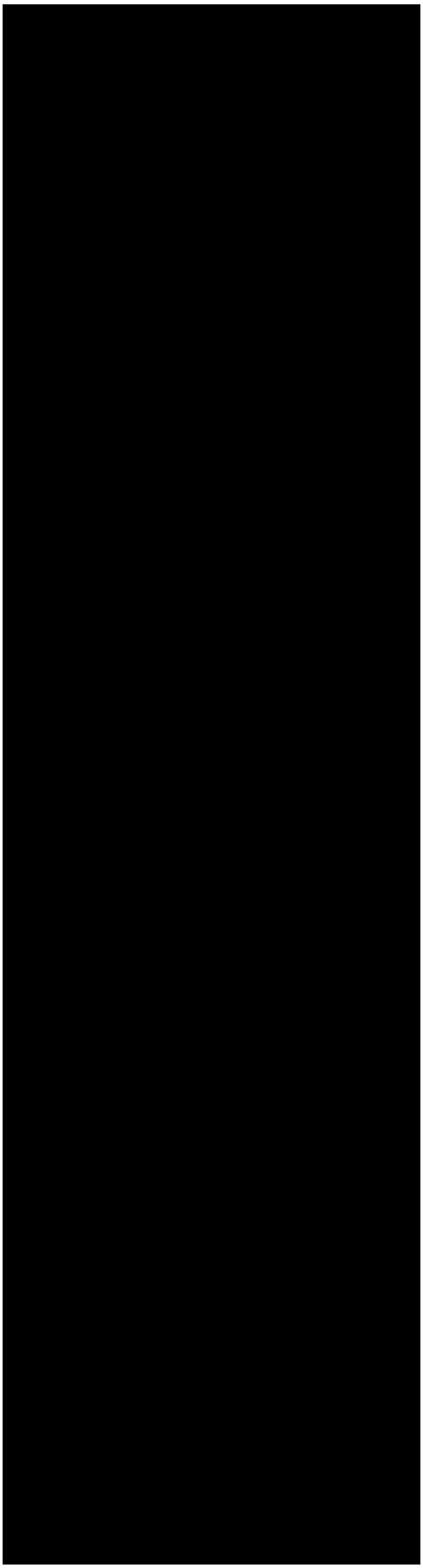

Reflections on Equity, Adequacy and Weighted Student Funding

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Abstract

Within the context of the school finance literature, the concepts of equity and adequacy raise a number of complex definitional and pragmatic issues. The purpose of this paper is to clarify those issues and to use those concepts to evaluate the recent policy proposal called Weighted Student Funding (WSF). Though WSF contains some equity-enhancing elements, it is likely to fall short of its equity goals because the weights are likely to be inappropriate and the approach fails to take full account of the concentrations of challenging-to-educate students and their effects on the distribution of teachers. In addition, the WSF proposal can be faulted for paying no attention to adequacy, potentially stigmatizing individual students, and placing so much focus on individual schools. A more complete evaluation of WSF would require a broader institutional perspective that extends beyond the equity and adequacy considerations of this article.

Keywords: school finance, equity, adequacy, disadvantaged students.

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I. Introduction

In this paper, I reflect on some of the issues that arise in implementing either an equitable or an adequate education finance system, and discuss their implications for the weighted student funding (WSF) approach to the financing of schools. This approach to funding has recently received the public endorsement of the Thomas B. Fordham Institute and the support of a long list of signatories, including three former U.S. Secretaries of Education (Fordham Institute, 2006). Weighted student funding (WSF) has three main elements. Funding would follow students to the specific schools they attend; the per student amount of the funding would vary with the educational needs of the student; and the schools would have the flexibility to use the money in whatever way they wished.

I draw on examples from the U.S, South Africa, and New Zealand, the three countries I know the best. Though it may seem strange to bring South Africa and New Zealand into this discussion of funding schools in the U.S., there are several reasons for doing so. After 50 years of egregious race based inequities in its education system and the rest of society, South Africa now has one of the most progressive constitutions in the world, one that identifies education as a basic human right. The country has faced major challenges in moving in the direction of a more equitable and adequate education system. Hence equity – and specifically racial equity -- has been high on the country's policy agenda (Fiske and Ladd, 2004) The stark contrast between the inequities of the past and the country's post-apartheid aspirations can provide perspective on a much murkier U.S situation. The New Zealand experience is relevant because of that country's dramatic movement in the direction of self-governing schools, parental choice and competition in

the early 1990s. Its focus on school level funding and autonomy can provide insight in to the school level dimensions of the WSF approach (Fiske and Ladd, 2000). [1]

II. Defining the terms

In the following discussion I use either the district or the school as the relevant unit for discussing equity or adequacy. The district is standard in the U.S. school finance literature because of the large role that districts have typically played in raising revenue and implanting education policy. Increasingly, schools have garnered more attention largely because of school-based accountability programs, including the 2001 Federal No Child Left Behind Act which holds individual schools throughout the country accountable for raising student achievement. Moreover, schools are the object of the weighted per pupil funding approach. Along with such funding, schools would be given more operational autonomy than they currently have and would be encourage to compete for students.

Throughout this paper, the term equity should be understood as a relational or distributional concept; that is, it involves a comparison across schools (or districts). Equity can be defined in terms of inputs or outcomes. If defined in terms of inputs, an equitable education finance system would be one in which all schools have equal -- or equivalent -- packages of educational inputs. This standard is often referred to in the literature as "horizontal equity," a term borrowed from the public finance literature to denote equal treatment of equals (Berne and Stiefel , 1984; Baker and Green, 2008).

[1] In 1989, New Zealand shifted from a bureaucratic, centralized education system to one in which parent-dominated school-specific boards operate each school. Subsequently in 1991, families were empowered to choose schools for their children. Resources are allocated generally in line with the number of students in each school.

Equality of inputs need not require every school be the same. For example, one school might offer small classes with no teacher aides and another larger classrooms with more teacher aides. Hence even the relatively straightforward concept of equal input packages is a bit elusive.

When equity is defined in terms of the equality of outcomes, a distributionally equitable education system would, in theory, be one in which all schools have sufficient resources to achieve similar educational outcomes. In this case, some schools or districts would need more resources than others because of their greater proportions of challenging-to-educate students. Thus, equality of outcomes requires inequality of inputs. As discussed further below, this outcome approach to equity provides one justification for the concept of "vertical" equity introduced by Berne and Stiefel (1984) which requires unequal treatment of unequals.[2]

Adequacy, in contrast, should be understood as applying to an absolute threshold and can be interpreted in terms of either inputs or outcomes, with the outcome definition currently more common.[3] According to the outcome perspective, an education system meets an adequacy standard if all schools have sufficient resources to achieve a specified outcome standard, given the particular set of students they serve. This outcome standard might be defined in terms of an average test score or a given percentage of students at a proficient level. As long as all districts or schools have sufficient resources to provide such an education, under this standard any disparities above the standard are not cause for concern. In the philosophical literature, the comparable terms for equity and adequacy are equality and sufficiency.

[2] See Baker and Green, 2008, pp. 210-212 for further discussion of vertical equity.
[3] See Grubb (2007) for examples of adequacy applied to resources.

In some of the education finance literature, the term equity is defined to encompass adequacy as well as distributional equity.[4] To avoid confusion, in this paper I use the term equity in the narrow distributional sense defined above as applied either to inputs or outcomes. By that definition, an adequate system would be judged inequitable if some schools (or districts) were allowed to exceed the level deemed adequate. Similarly an equitable funding system would be deemed inadequate unless it achieves equality at the threshold required for adequacy or above. Another area of potential semantic confusion arises with respect to the term equal educational opportunity. Though this term can and has been used in a number of different ways, I introduce it in connection with the discussion of equal educational outcomes below.[5]

II. Distributional equity

Underlying the following discussion is the following basic relationship between educational outcomes and school inputs defined at the school or district level, denoted by the subscript i :

$$\text{Outcomes}_i = f(\text{school inputs}_i, X_i)$$

where educational outcomes could refer either to subsequent success in the labor market as measured by earnings or to more immediate outcomes such as student achievement; inputs refer to the quantity and quality of resources used in the provision of education such as teachers, facilities and materials; and X is a vector of family and student

[4] See for example, Ladd and Hansen, 1999, chapters 3 and 4. In that volume, distributional equity as defined above is labeled "Equity 1" and adequacy as "Equity II." Also Fiske and Ladd (2004) use a broader concept of equity.

[5] In their classic discussion of school finance equity, Berne and Stiefel use the term to refer to what is more commonly called "fiscal neutrality." In a fiscally neutral system, all school districts within a state have an equal opportunity to attain a given level of per student spending with a given tax rate. Note in addition that in their evaluation of the movement toward racial equity in South Africa, Fiske and Ladd (2004) use the term equal educational opportunity to refer to the equality of inputs.

background characteristics that influence student outcomes. These characteristics, such as family poverty, affect the average outcomes at the school or district level in two distinct ways. First, to the extent that individual students from impoverished backgrounds, for example, come to school less ready to learn than their more advantaged counterparts, they may well require additional support from the school. Second, schools with greater concentrations of impoverished students tend to be associated with harsher working conditions for teachers and school environments that may be less favorable for student learning. Thus, what matters is not only the characteristics of the individual students but also their concentration within a school.

Because schools are likely to differ in the types of students they serve, any program that equalizes inputs is not likely to equalize outcomes at the school level. To equalize outcomes, the inputs would have to differ across schools to offset the effects of family background. Thus an equity standard defined in terms of outcomes is a far more ambitious equity standard than one defined in terms of school inputs. I argue in the following discussion that even the relatively weak input standard may be difficult to achieve in practice.

1. Equality of inputs

If there were only one school input, such as teachers, input equality might initially be interpreted as requiring every school to have a similar ratio of teachers to students. Yet as shown by the experience of South Africa, such a policy will not lead to equality in the ratio of quality-adjusted teachers to students across schools. In its quest for equity in the post-apartheid period, South African policy makers moved aggressively to equalize staffing ratios by reducing teaching slots in schools that had previously served all white

students and raising the number in schools that had previously served black students.[6] Though the staffing ratios became much more equal, as of 2002, the former white schools still boasted a far more qualified teaching force than the former black schools (Fiske and Ladd, 2004, chapter 6).

To generalize beyond a single input, per pupil spending is typically used as a proxy measure for the whole package of school inputs available in a school. Such spending represents the weighted sum of inputs such as the number of teachers or the amount of supplies per pupil, where the weights are the prices of each input. To the extent that the prices of inputs differ across regions -- perhaps because of differences in the cost of living -- spending levels would need to be adjusted. In the following discussion, I ignore these price differences and simply assume either that spending has been adjusted for them or that they are inconsequential. I also assume away any economies of scale in production that could complicate the translation of spending into inputs.

Even if per student operating spending were equal across districts or schools, schools are likely to differ in the quality of their educational inputs. Inequalities could well arise for at least three reasons: teacher preferences and the non random sorting of teachers across schools, the greater ability and willingness to pay of some parents relative to others, and the legacy of history.

Teacher preferences and teacher labor markets

Teachers are not like textbooks or other materials that can simply be allocated to one school or another. Instead teachers have free will to accept or reject teaching

[6] The details of this policy which led to large scale teacher strikes in some areas are described in Fiske and Ladd (2004), pp. 105 –112.

positions in particular schools, based on their preferences. Consider, for example, the following situation:

> Teachers differ in terms of their effectiveness.
> Teachers prefer to teach in schools with more advantaged students, all other factors held constant.
> All teachers are paid the same salary.

In this situation, even with uniform spending per pupil, the schools with the least advantaged students would be at a competitive disadvantage relative to other schools in their ability to attract teachers. That is true because the higher quality teachers will gravitate to the schools with the more advantaged students and those schools will be happy to hire them. Hence, the schools serving disadvantaged students will end up with teachers of lower quality than those in schools serving more affluent students. A number of descriptive studies including those based on data for New York, California, and North Carolina are consistent with this outcome, albeit in the context of a more complex world in which salary schedules and spending may differ across districts.[7]

The basic point is that to the extent that schools have different student profiles, the voluntary decisions of teachers are likely to interfere with efforts to promote equality in terms of the provision of equal teacher positions or equal per pupil spending across schools. What matters here are differences across schools (or districts) in the concentrations of challenging-to-educate students.

[7] See Lankford, Loeb and Wyckoff (2002) for the distribution of teacher credentials across districts in New York State. Betts, Rueben, and Danenberg (2000) and Clotfelter, Ladd, Vigdor, and Wheeler (2007) for the distribution of teacher credentials across schools in California and in North Carolina respectively. Though salary differentials across districts are a significant part of the story in New York, such differences play a smaller role in the California and North Carolina outcomes. Also see Boyd, Lankford, and Wychoff, 2008.

Parental preferences and willingness to spend for education

A second reason that equal public spending need not translate into equal school inputs relates to the preferences of families and their willingness to pay for education. For example, given that a policy of equal per pupil spending would typically apply to public funding alone, inequities in access to educational inputs would arise to the extent that some families choose to put their children in better resourced private schools. Because private schools are not funded publicly, reasonable people could disagree about whether such resource disparities between public and private schools should be deemed outside any equity discussion related to public funding for schools. But private schools are simply the extreme of a continuum between full public and full private funding of education. The point is that parents with strong willingness and ability to pay for education will typically find some way to meet their preferences for a higher quality education.

This continuum emerges clearly in the South African context (Fiske and Ladd, 2004, ch. 7). In the early post-apartheid period, South African policy makers moved quickly to equalize educational resources across schools within each of the nine new provinces. With limited public resources, the only way to do so was to level down, that is, to take resources -- most notably teacher slots -- away from the former white schools that had benefited from far greater publicly provided resources under apartheid than the former black schools. The political compromise that allowed that to happen was that the parent-dominated governing bodies of each school were given the authority to levy school fees to supplement the resources provided by the state. This policy was justified largely on the ground that if schools were not allowed to charge fees, many middle class

students – both black and white—would opt out of the public school system in favor of private schools. That, in turn, was deemed undesirably both because it would have converted an education system previously divided by race into one bifurcated by income and because policy makers deemed it important to keep as many middle class voters, regardless of their color, in the public sector so that they would continue to have a stake in the quality of the public schools.

Not surprisingly, the former white schools (which in the post-apartheid period serve both black and white students, but mainly from the middle and upper income classes) were more willing and able to raise school fees than were most of the former black schools that continue to serve a black, and typically low-income, student population. The result of the fee policy is that each province has ended up with a continuum of public schools. At one end are the schools that operate solely based on their public funding. At the other are schools serving similar numbers of students that are able to collect sufficient fee revenue from parents to hire large numbers of additional teachers. In such a situation, equal public funding for education clearly does not translate into equal school inputs.

One might question the relevance of this example from South Africa to the situation in the United States where public schools are prohibited from levying school fees or to charge tuition. In fact, though, there are similarities. California provides a prime example. As a result of the Serrano cases in the early 1970s school districts are required to spend essentially equal amounts on public schools. That policy in California has led to significant private fund raising activities that generate funds to supplement the public funding for local schools. Because such fundraising is easier in some areas than in

others that activity generates disparities across districts and schools in the resources available to students (Brunner and Sonstelie, 1997, and Brunner and Imazeki, 2005).

Moreover, even a situation in which the additional funding comes in the form of property taxes raised through a collective choice political process bears some striking similarities to the South African story. Consider, for example, efforts in the 1970s to equalize spending on education spending in response to the Doran court ruling in Washington State. As part of its effort to move toward more equal spending the state legislature tried to cap the amount of school revenue that districts could raise as a supplement to the state funding at 10 percent of the funding. In fact, the legislature was not successful in doing so given the opposition of many wealthy school districts, and the cap was subsequently raised to 24 percent (Mertens and Freund, 2005, p. 4). Stated differently, the wealthy districts were not willing to let the quality of their schools decline for the sake of equality. The result was similar to that in South Africa, namely that despite equal government state funding for education, children living in districts with a high willingness to pay for schooling continued to have access to schools with greater resources than children in other districts.

History matters, especially with respect to school facilities

A third reason that equal public spending may not translate into equal inputs is that history matters, especially with respect to the quality of school facilities. Because equal spending policies typically apply to current operating spending alone, any differences in the quality of school facilities that reflect differential investments in the past translate into differences in current school quality. The effect of history emerges starkly in the South African case because of the enormity of the underinvestment in

schools for black students during the apartheid period relative to the white schools. Hence, despite the relatively even distribution of operating resources in the post-apartheid period, some students have access to modern school facilities with media centers and playing fields, while other students are in schools with insufficient classrooms, no electricity, no running water, and in some cases no roof.

Once again, though the situation in South Africa may be starker than that in the U.S. it is not irrelevant. Long periods of underinvestment in inner city U.S. schools, for example, generate similar disparities.

The bottom line is that even the relatively straightforward equity standard that all students should have access to equal quality schools as measured by school inputs is likely to be difficult to achieve in practice. To achieve that standard, the education finance system would have to account for the fact that high quality teachers would need to be compensated – either by higher salaries or improved working conditions – to induce them to teach in high poverty schools. In addition, policy makers would have to take very strong measures to counter the natural pressure for wealthier parents to make sure their children have access to high quality schools. Finally, policy makers would have to level the current playing field by compensating for any historical shortfalls in the investments in some schools relative to others. Hence, simply equalizing current spending per student will not assure that all students have access to an equal quality education, even when that quality is defined solely in terms of inputs.

2. Equal educational outcomes (or opportunities) and vertical equity

An equity standard defined as equal educational outcomes is more ambitious than a standard defined as equal inputs or quality of schooling. For the reasons discussed

above, the focus on outcomes means that schools or districts with large proportions of challenging-to-educate students would require even more resources than other schools to achieve the same outcome goals and might well need to compensate its teachers for the harsh working conditions with higher salaries or other perks.

The philosopher Amy Gutmann has argued that such an equity standard, interpreted at the level of the individual student, is far too difficult to achieve. In particular it would require that the school system not only offset all the characteristics of the student's family background and environment that make it difficult for the student to achieve but also the student's chosen level of effort. Not only would equal outcomes be difficult to achieve in practice, but in some situations the goal itself might be inappropriate. In the extreme, for example, such a goal would inject the state education system so far into family matters related to the education of children that it could violate the liberal ideal of family autonomy (Gutmann 1987, p. 132).

An alternative concept of equal educational opportunity, developed in a 1998 book by John Roemer, provides a middle ground by focusing on the average behavior of groups. The concept of equal opportunity – which Roemer has applied to a variety of policy arenas, not just education – is that outcomes (defined by him in the education context as subsequent earning capacity as an adult, but which also could be measured by student achievement) should not be permitted to differ because of factors, or circumstances, outside the control of the child. Such a standard would require policy makers to provide districts or schools with additional resources to compensate them for the circumstances of students that are outside the control of the student, but not for things under their control, such as their effort. For example, one might take as a relevant

circumstance the income level of the child's parents since evidence shows that children of poor parents typically find it more difficult to succeed in school, and ultimately in the labor market, as adults than other children. Given the goal of equal outcomes, the policy implication is that more of the scarce schooling resources should be made available to students from poor families in order to compensate them for this educational disadvantage than for other students. Moreover, the additional resources required for each group are well defined – at least at a conceptual level. They are the additional resources required so that the average outcomes for each group of students will be equal. It should be noted, though, that within each group, outcomes would differ because of differences in factors under the control of students such as their level of effort.

This approach provides one possible theoretical underpinning for what Berne and Stiefel (1984) call vertical equity, or the unequal treatment of unequals. As they note, the first task in measuring or promoting vertical equity is to define the characteristics used to classify "unequals," such a whether a child has disabilities or comes from an economically disadvantaged family. These classifications are comparable to the special "circumstances" in the Roemer model. The second task is to assign additional weights for each of the relevant classifications, such as 1.0 for students with disabilities and 0.5 for low-income students, meaning that a disabled student would be equivalent to two regular students and a low-income student would be equivalent to 1.5 regular students. These weights can then be used to convert the actual number of students in a district to a weighted number. Equality in this context would require equality of spending per weighted pupil across districts.

The linking of the Berne and Stiefel construct of vertical equity to the concept of equal opportunity as developed by Roemer provides a conceptual basis for interpreting and measuring the weights required to implement a vertically equitable finance system. The weights for each group, at least in theory, should reflect the average differential costs required to get pupils in that particular classification (i.e. those in the same circumstances) to any specific level of educational outcome. Interpreted in this way, a vertically equitable financing system would be one that generated equal average outcomes for various policy relevant groups of students, though not for individual students within each group.

Though appealing in theory, a vertically equitable education system raises some thorny problems of implementation. One is that the appropriate weights should in principle vary with the outcome standard. If, for example, the desired level of educational outcomes, as measured by student achievement, were very low, then the weights could conceivably all be close to 1. High outcome standards – those, for example that require complex thinking – in contrast could well require quite high weights for some groups of students relative to the average. An even thornier issue, and one to which I return below in the context of the adequacy discussion, relates to whether enough is known about the "education production function" to determine the weights in any meaningful way. Finally, in principle ,the weights should take into account not only the characteristics of the students themselves, but also the extent to which students whose characteristics make them hard to teach are concentrated in particular schools or districts.

II. Adequacy

In 1989, an historic education summit in Charlottesville, Virginia that included President George H.W. Bush and the state governors called for standards-based reform of education. A main thrust of this new consensus was to focus on the goal of ambitious achievement standards. In that same year, the Kentucky Supreme Court ruled that Kentucky's overall education system was inadequate. Ever since, adequacy has increasingly become the standard to which the courts are holding state education funding systems. Like the vertical equity or equal opportunity standard, adequacy typically focuses on outcomes, and hence on the observation that some students require greater educational resources than others to compensate them for the greater learning challenges they face. It differs from those equity standards and also from an input-based equity standard in its focus on the attainment of an absolute level of education, one deemed to be sufficient – or adequate – given the goals of education.

Defining adequacy

Of course defining what is adequate is straightforward neither at a conceptual level nor in practice.

The central question is: adequate for what? One answer might lie in the Rawlsian concept of primary goods and the notion that every student attain a minimum set of educational outcomes connected to his or her long-term life chances. (Rawls, 2001, pp. 57-61). Another might draw on philosopher Amy Gutmann's concept of a democratic threshold. In her view, the primary role of education is to promote a democratic society, characterized by deliberative and collective decision-making, and hence the threshold is

that level at which a person has the ability to participate effectively in the political process. (Gutmann 1997; see also discussion in Ladd and Hansen 1999, pp. 102-06). Combining these two views, an adequate education may be conceived of as one that is sufficient for someone to participate fully in both the economic and political life of the country.

In general the definition would allow for disparities above the adequate level. To the extent that education is viewed as a "positional good," however, adequacy may in fact require that educational outcomes be equalized. A positional good is a good in which one's position in the queue matters for one's outcome. In other words "the absolute value of the good one holds, to the extent it is positional, can only be determined by referring to one's standing n the distribution of that good." (Koski and Reich, 2007, p. 45.) Hence if education is viewed as a positional good, the only way to assure that everyone gets an adequate education is to make sure that educational outcomes are similar. If education is not viewed as a positional good, the adequate level of education could well be far lower than the maximum outcomes achieved by some students. Adequacy has typically been interpreted in this latter manner in the U.S. context.

In any case, the concept of an adequate – or sufficient – education is specific to a particular context and era. Consider as an extreme example the situation in South Africa under the apartheid government. During that oppressive and racist period, blacks were not allowed to vote and were not expected to play any role in the political life of the country. In addition, their economic role was limited to that of manual laborer. Hence the impoverished education provided to blacks at the time – one that included very little math and no critical thinking and one delivered in overcrowded schools with poorly trained

teachers – was viewed by the white rulers as adequate. The situation is very different in the post-apartheid period. For one thing, all citizens, regardless of color, are now entitled to participate fully in the new democracy and thus need the skills needed for critical and independent thinking. Moreover, because the country's economic vitality depends crucially on its ability to complete in the global knowledge-based economy, a typical worker must now have a much higher level of education than in the past. Hence, though the term is not used in that country, what may have been deemed adequate 50 years ago is far from adequate today. Consistent with the current situation, the country's new constitution identifies education as a basic right available to all people regardless of their color and independent of the resource costs of providing it.

The determination of what is adequate ultimately must be made through the political process, but in line with the requirements of the relevant constitution, which in the U.S is typically the state constitution. The role for the courts, then, is two fold: first to determine what the constitution requires and second to assure that states are meeting their responsibility for providing sufficient resources for educational adequacy to be attained in practice. A further analytical question is how adequacy and equity are likely to play out in the political process. The question here is whether the presence of large disparities in spending above the threshold level are consistent with the attainment of an ambitious adequacy standard.

Measuring the resource costs of an adequate system

Once adequacy has been defined by some interaction of the courts and the state legislature, the next step is to determine what an adequate system would require in terms of resources. Given the current focus on adequacy in court cases, a small industry of

researchers and consultants is now engaged in “costing out” studies. Such studies rely on a variety of methods that range from professional judgment to sophisticated empirical models. This is not the place to review the strengths and weaknesses of those studies (see Rebell, 2006,and Downes and Stiefel, 2008). Instead, I simply want to highlight the two interrelated questions that are part of this effort. The first is what level of spending would be required for students with no special needs or circumstances to meet the achievement standard. The other is how much additional spending per student would be needed to compensate for the special circumstances of challenging-to-education students.

The first question is challenging for two reasons. One is that researchers and policy makers may not know enough about the education production function to determine what resources would be needed to achieve the outcome standard. The second is that it raises issues about the efficiency with which resources are being used. Eric Hanushek, a major critic of the costing out studies, highlights that the standard methods rule out discussions of reforms that might make the school system more efficient, in the sense of obtaining higher levels of achievement for a given level of educational inputs. (Hanushek, 2005). Although the issue of efficiency continues to bedevil the costing out studies in a variety of ways, the Hanushek criticism is too strong. While it is reasonable to call for the use of best practices in estimating the costs of an adequate education, it seems unreasonable to calculate the required level of resources based on an assumption that there will be dramatic gains in the efficiency with which those resources will be used.

The second question related to the differential costs of educating students who come to school less ready to learn than others is an essential part of the adequacy

discussion. At least two methods have been used to estimate the additional spending required to educate such students The first relies on the empirical method of cost functions and relies on data at the district level. Such studies use as one of the key measures of student circumstances, the incidence of student poverty as typically measured by the proportion of the student population that is eligible for a free or reduced price lunch under the federal food lunch program. These studies generate cost indices for poor students in the range of 1.0 to 1.5 for states with large urban areas such as Texas, New York and Wisconsin and between 0.6 and 1.0 for rural states (Duncombe and Yinger, 2008). An index of 1 in this context means that the district would have to spend 100 percent more on the education of a poor child than on a typical child to bring them both, on average, to the specified achievement standard. Of importance for the discussion of the weighted student funding formula below is that these weights emerge from district level studies, not from analysis of the needs of individual students. Thus, they incorporate any effects on costs related to the concentrations of poor children within a district.

The second method relies on professional panels to estimate the additional costs of educating at risk students. The results from these studies are sensitive to the specific questions asked of the panels and the ability of the panels to identify specific programs that would bring the identified group of students up to the performance standard. Emerging from that approach are cost indices that are somewhat smaller than those that emerge from the cost function studies (Downes and Stiefel, 2008).

Political economy considerations

A key implication of the adequacy standard is that spending in excess of the adequacy standard by some districts or schools is of no concern. As I noted earlier, only if one viewed education as a positional good would there be no distinction between an adequate system and an equitable system defined in terms of outcomes. In that case, an adequate system would also be vertically equitable. Under the more typical interpretation of adequacy, some districts or schools are likely to spend far more than others, with the consequence that the average educational outcomes of some schools or districts are likely to exceed the adequate level.

A central issue, however, is what happens to the politically determined level of educational adequacy within a framework in which some groups have access to a higher quality education than others. Research by Susannah Loeb (2001) on school finance reform in the context of a federal system sheds light on this issue. She considers three models: one in which districts receive a uniform per pupil grant from the state and are not allowed to raise additional funds: one in which districts are allowed to raise unlimited additional funds; and one in which the additional funds are capped. Her conceptual model and related policy simulations generate the following conclusions. The system with no local supplementation is politically difficult to sustain because it forces many voters from their preferred spending levels. The system with unlimited local supplementation, which is attractive in the sense that it assures an adequate level of spending while allowing local control over funding decisions at the margin, may not be sustainable because the high wealth districts lose their incentive to support state funding. In the context of her simulations for Michigan, this system generates greater variation in spending across districts and a lower level of state spending than the other two systems. She concludes

that the system with capped supplements provides the best balance between local control and adequacy of funding.

Loeb's analysis is directly relevant to the equity vs. adequacy debate. Given that full equality may not be attainable, either because of its high cost or because of the efforts of some families to maintain their relative position, and also because full equality may have undesirable incentive effects, some compromise between equity and adequacy is needed. One such compromise is to focus on adequacy as the primary goal, to permit some disparities above the adequate level, but to limit the magnitude of those disparities, particularly those funded from public revenue.

III. Application to weighted student funding.

I turn now to the implications of this discussion for the weighted student funding (WSF) proposal. As noted earlier, the central aspects of that approach are that funding follows the children to the public schools they attend, per-student funding is weighted to provide more resources based on a student's specific needs and circumstances, and schools would have significant autonomy to use the funds as they see fit. As far as I can tell from the proposal, individual schools would not have the authority to negotiate salary levels, although they would have greater authority than presently to fire teachers (but whether teacher tenure would remain is unclear) and to compete for students. In terms of the previous discussion, this funding approach is most consistent with an outcomes-based equity standard in that it is concerned only with distribution and more funding is attached to students with greater educational needs. The weights are an essential part of the proposal.

Weighted student funding (WSF) and equity

The WSF approach is intended to promote equity through its distribution to schools of money, rather than teaching slots or programs, and by the addition of the need-based student weights. If well implemented, such an approach has some clear advantages over the current approach to school funding. Despite the claims of its proponents, however, it falls short of achieving full equity in at least two ways, and also raises an additional concern.

One clear benefit of the approach is that by distributing money rather than teaching slots the approach forces schools to recognize the full costs of hiring expensive teachers. That recognition is particularly relevant for the schools serving advantaged students who typically are able to attract more experienced – and higher paid -- teachers but at no cost in terms of other inputs foregone. Under the WSF formula, a school that spends money on expensive teachers would have less money for other inputs. Thus, this approach is well designed to help level the playing field across schools. A second equity-enhancing component of the approach is the need-based weights. Provided the weights correctly reflect differential needs (see more on that issue below), the approach enhances equity defined in terms of outcomes. Finally, in theory the approach could reduce the concentration of needy students by making such students more financially attractive to schools serving larger concentrations of advantaged students.

At the same time, the approach is not the "100 percent solution" to school finance equity claimed by its advocates. One reason is that the weights are based only on the needs of individual students rather than on their concentrations in particular schools. As long as some schools have higher proportions of hard-to-educate students than others,

teachers at any given salary level are still likely to prefer to teach in the more advantaged school, with the result that some disparities in the distribution of teacher quality will remain. The addition of the need- based weights helps, but does not fully eliminate, the inequity associated with concentrations of needy students. To be sure, the schools with more hard-to-educate students will have more money to spend than schools serving more advantaged students and could spend more of it either to hire more teachers or to hire more expensive highly-qualified teachers. If the former, the teacher quality issue remains; if the latter, the money is not available additional services such as smaller classes or more support services that the incremental funding was intended to make possible.

A second equity-related shortcoming of the WSF approach is its inattention to historical investments or disinvestments in the school. Thus school facilities that are currently in poor shape due to past investment decisions or that have higher operating costs because of their outdated infrastructure will be at a disadvantage relative to newer schools. Though both of these shortcomings could be addressed through add-ons or adjustments to the funding formula, the point is that the simple WSF formula alone does not produce the "100 percent" solution claimed by its supporters.

Finally, the approach raises an additional issue that I believe should be of serious concern. The WSF approach is based on the premise that it makes sense to publicly identify individual students as being in a needy category. Evidence about the reluctance of many middle and high school students to enroll in the Federal free and reduced price lunch program suggests that some students would prefer not to be identified as being poor (Gleason, 1995). For this and other reasons, attaching weights to individual students may be morally dubious because of the potential for stigma.

Establishing the weights

The theory of equal educational outcomes discussed earlier provides a firm conceptual foundation for the need-based weights. In particular, the weights should be set to compensate schools for the differentially higher average costs of educating students with particular characteristics that make them more challenging to educate than other students. Translating this theory into specific weights is not easy. One reason is that much of the work to date on the development of weights draws on district-level rather than school level data. Another reason is that, as noted earlier, the appropriate weights may vary with the outcome level and there is no specific outcome standard within the WSF framework.

Given the absence of an established "industry standard" system of weights, the WSF supporters propose two alternative methods of determining the weights. The first is an open process of discussion and negotiation among stakeholders and the second is a market-driven process. Though the first approach has some clear merit, there is reason to believe that over time political pressures would lead to an expansion in the number of categories or to a reduction in the weights or some combination of both so as to spread funding in a less targeted way. Evidence for this prediction emerges from New Zealand's experience with a weighted funding formula. In contrast to the WSF approach, New Zealand took account of concentrations of needy students within schools and designed an aid program designed to give additional money to schools with larger proportions of such students. Similar to the WSF approach, the goal of its targeted funding for educational achievement (TFEA) program was to offset the higher educational costs associated with such students. For this purpose schools were divided into deciles based on six factors

related to student need. The original plan, which had received buy in from many of the key stakeholders, was to target the additional funding to the schools in the lowest three deciles. By the time the plan was implemented, however, political pressures had been brought to bear and the funding was distributed among the bottom six deciles, albeit still in a sharply declining manner. Within a few more years, the distribution was expanded even further up the decile ranking to include schools in all deciles except for the highest (Fiske and Ladd, 2000, pp. 143-44).

The alternative approach of using a market test to determine the weights raises even more concerns. The idea here is that the weights should be set so that hard-to-educate students become desirable for the schools. "Knowing that student performance standards must be reached, principals should find the weight for an at-risk child sufficient to make that child an asset to the school" (Fordham Institute, 2006. p 35). If that is not the case, then the state or district should change the weights. Implicit in this model is the notion that public schools should have full authority to choose the students they accept. That, by itself, is cause for concern. Even if that issue is set aside, there are other reasons to be skeptical of this approach. One major concern arises because the weights are based on the average characteristics of a group and not on the characteristics of individual students. Within each group, student outcomes are likely to vary because of differences in student motivation or effort. Thus, for any given category of student, some students are likely to be easier to educate than others. It is hard to imagine how these patterns could then be used to determine whether the average weight is appropriate. .For some students within a particular category any given weight will be too high and for others it will be too low. Perhaps of even greater concern is that, from the school's perspective, the less

motivated, harder-to-educate students in any at-risk category are likely to be less attractive than the more motivated students and may well end up concentrated in schools in which the additional funding is insufficient to compensate for their adverse circumstances.

Ultimately, the weights will be determined through a political process. For those policy makers who believe that additional funding for hard-to-educate students is necessary and appropriate, the policy question then becomes whether such students are likely to be better off with a funding system based on politically determined weights or with a more indirect approach that focuses on additional programs for them. The answer to that question is not clear but is central to the policy debate and deserves attention.

Focus on equity to the exclusion of adequacy

The WSF approach to school funding focuses on equity alone and makes no reference to adequacy.[8] Presumably the idea would be to start with existing levels of funding and to redistribute the funding among schools in line with the number of (weighted) students in each school. Given the magnitude of the redistributions that might be necessary, such a funding approach might be phased in over several years. Yet it remains a policy aimed at distributional equity with no attention to whether the funding is sufficient.

Yet adequacy matters, especially in the current standards-based policy environment in which schools are explicitly being held accountable for the performance of their students. If the amount of funding to be distributed is not sufficient for schools to

[8] In recent commentaries, Baker and Rebell, 2006, and Rubinstein, Schwartz and Stiefel, (2006) also make this point.

achieve the level of education necessary to meet the outcome standards, state or district policy makers are falling short on their part of the accountability bargain.

Once again, the New Zealand experience with a system that approximates student based funding provides some insight. As operating authority was shifted in that country from the Department of Education to the schools in 1989, resources (in the form of both teacher allocations and grants for non personnel spending) were distributed among the schools in an "equitable" way, but with little attention to whether the funding was adequate. Whether the initial amount of funding was adequate is hard to say. Over time, however, inflation-adjusted overall spending on education declined and it became increasingly clear that spending was far from adequate. Evidence for that conclusion comes in part from the fact that most schools responded by raising school fees (something not technically allowed in the U.S. but that was encouraged in New Zealand) and generating funds from other private or non profit donors (something that is permitted in the U.S). Interviews with school personal and perusals of school budgets made it clear that most of the revenue from the fees was going not to frills but rather to pay for basic education programs (Fiske and Ladd, 2000, pp. 84-88.).

A few years into the program, the new policy Ministry of Education called for an adequacy study. The contractor was not able to complete the study in part because it did not have the detailed data on staffing at the school level or outcome measures that the consultants thought necessary to determine adequacy. Another consideration had to do with the politics of the situation. As one ministry official explained, discussions about the adequacy of overall funding can be politically explosive and were often taken off the table (Fiske and Ladd, 2000, p. 152). Such was the case, for example, with respect to the

new technology guidelines from the government, which, if adequately funded, would have required the ministry to increase its spending by the total amount it was then distributing to schools for all their non personnel spending. Thus, the political concern was that if the adequacy question were taken seriously it would break the bank.

Though one might be tempted to discount the New Zealand experience because the slow down in its economy during the mid 1990s made it difficult for the country to maintain its spending on education, a more fundamental incentive issues emerges from this experience. "In a decentralized system – one in which the funder differs from the spender – the government funder has an incentive to limit the rate of growth of funding because it bears the political costs of higher taxes while garnering few of the political gains from higher spending" (Fiske and Ladd, 2000, p. 153.) Moreover, when funding appears to be inadequate, the funder has an incentive to blame the recipients for not using the money as effectively as possible. This experience suggests that in the context of a highly decentralized system equal funding may make it difficult to achieve adequate funding.

Conclusion

Though potentially appealing from an equity perspective, WSF deserves far more analysis and public debate before it is widely adopted. From the equity and adequacy perspectives presented in this paper, the most important shortcomings of the approach are its failure to account for the adverse effects of large concentrations of disadvantaged students, the fact that it pays no attention to the adequacy of funding, and that the weights likely to emerge from the political process may well fall short of those suggested by the

theory. Of course, existing approaches to school funding are also far from perfect. Thus, the relevant policy question is not whether the WSF proposal is perfect but rather whether it would generate a more desirable pattern of education funding across schools than the current system, without at that same time creating large undesirable side effects.

I have already highlighted one such side effect, namely that the approach may stigmatize individual students. A second potential side effect arises because the approach reinforces the current policy trend toward locating accountability, management authority and decision making at the level of the individual school. Reasonable people may disagree about the desirability of this trend, which is evident not only in the U.S but also in many other countries. A review of the literature on the benefits and costs of moving in this direction is beyond the scope of this article. Suffice it to say that there is mounting evidence that individual schools, especially schools serving low-performing students, are not able to succeed on their own. Instead, they need substantial support from intermediary institutions such as districts or networks of schools, and from the state in the form of technical assistance and support for capacity building (Fiske and Ladd, 2000; Plank and Smith, 2008). Hence, a new education financing system that privileges the individual school over these other institutions should be evaluated not only in terms of the equity and adequacy considerations that are the topic of this article but also from a broader institutional perspective.

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