The Myth of Increasing Real Resources for Schools

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Education and the national economy are intertwined . . . Taxpayers are likely to resist increases at a time when their own real incomes are declining or increasing less than they did in the past. The myth of increasing real resources for schools needs special attention.

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Introduction

Education and the national economy are intertwined. When the national economy is expanding, it is easy to provide more funds for schools and for other things. In an economy of growth and abundance, choices can be easily made. The major choice is where to devote the increasing share of the economy. When the national economy is stagnant, state and local economies reflect this and raising funds at these governmental levels becomes difficult. This is an economy of scarcity. The choice is for more of one thing and less of another. State governments look to reduce services or to increase taxes. Some governmental services suffer as others absorb scarce resources.

The national economy grew at 1.6 percent a year from 1929 to 1982.[1] Education accounted for a quarter of this increase or 0.4 percent a year. The increased number of years of education of the American workers accounted for the increase in productivity due to education through this period. The higher productivity of additional years of schooling is measured by examining the differences in earnings among people with different amounts of education. It is estimated that 65 to 75 percent of these differences in earnings are attributable to education.[2] Since 1973, average family income has grown slowly and has almost stagnated. From 1979 to 1991, adjusting for inflation, real earnings declined by 2.3 percent for college graduates, 16.1 percent for high school graduates, and 23.2 per cent for high school dropouts.[3] As a result, the difference in earnings among groups by education attainment increased.[4] Furthermore, the income distribution of the nation has become more unequal. During the decade of the 1980's, the inequality of the

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income distribution increased for the first time in the 20th century. During most of this century, the income distribution in the United States tended toward greater equality.

From 1980 to 1990, only the top five percent of the income distribution and the group in which it is included—the Highest Fifth—increased their share of the nation's income. The other four groups by fifths of the population saw their income share decline in the 1980's. The top 5th percent increased their share by 2.1 percentage points from 15.3 in 1980 to 17.4 in 1990. The Highest Fifth increased their share by 2.8 percentage points from 41.5 to 44.3 in the same period. The Fourth Fifth declined by 0.5 percentage points from 24.3 to 23.8. The Third Fifth declined by 0.9 percentage points from 17.5 to 16.6 percent. The Second Fifth declined by 0.7 percentage points from 11.5 percent to 10.8. The Lowest Fifth lost 0.6 percentage points from 5.2 to 4.6.

Declining real income affects perception of the tax burden even when the same percentage of income is taken in taxes. Education like health and other labor intensive services are likely to need revenue at an increased percentage of income.[5] To maintain the same quality of the labor force, wages in the public sector need to increase at the rate of wages in the economy. The same quality of labor means that wages must increase with both the changes in productivity and the Consumer Price Index (CPI). Against this background of changing economic conditions for the nation, expenditures for public elementary and secondary education are examined over the decade of the 1980's.

Price Deflator

One question facing citizens, taxpayers, school board members, legislators and educators is whether the funds available to schools are keeping pace with increases in workload and price? A widely accepted measure of workload is pupils in average daily attendance (ADA); thus, dividing current expenditures by ADA allows for change in workload. The resulting current expenditure per pupil in average daily attendance deflated by a price index permits measurement of real changes in spending. The increase in current expenditures per pupil in average daily attendance from $3,345 in 1979–80 to $4,960 in constant 1989–90 dollars as measured by the CPI.[6] This is an increase of 48.3 percent in constant dollars for current expenditures per pupil. Some cite these data to affirm that schools have had sufficient funds for a quality increase. The comparable increase in constant dollars as measured by the CPI for average salary of the instructional staff is 19.7 percent.[7] Some would see this as a quality increase in education as the change in current expenditures from one period to the next is the product of workload, price, and quality changes.[8] No change in average salary of the instructional staff measured in constant dollars adjusted by the CPI, or a constant average salary in CPI adjusted dollars, is seen as comparable quality from one period to the next. When price and workload changes are accounted for, the remaining residual, if any, is viewed as a change in quality.

Others would indicate that for the decade of the 1980's that there was no real gain, no quality change, and possibly even a decrease in quality. These would expect that the average instructional staff salary should increase with the changes in per capita personal income in the nation or a state.[9] The proposition here is that average salary has to increase not only with the changes in CPI but also with the changes in productivity in the economy. Unless compensation increases with both these measures, there will be a diminution in quality of the work force in an industry or firm. Senator Moynihan has recently raised this question in the hearings on health reform. This proposition presently raised by William J. Baumol[10] was first raised years ago by Melvin and Anne White. Under this approach, there is likely to be a diminution in the quality of the instructional staff as

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national per capita income increased 102 percent from 1979 to 1989 and average instructional salary by less, 96 percent. Furthermore, average instructional staff salary by state increased faster than state per capita personal income in 22 of the 50 states, and less than per capita personal income in 28 states and the District of Columbia.

This standard for constant quality of staff can also be expressed as a point elasticity of unity or one, i.e. the percentage change in average instructional staff salary for a time period should be equal to the percentage change in per capita personal income for that same period. When this standard is applied to current expenditure per pupil, then there is a quality gain of 16 percent for the nation and 43 states have quality gains, with 29 states having gains greater than the nation's. A point elasticity for average instructional staff salary reveals a decline of 6 percentage points for the nation and 20 states with an increase in quality. All but one of these states—Mississippi—had quality increases whether measured by the current expenditure or the average salary point elasticity.

It does not seem to be a simple matter to say that public elementary and secondary education has had a quality increase. Those results appear from using only the change in current expenditure per pupil adjusted to constant dollars by the CPI. Another missing element is the changing work load of the schools. Many of the students attending school at the end of the decade were more costly to educate than those at the beginning of the decade.

Difference In Cost of Educating Students

Cost differentials have been recognized for sparsity and density of student populations, for program such as vocational education, and for many students with special needs. These differences are rarely portrayed in current expenditures per pupil in average daily attendance. Special studies from time to time examine the extent to which these differences vary among states and localities. By and large these differences do not seem to warrant constant attention for general reporting. The decade of the 1980's, however, may require attention to these students that cost more than the average or "regular" student.

Special education students as a percentage of the total enrollment in K–12 public schools increased from 9.62 percent in 1979–80 to 11.30 percent in 1989–90. Children in poverty in the same period increased from 24.0 to 29.8 percent of the population. If one assumes that special education children are twice as costly to educate as "regular" children and that poverty children are one and a half times as costly as "regular" children, then the increasing proportion of the school's children coming from more costly groups of children would have raised the workload over the period by 4 percent.

If the increase in funding in constant dollars is near 50 percent as deflation by the CPI alone indicates, then this increased demand of the workload is easily handled. If the increase is 16 percent when current expenditures per pupil are adjusted by change in per capita personal income, the increased workload remains within reason. When one deflates wages and consequently has a decline in quality of the workforce, the increase in workload becomes serious. The more costly to educate population potentially can be much more serious when perceived by parents of average or "regular" students as taking funds from these children. Taxpayers often object when they see the cost of programs for targeted populations as so much beyond what is spent generally per pupil.

To illustrate these differences among pupils classification: when current expenditure per pupil in average daily attendance was $3,345 in 1979–80 in constant 1989–90 dollars as measured by the CPI, the amount spent for a "regular" or average student would be $2750 with $4125 spent for poverty children and $5500 spent on special education pupils. Although these amounts may not have been spent in practice, these amounts are what would be spent under the assumed costs for poverty and special education pupils using the national percentage of these "extra cost" students. Students who cost more that the average or "regular" student increase the overall per pupil expenditure. As the number and percentage of special populations has grown, more and more taxpayers and parents question the differences in spending among pupil classifications. When these differences above and below the average amount spent by a school district exists, parents question whether or not their children are being treated fairly as the difference in spending among schools and pupil classifications becomes greater.

Income Distribution

The income distribution depends on the distribution of the ownership of factors of production and rate of return to each of these factors. One of these factors of production is human capital produced by schools. There are differences of opinion about the contribution of schools to the increasing inequality of the income distribution. Some people see the growing gap in earnings between high school graduates and college graduates as a failure of the high schools. Others see it as a failure of business. Those who see the schools as failing indicate that high schools do well for college bound students but fail for high school graduates who go to the world of work. Employers have established low wage jobs because the quality of high school graduates has fallen.[11] This may prevail because of how employers and students respond to the present situation. Employers have no means of judging the differences in quality of high school graduates and students have no incentive to do well in high school if they are not going to college. Assuming that this is a cause for the increasing inequality of the income distribution, then schools bear some responsibility for increased inequality. Nonetheless the schools do not have complete control. The income distribution depends not only on what schools do but also what the economy and private business firms do.

Some see that the growing inequality between high school and college graduates in earnings are the result of schools failing to educate those students at the bottom of the income ladder while doing very well for those students who go to college. Some would call for schools to do more for high school dropouts and high school graduates. Some economists call for greater incentives to high school students by making differences in high school performance and attendance meaningful to employers. Then employers would offer earnings according to student performance in high school. These economists see the growing gap in earnings between high school graduates and college graduates resulting from the lack of a meaningful way to measure either the knowledge and skill abilities of high school graduates or the differences in abilities among graduates today.

These economists do not believe, as some others do, that the earnings gap is either the result of exporting high wages jobs or the artificial creating of low paying jobs by business and industry. For these, the earnings gap comes from both a lowering of the quality of schooling among graduates and the inability of employers to assess differences in quality among high school graduates. Schools are responsible for some of the growing inequality in the income distribution but the extent is not known. If schools are failing, they are doing so for persons at the lower end of ability scale or the income scale. Schools do not seem to fail the talented.

If the desired goal is an equal distribution of income, taking the increases in income during the decade of the 1980's from the Highest Fifth of the income distribution and redistributing this amount to the other four Fifths according to their loss from 1980 to 1990 would restore the more equal 1980 income

distribution. In other words, there are redistribution policies of taxes and distributions that can maintain any degree of equality in the income distribution that is desired. The major question is whether the taxed group, in this case the Highest Fifth of the income distribution, would value redistribution. In a situation where the overall gains for everyone was greater with the more unequal distribution of income, the taxed group might agree. The situation of the past decade where almost everyone's income fell in real terms makes the acceptance less likely.

The major conclusion of this analysis is that the size and the degree of inequality of the income distribution while depending on education is affected by many other factors. The degree of acceptance of redistribution of income by all persons is one such factor. Acceptance of redistribution of income may depend on whether or not the economy is growing and whether or not real earnings are rising for most.

A policy that devotes more funds to children in poverty should be a good investment to make incomes more equal and to improve economic growth as a potential part of the lost workforce is saved.[12] Since those children that fail in early grades are more likely to be high school dropouts, this policy of devoting funds to poverty children should attack this problem as well.

Economic Growth

As the economy has slowed in growth, education's contribution to growth has been questioned. The general decline in real incomes for almost all groups on person by education and in particular, the decline in real incomes for persons with less than a college degree has had some claim that all that schools do is sort individuals among educated groups and that schools even do that task badly. Schools have a task in promoting economic growth but it is with identifying those who presently are poorly served and serving them better so that they reach their economic potential.

As educated workers become unemployed, education is no longer seen as the tool to protect workers from unemployment. The role of education remains important but no longer is it a direct one to economic progress. Business and industry must be served and workers must have demanded skills and be of an appropriate age. Training and retraining are important. The amount of education is important but the kind and quality also matter. The simple relationship of the past does not hold.

Adequate Spending Level

Whether or not the current expenditures per pupil are adequate for schools can be answered in many ways other than the comparison across time as done in Table 1. As long as the investment in the education of poverty children brings a greater return than other investments in education or elsewhere, then an inadequate amount is being spent on that group. Educators might not prefer this answer of the economist. Educators might call for funds for all children to fulfill their potential even when there is no economic return. This view justifies spending on students with handicaps who may not receive the return that one might obtain elsewhere within education or elsewhere in the economy. An economic justification of these programs for the handicapped arises when the program can show a benefit for the program, e.g. students who are so educated require fewer services as an adult, or students who are so educated do perform in the economy even though to a limited degree while those who do not are institutionalized.

When workload is constant and no change in quality is desired, a point elasticity of unity, or one is adequate for current expenditures per pupil. This implies a constant percentage of Gross Domestic Product (GDP). Education maintains its relative position in the economy. A slightly increasing share of GDP becomes necessary if the productivity in education is less than that in the overall economy. If Baumol is correct, then education like health and other public services demanding labor intensive services requires a growing percentage of GDP.

Conclusion

Taxpayers are liable to resist such increases at a time when their own real incomes are declining or increasing less than they did in the past. A task of today is to explicate these relationships of the economy and schools and the causes of declining real incomes and the growing unequal income distribution. The myth of increasing real resources for schools needs special attention.

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Table 1. Point Elasticity for Current Expenditure Per Pupil and Average Instructional Staff Salary from 1979–80 to 1989–90, State Current Expenditure Elasticity as a Ratio of the National Average Current Expenditure Elasticity and State Salary Elasticity by State, United States, 1979–80 and 1989–90

State	Current Expenditure Per Pupil Elasticity 1980–89	State Elasticity as Ratio of National Elasticity	Average Instructional Salary Elasticity 1980–90	Ratio of Salary to Expenditure Elasticity
Alabama	1.60	0.91	1.00	0.94
Alaska	1.00	0.86	0.74	0.74
Arizona	1.26	1.08	1.28	1.02
Arkansas	1.36	1.17	0.88	0.65
California	1.05	0.91	1.25	1.19
Colorado	1.00	0.86	0.94	0.93
Connecticut	1.52	1.31	1.04	0.68
Delaware	0.91	0.78	0.97	1.06
District of Columbia	1.57	1.35	0.81	0.52
Florida	1.50	0.03	0.94	0.63
Georgia	1.39	1.19	1.05	0.76
Hawaii	0.88	0.76	0.59	0.67
Idaho	0.99	0.85	0.87	0.88
Illinois	1.02	0.87	0.89	0.87
Indiana	1.64	1.41	1.07	0.65
Iowa	1.13	0.97	0.93	0.82
Kansas	1.51	1.30	1.37	0.91
Kentucky	1.30	1.12	0.89	0.68
Louisiana	1.55	1.33	1.06	0.68
Maine	1.47	1.26	0.77	0.53
Maryland	1.11	0.96	0.84	0.76
Massachusetts	0.83	0.72	0.77	0.93
Michigan	1.26	1.08	0.92	0.73
Minnesota	1.07	0.92	0.99	0.93
Mississippi	0.92	0.79	1.12	1.22
Missouri	1.31	1.13	0.94	0.72
Montana	1.09	0.93	1.14	1.05
Nebraska	1.48	1.28	1.06	0.72
Nevada	1.24	1.06	1.08	0.87
New Hampshire	1.22	1.05	0.79	0.65
New Jersey	1.04	0.90	0.68	0.66
New Mexico	0.96	0.83	0.89	0.92
New York	1.03	0.88	0.74	0.72
North Carolina	1.63	1.40	1.14	0.70
North Dakota	1.79	1.54	1.12	0.62
Ohio	1.65	1.41	1.13	0.69
Oklahoma	1.21	1.04	1.14	0.94
Oregon	1.30	1.11	1.10	0.85
Pennsylvania	1.31	1.13	0.94	0.72
Rhode Island	1.24	1.07	0.88	0.71
South Carolina	1.38	1.19	1.12	0.81
South Dakota	1.08	0.93	0.79	0.73
Tennessee	1.19	1.02	0.93	0.78
Texas	1.49	1.29	1.20	0.80
Utah	0.78	0.67	0.51	0.66
Vermont	1.62	1.40	0.96	0.59
Virginia	1.11	0.96	0.96	0.87
Washington	0.97	0.83	0.72	0.74
West Virginia	1.75	1.51	0.91	0.52
Wisconsin	1.29	1.11	1.04	0.80
Wyoming	1.71	1.47	1.05	0.61
United States	1.16	1.00	0.94	0.81

Source: Calculated from data on state per capita personal income from *Survey of Current Business* p. 17–29, Vol. 65, No. 8., August 1985 and p. 29–43, Vol. 71, No. 8., August 1991 and current expenditure per pupil from National Center for Education Statistics, *Digest of Education Statistics, 1992*. (Government Printing Office, Washington, D.C., 1992) Table 157, p. 160–161 and average salary for instructional staff from Table 76, p. 86.