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EDUCATIONAL FINANCE:

AN EXAMINATION OF POLICY

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Introduction

The responsibility of selecting and implementing educational finance policy in the United States is left primarily to the states. Consequently, prevailing educational policies are a function of the values and attitudes of the people in each state. No state shares the exact school finance program with another. However, there exist several general types of finance policies that are being employed throughout this nation.

This paper describes selected educational finance policies and examines their consequences. The first section contains an overview of the types of taxation principles used in evaluating the "goodness" of a tax and also discusses the various measures of well-being. This information is a prerequisite for making an informed judgment on what constitutes a good taxation system. The second section is devoted to the various kinds of state aid provided in a state-local revenue sharing program. More specifically, the uniform funding formula and the cost-based funding formula will be examined. The third section analyzes selected equalization policies and their consequences. The three policies reviewed in this section are the minimum foundation aid program, district power equalizing, and family power equalizing. Family power equalizing is interesting, not only because it is an equalization policy, but, because the funding recipient is the family rather than the district. The fourth and final section is intended to integrate the policies so that the reader may make a more informed decision as to selecting which policy, or mix of policies, to support.

An Overview of Taxation Principles and Measures of Well-Being

The purpose of this section is to briefly discuss the various principles of taxation and to examine the measures of well-being with respect to taxpayers. The reader should then be in a better position to select which principle(s) of taxation, and which measure(s) of well-being to use when selecting the tax or mix of taxes that he or she feels is best for financing education. It must be realized that a "good" principle for evaluating a tax, and a "good" measure of well-being is in large part a value judgment and must be determined by each individual - hopefully after careful consideration of the ultimate consequences associated with their position. What is good for one person may be bad for another. Consequently, this section is designed to aid the reader in making an informed judgment; it is not an advocacy argument for any one tax program.

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The two most common methods of evaluating a tax are the benefit and ability-to-pay principles. According to the benefit principle, a good tax is one in which the taxpayer receives benefits comparable to what he or she contributes. For example, if an individual is receiving a marginal benefit of $100 from a publicly provided good or service, he or she should be paying a marginal tax of $100 for the good or service. Evaluating a tax by the benefit principle is not merely an examination of tax policy, but rather an examination of tax and expenditure policy. According to this principle, an equitable tax is one in which the taxpayer contributes according to ability. The term ability is quite ambiguous and it may be difficult to arrive at a uniform definition. To some, ability should be measured with respect to wealth; others feel income is the best measure of ability; still others feel the volume of spending provides the best measure. Consequently, a concrete definition of ability will vary according to what one feels is the best measure of it.

Important tradeoffs exist between the two approaches. Each principle holds a different view of what a good tax system should be. Consider a tax levied for the purpose of financing education. Using the benefit principle of evaluation, the quality (or "goodness") of the tax would depend upon whether or not the marginal benefits from education are equal to the marginal tax paid by an individual. Think of a case where one family has an income of $10,000, pays $500 on taxes for education, and has two children attending school; and another family has an income of $25,000, pays $1,200 on taxes for education, and has two children attending school. If the two families receive the same benefits from education, the tax would be considered faulty under the benefit principle because the first family is receiving the same benefits as the second but is paying less for them. On the other hand, the tax may be considered appropriate under the ability-to-pay principle if one assumes that the best measure of ability is income. The reason why the tax would be adequate from an ability-to-pay point of view is because the second family possesses the ability to pay more than the first family in terms of annual income. Therefore, each of us must judge which of these two principles best reflects the appropriate goals of taxation.

There are some other principles on taxation that warrant brief mention. According to the undeserved income principle, "a tax difference should be made not only in relation to the quantity of income received or of wealth accumulated but also in relation to how it was acquired" (Johns et al., p. 158). This type of wealth would include excessive profits, excessive inheritances, excessive capital gains, and similar items. The neutrality principle states that a tax should leave a person, a firm, or a corporation in the same relative economic position after the tax is levied as before it was levied (Johns et al., p. 160). This view holds that the taxation system should not be a mechanism for redistributing income. Three other principles are based on the yield of the tax. The adequacy of yield principle evaluates a tax on how adequate it is with respect to financing the essential governmental services. This principle allows for deficit financing in the short run, however, in the long run, taxes must equal spending. Consequently, taxes for all levels of government must be adequate to provide for the essential public goods and services. The stability of yield principle holds that in addition to financing these services, the tax should yield enough revenue to prevent the government from deficit financing

even in the short run. In other words, the revenue derived from the tax must be stable regardless of fluctuations in the economy. Finally, the flexibility of yield principle states that a tax should be sufficiently flexible to raise different yields in times of prosperity and recession because governmental services fluctuate with the business cycle. Thus, the flexibility of yield principle is in direct conflict with the stability of yield principle (Johns et al., pp. 161-162). There are numerous other principles that have not been discussed; however, it is not the purpose of this section to examine all the principles of evaluating taxation. Tradeoffs exist among all the taxation theories. Economic theory does not dictate which principles are the "best". Taxation analysis is instead designed to provide decision makers with the economic characteristics and consequences of the various taxes, using different criteria as the basis for their review. The "best" type of tax is decided through the political arena leaving the decision to the voters.

Each tax will affect certain classes of people differently according to their type of wealth, or measure of well-being. Some common measures of well-being are: property wealth, total income, wage income, and consumption. The corresponding taxes associated with these measures of well-being are: the property tax, the income tax, the social security tax, and the sales tax. These measures are interrelated to some degree. For example, income and property wealth, or income and consumption may be highly correlated. If so, then a tax on property or a tax on consumption may closely reflect an individual's income.

However, the tax burden may be drastically altered by using different measures. Suppose that a ranking system was created which ranked well-being on a scale of 1 - 5 (1 being most well-off and 5 being least well-off). A specific individual may vary from one to five in this ranking scheme when different measures of well-being are used as the basis for the ranking. To illustrate this phenomenon consider the following two examples.

Assume individual B is a doctor that has just graduated from medical school. B has also started work and has an annual income of $60,000. Medical school was expensive, and B has $40,000 of loans that must be repayed. B also wishes to alleviate his or her debt as soon as possible. How well off is B? This question may be answered differently by each measure of well-being. Because B has just started working his or her accumulation of property wealth is assumed to be quite low. Hence, in terms of property wealth B is quite poor. With an annual salary of $60,000, the individual's wage income is quite high. Consequently, in terms of wage income B should be considered well-off (close to the 1 rank). Since B is concerned about repaying the loan as soon as possible, B's consumption may be small relative to his or her income. Therefore, in terms of consumption B may be classified as being moderately well-off. B has fluctuated from one extreme (5) to the other (1) and this presents a situation where only one measure of well-being may not reflect B's true wealth. When all of the measures are applied to B, the resulting average measure of well-being may be more adequate than any one measure.

In contrast to the first example consider the following case. Individual Q is a retired construction worker. Q's annual income of $11,000 is derived primarily from social secutiry, but the individual owns a house

that has a market value of $70,000. The house, which is free of debt, is
Q's only major investment. How well-off is Q? Again this question may
be answered differently with respect to each measure of well-being. Be-
cause of owning a $70,000 house Q's property wealth is high relative to
the other measures. Accordingly, in terms of property wealth Q may be
close to the 2 rating. Since Q is retired, he or she has no wage income
and therefore would rank low on the income measure. Thus, consumption may
be lower than when Q was working, but is probably moderate, say (3). As
one may see, Q's well-being has also fluctuated with every measure. As
in the first example, a mix of these measures may provide a more adequate
explanation of true well-being than any single measure.

The four measures do have some degree of correlation among them. If
a person expects that his or her wage income will increase, then the person's
consumption and property wealth may also increase. Increasing property
wealth is often associated with increasing income and consumption. Ex-
amining the degree of correlation among these measures is beyond the scope
of this paper. The important point in this context is that the measures
are different but not completely independent.

The reader must determine which measure(s) is the most appealing. If
one feels that income is the best measure of well-being then the income tax
will probably be the most appealing tax. If one feels that property is the
best measure of well-being then the property tax will probably be the most
appealing. If one feels that wage income is the best measure of well-
being than a tax similar to the social security tax will probably be the
most appealing. If one feels that consumption is the best measure of
well-being then the sales tax will probably be the most appealing. Finally,
if one feels that a blend of the measures is most appropriate then the
corresponding mix of taxes would be viewed as best. However, the selected
tax(es) will also depend upon what principle of taxation is selected.

In summary, there is no taxation principle or measure of well-being
which receives consensus support. There is a degree of correlation among
the principles as well as the measures of well-being. Each of us, as
voting citizens, must make a decision as to what constitutes a good prin-
ciple of taxation and what constitutes an appropriate measure of well-
being. This section has, of course, merely scratched the surface of a
complicated and controversial subject. However, a brief review serves as
a useful reminder that there are various principles and measures, reflect-
ing different values or opinions, that give a broad choice as to what a
good taxation system is.

Uniform Funding Formula

The uniform funding formula is a flat grant allotted to each school
district in the state based solely on the average daily attendance (ADA)
or another comparable pupil measure in each district.[1] The grant is neither

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1/   The term "district" may be replaced by the term "family" in the dis-
cussion of the uniform funding formula and the cost-based funding
formula to incorporate the concept of the voucher system.

a function of the district's tax paying ability, nor a function of the difference in pupil costs within each grade level. The grant may, and typically does, consider the differences in costs for pupils at different grade levels. It is important to keep in mind that there are many versions of the uniform funding formula, and they vary considerably in the degree of restrictions placed on the funding recipient. A model that places a high degree of restrictions on the funding unit may stipulate a minimum and a maximum amount on funds to be raised by local districts for education. Together with this requirement, perhaps a type of equalizing policy would be added in which wealthy districts raising funds over the maximum would be required to pay the excess to the state. In contrast, a model that places a low degree of restrictions on the funding recipient may only require that a minimum amount be raised locally for education, and the district would be free to raise anything above that for education. To illustrate the consequences of the uniform funding formula the following assumptions will be made with respect to the model:

1. The model will have a low degree of restrictions on the funding unit.

2. The state places a minimum millage rate on what the districts may raise locally and the districts are free to tax at or above that level.

3. The state does not compensate for variations in pupil costs (with the exception of different costs related to different grade levels).

One group that is adversely affected by the uniform funding formula is composed of the poor school districts within the state. These school districts cannot generate revenue for education as easily as the average school districts in the state. For example, the amount a wealthy district is able to raise by taxing at 0.5% of their wealth may take a poor district a tax rate of 10.0% to raise. Consequently, the degree of inequality between relatively poor and wealthy districts depends upon two factors: 1) the percent of state aid allocated per ADA pupil unit for education; and 2) the actual difference in wealth among districts, assuming there are no restrictions on local effort in the model.

Generally, the greater the percentage that the state allocates for public education relative to locally raised funds, the smaller the inequality will be among wealthy and poor districts. One qualification must be made with regard to this statement. The reduction of the revenue disparity is also a function of the type of tax structure utilized by the state. If the tax structure for educational revenue is primarily progressive (a progressive income tax, for example), the state allocation of educational funds will have an equalizing effect on education since the more affluent districts will have a higher tax rate and tax base than poorer districts. The result will be a net flow of funds from the wealthy to the poor districts. Consider the following example, summarized in Table 1. Assume that there are two districts in a state, one is wealthy with an average income of $25,000 per person and the other is less affluent with an income of $8,000 per person. Both districts have 50 pupil units and, for simplicity,

Table 1

Net flows of educational revenues under a progressive
versus a regressive tax.

District 1 $50,000 cost for education*		District 2 $50,000 cost for education*

Poor
  50 pupils
  50 incomes
  $8,000=average income
  $400,000=district income
 	
progressive tax equal to
  5%
 	
regressive tax equal to
  10%
	Net flow
	$30,000
	←————
	
	Net flow
	$10,000
	←————
		Rich
		  50 pupils
		  50 incomes
		  $25,000=average income
		  $1,250,000=district income
		
		progressive tax equal to
		  6.5%
		
		regressive tax equal to
		  4.8%

*Assumes full state financing in order to illustrate the degree of equalization
from both types of taxes.

assume that the state supplies all the revenue for education to the dis-
tricts by means of a uniform grant. It costs $100,000 to finance these
two districts, and the wealthy district has a tax rate of 6.5 percent
while the poor district has a tax rate of 5 percent. Total income in the
wealthy district is $1,250,000 (50 x $25,000 assuming 50 incomes in each
district) and total income in the poor district is $400,000 (50 x $8,000).
In order to raise the $100,000 needed to finance these two districts the
state collects approximately $80,000 from the wealthy district and ap-
proximately $20,000 from the poor district. The net flow to the poor dis-
trict from the wealthy district is $30,000.

However, if the taxes for educational revenue by the state are predom-
inantly regressive (e.g., sales tax) then the state allocation will have
less of an equalizing effect. In the same hypothetical case, assuming that
the tax rate in the poor district is 10% and the tax rate in the wealthy
district is 4.8%, then the poor district will generate $40,000(10% x 400,000)
and the rich district will generate $60,000 (4.8% x $1,250,000) for the
$100,000 needed to finance the two districts. In this instance, there still
is a net flow of funds to the poor district from the wealthy district, how-
ever, it is only $10,000 rather than $30,000 in the case of the progres-
sive income tax.

If there is a large variation in wealth among the districts, the uni-
form funding formula will be ineffective in reducing the gap among poor and
wealthy districts, given that the state contributes a low percentage of the
educational funds. The gap will be larger if state revenues are raised by
a regressive tax instead of a progressive tax. Consequently, if the uniform
funding formula does not consider variations in tax paying ability, there
is no corrective remedy for relieving the disparities in wealth among the
districts.

Another group that is adversely affected by the uniform funding formula is composed of those districts that have a large number of high cost pupils. There are many types of high cost pupils that range from culturally disadvantaged pupils to the severely handicapped. There are also variations in the costs of each high cost pupil. For example, a student that is transported over five miles to school may cost the district 1.1 times as much as a "typical" student costs to educate, whereas, a handicapped student may cost the district 3.7 times as much.[2] Under the uniform grant model used in this analysis, these cost differentials are ignored in the formula for state aid. The effects of the uniform grant model on high cost districts may best be shown by the following example.

Consider a rural school district in a state operating under the uniform funding formula. Assume this district is composed of small schools in which the majority of pupils must be transported a distance of at least five miles. The salaries of the teachers in this district are the same as the state average, however, there are fewer pupils per teacher than the state average. Hence, this district has relatively higher costs than the average district. In order to provide an equivalent quality of education (i.e., provide equivalent resources) this district will have to levy a higher tax rate to compensate for the higher costs. However, the costs may be so high that the taxpayers could not afford to pay for the entire compensation. This district may have to settle for an inferior standard of education relative to the state average. If one values equal opportunity of education among districts as the most important element in educational finance, then one may choose to reject the uniform funding formula as a means to achieve it. In fact the constitutional validity of educational finance policies that cause disparities among districts has become legally questionable in the last several years. More precisely, we must ask, does a policy that allows for differentials in educational resources among districts violate the Equal Protection clause of the Fourteenth Amendment?

The responsibility of selecting and implementing educational finance policy in the United States is left primarily to the states. This right was given to the states by the Tenth Amendment to the U.S. Constitution which states: "The powers not delegated to the United States by the Constitution, nor porhibited by it to the States, are reserved to the States, respectively, or the people." Since education is not explicitly contained in the U.S. Constitution, the states view their right as an inherent power safeguarded by the Tenth Amendment. The majority of constitutional cases reviewed by the U.S. Supreme Court have affirmed this.

The issue of whether or not school finance programs may allow for revenue disparities among school districts is unresolved. The critical issue that remains unsettled is whether educational finance formulas that product significant variations in revenue among districts deny some districts equal protection guaranteed by the Fourteenth Amendment. In Brown v. Board of Education (1954) the U.S. Supreme Court ruled that revenue raised by state finance schemes "must be accorded to all on equal terms". However,

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2/   The term "typical" implies an associated weight equal to 1.

little consensus exists to the literal interpretation of the judicial "equal".

In McInnis v. Ogilvie (1969), the U.S. Supreme Court held that finance policies that allowed for revenue disparities are not in violation of the Fourteenth Amendment. The Court rejected the plaintiff's contention that the method of financing education in Illinois failed to provide each child equal opportunity for education. The Court presented two reasons for their decision. First, the Fourteenth Amendment does not require the dispersement of educational revenue solely on the grounds of the educational needs of pupils. Second, there are no "discoverable and manageable standards" that may be applied to this issue to form a criteria to test its constitutional validity. The second point is extremely important to the entire issue. The "needs" rationale offered by the plaintiff is what the Court rejected. In fact, some argue that McInnis was not much of a setback for supporters of the plaintiff's position because "the reality of hope for positive action from the Supreme Court remains largely a function of the development of a satisfactory rationale" (Coon, et al., p. 315).

In 1970, the California Supreme Court rendered a decision in Serrano v. Priest that was directly in conflict with McInnis. The issue set forth in Serrano holds that the quality of public education may not be "a function of the wealth of ... (a pupil's parents and neighbors" (Garms, et al., p. 217). Finance programs that base educational revenue on the wealth of districts violate the Equal Protection Clause of the Fourteenth Amendment. However, the Serrano doctrine applied only to California.

Soon after Serrano, many state courts invalidated their school finance programs on similar grounds. Minnesota was one of these states. In Van Dusartz v. Hatfield (1971) a U.S. District Court rules that Minnesota's school finance program was in violation of the Equal Protection Clause of the Fourteenth Amendment. U.S. District Judge Miles Lord clearly illustrated how revenue raised by the Minnesota program was a function of district wealth. The funding formula attempted to aid all districts by guaranteeing them $404 per pupil (formula allowance) if their tax rates were at least 20 mills. If a district taxed at 20 mills and did not raise the entire formula allowance, the state paid the difference. If a district taxed at 20 mills and raised over the formula allowance, it was allowed to use the excess for educational expenditures. In addition, the formula provided a uniform grant of $141 per pupil irregardless of district wealth. This grant only aided those districts that raised over the formula allowance because the $141 minimum pupil guarantee was included as part of the equalizing aid given to districts raising less than the formula allowance. Hence, if the grant was abolished it would only hurt the wealthy districts raising funds in excess of the formula allowance. In Judge Miles Lord's words:

> "To sum up the basic structure, the rich districts may and do
> enjoy both lower tax rates and higher spending. A district
> with $20,000 assessed valuation per pupil and a 40 mill tax
> rate on local property would be able to spend $941 per pupil;
> to match that level of spending the district with $5,000
> taxable wealth per pupil would have to tax itself at more than
> three times that rate, or 127.4 mills." (Mazzoni, p. 49).

The plaintiffs withdrew their suit because the legislature was in special session drafting a new finance program (Collins and Johnson, p. 160).

Since many state courts were challenging the McInnis decision, the U.S. Supreme Court had to once again consider this issue. The U.S. Supreme Court invalidated many of the state court decisions, including Serrano, in San Antonio Independent School District v. Rodriguez (1973). The Court rejected the Serrano doctrine as having any effect on federal law, stating that the issue of equalization in school finance is a state matter.

How does all of this relate to and affect the uniform funding formula? First, if the formula allows for disparities among districts, it will have to be remedied in the states where the courts have ruled on this issue. Second, the uniform grant will most likely have to incorporate some type of equalizing program (to be discussed in detail later in the paper) in order to insure equal financial opportunity, although not necessarily equal actual financial allocations. Finally, the uniform grant may endure (in its present form) in some states if the United States Supreme Court does not reverse its previous stand on the issue. Despite the shortcomings (legal and equity) of the uniform funding formula, there are some basic advantages of its implementation.

One advantage of the uniform funding formula is that it is easily administered and easily understood. In fact, some argue that "the greatest virtue of the uniform grant model is its simplicity" (Coons et al., 1978, p. 194). The state allots the uniform grant to each district based on the number of ADA pupils in each grade level. The calculation of various weights per pupil only needs to be done for different grade levels. For example, pupils in kindergarten may have a weighted value of 0.75; pupils in grades 1 through 8 may have a weighted value of 1.0; and pupils in high school may have a weighted value of 1.25. The absence of complicated weight formulas for each category of high cost pupil makes this policy appealing for some. Thus, one may argue that the uniform funding formula is less costly to administer and tends to reduce the bureaucracy at the state level for education. In addition, the simplicity of the uniform funding formula facilitates understanding on the part of citizens, who are thereby in a better position to debate and vote on matters of educational policy.

The unfiorm funding formula also creates incentives for each district to cut costs within its curriculum. To illustrate, consider a school district with extremely high transportation costs per pupil. These costs arise because a majority of pupils live a far distance from the schools. Under certain finance schemes the state differentiates between high and low cost districts when dispensing the grants, and allocates the grants in a direct relationship with respect to costs. If the state employs a system of school finance similar to this, a district with high transportation costs will receive a larger grant than lower cost districts. If one also assumes that the transportation costs are paid entirely by the state, then the result of such a policy is clear. There is no incentive for this district to attempt to reduce its transportation costs. If some of the costs could be reduced by more effective planning or other factors, they may not be reduced for lack of incentive. However, if the state is operating under a uniform grant program, the district will not receive more aid for its high

transportation costs. Consequently, an incentive exists for the district
to lower its costs. This concept may be further developed by examining
a hypothetical school district and its related cost curves (Figure 1).

Figure 1

Possible output levels and their related cost curves for District A
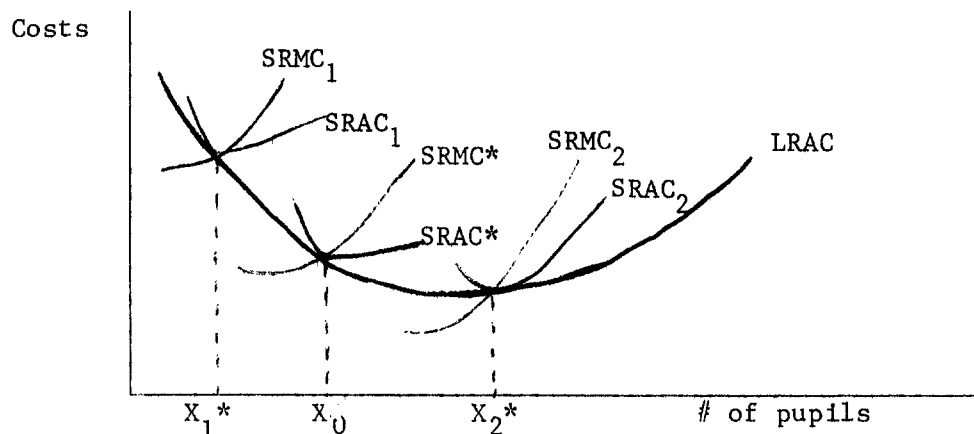
In this example the school district (District A) has X_0 students
measured in terms of average daily attendance (ADA). At X_0 the district
may not be operating on the optimal short run average cost curve, labeled
SRAC*, but rather could be operating on another SRAC such as $SRAC_1$ or $SRAC_2$.
in which case the plant size is either too small or too large, respectively.
The optimal plant sizes associated with $SRAC_1$ and $SRAC_2$ are X_1^* and X_2^*,
where the short run marginal cost (SRMC) intersects the short run average
cost (SRAC) at its minimum and the SRAC is tangent to the long run average
cost (LRAC). Either of these two optimal output levels could be obtained
by either two approaches. The first approach would entail altering the
plant size so that X_1^* or X_2^* is the output. This might be done by consoli-
dation with another district so that either more pupils are added to Dis-
trict A (to reach X_2^*), or some pupils are taken from A (to reach X_1^*) and
enrolled in another district. However, there are several serious problems
that may result from the first approach. The first problem, which is poli-
tical, is that the parents of the children involved may object to having
their children moved to another school. Since the parents have voting power,
such a measure would probably meet political defeat. The second problem,
which is economic, is that bringing District A into equilibrium may cause
another district to be forced out of equilibrium. Thus, the first approach
may be impractical if not impossible to obtain.

The second approach would entail altering the short run average cost
(SRAC) of District A. If District A is operating on $SRAC_1$ or $SRAC_2$, the
objective would be to adjust the SRAC so that it would move towards SRAC*.
For example, if District A is operating at too large of a plant size ($SRAC_2$)
then the mix of inputs should be changed, possibly by adding more capital
in place of labor. Perhaps installing computer terminals or other substi-
tutes for teacher-pupil instruction may be the approach to achieve this.

While the initial cost of doing this may be high, it may pay for itself in the long run.

How does all of this relate to the uniform funding formula? The answer is that the uniform funding formula may be the major incentive for District A to attempt to achieve a more optimal output. As was mentioned earlier, other policies that compensate districts with high costs tend to reduce incentives for them to cut their costs. Therefore, the uniform funding formula may be the major driving force behind such a switch in cost curves.

The uniform funding formula may place virtually no restrictions on the funding recipients. Generally, the state establishes a minimum millage rate and each district is free to tax at or above the legal limit. Whatever is raised by the district may be applied together with the state uniform grant towards education. Some would argue that education should be decentralized and that local control is of vital importance for our nation. The uniform funding formula would be placed in a category that stresses this philosophy. Also, educational values vary between districts, with some placing heavy emphasis on education, and some placing less emphasis on education. Under the uniform funding formula districts are free, to a certain extent, to determine how much should be allocated to educate their children. Thus, if one values a system with a low degree of state restrictions, the uniform funding formula should be considered.

Cost-Based Formula

The cost-based formula is an offspring of the uniform funding formula. Under the cost-based formula, the state allots educational grants to each district in the state. However, the grants are not uniform, but rather proportionate to the level of costs associated with each district. Districts that face higher costs receive more state aid relative to districts with lower costs. Similar to the uniform grant, the cost-based formula has many versions that vary with respect to restrictions placed on the funding recipients. An example of a cost-based program that places a low degree of restrictions on the district is where the state establishes a minimum level that must be raised locally for education. Each district would be free to raise as much revenue as it desired as long as the revenue was greater than the established minimum. The locally raised revenue could be applied with the state cost-based grant for education. An example of a program with a high degree of restrictions is where the state establishes a minimum and a maximum amount on what can be raised locally. In addition, if the tax base of a wealthy district yields revenue above the legal limit, the state would capture the excess funds from the district. To examine the consequences of the cost-based formula the following assumptions will be made with respect to the model:

1. The cost-based model will have a low degree of restrictions on the funding recipient.

2. The state stipulates a minimum millage rate on local education taxes, and each district is free to operate at or above the legal minimum.

The uniform grant model adversely affected the relatively poor districts within the state. It is difficult to distinguish whether or not the poor districts are better off under the cost-based formula, since this model is a function of cost rather than well-being. Therefore, one should be cautious about deriving any generalizations concerning improvements in educational opportunity for poor districts resulting by a switch in policy from a uniform to cost-based grant. The poor districts will receive more state aid if they incur higher educational costs relative to the average district in the state. There may be some correlation between poor districts and high costs. Higher costs could be associated with a number of factors, such as: a larger number of pupils participating in a free hot lunch program, a larger number of pupils receiving free bus fare; a higher cost of educating children originating from below poverty level homes; and perhaps higher teacher salaries to induce incentives for teachers to work in poor school districts. If there are high costs in a poor school district, the cost-based model will tend to have an equalizing effect in the state by lowering the differential of costs among districts.

The degree of equalization in the cost-based model depends upon three factors: 1) the percent of state aid allotted per ADA pupil; 2) the actual difference in income among districts; and 3) the level of costs associated with the poor districts. Since the first two factors were discussed in the previous section they need not be re-examined. Instead the attention will focus on the third factor. Poor districts may often have higher costs compared to more affluent districts, but it need not be the rule. If one assumes that poor districts do have higher costs, then the equalization of educational cost differentials will depend upon the actual difference in cost and the percent of state revenue provided for education. The actual cost differential and the amount of state revenue per district has a positive relationship, i.e., the higher the costs the more the district will receive from the state. But what about the actual mechanism of how the grant is determined? Before this is answered the term "output" must be defined.

In the illustration that follows, X is defined as output. However, output may mean different things in an educational context. One way to define output is the difference between a student's competency level before and after the schooling experience. Output, when defined in this manner, follows a "value added" rationale. How might competency be measured, employing the value added approach? Standardized aptitude examinations would be one measure. For example, upon entering and graduating from school, every student would be required to take an examination. The difference in the second and the first examinations would be the value added or output. One problem inherent with this approach is the difficulty associated with devising an examination that accurately measures competency. One need only look at the current IQ and aptitude examinations to support this claim. Another problem inherent in this approach is the lack of breadth of learning covered by scholastic examinations. For example, most aptitude tests generally include an English section, a mathematics section, a history section and a science section. But these sections are not always written to include much of the content discussed within them. Also, subjects such as art, music, home economics, and vocational education are generally absent in these tests. Therefore, a comprehensive measure of value added would be difficult to obtain using the present aptitude examinations.

Another method of measuring output is to require only one examination, which would be taken by every student upon graduation. The examination could be based on a pre-determined standard of what an average high school graduate (on a national or statewide basis) should have learned in twelve years of education. The output of every school would be based on the examination scores of its pupils and could be compared to state and national norms. This method has the accuracy problems that are present in the value added approach. Another problem with this approach is that it does not reflect the change in competency of each student from when he or she entered school to graduation. Thus, the examination is basically a device for comparing output among students from different schools rather than comparing the changes in knowledge experienced by students, i.e., value added.

The final output measure to be discussed here is the number of pupils in average daily attendance (ADA). This method defines output solely by the number of pupils in each school district. This measure is commonly used in funding formulas and is the easiest of the three approaches to implement. One problem with this method is that it does not reflect the quality of output. Consequently, comparisons regarding the quality of output among districts become virtually impossible because one district may require stringent standards of students while another district may have relaxed standards for students. Output may only be compared in terms of the quantity of students.

All three approaches have advantages and disadvantages. The illustration that follows will use the third approach. However, any of the three approaches could be used for measuring output (X). The third approach was chosen for purposes of simplicity and relevance to prevailing practice.

In order to exemplify the basic mechanics behind the cost-based formula the following assumptions will be made. It is important to note that this illustration is much simpler than those policies actually implemented. Let $X = L^{\alpha}$ be the production function for two school districts, a district that has costs equal to the state average (normal district) and a high cost district relative to the state average, where

X = outout level (students)

L = labor input

$0 < \alpha < 1$

The cost relations would be:

$$TC = WX^{\frac{1}{\alpha}} + FC$$

$$AC = WX^{(\frac{1}{\alpha}-1)} + \frac{FC}{X}$$

$$MC = \frac{1}{\alpha} WX^{(\frac{1}{\alpha}-1)}$$

where   TC = total costs,

          FC = total fixed costs,

          AC = average cost per student,

          MC = marginal cost per student, and

          W = wage rate of labor.

There are two cases that will be presented to demonstrate the effects of a cost-based grant on the two districts. The first case is based on the production side (i.e., different α values). The second case deals with input factor price differentials (i.e., different wage rates).

Case 1 (different α values)

In Case 1 there are two districts that are approximately equal in size, wealth, and socioeconomic composition. District 1 has total costs for education that are equal to the state average. District 2 has a larger number of high-cost students relative to District 1 and therefore has higher total costs. The breakdown of cost relationships between the two districts is:

$$\text{District 1} \quad (\alpha = \tfrac{3}{4})$$

$$TC_1 = WX^{\frac{4}{3}} + FC$$

$$AC_1 = \frac{TC_1}{X_1} = WX^{\frac{1}{3}} + \frac{FC}{X}$$

$$MC_1 = \frac{dTC_1}{dX_1} = \frac{4}{3}WX^{\frac{1}{3}}$$

$$\text{District 2} \quad (\alpha = \tfrac{1}{2})$$

$$TC_2 = WX^2 + FC$$

$$AC_2 = \frac{TC_2}{X_2} = WX + \frac{FC}{X}$$

$$MC_2 = \frac{dTC_2}{dX_2} = 2WX$$

In the absence of the cost-based grant, District 2 faces higher costs than District 1. The ratio of marginal costs between the two is $\dfrac{2WX}{\frac{4}{3}WX^{\frac{1}{3}}}$ or $\dfrac{3}{2}X^{\frac{2}{3}}$. This means that for each additional student District 2's cost is $\dfrac{3}{2}X^{\frac{2}{3}}$ times as much as District 1's cost. The cost-based grant will equalize the costs between both districts (assuming that the normal cost district has costs equal to the state average). The grant is determined by the difference in average costs between the districts and the state average. Thus, the cost-based grant is determined by the following method:

District 1	District 2

$\text{Cost differential}_1 = AC_1 - AC_{\text{state average}}$

$\qquad\qquad = 0$

because it is assumed that

$$AC_1 = AC_{\text{state average}}$$

$\text{Cost differential}_2 = AC_2 - AC_{\text{state average}}$

$\qquad\qquad = AC_2 - AC_1$

$\qquad\qquad = (WX + \frac{FC}{X}) - (WX^{\frac{1}{2}} + \frac{FC}{X})$

$\qquad\qquad = W(X - X^{\frac{1}{3}})$

Thus, the cost differential has been determined on the basis of average costs. To compute the cost-based grant, one must provide this differential to District 2 in addition to some fixed grant (FG) which both districts receive.

$$G_1 = FG \qquad\qquad G_2 = FG + W(X - X^{\frac{1}{3}})$$

where $\quad G = \text{cost-based grant.}$

Then the cost relationships change in the following manner:

$$AC_1 = WX^{\frac{1}{3}} + \frac{FC}{X} - FG \qquad AC_2 = WX + \frac{FC}{X} - FG - W(X - X^{\frac{1}{3}})$$

$$= WX + \frac{FC}{X} - FG - WX + WX^{\frac{1}{3}}$$

$$= WX^{\frac{1}{3}} + \frac{FC}{X} - FG$$

To obtain TC from AC one must multiply AC by X.

$$TC_1 = (WX^{\frac{1}{3}} + \frac{FC}{X} - FG)X \qquad TC_2 = (WX + \frac{FC}{X} - FG - W(X-X^{\frac{1}{3}}))(X)$$

$$= WX^{\frac{4}{3}} + FC - FG(X) \qquad = WX^2 + FC - FG(X) - WX^2 + WX^{\frac{4}{3}}$$

$$= WX^{\frac{4}{3}} + FC - FG(X)$$

To obtain the MC take the first derivative of TC with respect to X.

$$MC_1 = \frac{dTC_1}{dX_1} = \frac{4}{3}WX^{\frac{1}{3}} - FG \qquad MC_2 = \frac{dTC_2}{dX_2} = \frac{4}{3}WX^{\frac{1}{3}} - FG$$

Thus, in this first case, all costs are equalized by the cost-based grant. Next consider the second case where a wage rate differential is the source of cost disparity.

Case 2 (different W values)

Case 2 assumes that both districts have identical production functions ($\alpha_1 = \alpha_2$), but District 1 has a lower wage rate (W) for its faculty and administration than District 2 (W_2).

District 1 $(W_1 = 5)$

$$TC_1 = 5X^{\frac{1}{\alpha}} + FC$$

$$AC_1 = 5X^{(\frac{1}{\alpha} - 1)} + \frac{FC}{X}$$

$$MC_1 = \frac{1}{\alpha} 5X^{(\frac{1}{\alpha} - 1)}$$

District 2 $(W_2 = 8)$

$$TC_2 = 8X^{\frac{1}{\alpha}} + FC$$

$$AC_2 = 8X^{(\frac{1}{\alpha} - 1)} + \frac{FC}{X}$$

$$MC_2 = \frac{1}{\alpha} 8X^{(\frac{1}{\alpha} - 1)}$$

In the absence of the cost-based grant, District 2 faces higher costs than District 1. The ratio of marginal costs between the two is $\dfrac{\frac{1}{\alpha} 8X^{(\frac{1}{\alpha} - 1)}}{\frac{1}{\alpha} 5X^{(\frac{1}{\alpha} - 1)}}$

or $\frac{8}{5}$. This means that for each additional student District 2's cost is $\frac{8}{5}$ times as much as District 1's cost. The cost-based grant will equalize the cost between both districts (assuming that District 1's costs are equal to the state average). The grant is determined by the difference in average costs between the districts and the state average. Thus, the cost-based grant is determined by the following method!

District 1

Cost differential = $AC_1 - AC_{\text{state average}}$

$= 0$

because it is assumed that

$$AC_1 = AC_{\text{state average}}$$

District 2

Cost differential = $AC_2 - AC_{\text{state average}}$

$= AC_2 - AC_1$

$= [8X^{(\frac{1}{\alpha} - 1)} + \frac{FC}{X}] - [5X^{(\frac{1}{\alpha} - 1)} + \frac{FC}{X}]$

$= 3X^{(\frac{1}{\alpha} - 1)}$

In order to compute the cost-based grant to the districts, the cost differential of $3X^{(\frac{1}{\alpha}-1)}$ must be given, in addition to the fixed grant (FG), to District 2.

$$G_1 = FG \qquad\qquad\qquad G_2 = FG + 3X^{(\frac{1}{\alpha}-1)}$$

Then the cost relations change in the following manner:

$$AC_1 = 5X^{(\frac{1}{\alpha}-1)} + \frac{FC}{X} - FG \qquad AC_2 = 8X^{(\frac{1}{\alpha}-1)} + \frac{FC}{X} - [FG + 3X^{(\frac{1}{\alpha}-1)}]$$

$$= 8X^{(\frac{1}{\alpha}-1)} + \frac{FC}{X} - FG - 3X^{(\frac{1}{\alpha}-1)}$$

$$= 5X^{(\frac{1}{\alpha}-1)} + \frac{FC}{X} - FG$$

To obtain TC from AC one must multiply AC by X.

$$TC_1 = [5X^{(\frac{1}{\alpha}-1)} + \frac{FC}{X} - FG]X \qquad TC_2 = 8X^{(\frac{1}{\alpha}-1)} + \frac{FC}{X} - [FG+3X^{(\frac{1}{\alpha}-1)}]X$$

$$= 5X^{\frac{1}{\alpha}} + FC - FG(X) \qquad\qquad = 8X^{\frac{1}{\alpha}} + FC - FG(X) - 3X^{\frac{1}{\alpha}}$$

$$= 5X^{\frac{1}{\alpha}} + FC - FG(X)$$

To obtain the MC take the first derivative of TC with respect to X.

$$MC_1 = \frac{dTC_1}{dX_1} = \frac{1}{5}X^{(\frac{1}{\alpha}-1)} - FG \qquad MC_2 = \frac{dTC_2}{dX_2} = \frac{1}{5}X^{(\frac{1}{\alpha}-1)} - FG$$

Again, costs in both districts are equalized by the cost-based grant.

In comparison with the uniform funding formula, the cost-based formula is more difficult to administer. Weights have to be assigned to every pupil according to his or her respective cost category. The educational bureaucracy would probably become larger in order to accomodate these adjustments. It is impossible to have complete accuracy with respect to the weights. Therefore, the cost-based policy could cause more inequality in the state than the uniform funding formula. A consequence such as this might occur if the administration was incompetent or if the differentials originally included for cost-based reasons became the product of political rather than educational decisions.

Some criticize the cost-based model for not providing incentives to district educational leaders to plan a program in the least costly manner. This argument was examined in the previous section. However, one may dissent to this rationale by mentioning an example of a high-cost district that has reduced expenditures as much as possible but still has high costs. Should this district be penalized for its high costs? Many people say "no", because this district has organized its curriculum so as to minimize its costs. Nevertheless, this controversial question may be left to the reader to decide, because both points of view have valid arguments. The cost-based formula does present a viable alternative to the uniform funding formula. If one values a policy that offsets the differential in costs among districts, the cost-based formula should be considered.

Minimum Foundation Program

The purpose of a minimum foundation program is to establish a floor under the amount of educational resources of each school district. The minimum program level is decided by determining the amount of resources that are necessary to enable a district of a given size to provide each pupil with an adequate education. The term adequate is of course ambiguous and controversial. Thus, the minimum program usually varies with respect to who the policy-makers are. There have been many definitions of what is adequate and how it should be measured under a minimum foundation program. It is not the intent of this section to define the term. Rather, three examples of minimum foundation programs will be examined to provide the reader with a basic understanding of how the programs work.

The first example of a minimum foundation program is where a minimum level of resources is determined and every school, regardless of size, is guaranteed that level. This level may include a specific number of math, English, history, art, physical education, and social studies courses that would be offered. The basic philosophy of such a policy could differ in two ways: 1) the minimum program (e.g., in a very small district) would ideally be the equal of a program administered in a larger district; or 2) the minimum program would be determined by the legal minimum amount of resources decided by government and would not necessarily be equal among districts. For our purposes, the second approach to the minimum foundation program will be examined.

To illustrate one case of a minimum foundation program consider the following example. A state provides a grant per pupil (could be uniform or cost-based) to all of the school districts to ensure that a predetermined program is funded. The grant (G) could take many forms, such as:

$$G_{uniform\ grant} = \alpha_0 K + \alpha_1 E + \alpha_2 H$$

α = weights associated with different grade levels

K = pupil units in kindergarten

E = pupil units in first through eighth grade

H = pupil units in high school

or

$$G_{cost-based} = (\alpha_0 A_K + \alpha_1 B_K + \alpha_2 T_K + \alpha_3 Q_K) + (\delta_0 A_E + \delta_1 B_E + \delta_2 T_E + \delta_3 Q_E)$$

$$+ (\lambda_0 A_H + \lambda_1 B_H + \lambda_2 T_H + \lambda_3 Q_H)$$

α, δ and λ = the weights assigned to various costs

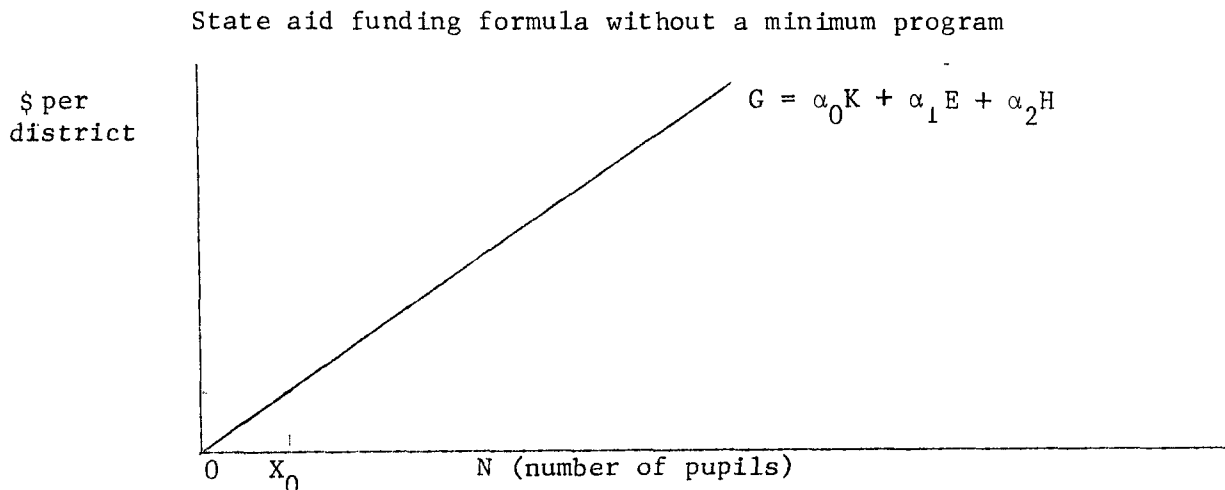A = the number of AFDC recipients, with grade level indicated by subscript

B = the number of students transported over five miles, with grade level indicated by subscript

T = the number of special education students, with grade level indicated by subscript

Q = total ADA - (A + B + T) [3]

In the absence of a minimum program the grant to each district would take on the graphical relationship as shown in Figure 2 (for illustrative purposes assume that the state uses a uniform grant). Districts with small enrollments may not be able to raise enough educational resources to provide pupils with an adequate education under this policy (e.g., District 1 with X_0 pupils). The greater the percent of educational funds that are provided by the state, the more severe would be the problem. Therefore, the absence of a minimum foundation program would cause problems for districts with small enrollments, and especially severe in small districts with declining enrollments.

Figure 2

State aid funding formula without a minimum program

$ per district

$G = \alpha_0 K + \alpha_1 E + \alpha_2 H$

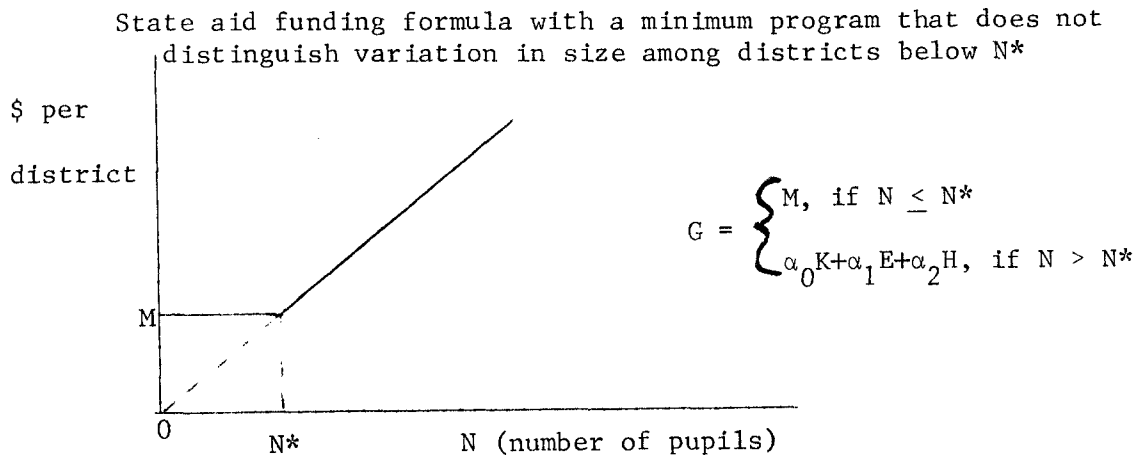0 X_0 N (number of pupils)

The funding formula could be adjusted quite easily to provide for a minimum foundation program. This may be done in numerous ways. One

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[3]   This example is not as complex as an actual weighted formula. It is simply for illustrative purposes.

method would be for the state to define a package of resources (perhaps the dollar value per pupil unit of the resources) that would meet the requirement for an adequate education. This level (M) would be guaranteed to all districts below a certain number of pupils (N*). The adjustment to the funding formula under this method is illustrated in Figure 3.

Figure 3

State aid funding formula with a minimum program that does not distinguish variation in size among districts below N*

$$G = \begin{cases} M, & \text{if } N \leq N^* \\ \alpha_0 K + \alpha_1 E + \alpha_2 H, & \text{if } N > N^* \end{cases}$$

By adjusting the funding formula in this manner small districts that face declining enrollments are protected from losing state aid. This is even more relevant when the financial structure of state education is designed so that the state provides the bulk of the funds for education. One problem with this structure of a minimum foundation program is that there is no distinction made among districts of varying size below N*. Consequently, a district that has N* pupils and a district that has close to zero students receive the same amount of state aid.
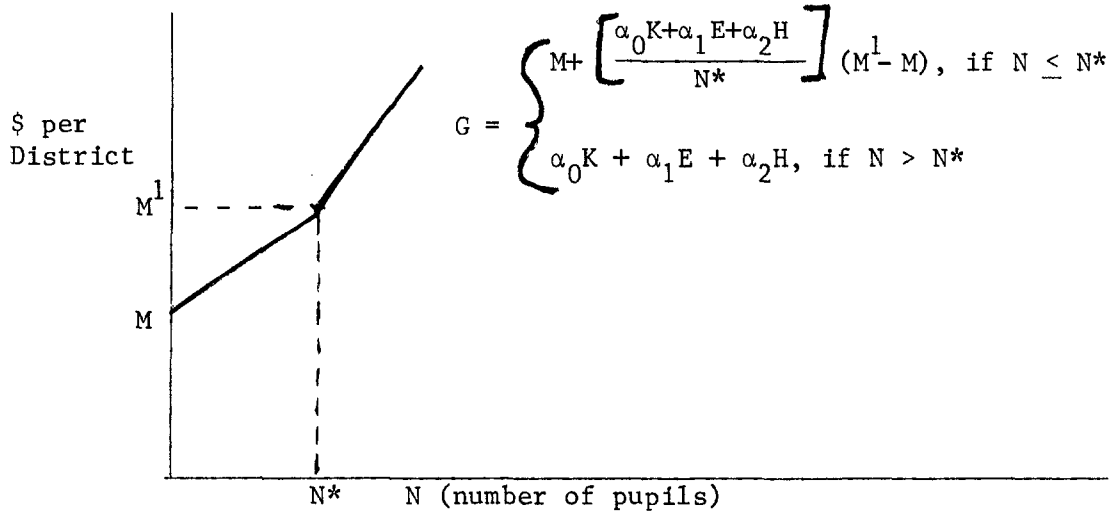
The funding formula may be modified to alleviate this problem. The modified formula is similar to the first in that it guarantees districts with less than N* pupils a minimum amount of resources of at least M dollars per district . However, this formula also distinguishes between the number of pupils in the range zero to N*. Therefore, a district with N* pupils will receive more state aid than a district with less pupils. The minimum foundation program under this program is shown in Figure 4. There are numerous other methods of funding minimum foundation programs. These two examples are adequate for demonstrating how a state may structure such a program.

The second type of a minimum foundation program is the policy developed by George Strayer and Robert Haig during the 1920's for the purpose of reducing disparities in educational revenue among school districts. This type of minimum foundation program is the most widely used educational funding formula in the United States (Boroson, et al., p. IV-2). The objectives of this program are two-fold: (1) to provide equal educational opportunity for all pupils in the state through "equalized" revenue raised by the program; and (2) fiscal neutrality in school finance by multiplying the uniform tax rate to assessed local wealth per pupil and by allocating state aid inversely with respect to district wealth.

Figure 4

State aid funding formula with a minimum program that does distinguish
variations in size among districts below N*.

$$G = \begin{cases} M+ \left[\dfrac{\alpha_0 K + \alpha_1 E + \alpha_2 H}{N^*} \right] (M^1 - M), & \text{if } N \leq N^* \\[3mm] \alpha_0 K + \alpha_1 E + \alpha_2 H, & \text{if } N > N^* \end{cases}$$

$ per District — M^1 — M — N* — N (number of pupils)

Under this program, each participating district is guaranteed a mini-
mum level (formula allowance) of revenue per pupil for its educational cur-
riculum. Each district must levy the mandated tax rate, and the state sup-
plies the differential between the amount that the district raises and the
formula allowance. The formula for determining state aid is:

$$\text{District State Aid} = \left(\text{Formula Allowance} \times \text{Number of Pupils} \right) - \left(\text{Mandated Tax Rate} \times \text{Local Property Wealth} \right)$$

The Strayer-Haig formula in its pure form adheres to the principle that
equal effort deserves equal reward. Thus, regardless of a district's wealth,
it is guaranteed the same amount of revenue per pupil, given that it levies
the foundation tax rate. This implies that districts with unequal wealth
will receive different percentages of state aid. The funding recipient will
be granted more state aid the lower its tax base and less state aid the higher
its tax base. It is generally true that states employing the Strayer-Haig
formula have some districts that do not participate in the program because
their tax base is too high for them to qualify for any state aid. To ex-
emplify the equalizing affects of this policy consider the following hypo-
thetical state.

Assume that a state sets the minimum foundation level (formula allowance)
at $1,000 per pupil, and the required tax effort at 15 mills. District A
has property value equal to $35,000 per pupil and District B has property
value equal to $65,000 per pupil. State aid for these two districts is
calculated in the following manner:

District A	District B
State aid per pupil $= \$1,000 - (\dfrac{15}{1,000} \times 35,000)$	State aid per pupil $= \$1,000 - (\dfrac{15}{1,000} \times 65,000)$
$= \$1,000 - 525$	$= \$1,000 - 975$
$= \$475$	$= \$25$

District A raises $450 less from the local property tax than does District B, but A receives $450 more state aid than does B. Both districts realize $1,000 per pupil unit at a tax effort of 15 mills, despite their difference in wealth per student; thus, the state aid system is "fiscally neutral".

If districts were only allowed to levy the mandated tax rate, then all districts would receive the same amount of revenue per pupil. This would be highly restrictive and perhaps politically infeasible. The Strayer-Haig formula allows participating districts to tax above the required tax rate. This add-on, which is known as "local leeway", is a vital part of the program. Proponents of the program emphasize that local option encourages innovation and change within the educational system (Boroson, et al., p. IV-3). The additional levies by a district are not calculated in the state aid formula. As a result, districts with greater wealth are able to raise more revenue per pupil than districts with less wealth for a given effort level. The add on provision must be selected so that districts are provided with some local leeway, but not to a degree where substantial disparities are caused among district educational revenues. This is a complicated task and the "correct" balance of equity and local leeway should be determined by the people of each state.

Both types of minimum foundation programs discussed so far define the package of resources in terms of dollars per district. Another method of defining resources for a minimum foundation program is in terms of a minimum size of staff needed for an adequate education. A recent study conducted by the Center for Educational Policy Studies (CEPS) at the University of Minnesota is a good, relevant example of this approach (Sederberg, et al.). This study sought an answer to defining needed educational resources by examining actual practice in Minnesota, rather than by deriving theoretical minimums as some other studies have done. The basic procedure consisted of examination in each program area of how the ratio of full-time equivalent (FTE) staff to 1,000 pupils differed in school districts of different size. By assuming that large districts are in a position to offer a full educational program with efficient utilization of all staff, the staff to pupil ratio in large districts becomes the norm to which other districts can be compared. The actual ratio of FTE staff per 1,000 pupils in a program area is called "service capability" in that area. In other words, the capability of the school district to deliver educational services in a program area is measured by the ratio of professional staff to students—more staff time per student leading to greater capability. The authors concluded that the current foundation program (in Minnesota), which is based on dollars per pupils, will hurt districts that face declining enrollments since state aid will be cut and these districts will be forced to make drastic reductions in their programs. Consequently, they offer the alternative of service capabilities to solve this problem.

The service capability for each area was determined in the following manner. Sederberg, et al. selected 345 Minnesota school districts (K-12 enrollment) that had enrollments under 2,000 pupils for their study. Service capability data were plotted against total enrollment. To fit the curves to the plots, three types of curves were used: Polynomial, logarithmic, and square root. According to the authors, the polynomial curve provided the best fit for the data. The point at which the slope of the curve was equal to zero (no change in service capability associated with a change in enrollment) was determined. In other words, at this point, as enrollment increases there is not a significant increase in service capability. These

steps were carried out for all the program areas. The study produced the following formula recommended for use in Minnesota:

$$\text{FTE staff} = 0.03534K + 0.05765E + 0.03012S + 0.00889T$$

where   K = number of pupil units enrolled in kindergarten

           E = number of pupil units enrolled in grades 1-6

   S = number of pupil units enrolled in secondary grades

           T = K + E + S

The coefficients were obtained by taking the service capability score that was determined and dividing it by 1,000.[4] Hence, when this is multiplied by the local enrollment in each category (K,E,S, and T) the number of FTE staff is obtained. If the average teacher salary is known one must simply multiply it by the FTE staff to obtain the amount of revenue needed for educational finance.

This scheme may work fine for average size school districts but what about districts that are small? The same problem arises that was present under the first example of the minimum foundation program. The formula thus far is illustrated graphically in Figure 5.

Figure 5

State aid funding formula employing service capability as a method of defining educational resources
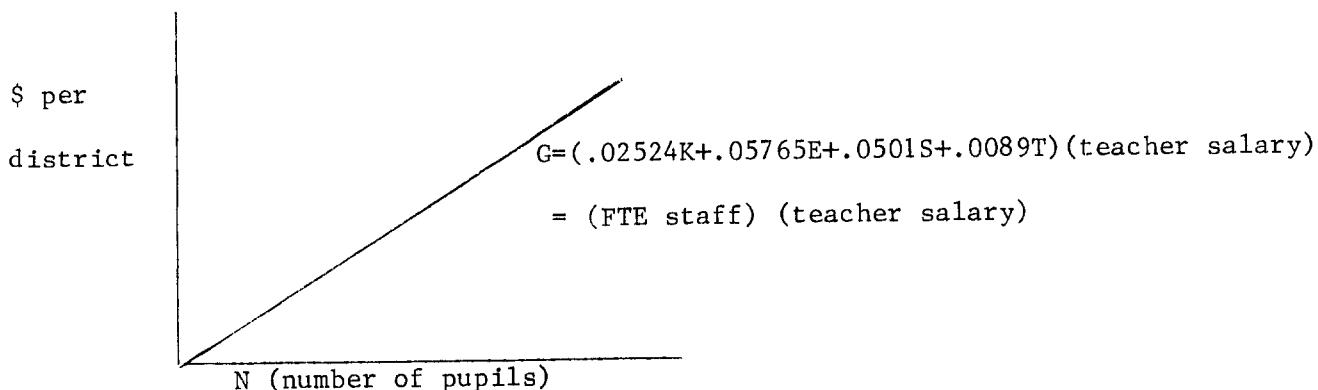
One possible solution to this problem is that the state could select a minimum level of students (N*) that corresponded to what the state deemed to be a minimum FTE staff that every school must have. Any district with enrollments less than N* would receive the amount of funds that is necessary for funding the minimum FTE staff. To demonstrate consider the following example.

Assume that the average teacher salary per FTE staff is $15,000. Further assume that N* is equal to 500 pupils. District A has an enroll-ment of 400 pupils; 100 in kindergarten, 100 in grades 1 through 6, and 200 in secondary school (grades 7-12). What does District A receive in

4/   The coefficients in this example were taken from the results of Sederberg, et al. To see all of their results see page 3 of Sederberg.

aid? The formula will be based on an enrollment size of 500 rather than 400. One simple way of adding the additional 100 pupil units to District A would be to divide them equally among each grade level. Thus, the grant would be the following:

$$
\begin{aligned}
G &= \Big[(.02524)(100+\tfrac{100}{3})+(.05765)(100+\tfrac{100}{3})+(.05012)(200+\tfrac{100}{3}) \\
&\quad +(.00889)(100+\tfrac{100}{3}+100+\tfrac{100}{3}+200+\tfrac{100}{3})\Big] (\$15,000) \\
&= \Big[3.365 + 7.687 + 11.69 + 4.445\Big] (\$15,000) \\
&= (27.187)(\$15,000) \\
&= \$407,805
\end{aligned}
$$

In this case, District A would be guaranteed a minimum of $407,805 for education. It is important to note that the enrollment and the teacher salary figures are purely illustrative and were chosen arbitrarily. Whereas, the formula was derived by Sederberg, et al. in their study.

However, this type of aid formula does not distinguish among districts with varying enrollments below N*, i.e., 500 pupils in the above example. As a result, a district with 500 pupils and a district with 200 pupils may receive the same amount of aid. This problem was present in the first minimum foundation program discussed and one should look back at Figure 3 to see the graphical presentation of the problem. The funding formula based on staff requirements may be modified to alleviate this problem in the same fashion that the first example was. Therefore, one need only to examine the first example to see how this problem could be eliminated.

The three examples discussed above illustrate how minimum foundation programs may differ. The first example demonstrated how the program may be established to guarantee an absolute minimum amount of revenue that a district must have in order to provide an "adequate" education. This type of program does not contain a mechanism to equalize educational revenue above the minimum, but rather places primary emphasis on guaranteeing an "adequate" education to all. The second type of program equalizes educational revenue by guaranteeing equal funds for equal tax effort. This program adheres to the principle that a district's educational revenue should not be determined by its wealth, but rather by its tax effort. The third program offers an alternative to basing educational aid on dollars per pupil. This program defines resources in terms of the staff required to provide an adequate education. This concept, which is termed "service capability", may be applied to either of the two preceding minimum foundation programs in place of the conventional dollars per pupil method.

District Power Equalizing

District Power Equalizing (DPE) was developed during the 1960's and 1970's by John E. Coons, William H. Clune III, and Stephen D. Sugarman. DPE became a new policy alternative to the conventional equalization formulas that were thought to be inadequate by some with respect to minimizing revenue inequities among districts. In their book, Private Wealth and Public Education, Coons, Clune and Sugarman drafted the theoretical framework for this policy which was based on two contentions. First, all districts should have equal ability to raise educational revenue. Second, all districts should have the freedom to choose the effort level desired to finance their educational system. The latter contention, which is known as "subsidiarity", emphasizes that decision making should be left to the lowest possible level of government.

DPE is similar to the Strayer-Haig Minimum Foundation Program in that state aid to districts is, in part, distributed in inverse proportion to each district's tax base. Districts are guaranteed an equal expenditure level, for a given level of effort, irregardless of their tax base. This is achieved via a combination of state and local revenue. Presented in the form of a table, the DPE schedule establishes different levels of tax effort to corresponding levels of guaranteed expenditures. A general form of such a table is illustrated by Table 2. Districts may select any level

Table 2

DPE schedule presented in a generalized form

EFFORT (E)		GUARANTEED SPENDING LEVEL (S)
A	equals	W
B	equals	X
C	equals	Y
D	equals	Z

of effort by the schedule. If the revenue derived from the tax on local property falls short of the guaranteed spending level specified in the DPE schedule, the differential is made up by state aid.

For example, using the DPE schedule in Table 3 consider two hypothetical districts: District A and District B. Assume that District A has a tax base equal to $25,000 per pupil and District B has a tax base equal to $55,000 per pupil. If both districts choose to levy a tax equal to 10 mills, each will receive $900 per pupil. At this effort level, District A raises $250 per pupil ($\frac{10}{1,000}$ x $25,000) and District B raises $550 per pupil

($\frac{10}{1,000}$ x $55,000). In order to fill the gap between the guaranteed spending level and the amount raised locally, District A is granted $650 per pupil

Table 3

Hypothetical DPE schedule where S=E x $90,000 (Mill rates are
established by dividing the dollar amount of taxes by the
taxable property and multiplying the quotient by 1,000)

EFFORT (E)	GUARANTEED SPENDING LEVEL (S)
10 mills	$900 per pupil
15 mills	$1,350 per pupil
20 mills	$1,800 per pupil
25 mills	$2,250 per pupil

($900 - $250) in state aid and District B is granted $350 per pupil
($900 - $550) in state aid. Combining state with local revenues, Dis-
tricts A and B have $900 per pupil for educational revenue when each
levies 10 mills. The computation of this example along with other pos-
sible options for Districts A and B are provided in Exhibit 1.

In theory, DPE formulas include a "recapture" or "negative subsidy"
provision. This stipulation allows the state to acquire revenue from
districts that raise an amount that is greater than the guaranteed spending
level at a given level of effort. For example, if District C has a tax
base equal to $95,000 per pupil and levies 20 mills, it will raise $1,900
per pupil. However, since the guaranteed spending level is $1,800 per
pupil at 20 mills effort (assuming the DPE schedule in Table 3), the state
captures $100 of the $1,900 in order to lower District C's spending level
to $1,800. The $100 accruing to the state may be redistributed to those
districts receiving state aid. It is important to note that the concept
of negative subsidy is not included in any DPE programs operating in the
United States (Johnson and Collins, p. 334).

A key issue in the implementation of DPE is the type of schedule that
is chosen. There are three general forms of DPE schedules. The first form
is a schedule in which the relationship between effort and the guaranteed
spending level is constant throughout the entire table. Since each addi-
tional level of effort yields the same increment in the spending level,
the schedule is a linear function. Table 3 is an example of a linear DPE
schedule. The second type, an increasing schedule, is designed to encourage
additional effort. The increasing schedule allots greater increments of
expenditures for each additional level of effort. Table 4 depicts a DPE
schedule that is increasing. According to this schedule, a district will
receive an additional $637 per pupil if it increases the tax rate from 10
to 15 mills. Districts will be guaranteed $659 for another 5 mills in-
crease and $675 for the next 5 mills increment. Districts have an incentive
to increase their tax rates, under this schedule, because each additional

Exhibit 1

Total, state, and local revenues for Districts A and B at different effort levels.*

EFFORT (E)	DISTRICT A Revenue Per pupil			DISTRICT B Revenue Per Pupil		
	Guaranteed Spending Level (S)	State Revenue (SR)	Local Revenue (LR)	Guaranteed Spending Level (S)	State Revenue (SR)	Local Revenue (LR)
10 mills	$900	SR = $900 - (.01x$25,000) = $650	LR = .01 x $25,000 = $250	$900	SR = $900-(.01x$55,000) = $350	LR = .01 x $55,000 = $550
15 mills	$1,350	SR = $1,350-(.015x$25,000) = $975	LR = .015 x $25,000 = $375	$1,350	SR=$1,350-(.015x$55,000) = $525	LR = .015 x $55,000 = $825
20 mills	$1,800	SR = $1,800-(.02x$25,000) = $1,300	LR = .02 x $25,000 = $500	$1,800	SR=$1,800-(.02x$55,000) = $700	LR = .02 x $55,000 = $1,100
25 mills	$2,250	SR = $2,250-(.025x$25,000) = $1,625	LR = .025 x $25,000 = $625	$2,250	SR=$2,250-(.025x$55,000) = $875	LR = .025 x $55,000 = $1,375

* See text for a complete description of the underlying assumptions.

dollar of revenue is "cheaper" in terms of the local tax required to generate the revenue.

Table 4

Increasing DPE schedule

EFFORT (E)	GUARANTEED SPENDING LEVEL (S) *
10 mills	$1,113 — $637 for 5 additional mills
15 mills	$1,770 — $659 for 5 additional mills
20 mills	$2,429 — $675 for 5 additional mills
25 mills	$3,104
*S = $E^{1.1}$ x $90,000	

On the other hand, the third form of DPE schedule - the decreasing DPE schedule - tends to discourage high levels of effort by allocating smaller increments of expenditures for every additional increment of effort. Table 5 depicts a decreasing DPE schedule. According to this table, a district will receive an additional $315 per pupil if it increases its tax rate from 10 to 15 mills. Districts will be guaranteed $304 for another 5 mills increase and $297 for the next 5 mills increment. Therefore, the declining nature of this schedule may discourage districts from increasing their tax rate. This result is deemed desirable by those concerned with lessening the burden on state revenues and on taxpayers, but the result is a cause for concern among those desiring higher levels of expenditure on education.

Table 5

Decreasing DPE schedule

EFFORT (E)	GUARANTEED SPENDING LEVEL (S)*
10 mills	$715 — $315 for 5 additional mills
15 mills	$1,030 — $304 for 5 additional mills
20 mills	$1,334 — $297 for 5 additional mills
25 mills	$1,631
*S = $E^{0.9}$ x $90,000	

In the examples of DPE schedules the spending level was determined by the product of the effort level (E) (in several cases E was some power, e.g., $E^{1.1}$) and $90,000. The $90,000 amount, which is an arbitrary figure chosen for illustration, is the wealth level that policy makers feel is representative of the affluence of a model or "key" district. The selection of this figure is a prerequisite to an effective DPE program. Since district revenue is derived from district effort times this figure, the key district
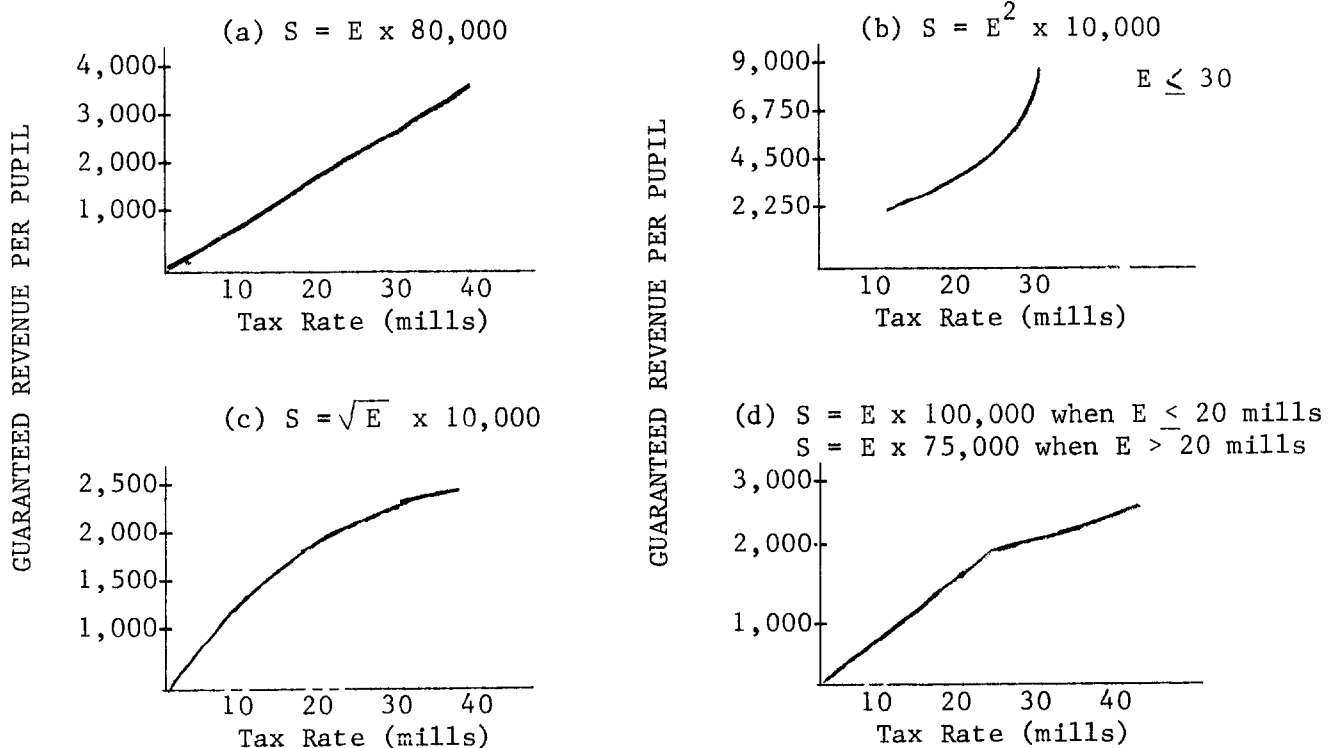
must be determined in a manner that insures the desired level of spending by the state. For example, if the plan allows for 20 mills to yield a guaranteed spending level of $1,700 per pupil when a 20 mills tax rate raises $1,700 per pupil in only the wealthiest districts, then DPE becomes primarily a state aid program. This is true because the state must make up the differential between the amount districts raise locally and the $1,700 spending level at 20 mills. If the average district in the state raises $1,700 per pupil from a 20 mills tax effort, the state role is primarily one of redistribution with little or no net cost to the state treasury, assuming the state employs the negative subsidy or recapture provision. The level of wealth used in the formula, i.e., the "key district", must be carefully determined by the state so it coincides with the type of policy desired.

It was stated earlier that there are three general types of DPE schedules: linear, increasing, and decreasing. However, there are infinite possibilities for DPE schedules that fall into each category. Figure 6 depicts several types of DPE schedules. Figure 6(a) exemplifies a linear schedule where every mill yields $80 per pupil. The graph is drawn so that 40 mills appears to be the highest level of effort. However, it is possible for this schedule to have the mill rate be as large as the districts desire. A schedule such as this is called an "open ended" schedule. Figure 6(b) represents an increasing schedule where the spending level is equal to E^2 times $10,000. This schedule differs from the first in two ways. First, it is not a linear relation. Second, it is closed ended because districts may only levy between 10 and 30 mills. Figure 6(c) portrays a decreasing open ended DPE schedule. Finally, Figure 6(d) illustrates a "kinked" linear schedule. Districts receive $100 for each mill levied up to 20 mills. After 20 mills, districts receive $75 for every additional mill levied. These are only several examples of DPE schedules. However, they are useful in illustrating how schedules may be designed.

Figure 6

Several examples of DPE schedules presented graphically

(a) S = E x 80,000

(b) S = E^2 x 10,000   E $\leq$ 30

(c) S = $\sqrt{E}$ x 10,000

(d) S = E x 100,000 when E $\leq$ 20 mills
S = E x 75,000 when E > 20 mills

GUARANTEED REVENUE PER PUPIL

Tax Rate (mills)

Family Power Equalizing

Advocates of the voucher system argue that the current public educational system should be changed so that more competition is induced into the system. This, in their opinion, would lead to a system that guarantees the family more of a voice in education, more diversity of educational programs, less restrictions placed on the family, and most importantly, more of a choice for the family. There have been numerous proposals of voucher systems, ranging from a virtually unregulated type (Friedman) to one that is highly regulated (Coons and Sugarman). One of the more interesting schemes is Coons and Sugarman's family power equalizing voucher plan. The intention of this section is to outline the family power equalizing (FPE) proposal and examine some of the consequences that emerge from such a scheme.

Coons and Sugarman have their roots in the voucher plan from a different source than most of the proponents of vouchers. As James S. Coleman notes, "Its authors (Coons and Sugarman) have arrived at this voucher alternative from a different starting point than most, that of financial equity in education" (Coons et al., 1978, p. xiii). In fact, Coons, Clune, and Sugarman did extensive work in the field of district power equalizing promoting a philosophy of financial equity within the state. This fact has moderately comforted those skeptics of the voucher system who criticize it for not guaranteeing equal opportunity in education. Coons and Sugarman stress the fact that some of the consequences of their plan are unknown and they admit that speculation cannot be totally accurate. Therefore, they argue that FPE be experimented with on a small scale. Coons and Sugarman address this issue by stating the following:

> Our aspirations, however, are modest. There is here no
> intention to justify the prompt dismantling of the educa-
> tional edifice. Our hope is only to show a new framework
> for debating the question of a just educational order and
> to stimulate tolerance for experimentation. We have not
> canvassed every justifying argument for our conclusion.
> And the prediction of every social consequence of family
> choice is plainly undesirable in a book designed only to
> support experimentation (Coons et al., 1978, p. 3)

The underlying motive of FPE is that it would give the family an option in the level of education that children would receive. Education, in Coons' words, "may not be a function of wealth other than the wealth of the state as a whole" (Coons et al., 1969, p. 311). Therefore, the various levels of education must be instituted so that poor families can afford the best level of education as easily as the most affluent families. Under the Coons and Sugarman proposal, schools would be divided into eight categories. Categories A through D denote public schools; categories E through H denote private schools. Schools in categories A and E would charge $600 tuition for kindergarten through the eighth grade, adn $900 tuition for kin- school. Schools in categories B and F would charge $900 tuition for kindergarten through the eighth grade and $1,200 through high school. Schools in categories C and G would charge $1,200 tuition for kindergarten through the eighth grade, and $1,500 through high school. Finally, schools in categories D and H would charge $1,500 tuition for kindergarten through eighth grade, and $1,800 through high school. Private schools would be assigned to each category by the state superintendent (Arnold).

According to the Coons-Sugarman proposal, each household would have one or more schools available to it at each respective spending level. Since families become the funding recipients, school districts would be abolished and locally levied taxes for education would be replaced by state levied taxes (Benson, p. 143). An agency would be created to take over some of the duties that the districts previously handled. Parental choice would then operate between private and public institutions and at various spending levels. Everyone would have to pay a greater share of their income for higher level schools irregardless of their income class. Mark G. Arnold provides an excellent example of this in The Price of Education:

Table 6

School categories and their respective tuition to families at different income levels.

Poor Families with Income Less than $3,500

Category	Token Payment
A and E	$5
B and F	$10
C and G	$15
D and H	$20

Families with Income Greater than $3,500 < $12,000

Category	Tax
A and E	$5 + 2.3% of income > $3,500
B and F	$10 + 3.5% of income > $3,500
C and G	$15 + 5.5% of income > $3,500
D and H	$20 + 6.9% of income > $3,500

Families with Income > $12,000

Category	Tax
A and E	$200 + 3% of income > $12,000
B and F	$310 + 4.2% of income > $12,000
C and G	$450 + 5.8% of income > $12,000
D and H	$610 + 7.6% of income > $12,000

Source: Arnold

No family would have to pay more than 1.5 times as much as the voucher is worth (Arnold). A family with more than one child attending school would be charged the same price as the first child enrolled when all the children

attend the same school. If the children attended different level schools, then the family would pay the average of the different prices for each school (Coons et al., 1978, p. 198).

To demonstrate the way in which the system works, consider the following example. Mr. A has an income of $15,000, Mr. B has an income of $2,500, and Mr. C has an income of $7,200. Suppose Mr. A picks the highest level school (D and H); Mr. B picks the second lowest level school (B and F); and Mr. C picks the lowest level school (A and E). This would mean that Mr. A would pay $610 + 7.6% of his taxable income; Mr. B would pay $10; and Mr. C would pay $5 + 2.3% of his taxable income. This simple example illustrates that a family pays more for the higher level school and that the actual payment is related to income.

An important aspect of FPE is that the voucher may have no private supplement for tuition. This is a vital difference in philosophies between FPE and Friedman's voucher scheme. Coons and Sugarman argue that if the voucher was allowed to be supplemented, the consequences would be that the rich would enroll their children in the highest level schools and the poor would be trapped in the lowest level schools. Clearly the affluent can afford to add onto their vouchers whereas the poor would have a difficult time doing so. According to Charles S. Benson,

> "Under the Coons arrangement, schools would receive the stated amount known to parent and school alike ... depending on expenditure classification chosen by the school - neither more nor less for each student enrolled. The state, of course, would make up the difference between the stated fee and the yield of the income-determined school tax rate on a given household's income - or receive the excess yield when the household was very rich - but it would pay only the amount of the total fee per student to the school" (Benson, p. 146).

This is significant for two reasons. First, the school receives equal payment for every child and therefore all students would, ideally, be treated equally. Second, the government is the entity paying the fee to the school rather than the household. Schools would have no financial incentives to choose a pupil from a rich household versus a pupil from a poor household. Of course, other factors such as the belief that pupils from wealthier homes are easier to educate than those from poverty level homes may prejudice the acceptance of a pupil into a school if not safeguarded against.

There are some fundamental requirements that must be met in order for any type of voucher system to work. There must be adequate counseling, free transportation for all, non-discriminatory admission and explusion standards, and guarantees of racial integration.

If FPE is going to work effectively, adequate information and ease of availability are mandatory. Coons and Sugarman declare, "In a system with no options, ignorance might be bliss. In a system based on choice, ignorance is ruin" (Coons et al., 1978, p. 148). The informational service would necessarily provide information to the parents on topics

such as: fees per pupil, structure and type of school, religious affili-
ation, mean scores on achievement tests that the school requires for ad-
mission, physical facilities, faculty, school hours, transportation to
and from school, maximum size of enrollment, an accurate assessment of the
financial structure of each school, and special modes of instruction.
Responsibility for the informational service would rest in the hands of
government. The governmental agency would be responsible for disseminating
this information to all parents. However, private informational agencies
would be allowed to supplement the governmental agencies. Schools would
be required to open their doors to prospective buyers (parents) for ex-
amination of the facilities.

These are the broad responsibilities of the informational agency.
Coons and Sugarman believe that narrowing these broad responsibilities into
specific duties should come after experimentation of FPE has been completed.
In other words, the specific role of the agency will be shaped by exper-
ience with the program. However, this does not imply that the general ob-
jectives and reasons for the agency should be decided after implementation.
Rather, it means that the specific directions of the agency (e.g., more
resources need to be shifted to providing minorities with better information
on free transportation to and from schools) will be determined by the prob-
lems that arise after the program is instituted (Coons, et al., 1978,
p. 148).

In order to provide every family with adequate choice, free transpor-
tation must be available for all. There is, of course, some boundary where
free transportation becomes too costly and inefficient. Therefore, to pro-
tect the poor against the practice of paying the extra cost, transporting
outside these boundaries by parents would be forbidden. Coons and Sugarman
comment on but do not answer the question of whether the schools or the
state should pay for the transportation. If the school has to pay, children
living far away from the school may have a difficult time being admitted
into the school.

The admissions and expulsion standards are among the most delicate com-
ponents of FPE. Schools would be allowed to establish ceilings on their
enrollment. Thus, not all families would get their first choice of school.
However, everyone would have an equal chance, and each child would be
matched to a particular school as smoothly as possible. Parents would re-
ceive a list of schools available to their children within the boundaries
of transportation. After being informed of each school the family would
identify a first choice and some alternative choices. Each school that had
a vacancy would have to enroll any child that wanted to attend, although
schools could counsel parents against enrolling their child. If the school
had less vacancies than children who wanted to enroll, acceptance would be
determined by a lottery and preference would be given to children already
enrolled from a previous year and their siblings.

Expulsion standards of each school would be known to parents through
the informational service before the family chose the school. In Coons
and Sugarman's opinion, schools should not be given the right to flunk out
students solely on the grounds of scholastic progress. However, schools
would not be encouraged to promote the student who does not meet the

academic progress necessary for advancement (Coons et al., 1978, p. 146).
The standards for expulsion would be stipulated by the state legislature.
The reason for this is to protect the interests of the child, as well as
the interests of the school. The child should be protected against an un-
fair expulsion because of a discriminatory reason, e.g., a school should
be forbidden from expelling a special education student on the grounds that
it costs more to educate him or her. On the same token, the school should
be protected from the requirement to retain the delinquent pupil who causes
other pupils, as well as teachers and administrators, a lot of trouble.
Thus, a fine line must be established by the legislature for expulsion
standards that protect both parties from discrimination.

Probably the most debated issue of FPE is that of racial integration.
Advocates of FPE argue that giving the family a choice would mean at the
very least, integration would be greater than or equal to that experienced
with current policies. In her article "School Desegration: Outcomes for
Children", Nancy St. John declares that:

> Building choice into the desegregation plans need not mean
> the postponement of integration for another generation, or
> allowing blacks to be intimidated and whites to avoid racial-
> ly mixed schools, or embarking on a weak middle-of-the-road
> policy. It does mean taking the following into account:
>
> 1.   The psychological power of self-determination.
>
> 2.   The potential harm of conscription of all kinds and
>   of school assignment in disregard of the diverse
>   needs of individual children.
>
> 3.   The danger of forcing the most hostile into a situation
>   they resent (St. John, pp. 112-123, 136-137).

The crux of the advocates' arguments rests on the hypothesis that integra-
tion through family choice will be much more stable than integration through
regulation, and will thereby induce more integration through this stable
force. "It is in many instances", in Coons and Sugarman's words, "the only
hope for integration" (Coons et al., 1978, p. 109).

The component of free transportation theoretically gives support to
this argument. The issue of forced bussing would disappear since all
bussing would be done voluntarily. Advocates claim that as long as the
state provides for adequate information, transportation, and regulations
to families, integration should take place. It might very well be true
that blacks and other minorities will have to travel longer distances to
get equivalent education to whites but they will have this opportunity at
no extra monetary cost. Thus, the opportunity is presented to anyone to
attend any school if they are qualified and wish to attend.

Some people argue that a system of choice, such as FPE, may be inter-
preted by whites as giving the opportunity to migrate from integrated
schools to schools that are exclusively white. There is no clear answer
to this concern as of now, because there is no current experimentation with
FPE. Advocates of FPE feel that there are many families, black and white,
that have children in segregated schools and want their children to attend
integrated schools. Therefore, if FPE is installed, both white and black

children living in the city may "escape to suburban schools" (Coons et al., 1978, p. 115). But what about specific legislative designs to prevent segregation under FPE?

Coons and Sugarman offer three plans to prevent segregation under a system of family choice. The first plan would require schools with vacancies to accept all children into their curriculum regardless of race, with the exception of children who are not qualified because of age, physical abnormalities, or so on (Coons et al., 1978, p. 125). A lottery would be conducted if the school had more applicants than available space. Under this scheme the state could administer the entire admissions process. School integration would then be a function of choice.

A second plan would be to require a minimum percentage of minority students for each school. Schools that violated this rule would be suspended from participation. This requirement would have to be flexible enough to take into consideration areas that have a homogeneous population of races. For instance, an area that only has a 1% black population could not be required to have a 10% minimum of blacks in their schools, for this would mean that virtually all schools in such an area would not qualify for participation under the system. Hence, the requirement would depend upon the actual percentage of minorities in each area.

The third plan would institute "dollar incentives" or "integration bonuses" to schools that have a high rate of integration. For example, if a family chose a school that is highly integrated their subsidy or voucher might have a higher dollar value than if they chose a segregated school. This would give each school an incentive to integrate. All three of Coons and Sugarman's proposals may be combined into one integration scheme if necessary. For example, a scheme could require that when a school has more applicants than space the school must hold two lotteries; one lottery, for say 75 percent of vacancies, would include all applicants regardless of race while the second lottery for the remaining vacancies (i.e., 25 percent) would be limited to minorities. This oculd be extended to include integration bonuses and would thereby encompass plans one and three.

One issue that has received very little attention is the implementation of FPE in areas with only one or two schools. One suggested way to induce competition into these areas is by allowing home instruction. At the moment, some states do not recognize home instruction by a parent. Others allow for it to be practiced only if the parent is a credentialed educator (Coons et al., 1978, p. 183). The rationale for restricting most home instruction is based on two points: (1) the state must have police power to ensure that the child's education level is adequate, and (2) the state has an interest in socializing the child through exposure to people and places that are outside the child's home. Coons and Sugarman disagree with this rationale. They feel that a child may be educated at home and still gain the outside exposure deemed necessary by the state. They also draw attention to the United States Supreme Court case Pierce versus Society of Sisters. In this case the state of Oregon sought to force all children into public schools. The Supreme Court held that such a law was in violation of the Due Process clause of the Fourteenth Amendment and that every family is guaranteed a right to choose the type of education it

wishes to seek as long as it meets the state standards. In Coons and Sugarman's opinion, these restrictive laws "rest uneasily with the constitutional right of the family outlined by the Supreme Court" in the above case. Finally, they argue that those few families that choose home instruction will most likely do a good job (Coons et al., 1978, p. 183).

The home instruction scheme would need to be regulated by the state. The administrative authority would require that any one participating in the program would need to file a proposal of the objectives for their children and how they would be achieved. If the authority accepted the proposal, the subsidy would be granted. However, at any time the authority could discontinue the subsidy if it found the objectives were not being met. Flagrant abuses of the program would result in the family losing its privilege to even select the school for its children to attend (Coons et al., 1978, p. 184). Home instruction programs would need to be closely monitored for abuses.

If the area has only one school and it is not providing adequate education, the force of competition should induce a new school to provide an alternative to the existing one. An analogy based upon a common situation may be helpful in understanding this point. Consider a small town with one grocery store. If the owner abuses his or her monopoly power by providing poor service at outrageously high prices then a new store, if started, would most likely capture many of the buyers from the market. Consequently, the old store owner would have to provide better service at reasonable prices in order to compete with the new store. The end result is a more competitive structure that resulted from abuses by the monopolist. It is important to note that in many areas, one school may provide an excellent education and another school may not be required. In these areas, new schools will not be started because the demand for an alternative school is low.

Summary

The intention of the summary is to integrate all of the finance schemes that have been covered thus far. Rather than repeating the highlights of all the policies that have been examined, the summary will instead list a number of different values or goals of decision-makers and the respective policies or combination of policies that satisfy them.

IF ONE FAVORS ...	POSSIBLE FINANCE POLICY
I. A policy that emphasizes equalization of educational resources among funding recipients on the basis of variations in costs	
A. Considers variation in costs among districts	(i) Cost-based grant to each district (ii) District power equalizing with cost-based grant (iii) A minimum program in addition to any of the above options

B.   Considers variations in costs among families

    (i)   Cost-based grant to all families (e.g., voucher policy)
    (ii)   Family power equalizing with cost-based grant
    (iii)   A minimum program in addition to any of the above options

II.   A policy that has major emphasis on administrative simplicity and secondary emphasis on equalization of educational resources to the funding recipients

    A.   The district as the funding unit

    (i)   Uniform funding formula
    (ii)   Uniform funding formula with a minimum foundation program

    B.   The family as the funding unit

    (i)   Uniform funding formula
    (ii)   Uniform funding formula with a minimum amount of resources per family 6/

III.   A policy that allows for the most choice or freedom on the part of the funding recipient.

    A.   The district as the funding unit

    (i)   Uniform funding formula with no lower or upper limits placed on local spending
    (ii)   A policy where the state aid proportion is low

    B.   The family as the funding unit

    (i)   Uniform grant voucher to the family
    (ii)   Family power equalizing with uniform grant (voucher)
    (iii)   Family power equalizing with cost-based grant (voucher)

IV.   A policy that is primarily progressive in the raising and distribution of aid to the funding units 7/

    A.   The district as the funding unit

    (i)   Uniform grant with a major portion of school aid from the state
    (ii)   Cost-based grant with a major portion of school aid from the state

---

6/   A policy where the family is the funding recipient would be a type of voucher system, such as FPE.

7/   All of the policies under section IV require the following assumption: The state collects its revenue for education from a progressive tax (e.g., progressive income tax).

(iii) District power equalizing scheme that is primarily a state aid policy (either uniform grant or cost-based)

(iv) A minimum program that guarantees a high level of resources for each district (the extreme in this case would be full state financing)

B. The family as the funding unit

(i) Uniform grant with a major portion of aid from the state

(ii) Cost-based grant with a major portion of aid from the state

(iii) Family power equalizing that is primarily a state aid policy (either uniform grant or cost-based grant)

(iv) A minimum program that guarantees a high level of resources for each family (the extreme in this case would be full state financing)

V. A policy that rewards the tax effort of the funding recipient.

A. The district as the funding unit

(i) District power equalizing with a uniform grant

(ii) District power equalizing with a cost-based grant

B. The family as the funding unit

(i) Family power equalizing with a uniform grant

(ii) Family power equalizing with a cost-based grant

VI. A policy that stresses decentralization of education.

A. The district as the funding unit

(i) Uniform grant with a low percentage of aid from the state

(ii) Cost-based grant with a low percentage of aid from the state

B. The family as the funding unit

(i) Voucher program with a low degree of restrictions (e.g., an unregulated voucher system)

VII. A policy that maximizes the dollar value of output by creating incentives to cut costs.

A. The district as the funding unit

(i) Uniform funding formula

(ii) District power equalizing with a uniform grant

	B.	The family as the funding unit	(i) Voucher program with a low degree of restrictions (e.g., an unregulated voucher system)

VII. A policy that maximizes the dollar value of output by creating incentives to cut costs.

A.	The district as the funding unit	(i) Uniform funding formula (ii) District power equalizing with a uniform grant
B.	The family as the funding unit	(i) Voucher program with uniform vouchers (ii) Family power equalizing with uniform vouchers

VIII. A tax that is based on a person's ability to contribute   (i) A tax that conforms well to the ability to pay principle such as a progressive income tax

IX. A taxation system where the marginal tax equals the marginal benefits from the goods and services financed from the tax.   (i) A tax that comforms to the benefit principle such as the property tax 8/

8/   Some argue that the property tax conforms well to the benefit principle because the revenue raised by it increases property values.

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