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The Disparity Issue in K-12 Education in Virginia

Carlos G. Elias and George R. McDowell

In the fiscal year ending June 30, 1989, Virginia's 95 counties and 41 independent cities were served by 137 school divisions. Across these school divisions, total per pupil expenditures on kindergarten through twelfth grade (K-12 education) ranged from \$3,326 to \$7,820. Though over-simplified, this difference reveals in starkest terms the disparity in resources available among school divisions for K-12 education in Virginia. The purpose of this article is to present a summary of an in-depth analysis of the disparity issue and to offer suggestions for changing the methodology for distributing state basic aid. (The details of this analysis are found in two reports from the Rural Economic Analysis Program (REAP). These may be requested from REAP, Department of Agricultural Economics, Virginia Tech, Blacksburg, VA 24061-0401; 703-231-9443. Ask for REAP Reports nos. 7 and 10.)

The disparity issue originates in the resources that the governing bodies of counties and cities allocate to K-12 education. Governing bodies of counties and cities whose residents are more able and willing to pay allocate more resources to K-12 education than counties and cities whose residents are less able, and perhaps, less willing to pay. Differences in ability to pay most often arise from differences in taxable resources available. There is evidence that willingness to pay for K-12 education may be affected by the current array of revenue-raising mechanisms available to local governing bodies.

For these reasons, some disparity in *total per pupil expenditures* on K-12 education may, and probably will, always exist. In this context, the state's goal in assisting governing bodies to finance K-12 education

should not be to insure equal total per pupil expenditures among school divisions. The state's goal *should be* to insure that each school division has adequate resources to provide pupils access to the minimum K-12 education they will require to function effectively in an evolving society.

How to "Tackle" the Problem?

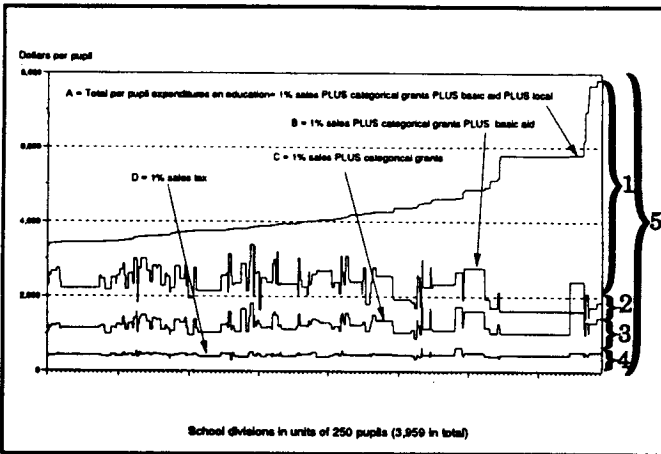
At least three different perspectives on the disparity issue exist. The first considers the existence of a constitutional right to equal access to resources devoted to K-12 education regardless of social, economic, or geographic characteristics of pupils across the state. The second perspective concentrates on *defining the minimum minimorum* standards, and their cost,¹ of K-12 education in Virginia. The third perspective deals with the differences local governing bodies face in their ability to fund K-12 education. These three perspectives define the school-finance problem—the disparity issue—in Virginia.

This article focuses only on the third perspective because ability to pay for K-12 education has the greatest bearing on the method the state uses to allocate funds among its school divisions. Even though they are only a part of each division's total expenditures on K-12 education, state funds are the only resources specifically designated to reducing disparity. Other funds allocated to K-12 education either increase disparity or are neutral to it.

¹This cost represents the minimum total cost in each school in each school division providing K-12 education. The calculation of this minimum cost requires the definition of minimum standards. The current standards defined by the state are designated "Standards of Quality." The SOQ were last defined in 1986.

Local Spending: The Source of Disparity

The disparity in total per pupil expenditures for fiscal year (FY) 1988-1989 among the 137 school divisions is shown in Figure 1. This figure displays useful information in two forms: by the names of the lines and by the areas between the lines.



Source: Virginia Department of Education, Richmond (*Facing Up-24*).

Figure 1. Sources of funding for K-12 education in Virginia, FY 1988-1989.

Line D represents the 1-percent local option sales tax earmarked to K-12 education (10.1 percent of the total in FY 1988-1989). The state distributes these funds among school divisions on the basis of school-age population. Area 4, between the base line and line D, represents the total of such funds allocated per pupil in each school division.

Line C represents the state and federal categorical grants in aid to school divisions (17.8 percent of the total in FY 1988-1989). Area 3, between line D and C, represents the total of such funds allocated per pupil in each school division.

Line B represents the basic aid the state allocates to school divisions in support of the standards of quality (SOQ) (24.1 percent of the total in FY 1988-1989). Area 2, between line B and line C, represents the total of such aid allocated per pupil in each school division.

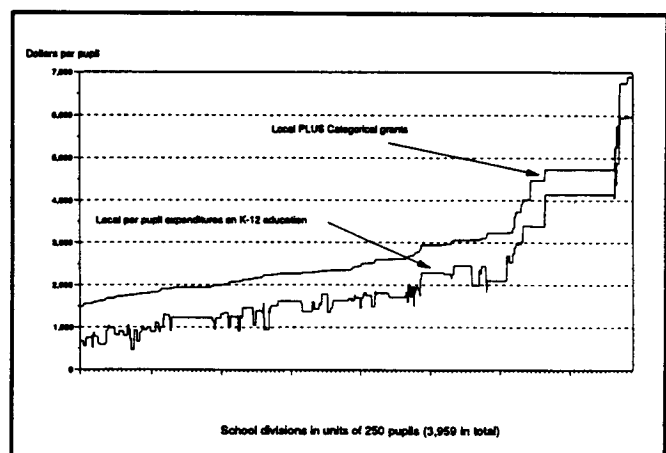
Line A represents the average total per pupil expenditures on K-12 education in FY 1988-1989. Area 5, between line A and the base line, represents the average dollar amount allocated per pupil in each school division, which, for the fiscal year discussed here, ranged from \$3,326 to \$7,820, with a state average of about \$4,400. Area 1, between line A and line

B, represents the average per pupil revenue from the local real property tax (and perhaps other sources) that the local governing bodies allocated to K-12 education (48 percent of the total expenditure) in FY 1988-1989.

Area 1 in Figure 1 makes dramatically clear this fact: *The source of disparity in spending on K-12 education among school divisions results primarily from differences in resources allocated by local governing bodies.* The divergence in local spending is only slightly offset by the state basic aid distribution, and this distribution is inadequate to bring about (reasonable) equality in overall expenditures among school divisions.

A Closer Look at the Disparity Issue

Figure 2 shows the *disparity issue* in resources available to finance K-12 education in Virginia. In contrast to Figure 1, Figure 2 shows the per pupil local expenditures (line A in Figure 1), and per pupil federal and state categorical grants (line C in Figure 1) in FY 1988-1989. As shown, per pupil expenditures from these two sources ranged from about \$1,500 to about \$7,000. These two sources provide the foundation financing for K-12 education by local governing bodies and can be interpreted as the funds available to school divisions before any state distribution of funds has been made. This is the disparity that the state is being asked to reduce with state funds: filling the gap between the per pupil cost of the minimum K-12 education and per pupil local expenditures plus per pupil federal and state categorical grants.



Source: Virginia Department of Education, Richmond (*Facing Up-24, A New Vision for Education*, and data especially provided for FY 1991-1992 and FY 1992-1993).

Figure 2. Per pupil local expenditures and federal and state categorical grants, FY 1988-1989.

The two sources of revenue not shown in Figure 2 are state basic aid and the 1-percent sales tax. The revenues obtained from these sources are used to reduce the disparity in resources available to achieve the cost of the minimum K-12 education. Table 1 shows that each year between FY 1988-1989 and FY 1992-1993 the state has allocated about \$2.0 billion in constant 1988-1989 dollars from sources identified as basic aid and the 1 percent sales tax.

Table 1. State basic aid to schools and the 1-percent sales tax (billions of dollars).

Fiscal year	State basic aid		1-percent tax		Total	
	Current 88-89 dollars	88-89 dollars	Current 88-89 dollars	88-89 dollars	Current 88-89 dollars	88-89 dollars
88-89	1.56	1.56	0.43	0.43	1.99	1.99
89-90	1.68	1.60	0.45	0.43	2.13	2.03
91-92*	1.75	1.53	0.45	0.39	2.20	1.92
92-93*	1.89	1.58	0.47	0.40	2.36	1.98

*Estimated data

Source: Virginia Department of Education, Richmond (*Facing Up-24, A New Vision for Education*), and data especially provided for FY 1991-1992 and FY 1992-1993).

State basic aid and the 1-percent sales tax—the resources available to reduce disparity in per pupil expenditures among school divisions in the state—could be better distributed. Area 2 in Figure 1 shows that state basic aid is larger to lower-spending school divisions. Figure 1 also shows that current allocations of state basic aid do not offset the disparity in total per pupil expenditures. To this end, the state's formula to distribute state basic aid could be improved.

What is Not Working? The Local Composite Index

Funds distributed to school divisions in support of the standards of quality (SOQ) for K-12 education are called state basic aid. The SOQ are calculated separately for each school in each school division and represent, in theory, the minimum cost of an adequate K-12 education in Virginia. Funds are distributed as state basic aid in accordance with their formula:

$$BA_A = (1.00 - LCI_A) * (SOQ_A - 1\% \text{ Sales Tax}_A)$$

where:

$$BA_A = \text{basic aid in support of the SOQ of school division A;}$$

$$LCI_A = \text{local composite index of school division A;}$$

$$SOQ_A = \text{cost of the standard of quality for school division A;}$$

$$1\% \text{ Sales Tax}_A = \text{state distribution of the 1-percent sales tax earmarked to K-12 education for school division A.}$$

The formula is designed so that each local governing body funding a school division is obliged to have a portion of the SOQ funded from local resources based on local ability to pay. That portion is represented by the local composite index (LCI). The state pays the difference (1 - LCI). For example, if a local governing body is capable of funding 30 percent of the cost of the SOQ, then the state would be responsible for funding the remaining 70 percent. Unfortunately, the formula that specifies the LCI is flawed, so, the LCI does not accurately determine the percentage of the SOQ that individual local governing bodies can afford.

There are two reasons why the LCI does not accurately determine the ability of a local governing body to pay for K-12 education. First, the LCI formula defines ability to pay, in large part, by the true value of property in each school division. School divisions with approximately the same true value of property per pupil may in fact have large differences in ability to pay for K-12 education (McDowell *et al.*).

The second reason why the LCI does not determine ability to pay is that the array of LCI proportions have been truncated so that 0.8000 is the upper limit. That is, each school division having a LCI proportion greater than 0.8000 is currently being assigned a value of 0.8000. This truncation of the scale applies only to those school divisions whose LCI proportion is greater than 0.8000. A school division whose LCI is truncated is affected favorably. This outcome occurs because the LCIs of each of the remaining school divisions are not re-adjusted, and as a consequence, the LCI scale does not maintain the *relative* proportions of ability each has to pay. This failure to re-adjust the entire LCI scale distorts the numerical values that are defined as the ones that matter in measuring ability to pay (McDowell *et al.*).

What to do?

The disparity problem could be solved if the state funded 100 percent of the minimum cost of K-12 education. All local expenditures would then be an

improvement over the minimum. Disparity in total per pupil expenditures would still persist, but such disparity would represent the priorities and preferences each locality revealed and its ability to pay. This outcome would be widely accepted as a "legitimate" disparity.

If the state elects not to fund 100 percent of the minimum cost of K-12 education, then local allocations for reaching the minimum cost level are required. In this context, making inter-school-division comparisons of ability to pay is absolutely necessary.

Ability to Pay: Structural Economic Differences

The state seeks to account for the structural economic differences among school divisions when distributing funds for K-12 education. For example, some school divisions are mainly urban; others are mainly rural. Some divisions serve localities where the economy is based primarily upon a single product (i.e. coal and tobacco counties). Other divisions serve localities where taxes paid by public utility companies represent the major source of revenue for the local government. Some school divisions serve localities with large universities or colleges, while others serve areas with large federal operations (i.e. military or federal agencies). Each formula designed to measure the localities' ability to pay for K-12 education should recognize the structural economic differences that exist among them.

The Local Context Matters

The ability of local governing bodies to pay for K-12 education must also be viewed within the context of the needs and preferences of their constituents for other public services. Funding for K-12 education competes for local funds with judicial administration, public safety, public works, health and welfare, parks, recreation and cultural, community development, and general administration expenditures. The local governing body for a city or county may not rank K-12 education first in priority because the benefits of it are not captured at the local level, but rather at the national level. Age characteristics of the voters may make K-12 education a second or third priority. These and other appropriate arguments must be respected as the local governing bodies struggle to allocate available funds in a way that achieves local goals, and therefore, from the local view, allocates

funds efficiently. This outcome must also be taken into account by the state.

Let's assume that the state is responsible for guaranteeing pupils in each school division some agreed minimum level of funding for K-12 education and that the state elects not to fund fully the minimum cost of an adequate K-12 education. In this context, the state has to consider in their measures of ability to pay the fact that localities have different spending priorities, and that some will spend less on K-12 education than their measure of ability to pay indicates. Given these situations the next step is to define indicators of ability to pay.

Measuring Ability to Pay

Ability to pay can be determined by constructing an improved index relative to the long-used LCI. This new index may be designed to evaluate ability to pay by using primarily a measure of how much money people have to spend. The principal indicator, therefore, should be a measure of income net of the cost of subsistence.² This indicator, call it *discretionary income*, represents the income available for all uses by residents within a locality funding a school division after the minimum requirements of living are met.³

This indicator, however, by itself will not capture all the characteristics of the economic base of a city or county. Commercial corporate profits⁴ could be used to represent economic activity that is not accounted for in local residents' income.

Local Dilemma: The Dillon Rule

The methodology for defining ability to pay should be independent of the sources of revenue at the local level. The currently used LCI does not determine ability to pay independently of the revenue sources of localities. However, that separation does create some problems when powers granted to local governments restrict them from gaining access to that local capacity. Thus, local governments might be able and willing to pay for public services, including K-12 education, but may be constrained from doing so by their

² Such a measure is not currently used in Virginia.

³ That measure can be approximated by subtracting poverty level income from personal income.

⁴ This term is defined to encompass all meaningful sources of wealth that do not reflect on income of residents of the locality.

legal powers to raise revenues. In Virginia, local governments are limited by the Dillon Rule in their ability to raise revenues.

The Dillon Rule holds that local governments are not permitted to exercise any authority, including levying and collecting taxes, not granted by the state legislature, in this case the Virginia General Assembly. Because of this constraint, most public services are financed by revenues raised from property taxes. This condition provided the major rationale for the large weight the LCI assigns to the true value of property in the measure of ability to pay. Times change, however, and evidence constantly accumulates that the current level of reliance on property values as a measure of ability to pay can no longer be justified (Raflo). Further, limiting local government to property taxes as a means of paying for most local services distorts the ability of local governments to provide public services.

Local governing bodies tend to distort their allocation of funds to local public services by favoring those services whose benefits are captured at the local level. Considering that most local revenues in Virginia come from tax levies on property, local governments have a strong incentive to spend on those public services that increase the value of property. Conversely, local governments will not invest as much in those public services whose benefits are not fully captured at the local level.

Because K-12 education is a service that is provided at the local level, that accounts for a large percentage of local budgets, but whose benefits are captured at the national level, local governments have a reasonable incentive to under-invest in that public service. Therefore, enabling localities to shift, at least in part, their revenue-raising capabilities from property taxes to another source may be appropriate.

For example, consider an income tax at the local

level: say, 1 percent of a specified measure of discretionary income paid to local governments and earmarked for K-12 education. This change would have the advantage of making more clear to the state the gap between a locality's ability to pay and the minimum cost of an adequate K-12 education.

Concluding Remarks

If the state elects not to pay for 100 percent of the cost of K-12 education in Virginia, it must find a method that more accurately determines how much each jurisdiction financing a school division is able to pay. This method should recognize structural differences in the economic base among jurisdictions, and also recognize that K-12 education is only one (although the most expensive) among several public services provided at the local level.

An accurate measurement of each local governing body's ability to pay for K-12 education will, however, solve only part of the problem of financing K-12 education in Virginia. Unless granted the authority to raise revenues from tax bases other than real estate, governing bodies will continue to have a strong incentive to over-invest in local services that increase the value of property. Accordingly, there will continue to be an incentive to under-invest in public services like K-12 education whose benefits are not captured at the local level.

Evidence abounds that disparity exists in the funding of school divisions in Virginia. State funds will not totally eliminate disparity in total per pupil expenditures among school divisions, because more affluent school divisions will always tend to spend more than less affluent ones. State allocations, however, should be sufficient to ensure that all of Virginia's 137 school divisions have adequate financial resources to fulfill the minimum requirements of K-12 education for their students.

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