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"EQUAL EDUCATIONAL OPPORTUNITY":
ALTERNATIVE FINANCING METHODS FOR PUBLIC EDUCATION

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ABSTRACT

This paper traces the evolution of state-local public education finance systems to present; examines the prevalent foundation system of finance; discusses the Serrano decision and its implications upon foundation systems; and, after examination of three possible new approaches, recommends an education finance system. The major basis of choice among possible systems is relative equity and efficiency. Political feasibility, however, is taken into consideration. The result is a finance method which can fulfill the implied goals upon which the Serrano decision is based without necessitating state assumption of all education finance decision-making responsibility.

THE CALIFORNIA SUPREME COURT SCHOOL FINANCE DECISION: ISSUES OF LOCAL CONTROL AND EQUAL OPPORTUNITY

John S. Akin

Introduction

How best to finance public elementary and secondary education is a topic which has recently begun to receive some of the attention it justifiably deserves. Much of this new found interest is a result of a recent decision by the Supreme Court of the State of California. The implications of the California decision are such that virtually all present state education finance systems will be declared unconstitutional if either this decision or a similar decision is upheld by the U. S. Supreme Court. This paper is an attempt to discuss present educational finance systems, interpret the California decision, and look into some of the implications of this decision upon school finance. Special emphasis is placed upon the possible effects of alternative methods of school finance on centralization of education decisionmaking. A financing method designed to retain local control of education finance while providing equal educational opportunity is suggested. The single most important difference between this and other plans is the suggested method for measuring the relative ability of school districts to pay for educational needs.

Education as a State Function

Over the entire history of the United States, provision and finance of public education have been functions of the states. During essentially all of this period, however, the states have chosen to delegate varying

degrees of operational and financial authority to local school districts. The explanation of this system of state and local interaction that has evolved is rooted mainly in historical grounds.

Education provision and finance as state functions are legally based upon the 10th Amendment to the U. S. Constitution, which states, "The powers not delegated to the United States by the Constitution nor prohibited by it to the states, are reserved to the states respectively or to the people." Since education provision and finance are not explicitly stated as federal functions nor forbidden to the states, they automatically fall under state jurisdiction. That localities (school districts) in almost all states are allowed much autonomy in education provision and finance is not based upon any similar legal foundation.

Early Financial Support

The earliest forms of financial support for education in the U. S.--during the colonial period--were at the local level and came mainly from the church and private sources. With the formation of the Union, states did not take over the education function. Such methods as lotteries, private contributions, church support, direct charges and land sales were utilized for supporting the schools at the local level. Colonial Massachusetts did make land grants to support schools as early as 1659, and most of the colonial states followed suit. Federal support through land grants, providing land in new states to be used and/or sold to support education, began with the Ordinances of 1785 and 1787. Statewide permanent endowment funds, whose earnings were used to finance public education, were set up in most of the states, beginning with Connecticut in 1795.

Probably the most important date in early school finance history was 1789, when the state of New Hampshire made support of education through local taxes compulsory. From the formation of the Union until this date, local property taxation for schools was allowed by permissive laws in most states, but was not required. By 1820 New York and most of the New England states had followed the example of New Hampshire and made local tax support for schools compulsory. Not until after 1820, however, did compulsory local support begin gradually to be extended to states in other regions. After being made compulsory, local property taxation grew rapidly in importance and by 1930 had reached its peak of 72 percent of total revenues for public schools. By 1950 the percentage was down to 50 percent, at which approximate level it has remained since.

State-local Coordination and the Foundation Concept

The concept of state-local sharing of the education finance burden did not begin to develop until the depression years of the 1930's. The inability of many property owners to pay taxes at this point in time probably contributed to this development. State-local sharing increased in importance, and the system has developed into one in which at present virtually all states share with localities much of the burden of education finance. In 1968-69 the states paid approximately 41 percent of the total non-capital expenditure cost of public elementary and secondary education with the localities paying 52 percent and the federal government financing the remainder.[1]

The basic method of state-local education finance in most states is based upon the ideals of the "foundation system." George D. Strayer and Robert M. Haig, in a 1923 report prepared for the State of New York,

first outlined the foundation concept.[2] The idea was (and is) that states should define the minimum expenditure levels per child (or classroom) required to provide a high quality education and assure each school district of the ability to spend this necessary amount. Each district would be required to levy property taxes at a state established minimum millage rate. For example, a levy of 20 mills might be required and expenditures of $600 per pupil guaranteed. Under this system any district with a per pupil taxable property value of less than $30,000 would receive a subsidy from the state. In those districts in which the revenues raised by this equal levy were insufficient to provide the state required minimum expenditure, the state would provide the needed additional funds for the required program cost. Other richer districts would keep any excess and spend it locally. Through this system the state was assured that every district would levy at least a minimum specified local property tax and spend for education at least the minimum specified program cost.

Present State Finance

But present state finance systems do not consist simply of such basic foundation programs. All but a small number of states provide for possible supplementation of the foundation program by allowing districts to tax themselves at higher than the required rate, and to keep the funds raised by these extra local efforts. The foundation program with local supplementation allowed is the education finance system that has evolved in most states and against which legal attacks have recently begun to be launched. It is the added local effort, not the foundation program

itself, that results in revenues raised by a given tax rate being a function of districts' wealth.

Evidence of the inequities resulting from present financing systems is plentiful. In the U. S. in the 1969-70 school year, average statewide per pupil expenditure on primary and secondary education varied from a low of $438 in Alabama to a high of $1,237 in New York.[3] Perhaps even more astounding, however, is the extent to which expenditures vary within the various states. For example, in the same year Wainscot school district in New York State spent $9,489 per pupil while Pine Bush district spent only $819.41.[4] These two districts are in the neighboring counties of Suffolk and Orange respectively. Such astronomical differences are not confined to a few states only. Average expenditures per pupil in California unified school districts in 1969-70 varied from a low of $612 to a high of $2,414.[5]

It is not simply the expenditure levels that vary, however. The school district tax bases, or resources which can be taxed to raise public funds, vary to equally impressive degrees. In 1969-70 there existed elementary districts in California with only $103 per pupil of assessed property valuation coexisting with districts have $952,156 per pupil of taxable property.[6] In Massachusetts in 1968-69 we note that Millville taxed property worth $14,500 per pupil at 15.6 mills to raise only $369.67 while Brookline taxed itself at only 12.5 mills, yet mainly because of $73,400 of taxable property per pupil was able to spend $1,032.98 per pupil.[7]

Not only do local school district property tax bases differ, but the share of expenditure that must come from local sources also varies widely among states. In 1969-70 the percentage of expenditure for public

primary and secondary education that was financed by local sources varied from lows of 0 percent in Hawaii, where there is only one statewide school district, and 18.2 percent in North Carolina to a high of 87.2 percent in New Hampshire. In the U.S. as a whole 1969-70, 52.5 percent of expenditures of $33,108,000,000 came from local sources. Practically all of this local revenue is raised by property tax levies.

Because of differing expenditure levels, tax bases and state-local expenditure shares (which are in reality determined by the actual foundation program structure that exists), the school property tax rates paid by citizens vary extensively. A "poor" district (or state) often taxes property at high rates only to raise less revenue than do richer districts (and states) where property tax rates are much lower. The obvious inequities of financing schools in this manner have led to public action in the form of both political pressure and legal proceedings.

Judicial Actions

On February 2, 1968, the Board of Education of Detroit filed suit in Wayne County, Michigan against the state of Michigan, alleging that the state, through its system of allocating funds among the various school districts (that is, its foundation plan), had denied plaintiffs equal protection of the law as guaranteed by the 14th Amendment to the U. S. Constitution. This suit was based mainly upon the argument that each child has a 14th Amendment right to spending according to his "needs." The case eventually dropped without results because judges were unwilling to base a decision upon the concept of education "needs." Cases based on similar reasoning in Illinois [McInnis vs. Shapiro (N.D. Ill. 1968) 293 F. Supp. 327 affd. mem. sub nom McInnis vs. Ogilvie (1969) 394 U.S. 332] and Virginia [Burrness vs. Wilkerson (W. D. Va. 1969) 310 F. Supp.

577 affd. mem. (1970) 397 U. S. 44] were unsuccessful in federal courts, and these two decisions were affirmed without hearing and without opinion by the United States Supreme Court. The courts essentially ruled in these two cases that the concept of "educational needs" is a "nebulous concept" that is not judicially manageable.[8] The judges in Illinois and Virginia in essence ruled that they were unable to consider arguments based upon the necessity of education expenditure based upon "needs" because the "needs" themselves could not be identified and quantified.

Serrano vs. Priest

But in California, during this same period, a case, Serrano vs. Priest, [S. A. 29820 (Super. Ct. No. 938254)], was filed in the state courts. The argument in this case focused mainly upon the principle that the 14th Amendment to the United States Constitution prohibits expenditure discrimination among school districts based upon their relative wealth. This case was decided in favor of the state of California in both the original judgment and the first level appeal decision; but, by 6-1 vote, the Supreme Court of California overturned these two decisions. The Court ruled that the quality of education cannot be a function of wealth unless this discrimination can be justified on the basis of a compelling state interest.

The court on August 30, 1971 ruled that the California system of reliance upon local property taxation for supplementary school revenues results in discrimination based upon wealth of school districts; and therefore, violates the "equal protection of the laws" guarantee of the 14th Amendment to the U. S. Constitution. Equal tax "effort" (here

implicitly defined as equal property tax rates) results in very different per pupil revenues raised. For example, two "equal" taxpayers in different districts owning equal amounts of taxable property and paying school property taxes at equal millage rates (and therefore, paying equal amounts of school property tax) most likely will not receive in return equal expenditures for the education of their children. In the 1968-69 school year the taxpayer in a $20,000 home in Millville, Massachusetts paid $312 (15.6 mills) in school property taxes while the resident of Brookline living in an identical house paid only $250 (12.5 mills). Yet each child of the Brookline taxpayer received educational services costing $1,032.98 while the more heavily taxed Millville resident's children each received services valued at only $369.67. This inequity is attributable to the fact that the other taxpayers (including commercial and industrial property owners) of Brookline owned property whose value per school child was greater than that of the other property in Millville. The amount of property tax one must pay for a given level of public services obviously becomes a function of the "wealth" of his "neighbors" in a system of this type. It is not only the children but also the taxpayers of a poor district who suffer.

If the U. S. Supreme Court, to which the Serrano decision almost certainly will be appealed, upholds the ruling of the California court, the implications for education finance in the United States will be extremely important and far-reaching. States will be required to finance schools in a manner which removes discriminatory effects resulting from different levels of taxable resources.

In the very first paragraph of the Serrano decision, it is stated that the California public school financing system "invidiously discriminates against the poor because it makes the quality of a child's education a function of the wealth of his parents and neighbors."[9] In the body of this decision it is clear that the Court equates quality with dollars spent and wealth with taxable property values. An examination of the implications of accepting these definitions is obviously called for.

Quality of Education and Expenditures

Quantifying the quality of education is at present an impossible task. In fact it is doubtful that even a satisfactory definition of the noun "education" can be produced. Is the product of the public education system to consist of mathematical and verbal ability, Scholastic Aptitude Test (SAT) scores, years spent in a classroom, acceptable behavior patterns, good citizenship, and/or ability to earn income. Obviously the desired output of the education process can be defined conceptually and empirically in an infinite number of ways. Given the fact that "education" itself cannot be defined, how can we then talk about the quality of education? If we cannot measure the quality of education, how can we possibly analyze the effects of expenditure levels on this quality?

Even when the desired output of education is defined in some essentially arbitrary manner, such as average scores on certain tests, the effects of dollar expenditures on education output is not obvious. In fact, such studies as have been done tend to reach conclusions very much opposed to the idea that dollar expenditures are among the most important determinants of the quality of education.[10]

Equal Inputs and Equal Quality

One alternative to the quality dilemma is to suggest that equal educational quality is that condition that results from equal inputs, in the form of teachers, books, learning tools, and buildings. If this arbitrary definition of equal quality is accepted, the remaining problem is to measure the cost of these defined equal inputs to different school districts. But we must ask such questions as "Is a teacher always a teacher?" "Do not some teachers embody relatively more 'teacher' than other teachers?" Obviously we cannot suggest that the teacher input is equal if the pupil-teacher ratio is equal. But how do we measure the quality of inputs? The answer again is that we do not measure input quality any more successfully than we measure the quality of education. One study has suggested that teacher attitudes toward pupils may be the most important input to the education process. But how do we measure the quality of a teacher's attitudes? Even if we could provide equal inputs into the education process, however, we would not, by any stretch of the imagination, guarantee equal results. Probably the most important factor in the whole process of education is the quality of the students who are to be educated.[11] A child who has grown up in the city may respond most favorably to a completely different education process than that to which a child from a rural area responds best. And these processes may vary in cost to a great degree. It may be true that educational quality (somehow defined) can be equalized only by levels of expenditure designed to vary with the environmental situation of the students. If this is true there is no a priori reason to believe that equal dollar expenditure necessarily leads to more equal educational

opportunity than already exists. Obviously, however, given the state of our knowledge neither is there reason to believe that the converse is true. In fact, our limited knowledge appears sufficient for drawing the conclusion that the degree of equality would be greater than that which presently exists. A simple examination of the above stated differences in expenditure levels among districts is sufficient to provide strong impetus to this belief.

Wealth of School Districts

If we could define and quantify the quality of education and determine the dollar expenditure necessary to finance education of equal quality in each district,[12] we would still fall short of the knowledge necessary for designing a system that would allow districts to be equally able to provide for their needs regardless of their wealth. In order to design a system that will allow for "wealth neutral" provision of public education it must be possible to define and measure school district wealth. We must find satisfactory answers to such questions as what is individual wealth and how do we aggregate this wealth over a school district. There have been various attempts to define and measure local ability to finance public goods and services (local fiscal capacity).[13] Defining local community wealth is complex, but obtaining data is perhaps the major stumbling block to effective and consistent nationwide measurement of fiscal capacity in local units. Among the problems are the paucity of income data except in census years, the many difficulties of comparability of assessed and state equalized property values,[14] the fact that commercial real property may be very different from residential real property in terms of the incidence of

taxes upon it, the reality that almost no socio-economic data is collected for school districts, the existence of tax exempt property of various types, and school district boundaries which often are not conterminous with the boundaries of other local governmental units.

Having noted only a few of the conceptual and empirical problems confronted by an effort to provide equal educational opportunity in a manner which does not discriminate among districts on the basis of wealth, the practical reasons for equating school district wealth with taxable property values and educational quality with dollar expenditure become more understandable. Equal dollar expenditures per pupil combined with equal property tax rates statewide perhaps will satisfy any forthcoming court-provided definitions of wealth neutral provision of education. This does not make it any less important to attempt to derive better definitions of wealth neutrality through better understanding of the concepts of quality of education and fiscal capacity of school districts. Only if these understandings are gained will the accomplishment of the conceptual goals implied by the Serrano decision become possible.

Importance of Practical Alternatives

Because we can measure neither educational quality nor wealth at present, we must attempt to design practical educational finance systems which will result in close approaches to the attainment of wealth neutral provision of educational "needs." What we desire is that some undefined quantity of education be provided in each school district and that this quantity chosen be completely independent of relative wealth of the districts. We are effectively setting equity standards for education which require that equals be treated equally in the sense that school districts that collect taxes up to a given percentage of their ability

to tax must be able to provide the same quality of education as any other district, rich or poor, putting forth the same tax effort.

Local Decision-Making

In the absence of an ability to measure local "needs" for education expenditures, a strong argument can be made that local control of local education expenditure decisions leads to better results than state control. The arguments for and against decentralization of the financing of local education are many and varied. I will attempt to briefly summarize the centralization-decentralization debate.

Perhaps the strongest case for decentralization and local control is based upon an assumed goal of consumer sovereignty. The idea is that smaller units give rise to closer communication between voters and decision-makers and, therefore, to decisions highly reflective of what local groups of citizens desire. The fewer the citizens governed by a given decision, the fewer are likely to be extremely displeased by the compromise legislative result. This is true both because desires are more likely to coincide over a small area and because mobility allows for movement of those who are not pleased with local services and tax levels. When the spending level for all school districts is determined at the state level the assumption is that the result will be near what the average consumer in the state desires. But the imposition of this state-average desired spending level upon all districts may result in many districts spending more than they desire while others spend less than they desire. A solution of this type can reasonably be said to be less efficient than the one in which each district is satisfied with its spending level. To attain efficiency in the use of scarce public resources

it is necessary that an added dollar spent on any good or service return equal benefits to citizens. If this condition does not hold, benefits can be increased by shifting expenditures toward those areas in which benefits per dollar spent are greater. Mandated dollars spent for education by districts which would spend them on other goods or services if given the choice, will not produce the welfare gain that they would produce in another district which desires much additional education spending.

Of course, the implicit assumption of this argument is that what the majority of people in a governmental unit desire reflects what they "need." We can say, however, that what people desire is partially a product of the resources available to them for fulfilling desires. Belief in the goal of consumer sovereignty does not preclude a belief that, before we can happily accept the results of consumer choice in some areas consumers must be made equal in their financial abilities to choose (i.e., the choice of education expenditure should be due to tastes and perceived needs, not to relative wealth of the districts). The California Supreme Court opinion can, it seems likely, be interpreted as stating that consumer choice is a valid method for education expenditure decisions only if this choice in each district can be made with freedom from the constraint of varying levels of taxable wealth.

However, in opposition to the consumer sovereignty case for decentralization, there exists a strong case for complete centralization at the state level. Probably the most thought provoking argument for centralization has its basis in the fact that voting adults rather than school-attending children decide the local levels of education expenditure.

Centralization is implied to be superior on the basis of the expectation that states will be less likely to spend extremely small amounts (as well as extremely large amounts) because of the fact that over this larger unit desires of individuals for extreme levels of expenditure will be expected to cancel each other. In small local units a small number of individuals with extreme tastes might have far greater influence on decisions. It is also true that even if small amounts per child are spent statewide, at least all children attending public schools will be provided equal levels of expenditure. Because it can be suggested that relative education is a more important determinant of social and economic opportunity than is absolute levels, it is possible to attempt to make the case that spending equal amounts is more important than the absolute levels of these amounts. When expenditure levels are equal throughout the state no children either benefit or suffer from relatively high or low education expenditure.

The centralization-decentralization discussion is not confined to the two above positions, however. The bases for support of each position are varied. Centralizers argue that states have access to larger and more equitable tax bases, that administrative ability is scarce and is less likely to be present in many small units than in one large unit, that the benefits from education are so widespread that the costs should be more or less equally spread over units much larger than most school districts, and that state assumption of education finance burdens will allow more total revenue to be raised because the inter-local competition among small units to keep taxes low, in order to attract and keep wealthy residents and commercial enterprises, will be eliminated.

Decentralizers attempt to refute each of the above arguments. States can allow localities to tax any tax base they are able to tax, exceptional administrative ability may be neither extremely scarce nor extremely important for the activities necessary for financing education, matching grants from the federal and state governments which vary with the benefits received can effectively solve the spillover problem, and the inter-local tax competition argument loses much of its force when the fact that not only taxes but also services differ among districts.

The decentralization argument has suggested that centralized control of education finance leads to centralized control of education in general, that innovation and experimentation may be more prevalent in a decentralized system because of both lower cost of failures and the single probability explanation that more decision centers lead to more varied types of attempts to reach any given goal, and that a level of expenditure which can gain support of more than half the states voters or legislators may be enough below the amount desired by those who value educational services highest to force them to send their children to private schools.

I will not at this point attempt a detailed analysis of these various topics concerning fiscal federalism and local control of education. I will state that the arguments for keeping decision-making at the lowest possible level are strong and have survived for many years. But with a high degree of decentralization it is true that, unless certain minimum standards are set from above, some local units may choose to spend much less than the majority of people in the larger

unit of which this unit is one part would believe to be a necessary minimum. It seems reasonable to expect that, given sufficiently high standards of behavior set from above, local units, being in closer contact with the needs of their citizens, will perform many tasks better than the state and federal governments. It is also reasonable, as the Supreme Court of California has indicated, that local units be able to make decisions about education without having their available choices constrained by control of relatively more or less taxable resources than other local units. In order to attain the goal of "wealth neutral" provision of education services, which is implicit in the Serrano decision, while maintaining decentralization of decision-making, we must design an education finance system that does not discriminate on the basis of wealth, yet allows local units to make decisions concerning the allocation of education expenditures.

Influence of Wealth on Decisions

Obviously local decisions based upon individual preferences will not be free from the influence of wealth. Only if wealth among districts is equal will local decisions about expenditure levels be free of influence from wealth. While the United States is obviously not ready to equalize wealth among all school districts, the Serrano decision implies that the effects on education expenditure decision of unequal wealth must be eliminated to the extent possible. The direct effects of wealth on expenditure decisions can be approximated by statistically estimating the relationship between levels of wealth and levels of expenditures. But the indirect effects of wealth on expenditure decisions cannot be removed in this manner. The things that we call by such names

as environment, socio-economic factor, attitudes, tastes, and "needs," are themselves at least partially a product of present and past "wealth" of the communities. Even if we actually equalize "wealth" in all school districts we cannot remove the effects that past differences have had upon the other variables which help to determine the level and composition of expenditures, not only on education but on all goods and services. It seems, however, that until more is known about removing the consequences of different wealth levels, we should at the minimum, attempt to remove the effects of wealth to such an extent that equal tax "efforts" (equal percentages of real taxable capacities actually taxed) in school districts will result in equal revenues raised. The goal should be broadened if possible, however, to allow equal effort to raise not simply equal revenues but equal percentages of the cost of inputs needed by each district in order to achieve "equal educational quality" defined not in terms of dollars spent but in terms of output of the educational system. Though we cannot define "equal educational quality" at present, there is no evidence to suggest that we cannot improve upon the assumption that equal dollars spent lead to equal quality. As a minimum first effort we can provide for higher required expenditure levels in districts with high concentrations of low achievement students. Further study should lead to the ability to more satisfactorily determine the expenditures necessary for given desired "quality" levels.

Efficiency and Equity

In essence all of the important economic arguments concerning the provision of state and locally provided goods and services are concerned

with two primary goals of efficiency and equity. Efficiency entails provision of goods in such amounts and for such consumers that society's resources are utilized in their highest priority uses. This in general entails the fulfillment of the condition that any added dollar spent by a governmental unit be spent on those goods which provide the greatest addition to utility. When resources are not utilized in this manner (i.e., when there is inefficiency), it would be possible to add to satisfaction by using resources in a different manner.

The equity goal is qualitatively different from the efficiency goal. For a government to treat citizens equitably is usually interpreted as entailing equal treatment of equals (or horizontal equity) and some societally accepted degree of correctness in treatment of non-equals (vertical equity). In practice, we often imply that horizontal equity requires equal taxation of equally wealthy individuals who receive equal amounts of benefit from government services and that vertical equity entails relative degrees of taxation of individuals of different wealth levels proportional to perceived levels of benefits received by them. In this concept of vertical equity the assumption is made that income distributions either are correct or will be corrected by a higher level of government. If this is not assumed we may desire a distribution of tax burdens which is little related to the distribution of the benefits from the goods and services provided by the taxing government. In examining possible education finance plans, equity and efficiency aspects must be considered of the utmost importance.

Alternative Financing Methods

At least three alternative financing methods appear to be legal, given the constraints implicit in the California decision. The first of

these alternatives, and one often mentioned in the popular press, is that states assume the total financing of education by means of state taxes--property or nonproperty--to raise revenues sufficient to finance state-determined levels of expenditure. That in general states do not rely upon property taxation to the extent that localities do, provides minimal evidence that state assumption of education finance would lead to less total property taxation. In 1968-69, state governments in the U. S. collected approximately $42 billion in tax revenues, of which only $980 million, or 2.3 percent, resulted from property taxation.[15] Local governments on the other hand, collected $35 billion of which $30 billion, or over 85 percent, was property tax revenue.[16] It would probably be safe to assume that if the total 1969-70 local share of education expenses of approximately $17.4 billion had been shifted to the states, the proportion financed through property taxes would have been less than the approximately 85 percent that was actually financed in this manner locally, but greater than the 3 percent of total state services that were actually property tax financed. There would obviously be some home owner applied pressure upon states not simply to levy statewide property taxes at existing local levels. The fact that taxpayers are habituated to property taxes at existing levels, however, might make their continuance more acceptable than increased levels of other taxes or new types of taxes. We cannot with any degree of certainty estimate the results of a change in the financing level of government upon levels of total property taxation. While this method may or may not lead to less property taxation in the various states, it will, by definition, terminate the local role in determining the level of education expenditures.

The obvious merit of this plan is that horizontal equity is achieved in the sense that each normal pupil in the state receives equal education expenditures.[17] This equity is purchased at the price of an efficiency loss, however. A decision must be made at the state level concerning expenditures per pupil statewide. Districts in which the marginal utility of expenditure per pupil is large will be able to spend no more than, and districts in which the marginal return to expenditure on other public goods would be greater will be forced to spend at, the proscribed statewide levels for education. Some districts will inevitably be "education rich" relative to other services, while others will find themselves spending little on education relative to other public expenditures where the marginal returns to each are compared.

The second obvious alternative is a variation on the foundation program method of school finance, the method presently used in 45 of the 50 states.[18] As has already been mentioned most present foundation programs consist of a state defined minimum expenditure level per pupil (or classroom, or teacher) and a specified minimum local contribution (usually the proceeds of a required tax "effort"--i.e., some required millage levy on taxable property). For districts in which the proceeds from the required local "effort"[19] do not provide enough funds for the defined minimum expenditure level the state provides the difference. For example, the minimum expenditure per pupil may be set at $500 and the required property tax levy at 20 mills ($20 of tax revenue per $1,000 of taxable property value). A district with $15,000 per pupil of taxable property will then raise $300 per pupil through the required local "effort" levy and receive $200 per pupil of state aid. A matching ratio of 2/3

will be established between state and local funds. In most cases, districts are allowed to tax at levels above the required minimum[20] and to spend (and perhaps to have supplemented by state matching funds)[21] locally the extra revenues raised. These extra revenues do not serve to reduce the state aid implicit in the basic foundation part of the finance system.

As is clear from the above description of foundation programs, the only alteration necessary in order to have them fit within the California guidelines is that the defined basic expenditure level be made an absolute maximum. No local supplementary tax levy would be allowed, and if extra dollars are raised by the required levy in some districts these dollars would either be expropriated by the state or to the same effect be redistributed to poorer districts in place of an equal amount of state aid. All districts would tax at the same effort level and spend the same amount per pupil.[22] The equity and efficiency effects would be similar to those of the first plan. The major possible difference would result if states were to make greater use of nonproperty tax sources.

Both of these alternatives amount to complete state control of education finance. Even though localities tax themselves under the "foundation program with no local supplements allowed" plan, the results are the same as if the state taxed property and distributed the funds. Under either of these plans both taxation and expenditure levels are set by the state and determination of expenditure levels for public primary and secondary education becomes completely centralized at the state level.[23] It is also interesting that in neither case does the property tax by necessity cease to exist or to be important.

"Effort Equalized Price" System

The third alternative is a slightly different variation of the normal foundation program. This is a system which I call the "effort equalized price" system. As we have seen, a foundation program, by setting a level of required expenditure and a level of required local effort, has the automatic effect of setting a matching ratio for each school district. The matching ratios for school districts are inversely related to the relative "wealth" (taxable property or estimated fiscal capacity) of the districts. For poor districts, the amount raised by the required equal local effort is matched by an amount equal to the difference between the required minimum expenditure and the local tax revenue raised. Hence, the state contribution brings total revenues up to the basic foundation level. For rich districts the matching ratio may be zero or negative. The basic foundation program combining state and local support effectively equalizes over all districts in a state the "price"--defined to be the percentage of taxable capacity raised locally--which must be paid by a district in order to attain any given level of expenditure per pupil. For example, if the index of local tax raising capability is taken to be total property value, the basic foundation program requires all districts to levy the same millage and affords them the same revenues per pupil by means of state supplementation. All families living in a $10,000 home anywhere in the state will pay exactly the same number of tax dollars in order to provide equal education expenditure dollars per child. Hence, the tax "effort" required to raise a given amount of revenue per pupil will be the same regardless of the relative "richness," measured in terms of property

values alone, of the district in which the families live. Assume, for example, that a state has established a basic foundation expenditure level of $500 per pupil and a required millage levy of 20. In this case the implicit tax "price" of $25 of education funds per pupil is 1 mill. In other words, 1 mill of property tax effort raises $25 per pupil in every district in the state, and relative wealth--in terms of property value--does not influence the level of this "price."

In order to preserve local decision-making with regard to expenditures in excess of the required minimum, all that is necessary is that the "effort equalizing price" matching ratio also apply to levies above the required minimum local effort. Districts can be allowed to tax themselves as much as they desire with the knowledge that this "effort" on their part will result in as many added revenue dollars as will equal extra effort in any other district. In our above example, a levy of 1 extra mill will raise $25 per pupil in any district in the state, rich or poor.

In rich districts the incremental revenue raised will be entirely from the districts own resources with any surplus accruing to the state's treasury. For poor districts incremental revenue will be financed jointly by the district and state residents--in part through the "surplus" raised by the higher wealth districts. This simple addition to the program will remove the necessity for a state chosen absolute maximum expenditure ceiling, without changing the fact that equal tax effort in any district results in equal dollars of total education revenue. Those districts whose tastes lead them to spend more on education than the required foundation level will be perfectly free to do so; and the "price"--in terms of percentage of taxable resources raised in revenue--will be

the same for any district.[24] Expenditures for education will then be a function of other local factors than taxable wealth.[25] The tax effort necessary to raise any given level of revenues per pupil will be effectively equalized for all districts without eliminating the districts' freedom to choose expenditure and taxation levels above the required minimum.[26] It seems likely that, given this form of price equalization in the education finance system many poor districts (in terms of local taxing capacity) will spend at levels higher than will many of the rich. Of course, the actual amount spent by each district given this new system will depend upon relative responses to the new tax price at which education expenditure dollars can be purchased. The equalization of price will allow less wealthy districts to spend at high levels without undue sacrifice, and will also encourage them to spend more than other districts if they believe it desirable.[27]

Equity and Efficiency

This plan comes much closer to the goals of horizontal equity and efficiency. Neither equity nor efficiency is achieved at the expense of the other. Equity as attained by this plan is, however, defined differently than the equity implicit in absolute equality of expenditures per pupil. This plan achieves an equitable treatment of equals in the sense that an individual taxpayer who pays taxes at a given percentage of his ability will receive equal quality education for his children to that received by a similar taxpayer putting forth equal tax effort in any other school district. Equity here implies that equal effort leads to equal results regardless of the wealth of others in the school district in which one may live.

That a high degree of efficiency in resource allocation is also achieved through this equitable plan points up its strength. Each school district faces an equal price, in terms of percentage tax effort, for added dollar amounts of school inputs per pupil. Under the assumption that dollars spent per pupil approximate quality of education, a high degree of efficiency should result. Each school district will tax itself up to the point at which the sacrifice of resources necessary to add on added dollars worth of education services is equal to the marginal value of the added services. The addition of an added dollar will be equally costly to all districts in terms of tax effort required so all districts will be spending up to the point at which the added utility of the services purchased by a given marginal percentage effort is equal. We should not find districts in equilibrium with regard to education expenditure at levels at which the marginal return to an added education dollar spent will be greater than the educational marginal return in other districts. The added dollar will be equally costly for all districts in terms of taxable resources given up and therefore, the return to a dollar spent should be very nearly equal over the entire state. Those districts in which the added utility of education expenditure is greatest will be expected to spend the largest absolute amounts and vice versa.

Thus the "effort equalized price" plan leads to more efficiency in allocation of resources. A man who is equally rich in terms of taxable resources will add equal amounts to the fiscal capacity of any district. An equal percentage tax rate on this fiscal capacity will therefore, entail equal dollar taxation of equally "rich" taxpayers.

Since equal tax effort leads to equal educational quality, the opportunity cost in dollars of educational quality for any taxpayer becomes equal. In other words, equal dollar values of private goods forfeited by equally rich taxpayers lead to equal educational quality in any school district. The marginal cost of a given addition to public education quality in terms of foregone private consumption will therefore be equal statewide. When each district reaches equilibrium, the amounts of private consumption foregone for a given addition to education quality will be equal. This is the efficient solution.[28]

Fiscal Capacity Measures and "Equal Opportunity" Revisited

An "effort equalizing price" system in which tax effort is defined as the tax rate on taxable property, however, will not result in the elimination of wealth based discrimination among school districts. For tax effort to be equal the fiscal capacity (or district taxable "wealth") measure upon which the effort measure is based must be a reasonable measure of total local ability to raise tax revenues. In order to realistically measure the ability to raise tax revenues, the measure used obviously will need to reflect more than simple property values. Not only must property values in total be considered, but also the relative amounts of different types of property in the district, and the incomes of those who are residing in the area. The ability to raise tax revenues may be very different for two districts having equal total value of property but different income levels and different distributions of total property among commercial, industrial and residential usages. To require districts having equal total property value but which differ in such manner to raise equal tax revenues in order to provide equal

education revenues per child will in fact discriminate among districts on the basis of relative wealth. The choice of a fiscal capacity measure is important when equality of local effort is to be based upon the measure. While it is impossible to determine a perfectly "correct" measure of fiscal capacity the use of property value alone can certainly be improved upon.

In addition to the need to more accurately measure capacity, we must also consider the problem of attempting to quantify abstract concept of educational "needs" of districts. Perhaps the optimum situation would be to have the ability to measure the conceptual quantities necessary to state that in the absence of wealth discrimination equal tax effort must allow districts to fulfill equal percentages of their "needs." "Needs" would be the dollar expenditures necessary to provide the societally optimum educational quality in this district. Even though we cannot define "needs" we can suggest that they differ among districts, due especially to different sizes of districts, different prices of inputs to the education process--especially teachers' salaries--and to different home environments and backgrounds of children being educated. Clearly it does not require exactly the same dollar expenditure to obtain equally well educated (somehow defined) children in each district of the state. Consequently, the provision of equal dollars per child for a given local "effort" would be inadequate to provide "equal educational opportunity." If it is true that expenditures among districts must in order to guarantee "equal educational opportunity," states should develop Required Minimum Expenditure Levels (RMEL) which vary among districts, in order to take into account varying levels of local

dollar "needs" (per pupil). However, until better methods for determining "needs" are developed it may be necessary to assume that dollar "needs" per child are equal in all districts of a state and to set one statewide RMEL.

It also will be necessary to attempt the measurement of "need" for non-educational public goods in a district. Two districts with equal fiscal capacities and equal educational expenditure needs may have totally different needed public expenditures for other purposes. Whereas the analysis of this paper has implicitly assumed per capita needs for other public services to be equal among districts, it is doubtful that this is true. Localities may have relatively large underpriviledged populations who are constrained artificially from moving. Because of the greater public service needs of these individuals, less of the local fiscal capacity than the average may be available for financing education. If this condition can be shown to exist; and it is concluded that some areas for reasons other than simple high levels of demand for publicly supplied goods and services are burdened more heavily than others by expenditures for needed non-education public expenditures, we will desire to weight our fiscal capacity measures in order to equalize for this condition (i.e., we will desire to reduce the fiscal capacity available for education finance of heavily "burdened" communities relative to less "burdened" communities). Here again more research is mandatory.[29]

"Effort Equalizing Price"--Some Technical Specifications

The education finance system suggested here as nondiscriminatory on the basis of wealth, yet allowing local supplementary effort and local

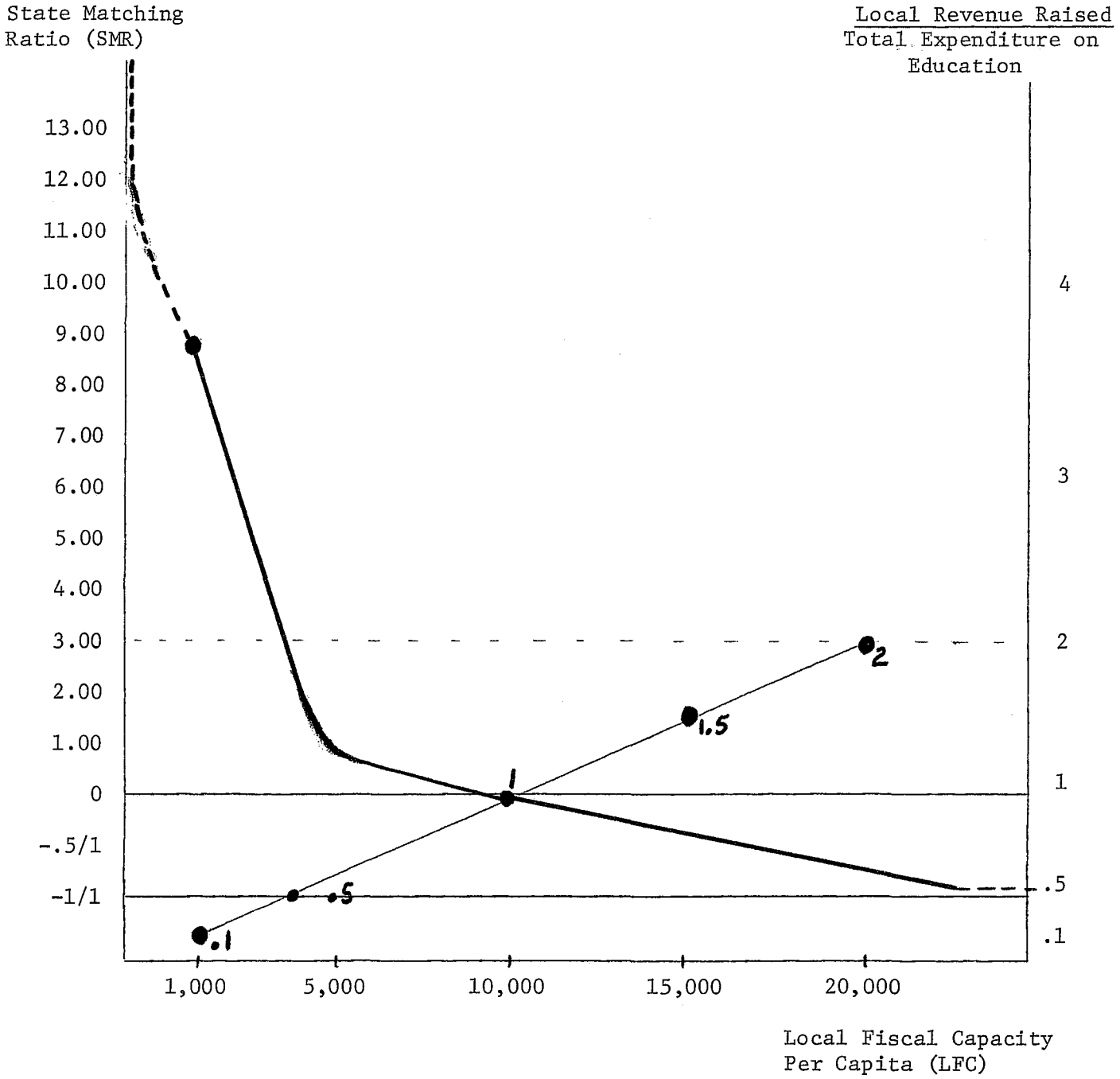
control of education, would consist of a state required minimum tax effort with state matching of this required effort, as well as any additional effort. The matching is to be based upon a ratio which completely equalizes the effort price among districts.[30] Development of a matching ratio of the following form would be the basis for such a system:

$$\text{State Matching Ratio (SMR)} = \frac{\text{Required Minimum Expenditure Level (should vary on basis of "needs") (RMEL)} - \left(\text{Required Local Effort (in percent) (RLE)}\right)\left(\text{Local Fiscal Capacity (should vary according to a comprehensive definition of wealth available for education finance) (LFC)}\right)}{\left(\text{Required Local Effort}\right) \qquad \left(\text{Local Fiscal Capacity}\right)}$$

Consider districts R and P in some hypothetical state which has adopted the "Effort Equalizing Price" system. The Required Minimum Expenditure Level has been set at $1,000 per pupil and the Required Local Effort for education finance is 10% of the Local Fiscal Capacity. Hence, any district with more than $10,000 per capita of Local Fiscal Capacity will face a negative matching ratio. The relationship between LFC and SMR can be seen graphically in Figure 1. "Rich" district R with Fiscal Capacity per pupil of $12,000 will face a State Matching Ratio of -.167, indicating that this district must turn over approximately 16.7%, or $200/$1,200, of the local revenues raised by the required levy to the state to be redistributed. For any extra millage levied this district will also be allowed to keep only 5/6 of the receipts. "Poor" district P, at the other extreme of local fiscal capacity levels, has only $1,000 of Fiscal Capacity per pupil. The required levy raises $100 and the state

Figure 1

The Relationship Between Local Fiscal Capacity
and State Matching Ratio in the Hypothetical State



matches this local effort at a 9/1 ratio in order to bring per pupil revenues raised by the minimum levy up to the required $1,000 per pupil. All additional tax revenues raised for education by this "poor" district will also be matched at the 9/1 ratio.

To some a negative matching ratio for some districts may seem undesirable. If this is the case, it should be understood that the Required Local Effort and Required Minumum Expenditure Levels can be set in such a manner as to preclude the richest district in the state from being assigned a matching ratio less than some desired minimum (perhaps zero). This can be done by either setting RLE low enough or RMEL high enough to prevent the richest district from raising more than the specified amount by levying the specified taxes.

In closing, it should also be mentioned that an analogous system for federal aid to states would equalize state fiscal capacity and insure that condition which educators call "equal educational opportunity" for all school districts in the nation. All that would be necessary would be a federally set foundation level and state required tax effort (in which local revenue would be included) as a percentage of state fiscal capacity (somehow defined). The federal government would then equalize state ability to raise funds for education and each state, using this same basic required expenditure level, would redistribute federal and state funds to the individual districts. The federal program could choose to match or not to match state funds raised above the minimum required tax effort.

FOOTNOTES

[1]Advisory Commission on Intergovernmental Relations, State-Local Finances and Suggested Legislation 1971 Edition, (U. S. Government Printing Office, Washington, D.C., Dec. 1970) p. 187.

[2]George D. Strayer and Robert M. Haig, Financing Education in the State of New York, for the Educational Finance Inquiry Commission under the auspices of the American Council on Education, New York, 1923, pp. 173-174.

[3]Estimates of 1969-70 expenditures from the Department of Health, Education, and Welfare, Office of Education, Fall 1969 Statistics of Public Schools, (U. S. Government Printing Office, Washington, D. C., 1969).

[4]The University of the State of New York, The State Education Department, Annual Educational Summary, 1968-69, Albany, 1969.

[5]Serrano vs. Priest (1971), S.A. 29820 (Super. Ct. No. 938254), p. 12 of decision.

[6]Ibid.

[7]David Stern, A Proposal for Testing New Ways of Financing Schools in California, Massachusetts Institute of Technology, unpublished manuscript, 1971.

[8](293 F. Supp. 327)

[9]I have added the underlinings for emphasis.

[10]See James S. Coleman, et al., Equality of Educational Opportunity, (U. S. Government Printing Office, Washington, D. C., 1966); and Thomas Ribich, Education and Poverty, Washington, D.C., Brookings Institution, 1968.

[11]Coleman Report suggests that the most important variables explaining education achievement are home environment and cultural influences immediately surrounding the home.

[12]See Harvey E. Brazer, John S. Akin, Gerald E. Auten and Cynthia S. Cross, Fiscal Needs and Resources: A Report to the New York State Commission on the Quality, Cost and Financing of Elementary and Secondary Education, Ann Arbor, 1971, for one attempt to quantify needed education expenditures in a sample of New York State school districts.

[13]For a review of past attempts plus an attempt to improve on these measures, see John S. Akin, Estimation of Local Fiscal Capacity, unpublished doctoral thesis, University of Michigan, 1971.

[14]Assessors and assessment practices differ to such magnitudes among localities that little credence can be given to comparisons of assessments among localities. Many states attempt to adjust for the inequities involved in actual assessments by having state assessors through sampling methods determine ratios by which to multiply assessments from different areas in order to make them comparable. Most analysts who have examined these state equalized valuations find that many inequities tend to remain. See Dick Netzer, Economics of the Property Tax, Brookings Institution, Washington D. C., 1966, pp. 173-183, for a good summary of the problems of assessment.

[15]Advisory Commission on Intergovernmental Relations, State-Local Finances and Suggested Legislation, 1971, (U. S. Government Printing Office, Washington, D. C., December 1970) p. 7.

[16]Ibid.

[17]Whether vertical equity is achieved depends mainly upon the tax structure. If it is to be expected that property taxes will be maintained, charges in vertical equity over the state will be minor. Those who own twice as much property will still be taxed twice as heavily as those who do not. The allocational problems due to property taxation are much discussed but are considered to be beyond the scope of this analysis.

[18]Hawaii finances and operates schools at the state level; Connecticut provides most aid in the form of a fixed sum per pupil; Maine provides aid which varies inversely with the property value of the district, and also provides extra aid for districts making high tax efforts; Delaware provides uniform grants per teacher unit and per pupil plus some matching funds; and Massachusetts provides matching funds with the matching ratio inversely related to district property values.

[19]Effort is here implicitly defined as tax revenues raised relative to the specified tax base, or simply as the tax rate. A more useful definition of effort would relate tax revenues to total taxable resources of the district. An attempt to measure effort as defined in this latter definition would have to take account of the fact that tax effort represents the relationship of taxes collected to taxable resources available (or fiscal capacity) not simply the relationship of taxes collected from one tax base (taxable property) to the size of that base. The preference for measuring effort in the latter manner is due to the fact that raising equal property tax revenues from equal property value may not represent equal effort when such things as income and wealth-other-than-taxable-property differ (often by large amounts) in the districts.

[20]Of all states only Hawaii, Iowa, Minnesota, and New Mexico do not allow local effort above the defined program levels.

[21]Local funds above some defined minimum are matched in New York, Massachusetts, Pennsylvania, Rhode Island, Vermont and Wisconsin.

[22]I use the words effort level rather than millage rate in the hope that new formulas, if adopted, reexamine the notion that equal millage

levies on taxable property represent equal tax effort. Hopefully a better measure of local fiscal capacity or taxable resources than local property values will be used in these formulas, even if the revenues are raised through property taxation.

[23]And the obvious logical extension would be a similar federal system of centralized finance and redistribution. States would have per pupil expenditure levels and tax effort levels set by the Federal Government. The Federal Government would redistribute funds to the states and they in turn would distribute them among the districts.

[24]It may be deemed necessary for equity reasons to set up the system in such a manner that poorer districts pay a lower percentage of taxable resources per dollar raised. The rationale for this type system is that any given percentage of taxing capacity raised represents a greater effort in a less wealthy community than in a more wealthy community. The economic hypothesis of diminishing marginal utility can be used as support for this view. This hypothesis is that the more of any resource you own the less meaningful to you is the addition or subtraction of some given amount. Logical progression from this hypothesis under most assumptions leads to the conclusion that giving up some percentage, for instance one-fourth, of taxable resources represents a greater sacrifice for a poor district than for a rich district. Therefore, if the courts desire equal private sacrifice (rather than effort) to result in equal educational revenues it may be necessary to attempt to specify marginal utility functions for tax effort in local governmental units.

[25]This statement assumes that the fiscal capacity measure utilized measures relative taxable resources adequately. But equalizing the revenue raised by a mill of property tax does not equalize effort in terms of revenue raising capacity used. Districts should be required to tax themselves equally in terms of total taxable resources in order to raise equal revenues. This means that income must certainly be taken into account. Because other resources of districts differ, equal taxation of property does not necessarily represent equal tax effort. See p. 27 for a more extensive discussion of this topic.

[26]As has been mentioned before this minimum should be set at a high enough level such that the other local factors would not lead to "unsatisfactory" levels of education expenditure per pupil in any district. The minimum should be set at least at a level determined by educators and other experts as the necessary expenditure level for satisfactory educational performance (which might differ in different areas due to differences in teachers' salaries and other costs). The necessity for this high minimum can most effectively be supported by the fact that the children whose futures are to some extent dependent on adequate education do not vote in local elections.

[27]In this proposal I assume that state categorical aid for such special purposes as mentally and physically disadvantaged would continue. If this were not true extra weights could be added to the formula to take such things into account.

[28]It must be recognized, however, that inefficiency still exists because of the fact that other locally provided public goods have not had their prices equalized in terms of private consumption foregone. The solution to this problem would be similarly determined matching grants for the provision of all locally provided public goods. (James Buchanan suggested a plan of Federal taxation based upon similar reasoning in his article, "Federalism and Fiscal Equity," American Economic Review, Vol. XL, No. 4, September 1950.) Unless a system of this type is implemented, the opportunity cost of education quality in terms of other public goods foregone will differ from district to district on the basis of taxable resources as will the price of other public goods in terms of private goods foregone for each taxpayer. A poor taxpayer in a rich district will still be able to purchase much non-education public consumption for a given decrease in his private consumption while a similar taxpayer in a poor district will face a much higher opportunity cost for these same public goods.

[29]See Chapters V-VI of Harvey E. Brazer, John S. Akin, Gerald E. Auten, and Cynthia S. Cross, Fiscal Needs and Resources: A Report to the New York State Commission on the Quality, Cost and Financing of Elementary and Secondary Education, unpublished report, Ann Arbor, 1971.

[30]Harvey E. Brazer suggested a similar matching-ratio formula for equal property tax price school finance in "Federal, State, and Local Responsibility for Financing Education," in Roe L. Johns, et. al., editors, Economic Factors Affecting the Financing of Education, Vol. 2, (Gainesville, Florida, National Education Finance Project, 1970). It will be obvious to anyone familiar with Professor Brazer's work that many of my opinions on this subject were formed while working closely with him as a graduate student at the University of Michigan.