

MANAGING SCHOOL DISTRICT FINANCES IN AN ERA OF DECLINING ENROLLMENT

Today, more than anything, officials charged with managing the governance and finances of Michigan school districts need the tools to manage the districts through an era of declining student enrollment. Many district officials have recognized the problems caused by declining enrollment and have attempted to proactively adjust to the circumstances, but the economics of school finance suggest that state policy reforms could better empower them to manage during this era.

With the Great Recession several years behind us, the financial picture for many Michigan school districts is beginning to improve, albeit not as quickly as some would like. Despite the general improvement statewide, a number of school districts continue to deal with financial problems caused by two issues: retirement legacy costs and declining enrollment.¹ If unaddressed, these problems can develop into significant sources of fiscal stress, making it difficult to deliver quality educational programs and services.

The origins of school financial problems and fiscal stress vary across districts. In some cases, major problems arise from a history of poor financial practices and the reluctance of school officials to adequately deal with changing circumstances. For other districts, financial problems arise through little fault of their own as factors outside their direct control play a significant role.

Annual student enrollment is a major factor in setting a district's total financial base. While enrollment changes may be a response to the educational offerings of a district, they also occur because of broad demographic shifts (e.g., lower birth rates), changing economic factors (e.g., loss of a major employer),

and shifting migration patterns, over which school officials have no control.

The structure of the school finance system and the nature of school cost pressures can contribute to the challenge of responding to declining enrollment, particularly in the near term. Moderate to substantial declining student enrollment is a common characteristic among troubled districts; fewer students mean fewer total resources under Michigan's per-pupil school funding system. School districts that experience substantial revenue declines from enrollment losses are required to make major budget adjustments in short order. Because the majority of school cost pressures are largely fixed in the short term, managing down to meet a much smaller revenue base can be difficult in the short run.

As lawmakers contemplate the menu of school finance issues that they may want to tackle in the coming months (e.g., overall funding levels, changes to the per-pupil foundation grant, and the allocation of funds among districts), they should be cognizant of the increasing importance that even moderate enrollment changes play in a school district's fiscal health.²

¹ In June 2014, CRC identified declining enrollment and retirement legacy costs as financial challenges facing school districts. See Memo 1127, *School District Fiscal Health Improves, but Long-Term Challenges Remain* <http://crcmich.org/PUBLICAT/2010s/2014/memo1127.html>

² CRC addressed some of the financial implications associated with declining enrollment as well as the broader issues raised by this phenomenon in a presentation to the State Board of Education in the spring. www.crcmich.org/PUBLICAT/2010s/2014/SBE_school_finance_031114.pdf



Era of Declining Enrollment

Statewide, public school enrollment has been trending downward since the early 2000s, largely caused by declining birth rates and net out-migration. Based on current enrollment projections, this trend does not show signs of changing course in the immediate future.

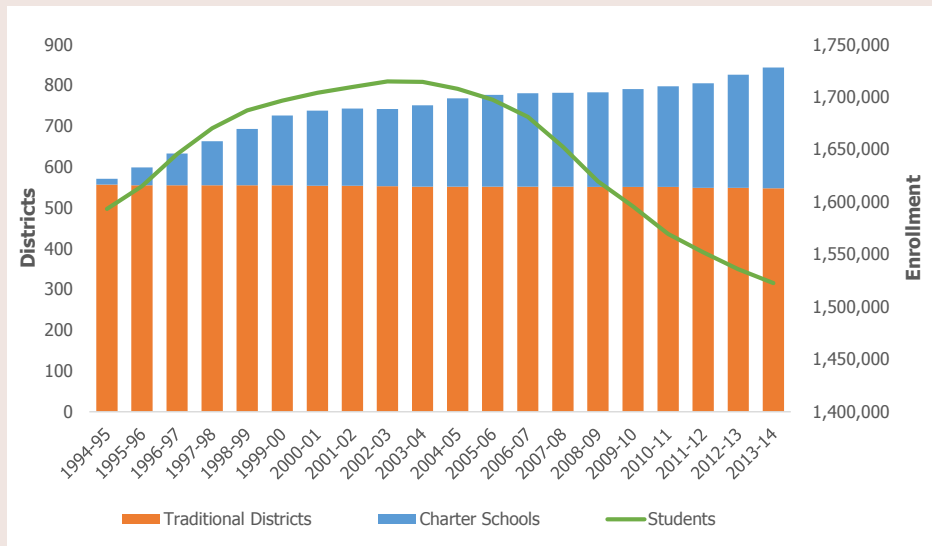
After peaking in 2002-03 at 1,714,867 students, enrollment has since declined 11 percent to 1,522,600 students in 2013-14.³ State officials project statewide enrollment to decline to just over 1.5 million students (1.3 percent) over the next two school years. The last time public school enrollment was at this level was in the late 1950s.

At the same time that the population has fallen steadily, many new education providers have entered the public education market. The number of school districts, both traditional public and charter schools,

has increased from 571 districts in 1994-95 to 845 districts in 2013-14. This growth is largely driven by the opening of new public charter schools (see **Chart 1**).

The effects of these two statewide trends are seen in the enrollment experiences of individual school districts. Fewer students statewide and more providers contribute to student enrollment declines for many districts. Quite simply, the public school enrollment pie is getting smaller, and that shrinking pie is then being sliced into a greater number of pieces. As a result, more districts are losing population. Seventy-one percent of all traditional public school districts experienced some degree of population loss between fall 2013 and fall 2014 student counts. Annual enrollment declines ranged from a fraction of one percent in many districts to 71 percent in Port Hope Community Schools located in Huron County.

Chart 1
Number of School Districts and Student Enrollment: 1994-95 to 2013-14



Source: Michigan Department of Education
 Note: Excludes Intermediate School Districts (56 in 2012)

Over the longer period, from fall 2003 to fall 2012, student enrollment declined in 420 districts, nearly three-fourths of the 550 traditional public school districts. Enrollment declines were significant in some cases; 95 traditional districts (nearly 23 percent) experienced enrollment losses of 25 percent or more. Furthermore, declining enrollment is not a geographically isolated issue. It affects districts across the state. Sub-

³ For school funding purposes, district enrollment is based on a blended student count. Pupil membership for the 2013-14 school year is based on 90 percent of the 2013 fall student count and 10 percent of the 2014 winter student count.

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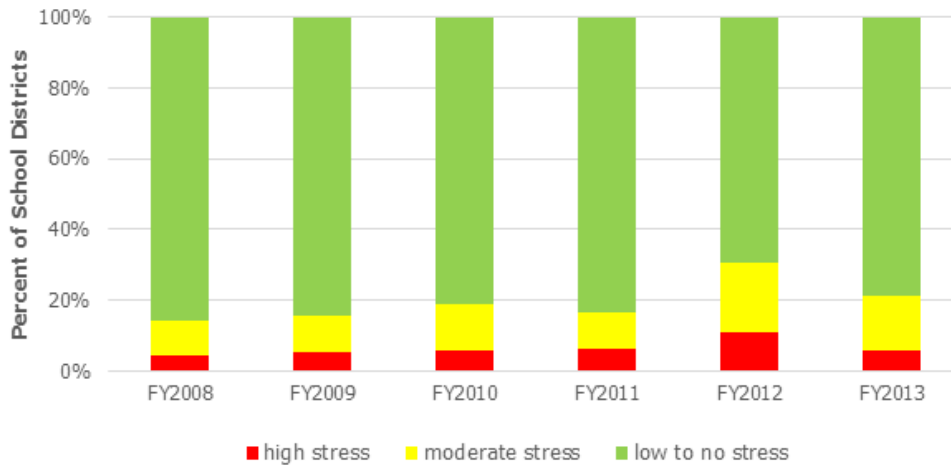
Fiscal Stress in Districts

According to the Michigan Department of Education, a total of 57 school districts (traditional public and charter schools) ended fiscal year 2014 (June 30, 2014) in deficit. There have been approximately 50 deficit districts each of the last four fiscal years (2011 to 2014), but there were only 27 at the end of fiscal year 2008. The growth in the number of deficit districts is evidence that fiscal stress is prevalent, albeit within a relatively small cohort of districts (deficit districts represented about 6 percent of all traditional public, charter school, and intermediate school districts in fiscal year 2014).

Another sign that fiscal stress is present, and growing, among districts is reflected in data compiled and analyzed by the private firm Munetrix LLC.^a Examining Munetrix fiscal health scores for traditional public school districts shows that fiscal stress is on the rise;

over one-half of districts experienced an increase (health decrease) of at least 1 (on the scale of 0 to 10) from fiscal year 2009 to fiscal year 2013. Additionally, the number of districts with scores of 5 or more (at least moderate fiscal stress) grew from 78 districts (14 percent of total) in fiscal year 2008 to 117 districts (21 percent of total) (see **Chart A**). Over this period, 48 districts (not all deficit districts) had a score increase by 4 or more, a sign of significant fiscal problems.

**Chart A
Fiscal Stress Scores of Traditional Public School Districts: FY2008 to FY2013**



Source: Munetrix LLC

^a Munetrix has developed a proprietary algorithm designed to analyze various school financial and enrollment data to determine the relative fiscal health of school districts. The algorithm is based on 10 indicators and produces a score for each school district. Fiscal health scores range between 0 and 10. Districts scoring 0 to 4 are considered to be in a strong fiscal condition, 5 or 6 moderate fiscal health, and 7 to 10 least fiscal health.

urban, rural, and urban districts have been affected, as well as both small and large districts. Because the competition for students is fiercest in the larger urban districts, this dynamic is particularly acute in areas of the state such as Detroit, Flint, Grand Rapids, and Pontiac.

Student enrollment is one of the two factors that determine a school district's financial base; the other is the per-pupil foundation grant. This grant is the major funding source for annual school oper-

ations and is set annually by state legislators. It is financed by a local property tax levied primarily on business property, with state funds making up the difference between the local per-pupil tax levy and the state-determined grant amount. Each district's grant amount is different, with 56 percent receiving the state minimum of \$7,251 per pupil in 2014-15.

Enrollment changes play an equally significant role in setting a district's revenue base. Moderate to large enrollment swings can offset even large increases

in a district's per-pupil grant. While the shrinking statewide school population has allowed the per-pupil grant to rise in most years, enrollment declines in many districts have offset this positive fiscal effect. While it appears that School Aid Fund growth in

FY2015 and FY2016 will allow for modest foundation grant increases, enrollment changes will largely determine if individual districts will see an increase in total funding in the coming years.

Defining Variable and Fixed Costs

The management challenges created by enrollment changes can be more readily understood from a basic economics perspective. Private firms use a variety of inputs in the production of goods or services and these inputs vary across industries. Basic economics tells us that some inputs used in the production of a good or a service vary directly with the amount of output produced. These are called variable inputs. If, for example, an automaker wants to produce more cars to meet consumer demand, it will have to buy more raw materials (e.g., steel, plastic, glass), run plants longer, and employ more workers. The total costs associated with acquiring and employing these inputs represents a firm's variable costs. If production goes up, variable costs go up.

In contrast to variable inputs, some inputs do not change with the amount of output produced. These

are fixed inputs and the attendant spending represents a firm's fixed costs. In the automaker example, capital facilities (e.g., auto plant) and debt service payments (e.g., principal and interest on bonds) are typical fixed inputs. The firm can add another shift (variable cost) to its existing manufacturing plant to meet increased demand for its cars without having to build a new facility. Similarly, regardless of the number of cars produced, the annual debt payment remains constant.

The ratio of variable to fixed costs is different for each industry, and by firms within specific industries. Manufacturing in general, and autos specifically, tend to have high fixed costs. On the other hand, in service industries such as accounting firms, variable costs outweigh fixed costs. Taken together, variable and fixed costs comprise a firm's total cost.

Variable and Fixed Costs in Education

From an economic perspective, public schools are in the business of educating students. In very simple terms, schools are responsible for "producing" educated students. Educated students are the "output" of schools. In the case of private firms, their projected output determines the type and quantity of inputs that they will have to employ. Similarly, in the education sector, the number of students enrolled each year is the primary determinant of a district's workload and thus a determinant of the "inputs" needed to deliver educational services.

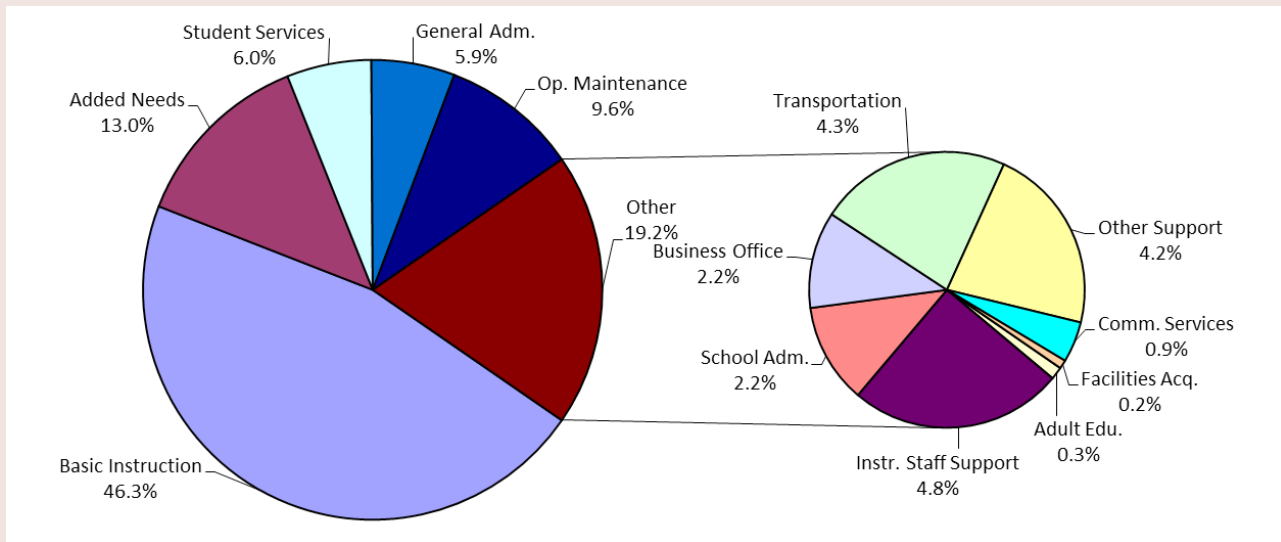
The relative importance of each input used in delivering public education to 1.5 million students each year is reflected in school financial data. In school year 2012-13, Michigan public schools had general fund expenditures totaling \$14.9 billion. **Chart 2** shows that basic instruction (i.e., teachers) is the single largest economic input (46 percent of total). When other instructional spending is added (i.e., added needs), total instructional spending accounts for

almost 60 percent of all general fund expenditures. From both a financial and academic standpoint, teaching is the most important input in the education production equation.

Despite advancements in communication technology that have fostered various forms of online instruction, public K-12 education instruction is still primarily delivered by teaching professionals. Teaching predominately occurs in a classroom setting with an average of 20 to 30 students. School budgets in general, and teaching specifically, are labor-intensive. Labor costs (e.g., salaries, wages, and benefits) dominate school spending, as reflected in **Chart 3**. Approximately three-quarters of the \$14.9 billion of general fund spending in school year 2012-13 was directed at labor costs, of which instruction is the largest piece.

In most industries, labor is considered a variable cost. As more cars are produced, more fabricators, welders, and installers are needed, or existing workers will have

**Chart 2
General Fund Expenditures by Function: 2012-13**



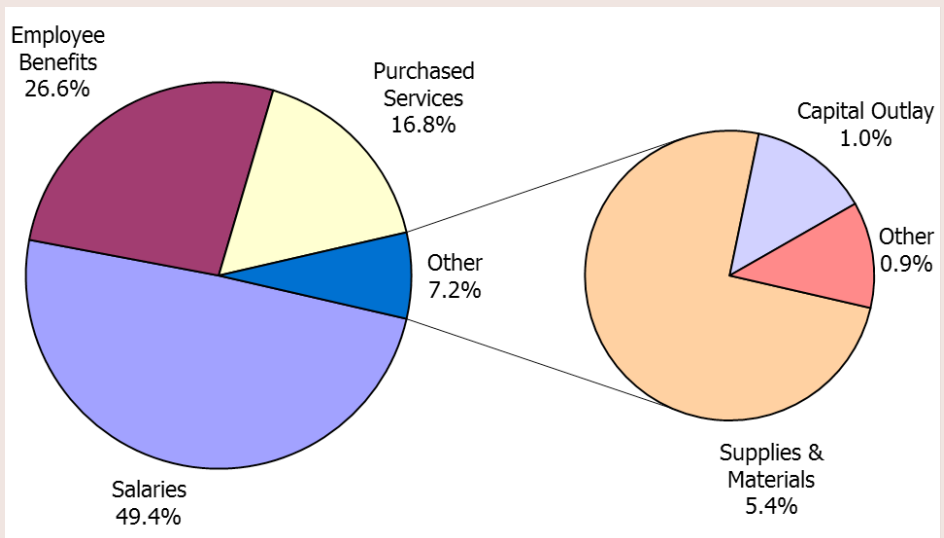
Source: Center for Educational Performance and Information

to work additional hours, possibly at higher wages. Similarly, when accounting firms see an increase in demand for their services, they hire more accountants. In the K-12 education sector, labor (instructional and support staff) also varies with changes in enrollment. As more classrooms are added in response to an increase in enrollment, additional teachers and other personnel are required. Also, additional supplies and materials are needed to accommodate more students. Of course, if enrollment swells without a proportionate increase in staffing, class sizes will increase. In order to maintain existing class sizes (a general measure of educational quality) staffing will need to increase proportionately. Similarly, an enrollment decline means that fewer teachers are required to maintain current class sizes.

For schools, capital facilities, general and school administration, capital expenditures, debt service, operations and

maintenance, and transportation are examples of fixed costs. For an enrollment change (either up or down) over a short period of time to impact a district's fixed costs, the change has to be fairly significant in scale. Similarly, fixed costs can change over a longer period of time if there is continuous, but relatively small, enrollment variation.

**Chart 3
General Fund Expenditures by Object: 2012-13**



Source: Center for Educational Performance and Information

Adjusting Variable Costs in the Near-Term

Issues of scale and timing are important to all costs, but are particularly significant with variable costs. As to scale, small to moderate changes in output may not require a proportionate change in the inputs used and therefore the variable costs incurred. Similarly, while large output increases will increase variable costs, firms may be able to realize certain economies such that these costs do not rise at the same rate.

In terms of time, all costs, including fixed costs, are variable over the long run. However, in some industries, variable costs can be particularly sensitive to time. This is the case in public education.

As noted above, the major variable input in public education is labor. Although the amount of labor employed by a school district can be adjusted as the number of students enrolled fluctuates, over the short run, labor appears more like a fixed cost when enrollment changes are small to moderate. Student enrollment has to change by a substantial amount in a short period of time to allow for changes in the number of teachers needed. Given the significance of instructional spending to the total financial picture of school districts, budgets are largely comprised of fixed or semi-fixed cost pressures in the near and intermediate term.

In this way, school costs function differently from variable costs in other sectors. To illustrate, consider a school district that enrolls 1,500 pupils and experiences a 3.0 percent (45 students) enrollment change (either up or down) from one year to the next. Based on this moderate enrollment change, this district's marginal revenue, or the change in total resources from one year to the next, would increase or decrease by about \$325,000 in basic operational funds (e.g., 45 pupils x \$7,251 per-pupil grant). What is likely to happen to this district's marginal costs from the enrollment change? Do the district's cost pressures, specifically the need for labor, change by an equal amount?

In a declining enrollment environment, the district would be expected to reduce its total spending by an equivalent amount because state law requires school districts to enact and maintain a balanced budget

throughout the year. In this example, 45 pupils is the approximate size of two average elementary classrooms. Thus, it would seem that the district could reduce two classroom teachers (and the related classroom equipment and supplies) and generate the majority of the savings needed to match the revenue loss. However, enrollment losses rarely are concentrated in a single grade or building that might permit the elimination of even a single classroom teacher. In reality, it is more often that enrollment losses are spread across multiple grades, classrooms, and buildings, making such personnel/spending reductions difficult to effect in the near term.

In this case, the district's cost pressures have not changed with the loss of students. While the district will be able to reduce some instructional spending arising from fewer students, such as purchasing fewer supplies and materials, the vast majority of its instructional spending (i.e., teacher salaries and benefits) will remain unchanged. Labor cost pressures do not fall in lockstep with the marginal revenue reduction and there is no immediate and equal variable cost savings.

Because of the balanced budget requirement, school spending will have to be cut to match available revenue. Given the nature of education costs, spending reductions are likely to occur outside of the classroom in non-instructional areas of a district's operations. For example, the district might lay off a librarian, cut an extracurricular offering, cut an ancillary program like art or music, or delay maintenance on its buildings.

Similarly, with an increase of 45 students, with these students being spread across multiple grades and classrooms, a district would not be expected to increase the number of teachers it employs. Adding three or four students to each grade would not necessitate opening a full classroom and employing more teachers. Thus, the district's cost pressures are not likely to increase by the marginal revenue increase associated with enrolling more students. Of course, these students would need books and other materials, which would increase instructional spending to some degree; however, the additional

Revisiting School Finance Formula

Michigan's lackluster academic progress on national tests relative to other states, combined with economic challenges constraining state revenue growth, have increased interest in the state's school funding mechanisms. Recently, there have been numerous focused examinations of school finance issues, either as a stand-alone issue or in a larger context. Governor Snyder's 2011 education message laid out his vision for a public education system based on an "any time, any place, any way, any pace" approach to delivering services and initiated the recent round of school finance discussions.^b The governor's message was followed by a year-long, privately-led study centered focused on re-writing the State School Aid Act. The goal of the Michigan Public Education Finance project was to operationalize some of the policy directives contained in Governor Snyder's earlier message.^c Of course, the Michigan Legislature reviews school funding issues each year as part of the state budget process. Acting on its constitutional authority, the legislature annually determines per-pupil funding allocations and the programs to fund; however, it has not fundamentally altered the school funding formula for decades.

At the beginning of 2014, the State Board of Education began to weigh in on school finance and governance issues. Under an effort led by Board President John Austin, the Board received testimony and analyses on issues and recommendations for change from varied perspectives, including stakeholders, policy analysts, researchers, and the general public. In early spring 2014, the Citizens Research Council provided testimony to the board and offered its analyses of a few governance and finance issues meriting the Board's attention. Of particular note, CRC highlighted the challenges districts, especially small- to medium-sized ones, face responding to the short-run fiscal effects of declining enrollment.

^b https://www.michigan.gov/documents/snyder/SpecialMessageonEducationReform_351586_7.pdf

^c <https://pefaproject.wordpress.com/>

spending would not approach the marginal revenue increase.

If the district decides to spend the additional funds, either in the classroom or elsewhere, its overall spending will increase. Such a spending increase is not driven by additional cost pressures arising from the extra students. Because the district is under no obligation to spend the additional revenue it gains, it could place the funds in reserve to be used in the future.

Outside of the classroom setting, other educational services and the related cost pressures are not likely to be impacted by moderate enrollment changes. For example, the number of buses and bus drivers would not likely change with the addition of 45 students. Similarly, the number of librarians or other ancillary staff would not need to be increased to meet the service demands of more students. Just as instruc-

tional spending acts more like a fixed cost in the education sector, other labor-intensive educational services function this way.

Again, it has to be noted that this discussion only applies to modest enrollment changes. Even in the near term, if the enrollment change is large enough to allow an entire classroom of students to be eliminated/added, then labor costs can be adjusted proportionately. Further, in the long run, all costs are variable. Thus, over a longer period of time, traditional fixed costs like buildings, administration, and transportation can be adjusted proportionate to the increase or decrease in the student population. If a school district loses a significant number of students, schools can be closed, administrative positions eliminated, and bus routes changed. The bottom line is that instructional cost adjustments take time to materialize, especially when there is a moderate enrollment change.

Some Considerations for Policymakers

Policymakers may want to consider some of the ideas CRC presented to the State Board of Education as they tackle school finance issues in the coming months. First, moderate to significant enrollment decline is a clear sign of existing, or rapidly developing, fiscal stress. School district and state officials must heed this signal. It should be used as an early warning to districts and the state that a district is in trouble, prompting them to take action and provide additional assistance (i.e., technical, managerial, financial) to mitigate the effects of financial problems, including the potential disruption of student learning.

Second, the state should consider revisiting the blended student count formulas of the past during this era of declining enrollment. In recent years, there has been a shift towards placing greater weight on current year enrollment counts. Currently, the previous school year's count is not even factored into a district's enrollment. One possibility is to base enrollment, at least in declining districts, on a three-year average. By giving greater weight to previous years' student counts, districts are able to make more gradual spending transitions to accommodate new revenue levels. This eliminates the requirement for districts to make major, and sometimes, drastic changes in programming. Districts are still expected to reduce spending to accommodate fewer students, but have a little more time to transition. Also, basing funding on prior year student counts provides districts with more certainty in setting budgets.

Finally, and perhaps most importantly, a fundamental disconnect exists between the state's primary school funding formula (i.e., per-pupil foundation grant) and the nature of school costs (i.e., heavy

fixed costs). This is made clear by the current era of declining student enrollment.

Currently, the grant treats all costs as variable in the short-run; when a student leaves so do all the costs associated with him or her. Our assessment of the current declining enrollment era, combined with the structure of the school finance system, is that all school funding follows the student when enrollment changes; however, some of cost pressures (call them short-term "school based" costs) associated with the student remain with the educating district for a time after the student is gone.

This is not just a phenomenon for declining enrollment districts, but it also applies when student population rises. In cases of enrollment gains, district costs rise by less than the amount of additional revenue received. This mismatch between the marginal cost increase and the marginal revenue increase creates a degree of inefficiency in the allocation of scarce state resources.

Policymakers should consider modifying the per-pupil foundation grant so that the marginal revenue that a district loses or receives because of a change in student enrollment is equal to the change in marginal costs, either up or down. This would require breaking up the grant to reflect the relevant fixed and variable costs in education. Some funding should remain with the district to reflect the fixed or semi-fixed costs. The fixed cost portion of the grant that a district retains could be phased-out over a period of time to reflect the reality that over the long-run, all costs are variable.

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