REWARD FOR EFFORT IN ILLINOIS SCHOOL FINANCE:
Policy Debate, Empirical Evidence, Legislative Implications

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I. BACKGROUND

In the summer of 1973 the General Assembly of Illinois passed the first major legislative reform of its K-12 grant-in-aid system in forty-six years. This shift was from a "foundation" or "Strayer-Haig-Mort" grant-in-aid system to a system that gave districts a choice between the foundation program and a "guaranteed valuation" or "district power equalization" grant-in-aid system. The "DPE" in Illinois, however, has never carried any "recapture" provisions which might apply to wealthy districts, and thus may not qualify as a "true" district power equalization system among some purists.(1) There is an extensive literature which both describes the initial 1973 Act and the amendments which have been passed since that date. This literature also evaluated the 1973 Act in terms of certain goals or "criteria" that are held to be desirable by school finance "experts" throughout the United States, e.g., "fiscal neutrality" or "wealth neutrality," and "reduction of disparities in revenue per student between school districts," sometimes called "permissible variance." Readers completely unfamiliar with the Illinois funding system may wish to sample this literature concurrently with this study.(2)

The 1973 Act contained, along with several other provisions, a notion of "reward for effort." That is, all other things remaining equal, an Illinois school district that taxes itself more will receive more state aid than an Illinois school district that taxes itself less, at least up to certain tax limits set by the General Assembly. "Reward for effort" provisions have been relatively popular in state legislatures in recent years. For example, the state of Michigan passed a basically similar school finance system at exactly the same time as did Illinois. In Michigan the system is referred to as the "equal yield" formula, while in Illinois the new grant-in-aid formula was labeled the "resource equalizer" formula.(3) One recent tally puts the number of states with "reward for effort" provisions at about twenty.(4) It must be pointed out, however, that there is a considerable range among these twenty states. In some states the "reward for local effort" provision is nothing more than window dressing, often merely a "local enrichment" provision, while in other states the reward for local effort provision forms a very important part of the overall grant-in-aid system. The General Assembly of Illinois is now reconsidering or at least discussing the "reward for effort" provision of the 1973 law, and this study is intended to be of assistance in those deliberations.

In this background section we shall outline the arguments, pro and con, which can be found in school finance literature concerning "reward for local effort." In this section we shall also briefly summarize some previous empirical studies which cast some light upon this matter of fiscal policy. Having accomplished this task, we will then proceed to describe the methodology and the findings of a new empirical study which investigated the determinants of tax rate change in Illinois both before the 1973 reform, and then after the 1973 reform. Many of the twenty states which have a "reward for local effort" provision in their K-12 funding system do use some form of tax rate, usually the tax rate for operational purposes, as the measurement of "local effort" of a school district. It therefore becomes important to learn just what kinds of districts increase their tax rates under a DPE system, or a modified DPE system, as opposed to a foundation program. A basic assumption of this study was that the "response" of school districts under the DPE system would be different than the "response" of districts under the foundation system. "Response," of course, can be operationalized in several ways. Response might be studied in terms of tax rate referenda. This is a perfectly good way to approach the subject and may, in fact, yield better results than the response measurement we have chosen here, e.g., changes in the operating tax rate. Fortunately, studies of referenda results by the Illinois Office of Education are under way, and these studies, when reported, may provide additional light on the "reward for effort" matter.(5) In the twenty-twenty of hindsight it is also clear that we need to qualify the basic assumption about response changes that would occur under a new grant-in-aid formula. These qualifications have chiefly to do with the amount of time that must pass before these new response patterns can be discerned. Finally, in keeping with the nature of the audience to whom this study is directed, we have included a "legislative implications" section which outlines some alternative actions the General Assembly of Illinois might take if it is determined that the present provisions of the law should be changed.

Arguments Against Reward for Effort

In spite of the fact that reward for effort provisions are found in some twenty states, the practice has never found favor among a number of professional students of the subject.(6) We find at least eight arguments presented against the notion of rewarding districts with more state aid for higher local tax efforts. They are as follows:

1. It is argued that all forms of local initiative systems may result in increased social stratification and geographic segregation of social classes as the different

social strata each seek the tax rate or the educational expenditure level that they prefer. Implicit or explicit in this argument is the fear that the wealthy will prefer higher tax rates and/or higher expenditures for education, while the poor may prefer lower tax rates and/or lower expenditures for education. It is further argued that the wealthy may, in fact, use the higher educational tax rates to keep the poor out of the district, in the same fashion that zoning restrictions and building codes are used for that purpose. High tax rates and high expenditure levels are then protective devices to keep out "the great unwashed" and to preserve what amounts to a private school which is publicly funded.

2. It is argued that local decision-makers may not, or cannot, meet the needs of their local districts, even if these needs clearly exist. This is a form of "under-consumption" of education argument. Two examples might serve to illuminate this argument. In rural areas strong agricultural representation on local boards of education has often kept tax rates down and might continue to keep them down in spite of the reward the state would offer for raising the rate under the new formula. Rural districts would then not profit as much under these reward for effort schemes as would suburban districts. Furthermore, in some states, the central city educational tax rate is depressed by the phenomenon of "municipal overburden," e.g., central cities' educational tax rate is kept low by the costs of noneducational municipal spending for police, fire, welfare, and so on. Therefore, the phenomenon of "municipal overburden" might keep the central cities from profiting as much from reward for effort as the suburban school districts.

3. It is argued that, in the long run, reward for effort provisions must stimulate local property taxation. It is admitted that the short run effects might indeed be local property tax relief, since those districts that tax more get more state dollars. However, in the longer run, a district earns more state dollars by convincing local constituents to vote a higher tax rate. Thus the long-run results are not local property tax relief; to the contrary, the system is engineered to increase the local property tax burden at least in those districts whose tax rate is below the maximum rate in the formula. Increasing the local property tax burden is not a politically attractive goal for most state legislators.

4. It is argued that, at least in the long run, it will be the districts with high income families that will raise their tax rates and their spending levels under DPE rather than districts with lower income families. Even if the system requires the wealthy district to provide 80 cents of the new tax dollar and the poor district to provide 20 cents of the new tax dollar, the poor district simply cannot fund the 20 cents of local contribution. It is also alleged that the 20 cents "hurts" the poor district more than the 80 cents "hurts" the rich district. If this is true, then reward for local effort is not compatible with equity goals such as "fiscal neutrality" or "wealth neutrality," or even with "reduction of revenue disparity between school districts." In the long run, it is argued, reward for effort cannot be reconciled with equalization of educational opportunity.

5. It is argued that a special problem exists for low income households located in property affluent school districts. Under a reward for local effort system the property wealthy district might decide to increase its generally low tax rate in order to obtain more state aid. The low income family living in the shadow of a factory or commercial complex would then find its residential property tax increased greatly. This special problem could be alleviated, however, by extending the "circuit breaker" provisions from the elderly to low income households.

6. It is argued that reward for effort provisions, when attached to a single public function such as education, may distort public spending in an uneconomical manner. Specifically, municipal authorities view these grants as encouraging local governments to spend funds on public education that might well need to go into other public services, such as health, sanitation, police, and fire. In more recent years the federal government has distributed its local revenue sharing partially upon a notion of local effort in the noneducational sector. Thus a reward for effort system operating in the educational sector could result in a showing of less effort in the noneducational sector and cost the municipality federal funds as well as local funds. At the very least, the adoption of reward for effort notions, in both the educational sector and the noneducational sector, sharpens the conflict between these sectors for public sector dollars.

7. It is argued that reward for effort grants may encourage the maintenance of small, inefficient school districts since the higher tax rates and/or the higher expenditure levels could be the result simply of diseconomies of scale. Thus the higher state payments to those districts with higher tax rates can be viewed, at least in part, as reward for inefficiency.

8. It is argued that finding a sound way to measure effort is just as difficult, if not more difficult, than finding a sound way to measure district wealth. Take two districts that have identical tax rates and therefore appear to exert identical effort to be rewarded by the state. If one of these districts assesses residential valuation at a lower fraction of full market value, has a higher percentage of its valuations in the form of industrial and commercial valuations, and has a higher median family income, that district has a distinct advantage over the district with the same tax rate but with none of these features. Assessment practices, ability of the district to "export" the tax, and differences in income levels all combine to assure that a $2.90 tax rate in one school district in Illinois does not have the same meaning as a $2.90 tax rate in another school district in the state, yet the current formula treats these districts as if they were exerting the same fiscal effort.

Arguments for Reward for Effort

This is a formidable array of arguments against the reward for effort provision. Why then have approximately twenty states built such a mechanism into their grant-in-aid system? Because there are also some strong arguments for having just such a provision. The most well known are as follows:

1. It is argued that this type of provision directly attacks the ancient equity problem in school finance that is at once both a taxpayer equity problem and a student equity problem. As early as 1905 Elwood Cubberly pointed out that two taxpayers, living in different school districts, might find themselves in

a situation where one taxpayer paid a higher tax rate and yet received a lower level of educational goods and services while another taxpayer paid a lower tax rate and yet received a higher level of goods and services. This violates the economic principle of the equal treatment of economic equals, as well as the legal principle of equal treatment under the law. The school finance litigation of the early 1970s simply highlighted an equity problem that has been known and investigated for over seventy years. When the state builds a system that provides "equal expenditure for equal effort" (the Illinois slogan) or "equal yield for equal effort" (the Michigan slogan), it speaks directly to this chronic problem in K-12 finance. Up to the limits specified in the law, a poor district can have the same level of educational goods and services as a rich district, if it is willing to exert the same fiscal effort as the rich district.

ability to pay

2. It is argued that a reward for effort system provides selective property tax relief, at least in the short run. Those districts which are taxing themselves more receive the greatest amount of state aid. This was an important argument in 1973 in the Illinois General Assembly. The General Assembly had passed and sent to the Governor a general property tax "freeze" similar to legislation in Indiana. The Governor had before him two incompatible bills. The 1973 reform offered more state funds to those districts that had been taxing more, e.g., "selective" relief, while a general tax freeze would have frozen in all the inequities in the system at one point in time. He signed the reform and vetoed the freeze. It would be more correct to say that reward for effort helps a high taxing district from moving to even higher levels of taxation. There is no way to move a tax rate back to lower levels under "reward for effort" provisions, unless the district is taxing beyond the maximum matching rate in the DPE formula. A district can do that only by giving up some of its state aid. The large state payments to high tax rate districts do provide a "breathing spell," however, since the increased state aid makes it unnecessary to obtain more funds on the local side.

3. It is argued that tax rates may be high in some districts for perfectly legitimate reasons that are as compelling as the diseconomies of scale matter, discussed earlier, are not compelling. For example, suburban areas have high tax rates at least partially

because the wave of migration to the suburbs has forced a heavy burden on school governments in those areas in the last two decades. While outward migration of business and industry to the suburbs has helped to alleviate this added tax burden, there is little doubt that at least some suburbs have needed more state help. This is particularly true of "workingmen's suburbs" and even of some middle class suburbs. These "dormitory" suburbs typically have large numbers of children to educate, but little by way of commercial or industrial valuation to tax. Dormitory suburbs are one of the principal beneficiaries under almost any kind of "reward for effort" provision. In the process some relatively wealthy suburbs may also be assisted, but increased state dollars will flow to the poorer suburban units. In Illinois terms, the 1973 reform was just as popular in southern Cook county as it was in northern Cook county. It is argued that the suburbs are where much of the education of students now takes place, and therefore this is where the state money should go.

4. It is argued that a "reward for effort" provision will help school districts to pass tax referenda. This is especially true in the property valuation poorer districts where it can be shown that small amounts of extra effort from the taxpayers in those districts can yield large amounts of extra state aid. Such an argument is, of course, less feasible in the richer districts. This argument assumes that local district superintendents and their boards know how the formula works and that state departments of education have made an attempt to explain the dynamics of the "reward for effort" provision to them.

5. It is argued that the system is deliberately engineered to keep local revenue an important part of the overall funding system for K-12 education. The system can be adjusted to provide higher percentages of state aid and to shift the major burden for supporting the schools away from the local tax base to the state tax base, but the "reward for effort" provision also insures that there will always be some local revenue in the system. Those who support "full state assumption" of all educational costs would, of course, accord this a weakness rather than a strength. Since the combined level of state and local resources rests so strongly upon the selection of the tax level by local voters the system can be thought of as strengthening local control

rather than decreasing local control. In fact, some have referred to DPE as "local control with a vengeance."

6. It is argued that the situation relative to reorganization and consolidation is not so dismal as the opponents would have one believe. For a very long time reorganization and consolidation of school systems has been slowed by the fact that wealthier districts did not wish to accept the higher tax rates that inevitably came with the absorption of their poorer neighbors. Under DPE or some other form of reward for effort these higher tax rates are less of a problem.

fact ?

7. It is argued that there is nothing wrong with keeping some amount of consumer preference in the system. In all other areas of the economy the consumer is allowed to choose the amount and quality of goods and services he or she might like. Granted districts may be prevented by the state from buying a "rickshaw" education, but the state should not prevent one district from buying a Ford education rather than a Cadillac education, if that is all they want for their children. Above some "floor," which the state must require, local taxpayers should have the right to select the amount and quality of public education they desire. Reward for effort provisions allow that discretion and they also enable the tax poor district to afford the Cadillac education at the same tax rate as the rich district.

8. Acceptance of the reward for effort provisions does mean acceptance of a certain amount of inequality in revenue levels between school districts. This is so if only because one can not assume that consumer preferences are all alike. However, allowing some school systems to spend more than others is not all that bad. For decades, schoolmen have encouraged the richer districts to spend somewhat more than the poorer districts and then used that higher spending level to "lever up" their own spending levels. This "demonstration effect" or "keeping up with the Joneses" is preserved in reward for local effort systems. All that DPE does is allow the poorer districts to participate in this business of emulation of the wealthier and higher-spending districts.

The foregoing scholastic exercise is helpful in making the policy issues stand out in stark relief. It could be misleading in one respect, however. The practical legislative situation may not be one of no reward for effort versus a lot of reward for effort. Indeed, as we suggested previously, the situation in most states is to have "some" amount of reward for effort. Grant-in-aid systems that are discussed under the heading of "mixed models" or "multiple stage models" frequently afford the opportunity for a state to have a limited amount of reward for effort without making that provision the keystone of the entire grant-in-aid system.(7) A frequently recommended grant system in recent years, for example, is one which features a relatively high foundation program with a small amount of reward for effort operating over the top of the foundation program.(8) Usually this system is also adjusted by pupil weightings to meet individual educational needs. We have discussed this model elsewhere as a possibility for future legislative action in Illinois.(9)

Previous Empirical Research

What is available beyond the "conventional wisdom" expressed in the previous section? Some nine years ago Johns and Kimbrough pointed out that in Illinois and Kentucky there was a positive linear relationship between district income and district tax effort; that is, the rich districts exerted the greater fiscal effort and the poorer districts exerted the lower fiscal effort.(10) In the Center's first evaluation of the 1973 reform, after only one year of experience, the same positive relationship between family income and tax effort was again noted.(11) Gensemer has demonstrated that in Ohio there is a strong relationship between median family income and educational tax rate. To be specific, Gensemer found that each additional $100 in 1969 median family income was related, on the average, to an additional 0.14 mills on a school district's 1975-76 school operating millage rate.(12) Gensemer's model was multivariate in nature and income was the best predictor of local tax rates. In Illinois, Yang and Chaudhari have also shown that low income is associated with medium to low effort, while high income, along with high educational attainment, high occupational status, and high residential housing value are associated with high property tax effort.(13) The Yang and Chaudhari data suggest that these relationships are stronger for dual districts (separate elementary and high school districts) than for K-12 districts. Unfortunately, all the studies we have examined concerning the correlates and determinates of tax rates are cross-sectional in nature, that is, the variables are measured at one point in time. The response of districts to new grant-in-aid systems, however, is a dynamic affair, not a static phenomenon. To provide convincing evidence on the relationship of wealth and other variables to tax rate change, we need to explore the relationship of wealth and other variables, not to tax rates at one point in time, but rather to changes in tax rates through time. We also need to compare tax rate changes under one type of grant-in-aid system with tax rate changes under another type of grant-in-aid system. The empirical research reported later attempts to meet these needs.

The limited empirical evidence that does exist seems to lend support to arguments one and four against the reward for effort provision. However, the issue is far from closed, and the effect of the newer forms of DPE grants-in-aid in education is still quite controversial. For example, at least one economist believes that the DPE systems can achieve any degree of wealth neutrality the state legislature desires by subsidizing the price of education in the poorer districts. Hopefully the poor districts will then purchase as much education as the wealthier districts. In fact, Feldstein concludes that DPE systems might even go beyond wealth neutrality to a condition where revenues would be inversely related to wealth.(14) Such a condition would be "compensatory" education in a true sense, e.g., poor districts would have more spent on them than wealthy districts. Unfortunately, the possibility that wealthy districts might value education very highly, and poor districts might value education very little, is not given much consideration in the Feldstein models. If the present demand schedule strongly favors wealthy districts, then price subsidization to the poor must be extreme in order to induce them to purchase more of a service for which they see no great need.

We should perhaps leave the appreciation of changes in demand schedules and utility schedules to those whose prior training has better prepared them for these refinements than our own. In any event, we have enough problems squaring some of the empirical research on tax effort with the evaluations of the 1973 Illinois reform the Center has carried out in the last several years.(15) On the whole, these evaluations have been favorable to the 1973 reform. For example, the evidence does show a reduction in the disparity between school districts in revenue per pupil. The trend is more marked in unit districts and high school districts than in elementary districts, but there is evidence of reduction in variance in revenue per pupil in all three populations of districts. If one concentrates on the variation below the median revenue, then the evidence indicates progress in moving up the low spending unit districts and high school districts, but there appears to be no such progress for low spending elementary districts.

The findings with respect to the attainment of "fiscal neutrality" or "wealth neutrality" are also reassuring. This is especially the case when the evaluation using gross wealth elasticities is used. In all three categories of districts in Illinois--units, elementaries, and high schools--there is evidence of movement toward wealth neutrality. This is especially true in unit districts where the magnitude of the slope of the regression line between property valuations per pupil and revenues per pupil has been cut in half within three years from the initial reform legislation. The evidence using income as a wealth specification rather than property valuation is not so regular as the property valuation results, but the third year's regression values are all less than the base year and thus support in general the property valuation results. Tests made with the Gini index and Lorenz curves are also generally supportive of the results achieved with the gross wealth elasticities, but there are problems in the use of the Gini-Lorenz procedures. Essentially, these problems have centered around the fact that Chicago appears relatively wealthy in terms of median family income, or even income per weighted pupil, and thus state aid to Chicago is registered as aid to wealthy students on the Gini-Lorenz technique.(16) Regardless of qualifications and technicalities, however, there was a systematic improvement in the Illinois showing on equity criteria for at least three years after the 1972-73 reform.

Do the results of the Center's evaluations for each of three years after the reform of 1973 prove conclusively that those who contend that "reward for effort" is not compatible with "equalization of educational opportunity" are wrong? We think not. There are at least three reasons why the state of Illinois could continue to show progress toward equity goals after the adoption of a modified DPE system in 1973 in spite of any adverse effects on equity goals by the "reward for effort" provision. In the first place, the evaluations of the 1973 reform conducted by the Center are evaluations of the <u>entire</u> general purpose grant-in-aid system. The "reward for effort" provision is just <u>one part</u> of a relatively complicated grant-in-aid system. Illinois school districts can receive state funds under no less than four different computational procedures in the general purpose aid system alone. Some of the provisions in the general purpose grant-in-aid work against other provisions relative to the attainment of overall equity goals such as "wealth neutrality." To cite only one example, the relatively heavy weighting in the Illinois system given to title one eligibles, e.g., children from lower socioeconomic families, provides for a different distribution of state funds than does the provision that sends state funds to districts with high tax rates. Recent calculations by Ben C. Hubbard indicate that it would take only seventy-four million in new state dollars to remove the differential effects of the "reward for effort" provision from the present formula.

Second, it must be remembered that improvements in equity goals are not so much a matter of formula technicalities, as they are a matter of the fundamental shift from local revenues to state revenues to support K-12 education. In the period between 1972-73 and 1975-76 the state of Illinois increased the state revenue contribution to general purpose K-12 educational funding by almost three hundred and seventy-one million dollars, pushing the percentage of state support to an all-time Illinois high of 48.36 per cent. The formula would have had to have been badly malfunctioning indeed not to show a gain on equity goals given that amount of revenue input by the state government. There has since been a deterioration in the percentage of costs supported by the state revenues as opposed to local and federal revenues, but the decline has not been serious enough, at least as of this date, to threaten all the equity gains made for three years after the reform.(17) Thus any negative effects on equity that might have been attributable to the reward for effort provision were simply washed away in the floor of new state aid. It should be pointed out that this possibility was outlined for the authors of this study in a letter to them from Professor R. L. Johns of the University of Florida in early 1976.(18)

Finally, there is the complicated matter of the time it takes for a reward for effort provision to manifest itself in the new allocation system. We shall return to this point in the qualifications and limitations section of the empirical study reported next. Essentially, however, the presence of three hundred and seventy-one million new state dollars, an increase of 46 per cent in state aid, provided a "cushion" for many school districts so that they did not have to go to the local voters for new local resources in the three years after the reform. Thus there was no real need for either wealthy or poor districts to reveal their true preferences for K-12 spending levels. In the terms of the market analysts there were probably too few transactions during this three-year period after the reform to "fully test the market." Similarly, in the terms of the economists there were too few transactions to fully reveal the true shape of the demand schedule. Only now, some five years after the reform, are districts being called upon to go to their voters for new tax referenda. We speak of course in general terms since many individual school districts did attempt tax referenda during the three-year period after the 1973 reform. There is a sense in which the true effects of DPE or reward for effort might only be revealed some seven or eight years after the initial 1973 reform. During the first four or five years the increases in state aid caused by "phasing-in" the formula tend to cover up the effects on equity of individual district preferences for different tax rates. Only after the formula has been "fully funded" and left in place for one or two years would the consumer preferences for different tax rates be fully revealed.

There also appears to be some problem of comprehension by many local boards and local superintendents that the funding system dynamics were drastically altered in 1972-73. Perhaps this is understandable after forty-six years of operating under a foundation system. Whatever the reasons, it is clear that at least some local boards and local superintendents did not, and do not, realize that under DPE, or any other form of local initiative system, the district has to "do" something, in order to gain more state aid; namely, pass tax referenda. The fundamental difference between the foundation system and the local initiative systems, no matter what they are called, "equal yield, resource equalizer, percentage