation. (13:19)

What are these indexes and do they measure the inflationary impact faced by Iowa schools? The CPI is an index computed by the Federal Bureau of Labor Statistics to measure the average change in prices of a fixed market basket of goods and services purchased by urban consumers for day to day living. (27:88) Does the CPI accurately reflect the inflationary pressures faced by urban consumers? Some economists have their doubts. Edward Meadows, writing for Fortune magazine states, "It's evident that our price index (CPI) is an imprecise guide at best and a highly flawed one by any reckoning." (25:69) If the CPI's accuracy is challenged in regard to doing what it sets out to do, measuring the price changes faced by urban consumers, how can it be an accurate indicator of the inflationary pressures faced by rural Iowa school districts? If the CPI does not accurately measure the inflationary pressures faced by rural Iowa school districts, and if in fact the CPI is conservative in its measure of inflation, then is the Iowa legislature inadvertently lowering the quality of education in Iowa school districts more than it intended?

The newly adopted Gross National Product deflator may be no more appropriate than the CPI to measure the price changes faced by a school

district. The Gross National Product deflator (GNP deflator) refers to the price index that results when statisticians in the Commerce Department's Bureau of Economic Analysis 'deflate' current dollar Gross National Product (GNP) to a constant dollar amount. (25:68) They begin by dividing the various subcategories of current dollar GNP by the relevant price indexes, and the 'deflated' sums are added to arrive at a single figure for real GNP. (25:68) When this figure is divided into current dollar GNP, the quotient is the GNP deflator, which picks up the errors from the CPI and all other indexes used in its computation. It further suffers from a chronic tardiness and is based upon GNP estimates and trends that may or may not be accurate, but because of the official auspices of the Bureau of Economic Analysis the GNP deflator carries a lot of weight. (25:70) To protect the quality of education that the rural Iowa school districts can provide, the state legislature may need more information on the inflationary pressures faced by rural Iowa schools. It was the purpose of this study to verify the accuracy of the CPI and the GNP deflator as they related to rural Iowa education by creating an Education Price Index for the Corwith-Wesley School District that would reflect the increased cost of goods and services faced by the district.

STATEMENT OF THE PROBLEM

This study investigated the reliability of using the Consumer Price Index (CPI) or the Gross National Product deflator (GNP deflator) to control rural Iowa school budgets by comparing them with an Education

Price Index (EPI) created in this study, to determine if either index accurately measures the inflationary pressures on the budget of a selected rural Iowa school district.

The major problems involved in this study were:

1. To select a representative sample of goods and services purchased by the Corwith-Wesley School District and to determine the proper weighting factor for each of those sample items.

2. To compute an Education Price Index for the Corwith-Wesley School District by applying Paasche's formula to the data.

3. To compare the EPI with both the CPI and GNP deflator from 1972-1979 and to show how the use of the CPI or the GNP deflator since 1972 has affected the Corwith-Wesley school district in terms of current dollars.

HYPOTHESIS

A. There is a difference between the Consumer Price Index (CPI) and the Education Price Index (EPI) of the Corwith-Wesley School District with the EPI showing larger inflationary pressures than the CPI and that this difference in current dollars will exceed $13,500 (average wage of a faculty member in the 1979-80 school year).

B. There is also a difference between the Gross National Product (GNP) deflator and the EPI with the EPI showing larger inflationary pressures than the GNP deflator and that this difference in current dollars will exceed $13,500.

DELIMITATIONS

The data used to determine the price change of items in the Education Price Index's sample of goods and services was limited to goods and services purchased by the Corwith-Wesley Community School District during the 1972-73 school year and during the 1979-80 school year. The weighting of the sample items was determined by computing what part of the whole budget the items represented of the 1979-80 budget.

The resulting Education Price Index is accurate only for the Corwith-Wesley School District, although other similar rural districts should have an EPI similar to the one computed herein. Because rural and urban schools spend their moneys in different proportions, (7:12) the EPI computed in this study is less related to urban districts.

Paasche's formula was used because it allowed using the weightings of 1979-80 rather than 1972-73. This also allowed all comparisons to be made on the basis of program classification rather than the character classification system of 1972-73.

The development of the controlled budget and its allowable growth are complicated processes involving many variables. This study did not attempt to explain the relationship among the many variables, but rather attempted to isolate one variable, the use of a price index, and to determine if it actually measured inflationary pressures of the Corwith-Wesley School District as it was assumed to do.

DEFINITIONS

Adjusted Weighted Enrollment

In Iowa, the enrollment of a school district, modified by an adjustment to compensate for declining enrollment and further modified by the special education weighting plan.

Consumer Price Index (CPI)

An index designed to measure the price change of a fixed market basket of goods and services over time that is purchased by Urban Wage Earners and Clerical Workers. (31:19)

Controlled Budget

In Iowa, a school district's cost per pupil times the district's adjusted weighted enrollment. (8:13)

Education Price Index (EPI)

An index designed to measure the price change of a fixed market basket of goods and services over time (1972-73 school year to 1979-80 school year) that is purchased by rural Iowa school districts.

Enrichment Levy

A levy which a school district may impose on itself by consent of a simple majority of those residents voting. The levy may increase a district's budget by not more than 10 percent of the state cost per pupil multiplied by the adjusted enrollment in the district. The money comes from a combination of property tax and school district income surtax. (8:13)

Foundation Program

A program enacted by the Iowa legislature to guarantee a minimum amount of money would be spent on each child in Iowa public schools. (8:2)

Gross National Product Deflator

An index, designed to cover all aspects of the United States' economy, which is used to measure inflation. (25:68)

Inflation

An increase in the general price level faced by a person, a group or an organization. (31:1)

Paasche's Formula

$$(100) \times \frac{\sum_{i=1}^{n} p_{1i} \times q_{1i}}{\sum_{i=1}^{n} p_{oi} \times q_{1i}}$$

Where p_{1i} represents prices in a second of two periods of time and q_{1i} represents the corresponding quantity and p_{oi} represents prices and quantities in an initial period of time. (2:8)

Price Relative

A number indicating a price change and computed by the following formula:

$$r_i = 100\, p_{1i} / p_{oi}$$

Where p_{oi} and p_{1i} represent the price of an item in an initial and a later period of time respectively.

Rural Iowa School Districts

School Districts in Iowa with an enrollment of 350 or less.

Urban Consumer

A subgroup of the American population consisting of wage earners and clerical workers. (26:72)

Weighting Factor

$$\frac{p_{oi} \times q_{oi}}{\sum_{i=1}^{n} p_{oi} \times q_{oi}}$$

Where p_{oi} and q_{oi} represent price and quantity in an initial period of time. (2:11)

METHODOLOGY

To describe the inflationary pressures that the Corwith-Wesley School District faced from the 1972-73 school year to the 1979-80 school year, the purchase orders from both of the school years were obtained. An item by item comparison was made to sort out all the items that were purchased during both of the school years. These items were assigned to the appropriate account within the school budget and formed the 'market basket' of goods and services from which to compute the Education Price Index (EPI) of the Corwith-Wesley Schools.

A price relative was computed for each item by using the following formula:

$$r_i = 100\, p_{1i} / p_{oi}$$

The expressions p_{1i} and p_{oi} represent the 1979-80 price of the item and the 1972-73 price of the item respectively. The weight of an item within an account was computed by the following formula:

$$w_i = p_{1i}q_{1i} / \sum_{i=1}^{n} p_{1i}q_{1i}$$

The expressions p_{1i} and q_{1i} represent the price and quantity of an item purchased in the 1979-80 school year.

To compute the index for each account of the school budget, the

following formula was used:

$$\text{Index of account} = \frac{\sum_{i=1}^{n} r_i w_i}{100}$$

An example of these computations using the food category of the Consumer Price Index is shown in appendix A. Similar tables were developed for each account of the school budget.

Account indexes were computed for each major account of the school budget. An account index was, in fact, the price relative for the account. The sum of the account price relatives times the account weights (the percent each account represents of the total school budget) gives the combined index number for all accounts. This combined index is the required Education Price Index.

An example of combining accounts to form a total index is shown in appendix B. A similar table was developed to show the combined index of all the school budget accounts.

The method described above is a step by step breakdown of Paasche's Formula. Paasche's Formula was chosen because it answers the question: How does the cost of education in the current year compare with the cost in the base year for the current year's goods and services? (31:58)

After computing the EPI of the Corwith-Wesley School District, the discrepancy between the EPI and the CPI was examined to show how any difference had affected the 1979-80 school budget. The discrepancy between the EPI and the GNP deflator was similarly examined.

SUMMARY

The reliability of the Consumer Price Index (CPI) or the GNP

deflator to control school budgets, especially for a rural Iowa school district, has not been adequately determined. This paper has contributed to that determination by creating an Education Price Index (EPI) that was compared with both the CPI and the GNP deflator. The difference in the indexes was computed in terms of current dollars.

Chapter 2 of this study reviews relevant literature through 1980 and reviews past and current state legilsation through the 1980 Legislative Session related to school finance. Chapter 3 includes the findings of this study and Chapter 4 contains conclusions and recommendations.

Chapter 2

REVIEW OF THE LITERATURE

Many school systems in Iowa are having difficulty delivering the services that the people of their districts expect. In the past, school districts set their goals first, then taxed themselves accordingly. Today the process is reversed. The state limits the amount of money that is available to a district, and the school district must then adjust its goals so they fit within this limit. One of the factors the state of Iowa has used in determining the controlled budget of a school district is the Consumer Price Index.

This chapter reviews price indexes and school finance using three approaches:

1. A review of related research
2. A review of current literature, especially as it related to the Consumer Price Index
3. A review of the history of public school finance in Iowa

As the first section shows, much of the use of price indexes in education was motivated by the desire to provide equal opportunities for students throughout a state. One study reviewed compared an Education Price Index (EPI) to the Consumer Price Index (CPI) and others developed an EPI by parallel methods to those used by the CPI.

The second section of the chapter reviews current literature concerning the CPI. The review is directed to the following three areas:

1. What is the Consumer Price Index?

2. How reliable is the Consumer Price Index?

3. Studies that compare the Consumer Price Index to an Education Price Index.

The final part of this chapter reviews the history of public school finance in Iowa from 1830 to the present. Although methods of financing public schools in Iowa have changed in the century and a half reviewed, one should note a constant effort on the part of Iowa and Iowans to provide free public education, with equal opportunities for all, to the children of Iowa.

REVIEW OF RELATED RESEARCH

Much of the concern about school finance in recent years centers on the issue of equalization. (6:1) Several states have considered utilizing an Education Price Index (EPI) to adjust the foundation level of State Aid programs. (11:1) There are, however, three kinds of equalization: equalization based on wealth, equalization based on student needs, and equalization based on cost differences. (6:1) Chambers, in a research project conducted for the Education Commission of the States, developed an EPI for each of the 565 school districts in the state of Missouri. The study attempted to measure, not the change in the EPI for a given district over time, but rather the difference of the EPI at a given time for the various school districts in the state. Because a dollar did not purchase the same amount of education in various districts of the state, Chambers proposed that state aid should be allocated according to the EPI of a school district. (6:2)

The conclusions of Chambers' study showed that the EPI's of Missouri schools (using 1974-75 data) varied from an EPI of 89.9 to 121.5 where 100 was the mean EPI. (6:26) In addition, Chambers' research showed that both large and small districts had EPI's that were higher than the mean and that the optimal size school appeared to be about 2500 students. (6:31)

Concern about equalization is not new. As early as 1938 Norton published a study on the 'market basket' approach and in the early 1950's Paul Mort and Lorne Woollatt developed a cost of education index "...in order to adjust certain financial estimates in the apportioning of the State Foundation Program." (11:2)

Why have educators been concerned about cost of education indexes? Furno in a study conducted in the state of New York said:

> "It should be noted that an educational market basket is not identical to a family market basket." (11:4)

Consequently Furno concluded that using the Consumer Price Index (CPI) to control state aid to schools was inappropriate. (11:4)

In developing an EPI for various regions of New York, Furno used both price relatives and weights in his computations which he justified as follows:

1. Price changes and other necessities would cause quantities to change, thus price relatives were closer to reality than were fixed weight aggregates. (11:18)

2. Weighting was necessary to allow each item in the educational market basket to portray its relative importance. (11:18)

Furno also used the Laspeyre statistical formula to compute his

index, (instead of Paasche's formula) which is the same formula used for the Consumer Price Index. (11:18) In fact Furno felt any effort to compute an EPI should parallel the efforts used to compute the CPI. (11:24)

Furno listed five reasons why regional or local EPI's should be computed:

1. To adjust state aid payments (11:10)

2. To compare district per pupil expenditures adjusted for differences in cost (11:10)

3. To compare districts' expenditures for specific items (11:10)

4. To discover areas in which a district may be over or under spending by comparing weightings (11:10)

5. To assist in the preparation of future budgets (11:10)

After noting that wealthy districts have in general a higher EPI than poorer districts Furno notes a word of caution:

> "Of considerable concern to those persons stressing equality of educational opportunity is the fact that an educational price index has a tendency to adjust aid upward in wealthy as contrasted to poor districts. Thus, the use of an educational price index could well run counter to the principle of equalization of educational opportunities for all children in the state." (11:27)

Others have been more positive concerning the use of an EPI. Jordan in a study titled, "Finance - Is There a Recession in School Finance?," stated:

> "...educational opportunity can not be made equal, merely by providing the same amount of revenue for every pupil in the districts of a state, because districts vary in the proportion of high cost pupils in the percent of the budget that must be expended for transportation, in sparcity and density of

> population, in attractiveness in living conditions, in the rate of crime and other factors affecting the cost of delivering educational services." (24:1)

The most significant study to date, not only because of the attention it has received, but also because the results were the first to be applied in the distribution of state public school funds, is the Florida Price Level Index (FPLI). (24:3) The Florida State Legislature requested that an index be established to measure the difference in the cost of living among the different counties of Florida. The legislature directed that the study include three items:

1. An index of cost of living among the 67 counties of Florida. (24:3)
2. Indications of the significance of those differences. (24:3)
3. A funding formula based on those differences. (24:3)

The resulting FPLI was first employed for the 1973-74 school year and with minor changes is still used. (24:3) Using the FPLI, the cost differentials for fiscal year 1976-77 ranged from a low of .91 to a high of 1.07. (24:3) Fox, however, is highly critical of the Florida plan because it "...channels money into districts which contain wealthy residents." (10:548)

Cost of education indexes have also been undertaken to assess the impact of inflation on school district expenditures. Carter conducted a study in Texas in 1966 to measure the purchasing power of ten districts in Texas and found that expenditures for public education had not been increased sufficiently to purchase the same quantity and quality of education as had been purchased ten years earlier. (24:12)

REVIEW OF THE LITERATURE

The Consumer Price Index

The Consumer Price Index is often vaguely called or referred to as the 'cost of living'. (27:88) The Consumer Price Index is, however, a very specific statistic computed monthly by the Federal Bureau of Labor Statistics and can be described as follows:

> The Consumer Price Index is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.
>
> The CPI is based on prices of food, clothing shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972-73, they may not accurately reflect the experience of individual families and single persons with different buying habits. (27:88)

The last sentence of the above description is the problem being focused on in this paper. Because the CPI's were based on the expenditures of two population groups in 1972-73, they may not have accurately

reflected the experience of 'rural school districts in Iowa' with different buying habits.

Reliability of the Consumer Price Index

The Federal Government admits there are problems with the Consumer Price Index (CPI). In its September 1979 issue of Monthly Labor Review, the Bureau of Labor Statistics (BLS) discusses the complex issue of treating homeownership cost in the CPI. The BLS gives two concerns. First, while homeowners do not buy a home or take out a new mortgage each month, the cost of a home and the cost of a mortgage are included in each month's CPI. (27:2) Second, homes are not consumed at all, but as anyone who has purchased and later sold a home has found, they are an investment and hence should be separated from the CPI. (27:2)

Another less obvious fallacy of the CPI is that it measures price changes rather than sales. (41:5) Suppose the price of beef skyrockets, pulling up the whole food component of the CPI. Yet, the price of fish and pork may remain stable or even drop a little prompting consumers to buy ham and salmon and less steak, thus their food bill may not increase as the rising food component of the CPI would indicate. (41:5)

John W. Robbins reported in 1976 six flaws in using the CPI for indexation and suggested, "The self-confidence of half-knowledge is more destructive than ignorance," (16:26) and that the CPI ought to be abolished. (31:25) The six objections of Robbins are as follows:

1. The CPI excludes salaried, professional self-employed, farm workers, and rural wage earners. (41:16-21)

2. Out of thousands of items in the Consumer marketplace, only 400 (approximate) were used to compute the CPI. (41:16-21)

3. Not all 400 items were sampled each month. (41:16-21)

4. Not all stores were sampled. (41:16-21)

5. Not all goods and services priced were of equal importance. Should a fifty cent increase in the price of a movie ticket influence the CPI to the same extent as a fifty cent increase in the price of a gallon of milk? (41:16-21)

6. We do not know what the CPI really measures. (41:16-21)

In conclusion Robbins states, "All these considerations ought to lead one to conclude that the Consumer Price Index is not a very accurate measure of anything in particular." (41:23)

Richard Ruggles offers another reason why the Consumer Price Index is not as accurate as it should be. He suggests that if the CPI had taken improvements in the quality of products into account, prices during the 50's and 60's would have shown a decrease, not the 36 percent increase shown by the CPI. The CPI, he states, simply fails to adjust adequately when a higher price reflects only improved quality. (25:67)

CPI vs. EPI

In 1978, Garcia reported that educational price indexes related to specific expenditure categories are necessary for realistic budget preparation. Consequently, inflation prediction at the University of Massachusetts prepares educational price indexes tailored to the University budget. (12:1-21)

In a paper presented at the Canadian School Trustees' Association

Congress on Education, Brian Sharples states the obvious, that inflation is a key reason for rising educational expenditures and that rising expenditures are more difficult to explain in a period of declining enrollment. In discussing the rising expenditures he claims that because education is a labor-intensive enterprise the rise is probably greater than changes in the Consumer Price Index. (32:1-14)

A study by Williams suggested that schools are particularly liable to suffer in periods of high cost inflation. He derived an index to show that between 1965 and 1974 school (university) cost increased more than the Consumer Price Index. Consequently, he suggests that linking university budgets to a consumer price index is not to be recommended. (42:351-62)

HISTORY OF LEGISLATION RELATED TO SCHOOL FINANCE

History of School Finance 1830-1920

The first Iowa school was established in 1830 by Doctor Isaac Galland. Dr. Galland built the first school and supported the first teacher. (36:6) By 1838 there were more than 40 log school houses in Iowa that were totally financed and managed locally, without government assistance. (36:6)

The first Iowa school law was passed in 1839 (36:6), and had the following provisions:

1. There should be a common school in each county, which shall be free for every class of white citizen between four and twenty-one. (33:191-94)

2. That a tax should be levied upon the inhabitants of the district

the amount to be determined by the following method:

> Each voter may propose a sum to be levied, and the vote shall be taken upon the highest sum proposed, and if that vote fails to carry a majority, to vote on the next highest proposal, and so on down, until a majority vote is reached. (33:191-94)

It became obvious in the following few years that the voters would not tax themselves to keep the schools running for a full term, so schools assessed their students to make up the difference. (36:7) This "voluntary subscription" was approved under the title of a "rate bill" in 1853 by the Iowa Legislature. (36:7)

In 1854 the Governor spoke out in favor of free public education in his inaugural address when he stated:

> "I am convinced that the public schools should be supported by taxation of property, and that the rate system (rate bill) should be abolished. Property is the only legitimate subject of taxation. It has its duties as well as its rights. It needs the conservative influence of education, and should be made to pay for its own protection." (36:7)

By 1858 the "rate bill" was abolished and property taxes did assume the burden of financing public schools. (21:78) Another significant source of revenue until about 1890 was the interest on the sale of public lands. (30:14) In Iowa this included the 16th section in every township. (30:15) The fund has decreased in importance and while still in existence today, it pays about $0.46 per student per year in what is called the "semi-annual apportionment." (38:5)

Although education was going through changes during the years from 1858 to the 1920's, school finance was not, as property taxes

continued to be the significant source of school finance.

History of School Finance 1920-1980

Since 1920 Iowa school finance programs cover four distinct periods. Each period is characterized by a different type of state aid, as well as a different percent of state support. See appendix C for a table showing the state vs. local sharing of the costs of Iowa public education.

First Period (1920-1945)

From 1920 to 1945 state aid to public schools was in the form of categorical and incentive aids and amounted to approximately 1 percent of the support of the public schools. (36:15) In 1930 there were four such aids:

1. To encourage school consolidation (36:15)
2. For high school normal training departments (36:15)
3. To encourage improvements in buildings and programs in the one room rural schools (36:15)
4. For county institutes for teachers (36:15)

Grants for special education first appeared in 1934-35. State aid for the deaf was provided that year and classes for the handicapped followed in 1935-36. (36:15) By 1943 Iowa hit a low point by contributing only 0.8 percent to the support of the public schools, while nationwide, states were contributing 33.0 percent of local education costs. (36:15)

Second Period (1945-1967)

In the second period from 1945 to 1967 state support was in the

form of general and special aids, mostly flat grants. In 1945 and again in 1947, the Iowa Legislature passed State aid laws which set a philosophy in State aid to local schools which persisted for 20 years. The School Code Commission had recommended that about 20 percent of the cost of maintaining public schools in Iowa be paid by state funds for the purpose of (1) relieving property taxes, and (2) equalizing education opportunity. (36:16) The General Assembly provided $1,000,000 for such equalization. (36:16)

The following types of school aids were in existence during the period from 1945 to 1967:

1. General aid for each day of pupil attendance starting with $0.11 per day for elementary students in 1947 and reaching $52 per student per year in 1966-67. (36:16)
2. Supplemental or Equalizing Aid to be distributed to schools with low property valuations. (36:16)
3. Transportation aid (36:16)
4. Driver education aid (36:16)
5. Special education aid (36:16)
6. Vocational education aid (36:16)

By 1966-67 total State aids amounted to 12.6 percent of the cost of public schools. (36:160)

Third Period (1967-1971)

The third period from 1967 to 1971 was characterized by a proportionate sharing plan which was an attempt to increase state support and to equalize education opportunity. Two economic issues in the mid-sixties focused attention on the need to look at public school

funding:

1. Costs of education were rising faster than income available. (36:17)

2. A taxpayer revolt was brewing in the light of school millage rates doubling from 1951 to 1965. (36:17)

As a result of these two issues, a "Proportionate Sharing" law was passed in 1967. The plan did increase the state's share of public education which jumped from 12.6 percent in 1966-67 to 24.3 percent in 1968-69.

The Proportionate Sharing plan had two components, a comparative wealth formula and a countywide sharing of property and income taxes. (36:17)

The county sharing worked as follows:

1. Forty percent of General Fund cost in the county was spread on a countywide millage and the proceeds divided upon a per pupil basis. (35:22)

2. Forty percent of the Iowa income taxes collected in each county remained in that county and was distributed, like property tax sharing, on a per pupil basis and amounted to 1/5 to 1/2 the property tax sharing. (35:22)

This caused money to flow from a wealthy district to a poorer district in the same county, an obvious attempt at equalization. (35:22)

The wealth formula was built on top of county sharing, (see appendix D for the wealth formula) and was used to distribute state funds in relation to wealth. However, the wealth factor was multiplied by unlimited per pupil expenditures. (35:10) Thus a wealthy district could increase its millage slightly and bring in many more dollars which then assured the district of more per pupil aid even though the multiplier

applied to the per pupil expenditures was smaller. (36:18) The poor district, already experiencing high millage rates, was in no position to do the same. (36:18)

The result of the 1967 Proportionate Sharing plan was increased school spending and ballooning property taxes. (36:18) School spending jumped 60 percent in four years and after a one year decline, property taxes rose approximately 30 percent. (16:25) This latest round of rapidly increasing school expenditures caused the legislature to again concern itself with school funding and led to the fourth period. (23:20)

Fourth Period (1971-1980)

In response to this new round of concern a Governor's Educational Advisory Committee was appointed in 1969 for a two year study of the educational needs in Iowa and how such needs could be financed. (20:11) One section of their report dealt with the State's role in financing education and provided support for the legislative and executive action taken by the state in establishing an Iowa foundation plan for financing education. The committee's report included the following principles and recommendations:

A. Principles guiding Iowa's educational responsibility to its citizens (19:63-65)

   1. The State should insure that all students have equal access to a quality education.

   2. The State should provide for equity in financing education.

   3. The State should insist upon efficient operation of local school districts.

   4. The State should allow for local flexibility.

B. The Foundation Plan recommended by the Governor's Educational Advisory Committee (19:65-70)

1. A local property tax of 20 mills collected in all districts and maintained locally.

2. A State general fund allocation.

3. A State equalization aid up to 80 percent of the State average per pupil cost of general fund expenditures.

4. A State contingency fund to help local districts meet special problems.

5. An additional local property tax levy to meet the balance of general fund expenditures above the foundation and to include capital improvements.

A legislatively organized Tax Study Committee along with school administrators and state financial specialists concurred with the Governor's Educational Advisory Committee that an overall foundation plan for distributing state aid was necessary. (20:16)

The legislature responded to the Tax Study Committee's report by recognizing the necessity to conceive a new school finance plan and to arrest the rapid spiral of increasing property taxes. (20:22) To accomplish this the legislature enacted House File 121 in March 1971. (18:1) H.F. 121 declared that property taxes were to be frozen at the 1970-71 rate except in extraordinary circumstances under permission from the School Budget Review Committee. (20:22) In addition, H.F. 121 provided for a $45 per pupil increase in state aid for the 1971-72 school year in recognition of increasing school costs. (20:22)

In effect, the legislature used H.F. 121 to buy time in which to formulate a new school finance program under which property taxes could be arrested and the state could assume a greater burden of school finance.

The legislature passed H.F. 654 late in the 1971 session which created the Iowa School Foundation Plan to be implemented for the 1972-73 school year. The following eight provisions summarize H.F. 654:

The Iowa School Foundation Plan (20:24-26)

1. A basic property tax of 20 mills. This money would be kept locally.

2. State aid which would insure each school district of up to 70 percent of the state cost per pupil for the first year. The foundation percentage would then increase at one percent per year up to a maximum of 80 percent. Such a provision assured each school district of a specific level of financing. The average state cost per pupil was set at $920 for the 1971-72 school year.

3. Each school district received at least $200 per pupil in state aid unless this caused more than a 10 percent reduction in local millage rates. This limit was maintained for three years and was based upon a 10 percent reduction of the Base Year's rate.

4. Millage rate reduction at a gradual rate. Maximum millage rate reduction was limited each year for three years to a 10 percent reduction of the previous year's rate in order to avoid sudden shifts in returns for some of the most affected districts. The first year (1972-73) was to be a reduction from the Base Year rate (1970-71). When the three year restriction expired most school districts would have achieved their Foundation millage equilibrium.

5. A state allowable growth rate was computed. For the first time, local public school district costs were tied to the growth of the State's economy. For three years the limit was approximately 5 percent; thereafter, the growth of the state was the limit. For the first year of the Foundation, the growth of the state was limited to $46 per pupil, then $48 for 1973-74, and $51 for 1974-75. After the third year, the allowable growth for the school district budgets depended entirely on the computed state allowable growth rate. The allowable growth was the percent increase of the second and third years of the most recent three years for which accurate figures were available for the total adjusted

state general fund revenues and adjusted state-ment assessed valuation, all divided by four, then converted to dollars per pupil.

6. Additional local property tax was levied to cover the balance of the budget providing the millage rate did not exceed the 1970-71 general fund millage. The School Budget Review Committee was authorized to review schools where growth problems seemed to exist and provide additional state aid where necessary.

7. Local School Boards would continue to operate the local educational program. Local boards could request, in unusual circumstances, supplemental state aid, which would be available if approved by the Budget Review Committee. The boards also had the system of exceeding limitations of the state maximum allow-able district costs, by calling for a local school district referendum in which the local voters could approve an additional income surtax.

8. A Guaranteed State Aid fund to aid school districts in which the Foundation formula did not meet the district's actual or maximum cost, whichever was less. This was commonly called the "buy-out" provision.

Four features of this Foundation Plan should be noted:

1. It provided for both property tax and income tax equalization and gradually reduced the percentage of support for school costs borne by property tax from a state average of 60 percent to less than 50 percent. (20:29-30)

2. It eliminated open-minded funding of school budgets from property tax. (20:29-30)

3. It attempted through a ten year evolutionary process to achieve the state goal of assuring any school district a specific financing level of up to 80 percent of the state average educational cost per pupil. (20:29-30)

4. It had provisions for local option through an income surtax referendum if the community wished to exceed the average school district budget limit. (20:29-30)

In the years that followed, the legislature frequently considered various provisions of the Foundation Plan and changes were made to correct inequalities found in the plan and to increase ease in administration at all levels. (20:29)

In 1973 the following changes were made by the legislature for the 1973-74 school year:

1. Removed miscellaneous income from the controlled budget. (37:19)

2. In an effort to cushion declining enrollment, districts were allowed to base enrollment on either the second Friday of September of the budget year or the second Friday of January of the base year, whichever was larger. (37:19)

3. Allowed low cost per pupil districts to use a growth rate that was 125 percent of the state growth rate, if district cost per pupil was lower than state cost per pupil, to bring it up only to state cost per pupil. (37:19)

4. Provided for the School Budget Review Committee to alleviate local school budget problems of an exceptional nature. (37:19)

In 1974 the legislature made the following changes in the Foundation program for the 1974-75 school year:

1. The effects of declining enrollment were further cushioned. Schools were allowed to count one-half the difference between the January 1974 and January 1973 enrollments. This delayed the effect of declining enrollment by one and one-half years. Schools could still use the September 1974 enrollment if it was larger. (15:2016-2022)

2. The growth factor was raised from 5 percent to 8 percent. (15:2016-2022)

3. Provided for the 1975-76 school year by allowing a school to add to its actual enrollment an additional amount equal to fifty percent of the decrease in enrollment to the extent the decrease was not more than five percent of the base year's enrollment,

> and twenty-five percent of the decrease to the extent that the decrease exceeds five percent of the base year's enrollment. (15:2016-2022)

A significant change made by the 1975 Legislature was to drop taxable valuation of property from the growth factor. (39:18) The Consumer Price Index was then added to the formula to help compute the allowable growth factor. (39:18) Thus the formula was now based on the growth in state revenues and the Consumer Price Index.

In 1975 further changes were made for the 1976-77 school year. The most notable addition to the Foundation Program was the concept of weighted pupils. In 1976 the Iowa Foundation Program allowed extra funds for children with learning difficulties on the assumption that smaller classes and more individualized help was needed. (34:106) The categories and weights are as follows:

1. Students who stay in the regular classroom and get special help outside the class. Weight - 1.7 (34:106)

2. Students in special classes, such as educationally mentally retarded or trainable mentally retarded. Weight - 2.0 (34:106)

3. Students with severe mental, physical, or emotional handicaps. Weight - 4.2 (34:106)

other changes in 1975 follow:

1. Budget certification date was changed to March 15th from February 15th. (37:19)

2. The allowable growth rate was increased to 10.7 percent for increased IPERS and for state aid to cover Driver's Education. (37:19)

3. Area Education Agency financing was shifted from direct area-wide property taxes to local collection as a part of the Foundation Law. (37:19)

4. Enrichment funds were in the ratio of $0.27 per $1000 of taxable property value for each 2.5 percent surtax on income. (37:19)

Number 3 in the preceding list relates to the establishment of 15 Area Education Agencies (AEA), to replace the County Units and the County Superintendents. The AEA's were established to provide media services, supervision of special education, and other support services. (37:20)

As stated previously, the growth factor orginally was based in 1972-73 on (1) property assessment growth and (2) growth in State revenue receipts. In 1975 property assessment growth was dropped in favor of the Consumer Price Index. Beginning with the 1980-81 school year, however, the growth in State revenue receipts was dropped and the growth factor depended solely on the Consumer Price Index. (39:18) But before the 1980-81 school year had even begun, the legislature made another change in the computation of allowable growth. For the 1981-82 school year the Gross National Product deflator (GNP deflator) would be used. (13:19) At a time when rapid inflation along with a looming recession was threatening, the GNP deflator had a great advantage because "...it was substantially lower, at least currently, than the CPI." (13:19) To make sure the state could afford school aid, the new law also said that if the GNP deflator index was higher than the growth in state revenue, then the inflation index part of the formula could be forgotten entirely. (13:19)

In 1972-73 Iowa's foundation formula set the support level at 70 percent of state average per pupil expenditures with this percentage to increase by one percent each year until it reached 80 percent in 1982-83. However, the 1980 legislature froze this percentage at 1980-81

levels for the 1981-82 school year. (13:19) This did not affect the amount that would be spent for education in 1981-82, it simply meant property taxes would pay more of the cost than previously planned. (13:19)

SUMMARY

Education in Iowa is directly affected by many factors, one of which is finance. The Iowa Foundation Program attempts to provide equal opportunities for all Iowa students while at the same time equalizing and controlling the tax burden. The controlling factor was achieved by the use of an allowable growth factor for school budgets. This factor has totally or partially been based on the use of inflation indexes.

This chapter has reviewed how others view the accuracy and/or appropriateness of using price indexes to control school budgets. The chapter has also reviewed the history of educational finance in Iowa since 1830 and has shown how the use of price indexes has varied since the implementation of the Iowa Foundation Plan in 1972.

The remainder of this paper will further study the appropriateness of using the Consumer Price Index of the Gross National Product deflator to control school budgets by creating an Education Price Index and comparing it with both indexes.

Chapter 3

CALCULATION AND EXAMINATION OF THE EDUCATION PRICE INDEX

The review of the related literature revealed a variety of concern about the accuracy of the Consumer Price Index (CPI) and the Gross National Product (GNP) deflator. The history of school finance in Iowa has further shown that the legislature in Iowa has been volatile in its efforts to provide funding for public education. In an effort to show how the use of either the CPI or the GNP deflator in school funding formula's from 1972 to 1980 would have affected the Corwith-Wesley School District, an Education Price Index (EPI) has been calculated in this chapter.

Calculation of the Education Price Index

The calculation of the EPI was done in four stages. First, all invoices from the 1972-73 school year were examined and each item listed was recoded according to the program classification system currently used rather than the character classification system of 1972-73. Salary schedules and tables for computing benefits were used to record those costs from the 1972-73 school year. Next, the 1979-80 invoices and schedules were examined to determine the 1979-80 prices for the items recorded from 1972-73. Although the school did not buy exactly the same items in 1979-80 as had been purchased in 1972-73, almost three hundred different pairs of identical items were matched for use in this study.

Extreme care was taken to be sure only identical items were matched. A new 1979 edition of the Driver's Education manual (paperback) was not paired with the old 1972 edition (hardbound). A plastic chair from one company in 1972 was not paired with one from a different company in 1979 because quality may have been different. Pairs used in this study were purchased from the same supplier in both years. Where possible, matching catalog or identification numbers were also found before a pair was included. If unidentical items had been paired and used in this study, a change in price may have been the result of a change in quality rather than the result of inflation.

In the second stage of the calculation of the EPI, each pair of items used was placed in one of the forty-one categories of the school budget. The forty-one categories and the total 1979-80 expenditures in those categories are shown in Table I page 35.

Included in this stage was the calculation of the weighting of each of the forty-one categories. The weighting of an account was calculated by taking the sum of all items in a category and dividing that sum by the sum of all forty-one categories. The calculation for the category, 'General Education, Salaries', was done as follows:

$$\text{Weight (General Education, Salaries)} = \frac{\$246,790}{\$735,713}$$

$$\text{Weight (General Education, Salaries)} = .335$$

All weightings were rounded to the nearest thousandth. The weightings, using the amounts shown in Table I, are all shown in Table II on page 36.

The third stage was the calculation of the price relative (account index) of each of the forty-one categories of the budget. The price

TABLE I

Corwith-Wesley Community School
1979-80 Expenditures

PROGRAMS	OBJECTS					
	100 Salaries	200 Employee Benefits	300 Purchased Services	400 Supplies	500 Capital Outlay	Totals
001-099 General Education	$246,790	$36,125	$ 7,048	$21,905	$ 2,202	$314,070
100-199 Career Education	33,530	4,909	1,553	2,729	859	43,580
200-299 Skill Development	15,961	1,105		2,904		19,970
300-399 Special Education	24,605	3,980	14,211	5,729	3,829	52,354
400-499 Co-Curr. Athletics	14,904	2,181		3,084		20,169
600-699 Stud. Serv. Programs	32,327	4,732	8,542	20,081	20,200	85,882
700-799 Instruct. Support	11,919	1,744	417	4,727	470	19,277
800-899 Gen. Administration	78,121	11,435	8,810	928	865	100,159
900-999 Central Support	27,709	4,056	38,387	9,347	753	80,252
Total General Fund Expenditures	$485,866	$70,267	$78,968	$71,434	$29,178	$735,713

Total Expenditures $735,713

TABLE II

Account Weightings

PROGRAMS	OBJECTS					
	100 Salaries	200 Employee Benefits	300 Purchased Services	400 Supplies	500 Capital Outlay	Total @ program account
001-099 General Education	.335	.049	.010	.030	.003	.427
100-199 Career Education	.046	.007	.002	.004	.001	.060
200-299 Skill Development	.022	.002		.004		.028
300-399 Special Education	.033	.005	.019	.008	.005	.070
400-499 Co-Curr. Athletics	.020	.003		.004		.027
600-699 Stud. Serv. Programs	.044	.006	.012	.027	.027	.116
700-799 Instruct. Support	.016	.002	.001	.006	.001	.026
800-899 Gen. Administration	.106	.016	.012	.001	.001	.136
900-999 Central Support	.038	.006	.052	.013	.001	.110
Total object acct.	.660	.096	.108	.097	.039	1.000

Total Weightings 1.000

relative of a category is, in fact, a measure of inflation on that category of the budget. The items in a category were weighted by choosing a quantity that reflected the proportion the item actually represented in that category. For example, in the category, General Education, Salaries, a substitute teacher's salary was computed for ten days to keep in proportion with the annual pay of three teachers' salaries because school attendance records show the teaching staff was absent an average of approximately 3.3 days per teacher.

When the paired items were coded and placed in the forty-one categories, some categories did not have enough items to make an adequate comparison, consequently some categories under the same object account were combined. In other cases, categories were combined because the items in them were identical. For example, the categories, General Education, Salaries and Career Education, Salaries, would have suffered from the same inflationary impact, because the teachers whose salaries were included in those categories all had salaries derived from the same salary schedule. (See Appendix E and F)

The following eighteen tables (Tables III - XX) show the items used to calculate the price relatives. Each table is followed by a listing of the categories for which it applies and in some cases an explanation of why more than one category was combined.

TABLE III

Price Relative, Salaries

Teacher Salary	1972 Cost	1979 Cost
BA Base	$ 7,000	$ 9,700
BA +15, 5 yrs. experience	8,424	11,801
MA, 13 yrs. experience	11,188	15,361
Substitute teacher (10 days)	175	275
Total	$26,781	$37,137

$$\text{Price Relative} = \frac{\$37,137}{\$26,781} = 1.39$$

Categories: General Education, Salaries
Career Education, Salaries
Skill Development, Salaries
Special Education, Salaries
Instructional Support, Salaries

Table III applies to each of the five categories listed for the items in each category are teacher salaries, all of which are determined by the same salary schedules.

TABLE IV

Price Relative, Salaries

Coaching Salaries	1972 Cost	1979 Cost
Varsity, Head Football	$ 500	$ 796
Assistant Football	306	459
Varsity, Head Basketball	500	796
Assistant Basketball	204	459
Varsity, Head Track	204	318
Athletic Director	300	414
Total	$2,014	$3,242

$$\text{Price Relative} = \frac{\$3,242}{\$2,014} = 1.61$$

Category: Co-Curricular Athletics, Salaries

TABLE V

Price Relative, Salaries

Salary	1972 Cost	1979 Cost
Guidance Counselor MA, 5 yrs. experience	$ 8,863	$12,033
Bus Driver	1,850	2,687
Total	$10,713	$14,720

$$\text{Price Relative} = \frac{\$14,720}{\$10,713} = 1.37$$

Category: Student Service Programs, Salaries

TABLE VI

Price Relative, Salaries

Salaries	1972 Cost	1979 Cost
Superintendent	$17,625	$27,171
Principal, High School	14,012	20,000
Principal, Elementary	15,925	21,948
Secretary	5,927	9,535
Board Secretary	7,800	12,488
Total	$61,289	$91,142

$$\text{Price Relative} = \frac{\$91,142}{\$61,289} = 1.49$$

Category: General Administration, Salaries

Part of the administrative salaries are allocated to General Administration and part, as shown in the next table, are allocated to Central Support. As a result, some items appear in both tables, but because the total mix of items is different the price relatives are also different.

TABLE VII

Price Relative, Salaries

Salaries	1972 Cost	1979 Cost
Superintendent	$17,625	$27,171
Principal, High School	14,012	20,000
Principal, Elementary	15,925	21,948
Custodian	7,463	12,974
Total	$55,025	$82,093

$$\text{Price Relative} = \frac{\$82,093}{\$55,025} = 1.49$$

Category: Central Support, Salaries

TABLE VIII

Price Relative, Employee Benefits

Item	1972 Cost	1979 Cost
IPERS		
BA Base	$245	$558
BA +15, 5 yrs. experience	273	679
MA, 13 yrs. experience	273	883
Social Security		
BA Base	364	594
BA +15, 5 yrs. experience	405	723
MA, 13 yrs. experience	405	942
Health Insurance		
BA Base	151.20	261
BA +15, 5 yrs. experience	151.20	261
MA, 13 yrs. experience	151.20	261
Total	$2,418.60	$5,162

$$\text{Price Relative} = \frac{\$2,416.60}{\$5,162.00} = 2.13$$

Categories: General Education, Employee Benefits
Career Education, Employee Benefits
Special Education, Employee Benefits
Skill Development, Employee Benefits
Student Service Programs, Employee Benefits
Instructional Support, Employee Benefits

Items in Table VIII, like the items in Table III, are related to the Corwith-Wesley Community School's salary schedule. Consequently, any category of the budget under 'Benefits', that is derived from wages determined by the salary schedule, would have the same inflationary impact.

TABLE IX

Price Relative, Employee Benefits

Item	1972 Cost	1979 Cost
IPERS	$ 791	$2,150
Social Security	1,174	2,259
Total	$1,965	$4,409

$$\text{Price Relative} = \frac{\$4,409}{\$1,965} = 2.24$$

Category: Co-Curricular Athletics, Employee Benefits

The salary coaches earned in co-curricular athletics was in addition to their regular wage and was subject to the same IPERS and Social Security cost as their regular wages. However, a coach did not get an additional insurance plan because of coaching. Therefore, to compute the price relative of this account, the cost of IPERS and Social Security was copied from Table VIII and used for this category as well. Health insurance was not used.

TABLE X

Price Relative, Employee Benefits

Item	1972 Cost	1979 Cost
IPERS		
Superintendent	$273	$1,150
Principal, High School	273	1,150
Principal, Elementary	273	1,150
Secretary	207	548
Board Secretary	273	718
Health Insurance		
Superintendent	151.20	261
Principal, High School	151.20	261
Principal, Elementary	151.20	261
Secretary	151.20	261
Board Secretary	151.20	261
Social Security		
Superintendent	405	1,403
Principal, High School	405	1,226
Principal, Elementary	405	1,345
Secretary	308	585
Board Secretary	405	766
Total	$3,983.00	$11,346

$$\text{Price Relative} = \frac{\$11,346}{\$\ 3,983} = 2.84$$

Category: General Administration, Employee Benefits

TABLE XI

Price Relative, Employee Benefits

Item	1972 Cost	1979 Cost
IPERS		
Superintendent	$273	$1,150
Principal, High School	273	1,150
Principal, Elementary	273	1,150
Custodian	261	746
Health Insurance		
Superintendent	151.20	261
Principal, High School	151.20	261
Principal, Elementary	151.20	261
Custodian	151.20	261
Social Security		
Superintendent	405	1,403
Principal, High School	405	1,226
Principal, Elementary	405	1,343
Custodian	388	795
Total	$3,287.80	$10,007

$$\text{Price Relative} = \frac{\$10,007.00}{\$\ 3,287.80} = 3.04$$

Category: Central Support, Employee Benefits

TABLE XII

Price Relative, Purchased Services

Item	1972 Cost	1979 Cost
School assembly (1 hr.)	$ 45.00	$ 70.00
Hotel room	22.00	42.00
Piano Tuning	15.00	35.00
Sharpen planer blades	2.00	2.00
Garbage collection	12.00	48.00
Trucking (gravel)	79.40	294.00
50 lbs. lime, delivered	1.86	4.75
Physical, teacher	8.00	18.00
Tractor rental (1 hr.)	4.00	10.00
Water (50,000 cu ft.)	10.42	15.66
Recover 1 bus seat	7.50	15.00
ITED (100 students)	35.00	50.00
Mileage (100 miles)	10.00	18.00
Monthly telephone service	31.10	49.80
Printing, annual report	56.88	79.20
Printing, quarterly report	64.80	146.00
Safety deposit box, rent	4.00	6.00
Typewriter maintenance (contract)	34.25	74.80
Electricity (2000 kwh)	59.32	122.26
Natural gas (200 cu ft.)	119.00	251.34
Total	$621.53	$1,351.81

$$\text{Price Relative} = \frac{\$1,351.81}{\$\ 621.53} = 2.17$$

Categories: All categories under the object 'Purchased Services'

Some of the separate categories under Purchased Services had only two matched pairs which was not enough for the computation of

a reliable price relative. Consequently, all the categories were combined to calculate a price relative that could be used for all the Purchased Services categories.

TABLE XIII

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Powdered Tempera, 1 lb.	$ 1.35	$ 1.45
16 oz. plastic spray	1.95	3.30
9 x 12 stencil paper	.05	.10
Parchmount paper	.60	1.35
18 gav. stovepipe wire, 1 ft.	.25	.69
Wire bending jig	1.19	1.50
Wire former	4.65	7.98
1 1/4" styrofoam ball	.02	.06
50 yd. bead thread	.15	.29
Coping saw blades, 1 doz.	.30	.98
Std. wt. trait tex yarn	12.95	23.10
Coping saw frame	1.00	2.00
Mortal & pestl wedgewood	6.90	12.50
24 x 36 oak tag board	10.80	22.95
1 x 1 x 1 artgum eraser	.09	.20
Masking tape 1/2" x 60 yd.	.40	.70
#2 Acto knife	.80	1.59
Elmer's glue, 8 oz.	.75	1.40
Artseal rubber cement	.49	.98
Etching ink, 1 lb.	2.00	3.75
Potter stilt, assort. #12345	4.71	18.00
Carpet warp	1.00	2.10
100 lb. plaster	7.00	11.25

TABLE XIII (continued)

Item	1972 Cost	1979 Cost
10" squeegees	$ 1.40	$ 3.10
Zinc oxide	.49	1.15
Chromatography roll	3.10	13.95
Geography Text (Rand McNally)	6.60	12.54
Calculus & Analytic Geometry text (Ginn)	6.87	13.25
Algebra II (Ginn)	5.73	10.30
Happy Ways to Numbers	1.50	3.84
Logic & Critical Thinking	.99	2.34
Workbook for Modern Health	2.40	6.18
Modern Health Text	7.68	10.59
Social Studies (Our World) Text	4.80	8.52
Focus (Earth Science)	7.20	11.80
SRA Reading Progress, Book F	2.52	5.10
7th grade Math Workbook (Silver Burdette)	2.64	5.60
Band music (20 pieces)	6.00	9.00
Number sentence game	2.50	9.50
Tower puzzle	4.00	6.50
Class record book	1.20	1.73
Kleenex tissue, 1 case	10.40	21.60
#275 Single fold towel	3.70	12.25
Tank helium	12.00	30.78
Total	$153.12	$317.84

$$\text{Price Relative} = \frac{\$317.84}{\$153.12} = 2.08$$

Category: General Education, Supplies

TABLE XIV

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Typing textbook	$ 4.77	$ 9.18
Shorthand textbook	2.32	3.90
Salt	.19	.35
Filmstrip/sound	5.80	9.50
5 x 8 A-Z guides	1.65	4.10
Red projecting signals	1.35	4.10
#ST2 cake coolers	1.69	3.00
Cookie pan	2.99	5.39
Avocado drainer	1.33	2.66
3" paring knife	1.57	3.06
Vocational charms	1.40	2.75
Tab file guides	5.05	9.08
File stand	.30	.52
Black cloth tape	4.35	7.85
Operation bingo	7.50	10.95
Geo. ring polyhedra book	1.00	3.50
Math lab boxes	4.95	10.95
Catalog cards, 110 unruled	1.87	2.75
Catalog cards, blue	1.75	2.47
TUF	8.00	13.50
Total	$59.83	$109.56

$$\text{Price Relative} = \frac{\$109.56}{\$\ 59.83} = 1.83$$

Categories: Career Education, Supplies
Skill Development, Supplies
Special Education, Supplies

The three categories in Table XIV were combined for two reasons. One, they all represent classroom supplies. Two, each category alone had so few items a more accurate price relative could be calculated if they were combined.

TABLE XV

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Gasoline (100 Gal.)	$37.90	$105.90
Charms	1.15	2.40
Gladiator helmet	28.95	44.95
Softballs	.85	1.50
Baseballs	2.60	3.70
Elastic wraps, 1 doz.	10.95	20.45
Basketball	19.95	32.95
Football	15.50	26.75
Girdle pads	69.50	99.50
#125 Baseball bat	4.45	13.95
Total	$191.80	$352.05

$$\text{Price Relative} = \frac{\$352.05}{\$191.80} = 1.84$$

Category: Co-Curricular Athletics, Supplies

TABLE XVI

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Spark plug R44T	$ 1.01	$ 1.46
Spark plug j-11y	.78	1.18
#11 Bendex	4.20	9.69
Brake shoes	19.02	23.02
Headlight #6014	2.55	5.25
Diploma covers	2.42	2.82
Perfect attendance charms	1.15	2.40
Lunch book tickets	1.45	2.53
Make-up & admit slips	1.25	1.72
Swingline staples	.85	1.60
Columbia copy film	5.75	12.10
Commencement program covers	18.00	30.00
8:10 x 16.5 TC 8 tire	36.76	99.50
Gasoline (1000 gal.)	379.00	1,059.00
Total	$474.19	$1,252.27

$$\text{Price Relative} = \frac{\$1,252.27}{\$\ 474.19} = 2.64$$

Category: Student Service Programs, Supplies

TABLE XVII

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Decimal class ABCD, 10th ed. (H.W. Wilson)	$12.00	$24.00
List of Subject Headings, 10th ed. (H.W. Wilson)	10.00	22.00
Vinyl magazine cover	2.60	3.20
Tape (West Side Story)	5.95	8.95
Subscriptions		
Better Homes & Gardens	4.00	10.00
Good Housekeeping	5.00	9.97
House Beautiful	7.00	7.50
Fort Dodge Messenger	14.00	30.75
Total	$60.55	$116.37

$$\text{Price Relative} = \frac{\$116.37}{\$\ 60.55} = 1.92$$

Category: Instructional Support, Supplies

TABLE XVIII

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Fuel oil (100 gal.)	$18.10	$88.10
3 lbs. coffee	2.99	10.69
20" stripping pads	27.00	44.85
Northern tissue, 1 case	9.64	25.07
Aladdin	3.35	9.30
NuClear	8.30	14.95
Dri Klean	2.95	6.20
Acra Concrete seal protect	45.00	113.50
American School Board Journal	8.00	24.00
Rubber stamp	3.20	4.80
Box of 24 ring binders #354-14	11.30	26.40
Roll on inker	.75	1.20
Pyramid pins	.28	.55
Porcelain moistener	2.45	6.05
Rubber cement	.27	.55
100 clasp envelopes	2.60	4.85
4 x 6 index cards	1.55	2.80
Construction paper (10 pks.)	6.10	9.50
#710 School run masters	2.70	5.50
AOZE eyehammer handle	.95	2.48
Total	$157.48	$401.34

$$\text{Price Relative} = \frac{\$401.34}{\$157.48} = 2.55$$

Category: General Administration, Supplies

TABLE XIX

Price Relative, Supplies

Item	1972 Cost	1979 Cost
Acco oxytrol	$ 4.95	$ 6.45
Voltreet	4.80	7.45
Floor adhesive	5.58	9.60
16" lambwool applicator refill	2.50	7.29
Lemon lustre (doz.)	29.75	36.92
Glass glo	4.55	14.25
N-Dit concentrate	25.25	54.75
Lime (40 lbs.)	2.64	3.75
4 x 8 1/4" plywood	6.40	12.16
4 x 8 3/4" plywood	13.76	27.52
4 d finish nail (5 lbs.)	1.25	3.45
White latex paint (1 gal.)	7.31	18.90
Total	$108.74	$202.49

$$\text{Price Relative} = \frac{\$202.49}{\$108.74} = 1.86$$

Category: Central Support, Supplies

TABLE XX

Price Relative, Capital Outlay

Item	1972 Cost	1979 Cost
1/2 hummer paper punch	$ 31.55	$ 46.65
G.E. interval timer	15.95	26.00
Scissors, doz.	4.32	8.31
Punch & chisel set, 12 piece	10.55	27.70
CW34 welding goggles	4.45	6.99
Sunbeam mixer	16.20	22.95
Bow callipers	4.40	8.25
Aftermath duplicating set	45.00	76.00
Letter meeting cards	35.00	65.00
World book encyclopedia	118.00	336.00
#6107 contoura chairs	7.95	14.85
#9100 desk	13.95	30.05
#7900 stool	14.00	24.70
Magazine rack	72.35	132.15
#66 symbol stand	18.00	45.00
Primary science kit	33.00	69.95
#529 drill set	52.10	72.47
First aid cabinet	18.25	27.00
Blood type equipment	9.95	22.00
LTB crescent wrench	1.85	3.14
12" rubber mallet	1.40	4.60

TABLE XX (continued)

Item	1972 Cost	1979 Cost
Carpenters' mallet	$ 2.30	$ 5.95
Dissectible cone	22.50	42.50
Cloud chamber	19.50	28.50
Radioactive source gauge	15.00	28.00
Total	$587.52	$1,174.71

$$\text{Price Relative} = \frac{\$1,174.71}{\$\ 587.52} = 2.00$$

Categories: All categories under Capital Outlay

Because many categories under Capital Outlay have only a few paired items, all the categories were combined.

After all eighteen tables were completed and all forty-one price relatives computed, the price relatives were collected on Table XXI, page 57.

The fourth and final stage in the calculation of the Education Price Index (EPI) was to multiply the weighting of each category of the budget (Table II) by the price relative of that category (Table XXI). These products appear in Table XXII, page 58.

Each object account was totaled as well as a grand total found for all the categories in the table. These totals were then divided by the weighting (Table II) of each account to compute a price index for each account. The total of all accounts was divided by the total

TABLE XXI

Price Relatives

PROGRAMS	OBJECTS				
	100 Salaries	200 Employee Benefits	300 Purchased Services	400 Supplies	500 Capital Outlay
001-009 General Education	1.39	2.13	2.17	2.08	2.00
100-199 Career Education	1.39	2.13	2.17	1.83	2.00
200-299 Skill Development	1.39	2.13	2.17	1.83	
300-399 Special Education	1.39	2.13	2.17	1.83	2.00
400-499 Co-Curr. Athletics	1.61	2.24	2.17	1.84	
600-699 Stud. Serv. Programs	1.37	2.13	2.17	2.64	2.00
700-799 Instruct. Support	1.39	2.13	2.17	1.92	2.00
800-899 Gen. Administration	1.49	2.84	2.17	2.55	2.00
900-999 Central Support	1.49	3.04	2.17	1.86	2.00

TABLE XXII

Products of Weightings and Price Relatives
and their Sum

PROGRAMS	OBJECTS				
	100 Salaries	200 Employee Benefits	300 Purchased Services	400 Supplies	500 Capital Outlay
001-099 General Education	.466	.104	.022	.063	.006
100-199 Career Education	.064	.015	.004	.007	.002
200-299 Skill Development	.031	.004		.007	
300-399 Special Education	.046	.011	.041	.015	.010
400-499 Co-Curr. Athletics	.032	.007		.007	
600-699 Stud. Serv. Programs	.060	.013	.026	.071	.054
700-799 Instruct. Support	.022	.004	.002	.011	.002
800-899 Gen. Administration	.158	.045	.026	.003	.002
900-999 Central Support	.057	.018	.113	.024	.002
Total	.936	.221	.234	.208	.078

Total of all categories.....1.677 $\approx$ 1.68

weighting (1.000). This last quotient is the Education Price Index of the Corwith-Wesley Community Schools from 1972-73 to 1979-80. A summary of these calculations and the results appear in Table XXIII.

TABLE XXIII

Price Index of Accounts and the Education Price Index

Account			Account Price Index
Salaries	.936/.660	=	1.41
Employee Benefits	.221/.096	=	2.30
Purchased Services	.234/.108	=	2.17
Supplies	.208/.097	=	2.14
Capital Outlay	.078/.039	=	2.00
All non-salary combined	.742/.340	=	2.18
Total Education Price Index	1.68/1.000	=	1.68

Examination of the Data

The calculation of the Education Price Index (EPI) was done by using Tables II, XXI, and XXII. An examination of the data collected in these tables along with Table XXIII revealed the following:

TABLE II

1. The largest simple category of the 1979-80 budget was General Education, Salaries (33.5%). When other faculty salaries were included,

43.6 percent of the 1979-80 budget was for faculty salaries.

2. The total cost of all salaries paid by the district was 66 percent or approximately two-thirds of the total.

3. Employee benefits added 9.6 percent more to total cost of employees. Thus 75.6 percent of the budget was directly or indirectly related to cost of staff.

4. The purchased services and supplies each represent about 10 percent of the total budget.

5. Capital outlay represents the remaining portion of the budget, approximately 4 percent.

TABLE XXI

1. The categories which showed the least increase in prices from 1972-73 to 1979-80 all fell under the object account of salaries. The smallest within this account was faculty salaries (39% increase); the largest was coaching salaries (61% increase).

2. Employee benefits rose much faster than salary, due to an increase in both the rates and in the ceiling on which the benefits were computed. This was especially predominant in the employee benefit categories that included administrative benefits.

3. Categories involving energy had high price relatives. General Administration, Supplies included heating cost (Table XVIII); Student Service Programs, Supplies included fuel cost for buses (Table XVI).

4. Other than salary, employee benefits, and fuel categories, all categories showed a price relative near 2.00 or a 100 percent increase from 1972-73 to 1979-80.

TABLE XXII

1. The product in each category was by itself not meaningful.

2. The sum of all the categories was, in fact, the Education Price Index of the Corwith-Wesley Community School from 1972-73 to 1979-80. This index was 1.68, which represented a 68 percent increase in the price of the items in this study.

TABLE XXIII

1. Salaries showed the smallest inflationary pressure, 41 percent increase*.

2. All other object accounts showed an increase of over 100 percent.

3. The largest single object account increase was employee benefits, 131 percent increase.

SUMMARY

This chapter has shown the steps that were taken to calculate the Education Price Index of the Corwith-Wesley Community School from the 1972-73 school year to the 1979-80 school year. The calculation was based on a comparison of items purchased during the two school years and the application of Paasche's formula to that data.

Chapter 4 will relate the findings of Chapter 3 to the hypothesis of this study and will include conclusions, implications, and recommendations for future study.

*The inflationary pressure as a percent increase in prices is computed by taking the (price relative - 1) x 100.

Chapter 4

SUMMARY AND CONCLUSIONS

Much concern currently exists about the financial condition of Iowa's small rural school districts, and their ability to survive. While declining enrollment is certainly a factor, school finance legislation has also had a pronounced affect on small rural districts as well as on districts of all sizes.

THE PROBLEM

Recent legislation concerning school finance has used various price indexes to help determine the amount school budgets should increase due to inflation. The most recent indexes used have been the Consumer Price Index (CPI) and the Gross National Product (GNP) deflator. The purpose of this study was to create an Education Price Index (EPI) to be compared with the CPI and the GNP deflator. It was hypothesized that these indexes would be conservative in their measure of inflationary pressure on a rural school district and had lowered the quality of education as a result.

METHODOLOGY

The study was done using the Corwith-Wesley Community School District. Using financial records of the district an EPI was calculated by following the four steps outlined below:

1. Invoices from 1972-73 and 1979-80 were examined, and identical

items were paired and coded. Weightings were computed for each of the forty-one categories of the school budget.

2. Each pair of matched items was placed in one of the forty-one categories of the school district's budget.

3. The pairs of items in each category of the budget were used to create a price relative for that category.

4. The weighting and price relative of each category of the budget were multiplied to create account indexes. The account indexes were used to calculate the Education Price Index of the Corwith-Wesley Community School from 1972-73 to 1979-80.

THE HYPOTHESIS

A. There is a difference between the Consumer Price Index (CPI) and the Education Price Index (EPI) of the Corwith-Wesley Community School District with the EPI showing larger inflationary pressures than the CPI and that this difference in current dollars will exceed $13,500 (average wage of a faculty member).

B. There is also a difference between the Gross National Product (GNP) deflator and the EPI with the EPI showing larger inflationary pressures than the GNP deflator and that this difference in current dollars will exceed $13,500.

TESTING OF THE HYPOTHESIS

The following data was used to test the hypothesis of this study:

1. Using a base index of 100 for 1972, the Consumer Price Index for 1979 was 173. (27:85)

2. Again using a base index of 100 for 1972, the Gross National

Product deflator index for 1979 was 165. (27:2)

3. The Education Price Index for the 1979-80 school year, with 100 as the base index for the 1972-73 school year, was determined in this study to be 168. (1.68 x 100)

4. Using 100 as the index for the base year 1972, the object account indexes for 1979-80 were:

a.	Salaries	141
b.	Employee Benefits	231
c.	Purchased Services	217
d.	Supplies	214
e.	Capital Outlay	200
f.	All non-salary items	218

5. The total of the forty-one categories in the 1979-80 budget was $735,713.

6. The index for the statewide salary increase from 1972 to 1979 for all manufacturing jobs in Iowa was 1.80. (40:0)

When the hypothesis of this study was tested using the preceding data, some of the predominant findings were:

1. Hypothesis A was not confirmed. The CPI of 173 was higher than the EPI of 168.

2. Hypothesis B was confirmed. The GNP deflator of 165 was 3 percent lower than the EPI of 168. Three percent of the 1979-80 budget was $22,073.

3. The inflation rate of all categories of the budget except salaries exceeded both the CPI and the GNP deflator.

4. The non-salary items of the budget experienced an inflation

rate of 45 percentage points more than the CPI. Forty-five percent of the non-salary portion of the 1979-80 budget was $112,576. This far exceeds $13,500.

5. The salary items of the budget experienced an increase of 32 percentage points less than the CPI. Thirty-two percent of the salary budget for 1979-80 was $155,399. Thirty-two percent of the average teacher salary of $13,500 was $4,320.

6. The salary items of the budget increased 39 percentage points less than the average salary increase of all manufacturing jobs in Iowa from 1972 to 1979; 41 percent vs. 80 percent. Thirty-nine percent of the average teacher salary was $5,265 (.39 x 13,500).

CONCLUSIONS

The major conclusions drawn from this study were:

1. While the EPI of 168 was within five points of the CPI (173) and the GNP deflator (165), the indexes of various categories of the budget were much higher or much lower than the CPI or GNP deflator.

2. Categories of the budget where the school district had no control over the prices, showed the largest increases: Employee Benefits, Purchased Services, Supplies, and Capital Outlay. Each of these categories exceeded the CPI by 27 or more percentage points.

3. Because state finance laws limit the increase in a school's budget to the increase in the CPI or the increase in the GNP deflator, depending on the year, and because the four categories listed in conclusion 2 all exceeded the CPI or the GNP deflator from 1972-73 to 1979-80, it follows that some other category of the budget must have

increased less than the CPI or GNP deflator. The only category that remained where the local school set the price was salaries. As a result, the salaries in the Corwith-Wesley Community School increased 41 percent from 1972-73 to 1979-80 compared to an increase in the CPI of 73 percent and an increase in the GNP deflator of 65 percent.

4. The increase in the salary category for the Corwith-Wesley Community School was 39 percentage points less than the increase in manufacturing wages in Iowa during the 1972-1979 time period.

5. If one assumes that the wages of educators in the Corwith-Wesley School District should have increased as much as manufacturing wages, then the average teacher in the Corwith-Wesley Community School has subsidized the district to the amount of $5,265 in the 1979-80 school year.

6. If one instead assumes that the wages in the district should have increased by an amount equal to the CPI, then the average teacher subsidy would have been $3,645.

IMPLICATIONS

Some of the implications of the study are:

1. The state legislature needs to be aware that neither the Consumer Price Index nor the Gross National Product deflator are accurate measures of the inflationary pressures experienced by the non-salary categories of a school budget.

2. Recruitment and retention of qualified teachers will become a more serious problem as the salaries a small rural school can offer

fall behind the salaries other employers can offer and also fall behind the CPI.

3. People concerned about the preservation of small schools need to become more aware of the effect that current finance formulas have on school budgets.

4. The quality of education in rural Iowa will suffer, through loss of quality teachers, and through loss of programs if the increase in a school district's budget is not allowed to keep pace with rising school district's costs.

RECOMMENDATIONS

Some recommendations for future study are:

1. Create an Education Price Index (EPI) based upon a given 'market basket' of goods and services a school district buys and follow the price of those preselected items each year for five years rather than selecting only those items that a school has purchased in both of two years.

2. Using the method described in recommendation 1, create an EPI for school systems of various sizes and locations.

3. Determine whether the teachers who have left the Corwith-Wesley system in the past seven years were motivated to leave because of salary considerations.

4. Survey the superintendents or finance directors of Iowa's school districts to determine the role they feel declining enrollments and finance formula limitations have had on their school.

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APPENDIXES

APPENDIX A

COST OF LIVING INDEX OF FOOD

Cost of Living Index of Food Under a Given Expenditure Level of a Given Class of Families in an Asiatic City During December 1953[a].

Items	Price Relative	Weight	Weight x Price Relative
1. Cereals (of a particular kind)	102	27.64	2819
2. Processed cereals (special kind)	86	1.99	171
3. Wheat and wheat products other than those above (1 and 2)	125	8.28	1035
4. Other cereals & cereal products	95	0.72	68
5. Pulses	91	5.09	463
6. Edible oils	72	7.93	571
7. Vegetable oil (of a special kind other than in item 6)	102	0.93	95
8. Salt	92	0.41	38
9. Spices	85	3.93	334
10. Sugar	93	4.67	434
11. Nonrefined sugar	123	0.56	69
12. Milk	101	3.44	347
13. Butter and whipped butter	95	0.71	67
14. Other milk products	96	0.63	60
15. Potatoes	62	4.13	256
16. Onions	155	0.69	107
17. Other nonleafy vegetables	57	8.31	474
18. Leafy vegetables	83	3.47	288
19. Fish	76	7.54	573
20. Meat	97	1.74	169
21. Eggs	80	0.39	31
22. Fruit	107	1.17	125
23. Tea and coffee	101	1.34	135
24. Refreshments (other than above)	90	3.20	288
25. Other food materials	116	1.09	126
Index for food		100.00	9134 91.4

[a]Taken from published reports of the government of West Bengal, India (58). The names of some of the items of consumption have been written differently. (Base: November 1950 = 100)

APPENDIX B

COST OF LIVING INDEX FOR ALL GROUPS

Cost of Living Index of a Given Class of Families at a Given Expenditure Level in December 1953[a].

Major groups of consumption	For the given expenditure level		
	Weight	Index during December 1953	Weight x index
Food	58.55	91.4	5351.5
Clothing	5.37	106.5	571.9
Fuel and light	6.15	102.2	628.5
Housing	9.61	100.0	961.0
Miscellaneous	20.32	100.3	2038.1
All combined	100.00		95.5

[a]Taken from published reports of the Government of West Bengal, India (58). (Base: November 1950 = 100)

APPENDIX C

Summary of State-Local Sharing in Iowa Public Schools (K-12)

Selected Years from 1930-1980 (22:22)

	Property Tax Percent of Total	State Aid Percent of Total	
		Iowa	National Average
1920-1945 Categorical Aids			
1930-31	91.0%	1.1%	16.9%
1943-44	91.7	0.8	33.0
1945-1967 General and Categorical Aid			
1947-48	75.5	12.2	35.2
1966-67	78.2	12.6	39.1
1967-1971 Proportionate Sharing			
1968-69	57.8	24.3	40.0
1970-71	66.2	27.7	41.1
1971-1980 Foundation Formula			
1971-72	62.8	31.0	41.0
1974-75	49.6	39.6	43.6

APPENDIX D

THE 1967 IOWA PROPORTIONATE SHARING PLAN

PART A - THE FORMULA

$$\text{Per Pupil Aid} = \left[1.00 - .25\left(\frac{\text{District Per Pupil Wealth}}{\text{State Per Pupil Wealth}}\right)\right] \text{Reimbursable General Fund Expenditures}$$

(1) (2) (3) (4)

- Part (2)

$$\frac{\dfrac{.7\,(\text{Local District Sale Value of Property}) + .3\,(\text{Local District Adjusted Gross Income})}{\text{Local District } \dfrac{(\text{ADM} + \text{Census})}{2}}}{\dfrac{.7\,(\text{Total State Sale Value of Property}) + .3\,(\text{State Total Adjusted Gross Income})}{\text{State } \dfrac{(\text{ADM} + \text{Census})}{2}}}$$

The use of the census figure gave half weight to children attending parochial schools.

PART B - EXAMPLE

- Part (2)

$$\frac{\dfrac{.7\,(\$553{,}331{,}755) + .3\,(\$196{,}770{,}410)}{\dfrac{19{,}008.6 + 27{,}446}{2}} \text{ Local District}}{\dfrac{.7\,(\$22{,}375{,}861{,}523) + .3\,(\$5{,}649{,}307{,}700)}{\dfrac{631{,}375.7 + 875{,}274.0}{2}} \text{ State}}$$

Final Ratio $\frac{\$19{,}217}{\$23{,}043}$ District Wealth Factor = .83396

State Aid Equals $1.00 - .25\,(.83396) \times \$300$

$1.00 - .20849 \times \$300$

$.79151 \times \$300 = \$237.45$

APPENDIX E

CORWITH-WESLEY COMMUNITY SCHOOL
Adopted Salary Schedule 1972-73
Base $7000

Step	75 credits	90 credits	105 credits	BA	BA +15 hrs.	MA
1	4950	5300	5650	7000	7300	7700
2	5042 5133	5398 5496	5755 5859	7130 7259	7435 7570	7842 7985
3	5225 5316	5594 5692	5964 6068	7399 7539	7705 7840	8127 8270
4	5408 5499	5790 5888	6173 6277	7679 7819	7986 8132	8412 8555
5	5591 5683	5986 6084	6382 6486	7959 8099	8278 8424	8709 8863
6	5774 5866	6182 6281	6591 6695	8229 8358	8570 8716	9017 9171
7		6379 6477	6800 6904	8488 8617	8851 8986	9325 9479
8			7009 7113	8747 8876	9121 9256	9621 9764
9				9006 9135	9391 9527	9906 10049
10				9265 9394	9662 9797	10191 10333
11				9524 9653	9932 10067	10476 10618
12					10202 10337	10761 10903
13						11046 11188

Top Number = 1/2 increment
Bottom Number = full increment

APPENDIX F

SALARY SCHEDULE 1979-1980
Base $9700 Schedule A

	105 hrs.	B.A.	B.A. +10	B.A. +20	M.A.	M.A. +15
1.	8350	9700	9900	10100	10400	10700
	103.7	103.7	103.7	103.7	103.7	103.7
2.	8659	10059	10266	10474	10785	11096
	107.7	107.7	107.7	107.7	107.7	107.7
3.	8993	10447	10662	10878	11201	11524
	111.7	111.7	111.7	111.7	111.7	111.7
4.	9327	10835	11058	11282	11617	11952
	115.7	115.7	115.7	115.7	115.7	115.7
5.	9661	11223	11454	11686	12033	12380
	119.7	119.7	119.7	119.7	119.7	119.7
6.	9995	11611	11850	12090	12449	12808
	123.7	123.7	123.7	123.7	123.7	123.7
7.	10329	11999	12246	12494	12865	13236
	127.7	127.7	127.7	127.7	127.7	127.7
8.	10663	12387	12642	12898	13281	13664
		131.7	131.7	131.7	131.7	131.7
9.		12775	13038	13302	13697	14092
		135.7	135.7	135.7	135.7	135.7
10.		13163	13434	13706	14113	14520
		139.7	139.7	139.7	139.7	139.7
11.		13551	13830	14110	14529	14948
				143.7	143.7	143.7
12.				14514	14944	15376
					147.7	147.7
13.					15361	15804