K–12 Education in Michigan

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1. Introduction

Nationally, K–12 education has been undergoing dramatic changes aimed to improve equity, adequacy, and efficiency. The school finance equalization movement has increased the centralization of school finance and reduced variation in revenues across local school districts. Michigan's Proposal A stemmed from concerns about inequities in property tax burdens and school spending across districts, and fits within the latter part of this broad movement. Two other leading movements have been increased school choice and increased reliance on accountability systems. Michigan has been one of the innovators in fostering more flexible school choice, and has recently adopted reward systems based on student academic performance. This chapter describes recent reforms in the nation and in Michigan, as well as future challenges.

We begin by presenting a broad view of the structure and state of K–12 education in Michigan. There are 524 K–12 and 31 less-comprehensive school districts in Michigan. The charter school movement has added another 210 districts as of fall 2002. As in other states, in Michigan there are two more aggregate layers of government institutions that shape the provision of education. At the state level, the Michigan Department of Education (DOE) and State Board of Education provide leadership and supervision. These offices inform the legislature about schools' financial needs, approve the certification of teachers, and formulate policies to guide as well as to respond to legislative mandates. In addition, 57 intermediate school districts (ISDs) serve as a liaison between the DOE and their constituent school districts. These regional education centers are established as separate taxing units and are financed from a combination of federal, state, and local sources. They provide a range of services according to local needs, including administrative and technology support, community outreach, and instructional services such as special and vocational education.

Michigan is currently the state with the eighth-largest school enrollment. In keeping with the national trend, enrollment in Michigan decreased through the 1970s and 1980s and increased in the 1990s.[1] Between 1990 and 1999, Michigan's average daily attendance increased by 8.5%. This places it in the middle nationally (thirty-fourth) in terms of the rate of growth.[2] Despite the sizeable shifts in aggregate numbers of students, the race/ethnicity composition of Michigan's K–12 students has been relatively stable over the last fifteen years. In 1986, 76.4% of students were white, 19.8% black, 1.8% Hispanic, and 1.2% Asian

FIGURE 15.1

Current Expenditures Per Pupil

SOURCE: *Digest of Education Statistics 2000,* Table 168. Price Index from the Bureau of Economic Analysis, National Income and Product Accounts Table for local and state governments.

TABLE 15.1

Rankings of Michigan K–12 Expenditures Relative to Other States, 1999

	Rank (per pupil)	% of total expenditures (operating + capital)
Instructional expenditures		
Salaries	8	33.3
Benefits	12	10.7
Purchased services	10	1.2
Supplies	16	2.1
Tuition and other	21	0.3
TOTAL INSTRUCTIONAL EXPENDITURES	14	47.6
Support services expenditures		
Student support[a]	4	5.3
Instructional staff[b]	9	3.7
General administration	15	2.0
School administration	7	5.2
Operations and maintenance	6	8.7
Transportation	16	3.3
Other support services	6	3.8
TOTAL SUPPORT SERVICES EXPENDITURES	4	31.9
Food service	43	2.4
TOTAL K–12 OPERATIONS	9	81.9
Current expenditures—other[c]	6	2.1
Non-current expenditures		
Capital outlay[d]	3	13.0
Interest on debt	7	3.0
TOTAL NON-CURRENT EXPENDITURES	—	16.0

(a) Student support services include expenditures for health, attendance, and speech pathology services.
(b) Instructional staff includes expenditures for curriculum development, staff training, libraries, and media and computer centers.
(c) Other current expenditures include expenditures for adult education, community colleges, private school programs funded by local and state education agencies, and community services.
(d) Capital outlay includes expenditures for property and for building and alterations.
SOURCE: Data are from Tables 67, 162 & 166 of the *Digest of Education Statistics, 2001.*

or Pacific Islander. In 1999, these percentages were 74.4%, 19.6%, 3.2% and 1.7%, respectively.[3]

In 1999, Michigan's current expenditures per pupil were $8,142, 16.1% more than the national average.[4] Figure 15.1 plots these expenditures over time, along with average national expenditures. Since the 1960s, Michigan has spent more on average than has the nation as a whole, and this gap has increased over the past decade. While Michigan ranked twenty-sixth in expenditures per pupil in 1990, the state ranked ninth by 1999.

Table 15.1 gives Michigan's 1999 ranking for expenditures by area. Note that the state's rank in instructional expenditures was somewhat lower than its overall rank (fourteenth vs. ninth), though still high relative to other states ($4,733 compared to a national average of $4,324). Michigan has consistently dedicated a smaller proportion of current expenditures to instruction than most other states. Figure 15.2 shows that while expenditures on instruction rose during the past decade, the proportion of expenditures going to instruction did not. The 48% share in 1999 places Michigan forty-eighth among states. Conversely, expenditures on support services have been particularly high in Michigan (ranking fourth in 1999).

Michigan does not hire as many teachers per pupil as many other states do. The pupil-teacher ratio in Michigan declined from 19.7 in 1990 to 18 in 1999 (compared to a fall in the national average from 17.2 to 16.1), but was still the ninth-highest in the nation.[5] However, teacher salaries have historically been high, potentially compensating for large class sizes. Average salaries have ranged from between 13 to 23% above the national average since 1970.[6] According to our estimates from the 1999–2000 Schools and Staffing Surveys, the average starting salary for teachers with a Bachelor's degree across all states was $25,888 (median of $25,321). In Michigan the average base salary was $28,999 (median of $28,900). Michigan also has particularly high returns to experience, with an average premium to ten years of experience of 52.8%, compared to a national average of 31.1%. The return to additional education (a 9.4% premium for a Master's degree and no experience) is more similar to that of the nation as a whole. Starting salaries vary more across districts in Michigan than in other states, with a coefficient of variation of 0.092, compared to 0.079 nationally.[7]

A possible explanation for the high base salaries and returns to experience is the strength of the teacher labor union. Nearly all school districts in Michigan are unionized. The Michigan

Education Association (MEA) is the largest employee union in Michigan, and the third-largest education association in the United States.[8] The high variability in starting salaries is likely partly due to the traditional reliance on local funding and to disparities in the cost of living across rural and urban areas (rural districts pay starting salaries that average 10% below those of other districts in the state).

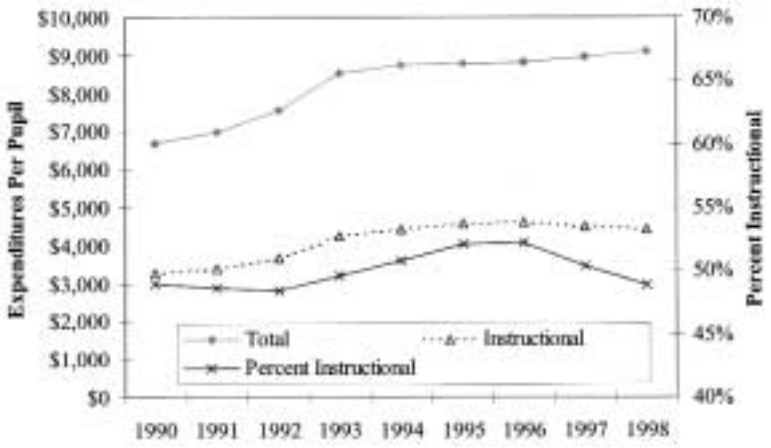
Relative academic achievement for Michigan students appears to have improved (though unsteadily) in recent years. Across the nation, thirty-seven states participated in the National Assessment of Educational Progress (NAEP) for eighth-grade mathematics in 1992, 1996, and 2000. Michigan ranked eighteenth in 1992, ninth in 1996, and thirteenth in 2000.[9] Between 1992 and 2000, Michigan made the sixth-largest gain among states in points on this exam. Figure 15.3 shows the percentage of fourth- and eighth-graders scoring at the basic level or above in math in 2000 for each of the participating states. Michigan is at about the same place in the distribution at both grade levels.

Figure 15.4 illustrates the performance of Michigan students on the fourth-grade mathematics NAEP separately by race/ethnicity. Eighth-grade scores show a very similar distribution. The numbers are expressed in standard deviations from the overall national mean. White students in Michigan scored higher on average than white students nationally, while black and Hispanic students in Michigan scored slightly below students of the same race and ethnicity nationally. Figures 15.5a and 15.5b plot the fourth- and eighth-grade gains in the math NAEP relative to the national average gains. The NAEP gains were slightly higher in Michigan than nationally for black students in both grades, and , for Hispanic students, in eighth grade. [10] White students in Michigan gained less than the average student nationally, but more than the average white student nationally. Overall gains were not as high in Michigan as in two surrounding states, Indiana and Ohio.[11]

In the next sections, we will describe the policy changes that have played a role in the recent evolution of K–12 education in Michigan and consider to what extent these reforms have had both desired and undesired effects. We address each of the key areas of reform in turn, starting with school finance in the next section. School choice and accountability systems are addressed in sections 3 and 4. Section 5 provides a brief concluding discussion.

FIGURE 15.2

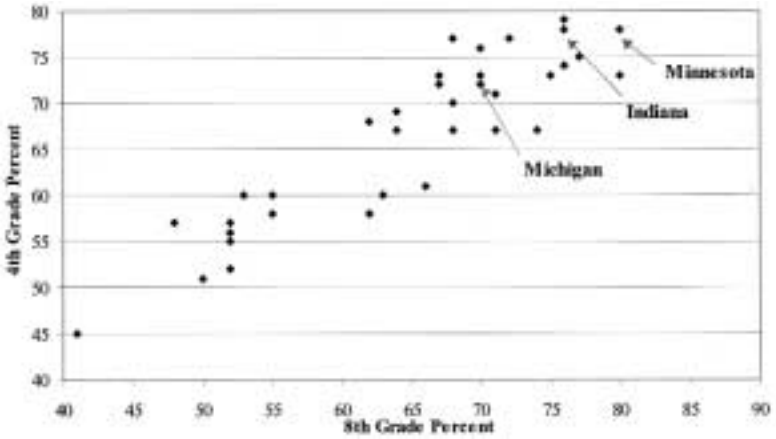
Total Expenditures and Instructional Expenditures Per Pupil in Michigan 1990–98 (2002 dollars)



SOURCE: *Digest of Education Statistics 2000,* Table 168. Price Index from the Bureau of Economic Analysis, National Income and Product Accounts Table for local and state governments.

FIGURE 15.3

Percentage of Students Scoring at the Basic Level or Above on the NAEP Mathematics Exam, 2000



SOURCE: National Center For Education Statistics (*http://nces.ed.gov/nationsreportcard/naepdata*).

2. School Finance Reform

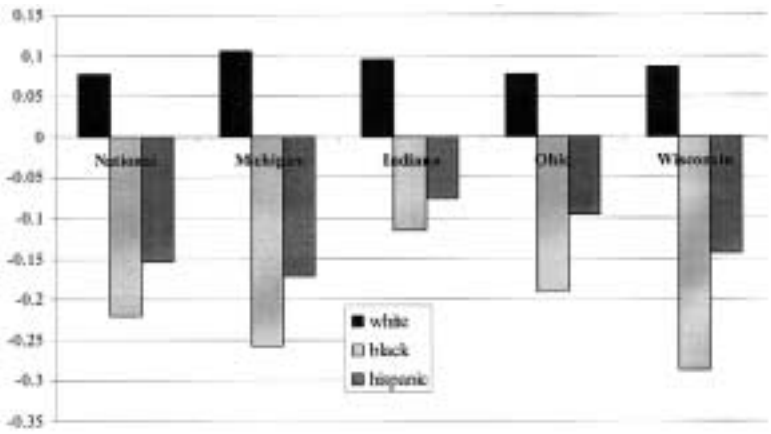
Following the elimination of local property taxes in August 1993, Governor Engler proposed two key school reforms in a message to a joint session of the Michigan legislature in October 1993 (Knittel and Haas 1998). He called for improving funding equity, as well as expanding schooling options. Legislation passed on 24 December 1993

enacted a new foundation system for distributing revenues to schools. In March 1994, voters chose to finance this new program with an increase in sales taxes (rather than an increase in income taxes) through Proposal A. For more detail on the tax changes of this reform see chapters 25 and 27 in this volume.

In this section, we describe the finance systems in Michigan before and after the reform and the impact of the change on the pattern of expenditures across districts. To set the stage for this, we first review school funding mechanisms in general and the changes that have occurred in the finance of schools across the nation.

FIGURE 15.4

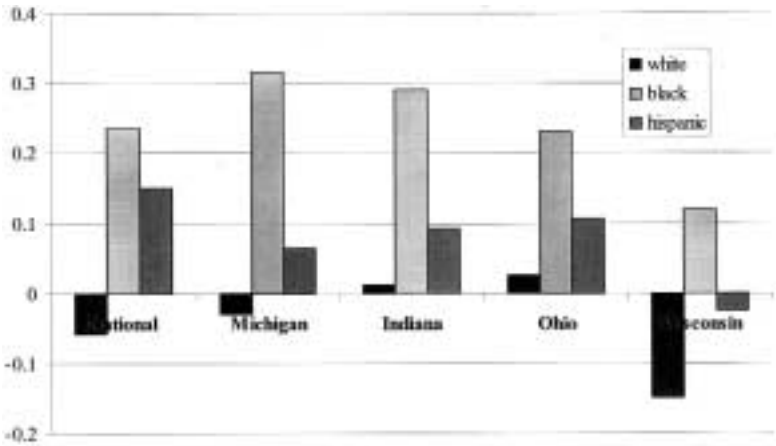
Standard Deviations above the National Mean for the NAEP Fourth-Grade Mathematics Exam, 2000



SOURCE: National Center For Education Statistics (*http://nces.ed.gov/nationsreportcard/naepdata*).

FIGURE 15.5A

Gains in Standard Deviations from the National Mean on the NAEP Fourth-Grade Mathematics Exam, 1992 to 2000



SOURCE: National Center For Education Statistics (*http://nces.ed.gov/nationsreportcard/naepdata*).

2.1 Background on School Finance Equalization

In the United States, the financing of public schools has traditionally been the responsibility of local jurisdictions. Under a system of pure local provision, parents are, in theory, free to "shop" across localities, choosing both the quality of public schooling and the amount paid for it through property taxes. The great advantage to this shopping model is the possibility for parents to find a community that closely matches their tastes for education (Tiebout 1956). Families that value education more will cluster in communities that spend more on schools, while families that value parks or private spending more will cluster in communities with those priorities. The argument for local funding for schools is very much like the argument for free markets in general. Families will purchase what they value and thus only goods that are valued will be produced. In addition, since families are choosing expenditure levels, they may be more likely to monitor how those dollars are spent.

However, a system of pure local funding of schools has disadvantages as well. Such a system inevitably leads to self-segregation by income and large inequities in the level of service provision across communities (Ladd and Yinger 1994). In many states, the resulting system has been deemed unconstitutional, for violating state constitutional equal protection clauses.[12] Starting in 1971 with the *Serrano v. Priest* decision in California, state courts have called for greater state involvement to provide more equal access to education across communities.

Determining whether an educational system is equal or equitable is not straightforward. Generally the goal is to treat similar people in a similar way (horizontal equity) and to treat different people in a different but equitable way (vertical equity). All those with a similar ability to pay should pay the same amount for the same level of services, while it may be argued that those with a lesser ability to pay should pay less for that same level of service.

Since most local school districts finance education expenditures through property taxes, property wealth is the most commonly used measure

of ability to pay. One problem with this measure is that home value is not always highly correlated with income. The elderly, for example, tend to have a disproportionate share of wealth in housing. The link between residents' means and tax base wealth can also be weak at the district level due to nonresidential property. A revealing fact that has only recently come to light is that the strong negative relationship between property wealth and per pupil spending that led to California's reform coexisted with a much more even distribution with respect to income (Sonstelie, Brunner, and Ardon 2000).

A separate problem arises due to capitalization, which means that property values reflect community characteristics. Consider the case of two identical homes in neighborhoods that are identical, except that one is in a district with a greater per pupil tax base. Families will be willing to pay less for the house in the low-wealth district, anticipating that property taxes will be higher. The natural result is that the lower-cost house has a higher tax rate, though this is not a sign of inequitable treatment, since the homeowner has already been compensated through a lower purchase price. Few states have addressed these problems by incorporating alternative measures of ability to pay, such as per capita income, when making inferences about equity.[13]

A twin issue to fiscal capacity is resource need. School districts may serve student populations with very different characteristics, which implies that different levels of resources are needed in order to achieve the same outcomes. In addition, resource costs may differ. For example, districts in labor markets that provide high wages to college graduates may need to pay more to attract teachers of any given quality. One way to assess the impact of school characteristics is to attempt to measure how much it costs to achieve any given level of achievement in varying schooling environments. While there is an extensive literature that attempts to do just this, there is little consensus (Duncombe and Yinger 1999). The difficulty arises because it is unclear whether differences in outcomes between districts with the same level of expenditures result from differences in costs, in goals, or in efficiency. Any reliable measure of underlying need should be based on characteristics that are not directly within the control of the school district.

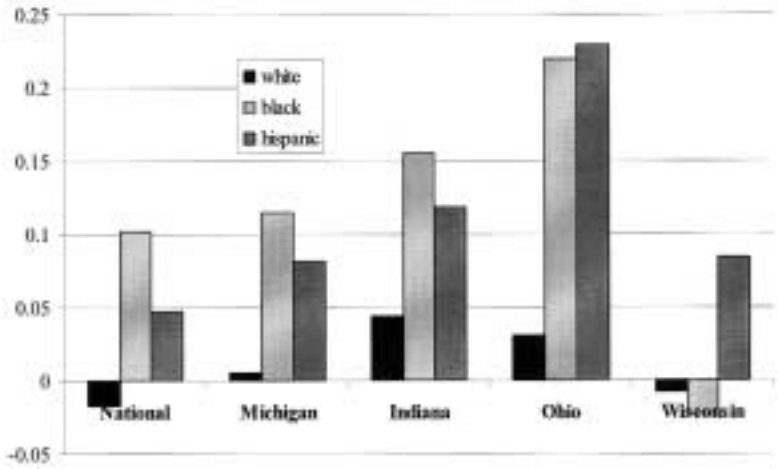
There are two broad mechanisms that states use to target resources to communities with lower fiscal capacity and higher need: foundation plans and power-equalization (or guaranteed-tax-base or percentage-equalization) plans.[14] States that implement a foundation plan choose a foundation level per pupil and a required local property tax rate. Local districts receive the difference between what is raised with the required levy and the total foundation amount.

Foundation plans differ in two important aspects. First, districts may or may not be allowed to levy additional local taxes to supplement the foundation level. Second, districts that raise more than the foundation level with the required local property tax rate may or may not be required to return the excess revenue to the state, though recapture is not common. Need is addressed either through district-specific adjustments to the basic foundation amount or through categorical aid programs. In practice, these adjustments take into account a variety of district characteristics, including the share of students served in more costly programs such as special education (most often through pupil weighting), the concentration of low-income students, district size, and relative teacher salaries.

Power-equalization plans do not set a floor on district expenditures. Instead, they set a guaranteed tax base per pupil (which may vary with district characteristics) and allow districts to choose the local tax rate. For districts with tax bases below the guaranteed level, the state supplements local revenues so that the district receives what it would have raised with the same tax rate applied

FIGURE 15.5B

Gains in Standard Deviations from the National Mean on the NAEP Eighth-Grade Mathematics Exam, 1992 to 2000



SOURCE: National Center For Education Statistics (*http://nces.ed.gov/nationsreportcard/naepdata*).

to the guaranteed level. Recapture is an issue with power-equalization plans, as it was with foundation plans, though also uncommon. If a district has a tax base per pupil above the guaranteed base, then it may be required to give back to the state the difference between the revenues it raises and those that it would have raised had it had the guaranteed tax base level. Power-equalization plans may also be capped, so that the state guarantee applies up to a given tax rate. If permitted to levy taxes above that rate, districts rely solely on the local tax base.

There are advantages and disadvantages to both plans and to the variations of both plans. Foundation plans set a floor on spending, while power-equalization plans do not. Thus, schools in districts in which the average demand of the voters for school spending is low may have very low revenues under a power-equalization plan. Since local revenue is matched by state revenue for low-wealth districts under power equalization, the implicit price of an additional dollar of per pupil spending is less than one. Though in theory this price effect could lead low-wealth districts to spend as much as higher-wealth districts, in practice the response of education demand to price is not great enough to break the link between wealth and expenditures (Reschovsky et al. 1994.).

Foundation plans that do not allow districts to supplement are more equalizing (and, if they require recapture, perfectly equalizing). However, they may force high-demand districts far from their preferred level of spending. As a result, residents may search for ways around the constraints, such as by attending private schools (Downes and Schoeman 1998) or making private donations to public schools (Brunner and Sonstelie 1997). Foundation plans that allow local supplementation do not constrain the high-demand districts. However, because these districts often find it less costly to raise funds independently than through state revenue sharing, residents have little reason to support a high foundation grant level if they can raise unlimited amounts over this level locally. Their lack of support may depress the foundation level and reduce the amount of equalization (Loeb 2001).

The appropriate design of the funding system depends upon the goals of the policy. The early legislative focus around the country was on equalizing spending across districts and eliminating the relationship between spending and district property wealth. However, due to cost differences across districts, equalizing spending does not necessarily equalize effective resources. In addition, the high burden imposed on high-wealth districts can have negative general equilibrium effects. In a case like California's, where property taxes and spending were equalized across localities through Proposition 13, the unexpected consequence was an overall decline in the level of resources dedicated to schools. Partially as a result, the focus of more recent reforms has shifted from equity to adequacy.[15] The finance system that meets the goals of equity may not meet the goals of providing sufficient funding to attain minimum academic standards.

Evans, Murray, and Schwab (2001) summarize a number of studies assessing the impact of court-mandated school finance reform. They find that these reforms have reduced disparities in per-student expenditures within states by 16% to 38%. Most states used foundation plans to raise revenues of previously low-spending districts without leveling down expenditures in high-spending districts, though California is a notable exception. Evans, Murray, and Schwab (2001) also find that although 40% of the increase in state aid to poor districts went to local tax relief, per pupil expenditures in these districts did increase.[16] There is little evidence that links these changes to improved achievement.

2.2. Description of the Policy Change in Michigan

The implementation of Proposal A for the 1994–95 school year marked a radical change in the financing of public schools in Michigan. The system, previously relying largely on local revenue, became highly centralized at the state level. Local property taxes were sharply reduced and spending per pupil was sharply increased in previously low-spending districts, while these items remained approximately the same in other districts.

Prior to the reform, Michigan relied on a power-equalization program.[17] The state permitted full local discretion in assessing property tax millage rates, and then supplemented the revenue raised by low-wealth districts. In 1994, the year prior to reform, the guaranteed tax base was $102,500 in state equalized valuation (SEV) per pupil. Districts with SEV of less than $102,500 were subsidized such that each mill levied would raise $102.50 per pupil. In addition, these districts received a foundation grant of $400 per pupil. Districts with greater SEV per pupil had this foundation grant and categorical aid phased out, but

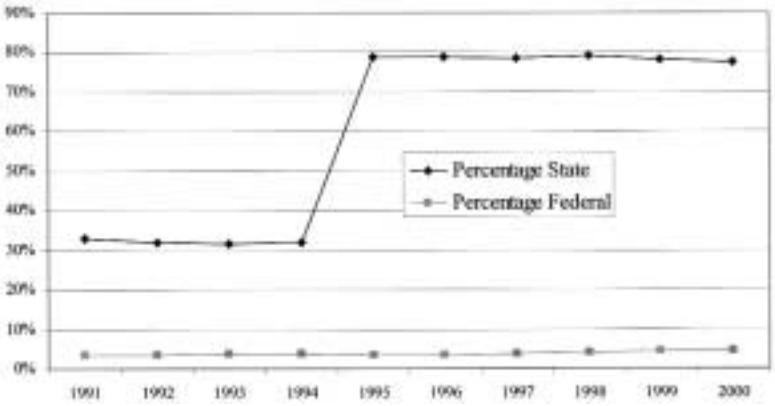
there was no recapture beyond this. The number of districts receiving state aid under this system fell throughout the 1980s and into the 1990s (Fisher and Wassmer 1995). In 1993–94, over 39% of districts (with nearly 42% of all students) were above the minimum tax base. As a result of the weakness of the power-equalization program, district revenues varied greatly. The Onaway Area Community School District (with a millage rate of 22.66) received $3,404 per pupil from state and local sources for general expenditures, while the Bloomfield Hills District (with a millage rate of 24.41) received $10,295.

While there was dissatisfaction with the power-equalization plan, the driving force behind school finance reform was not the finance of schools but the property tax (see chapters 25 and 27 in this volume for more detail). After the surprising elimination of the property tax as a source of local revenue, voters were presented with two alternatives. Though the mix of revenues used to replace the local property tax differed between the two proposals, both plans utilized the same distribution scheme and would have centralized school finance decisions and increased spending per pupil in previously low-spending districts. Proposal A passed by a two-to-one margin, carrying all eighty-three counties in the state (Courant and Loeb 1997). As a result, the sales and use tax increased from 4% to 6%, while the property tax on homestead property dropped from an average of thirty-four mills to six mills (Addonizio, Kearney, and Prince 1995).[18] Local jurisdictions are also required to levy eighteen mills on nonhomestead property in order to participate in the school finance program.[19] Had the alternative plan been implemented, the sales and use tax would have remained at 4%, but the income tax would have increased to 6% instead of dropping to 4.4%. Local homestead property would have been taxed at twelve mills.[20]

The new Proposal A revenues are deposited to the state School Aid Fund (SAF) to finance district foundation programs. The two-percentage-point increase in the sales and use tax (residential energy utility is exempt), the fifty cent per pack increase in the cigarette tax, the new six-mill state education tax (on both homestead and nonhomestead property), the 0.75% real estate transfer tax, and 14.4% of individual income tax revenues (increased to 23.0% in 1995 and currently at 24.5%) are all directly deposited to this fund. The rapid growth in the SAF shows up in a dramatic increase in the state share of K–12 education spending (see figure 15.6). The state share of general funds was 32.1% in 1994 and jumped to 78.8% by 1995.

FIGURE 15.6

Percentage of Total School revenues from State and Federal Sources, Michigan 1991–2000



SOURCE: Michigan Department of Education Bulletin 1014 data files (*http://www.michigan.gov/mde/1,1607,7-140-6525_6530_6605-21514–,00.html*).

Proposal A improves equity primarily by creating a spending floor. It also limits district revenues based on 1994 spending levels. The "basic" foundation grant for 1995 was set at $5,000. The maximum or "hold-harmless" level of state-guaranteed foundation was set at $6,500. Funding for the lowest-spending districts, those spending less than $3,950 per pupil in 1994, increased to $4,200 (the minimum) for 1995.[21] Those districts spending between $3,950 and $6,500 in 1994 received foundation grants of $160 to $250 more than their prior year spending, with the increase based on a sliding scale and inversely related to prior spending. The fifty-two districts that spend more than $6,500 were allowed to levy additional local taxes called "hold-harmless" mills, to reach $160 above their actual 1994 level. The state appropriated additional funds for districts with only small fractional mills authorized, so that these did not actually have to be levied.

The basic foundation grant increases each year according to an index that equals the total statewide revenues per pupil for all taxes that are earmarked for the SAF, divided by the 1995 level. Until 2001, the minimum grant increased by twice the calculated amount. Districts above the minimum but below the basic grant level received an amount between the calculated amount and twice that amount, while those above the basic

TABLE 15.2

Per Pupil Foundation Levels

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Minimum foundation	$4,200	$4,506	$4,816	$5,124	$5,170	$5,700	$6,000	$6,300	$6,700
Basic foundation	$5,000	$5,153	$5,308	$5,462	$5,462	$5,700	$6,000	$6,300	$6,700
Academies (maximum)	$5,500	$5,653	$5,808	$5,962	$5,962	$6,200	$6,500	$6,800	$7,000
Hold harmless (maximum)	$6,500	$6,653	$6,808	$6,962	$6,962	$7,200	$7,500	$7,800	$8,000

NOTE: Hold harmless maximum is $1,500 above the basic foundation through fiscal year 2002, after which the difference becomes $1,300.
SOURCE: Michigan Department of Education (*http://www.michigan.gov/documents/sw_fndamts_11719_7.pdf*).

foundation received just the calculated increase. Since 2000, when the minimum passed $5,800, foundation amounts for all districts have increased by the same calculated amount. Now that the system is fully phased in, the nominal disparities in revenues between districts are built into the system, unless the legislature chooses to make additional ad hoc increases, as it did in 2002.[22] Over time, continued equalization will occur as the value of the nominal differences between districts decreases.

Table 15.2 gives the foundation levels for each year since the implementation of Proposal A. Note that charter schools have an alternative foundation level, discussed in more detail in the following. In 2002, the maximum foundation grant exceeded the minimum by 24%. In that year, there were fifty-two districts with foundation allowances over the maximum (ranging from $7,810 to $15,187), so that the spending in the top district was permitted to exceed spending in the bottom district by 2.5 times. In spite of the remaining disparity, annual funding increases have been below the inflation rate for the hold-harmless districts. Many of these districts, two-thirds of which are in Southeast Michigan, are being forced to cut back on services.[23] The equal dollar increases of this foundation system at the source of these spending pressures are also the source of the moderate ongoing equalization noted in the previous paragraph.

The system as a whole allows for very little local leeway. For the three years immediately following the policy change (1995–97), districts had the option of levying up to three additional mills for operating expenditure.[24] Starting in 1998, intermediate school districts (ISDs) could levy up to three enhancement mills that would be distributed on a per pupil basis across the member districts. An enhancement question may reach the ballot if requested by districts representing a majority of the pupils in the ISD and can be approved by a majority vote of the entire ISD. Only one ISD (Monroe) has approved additional mills through this revenue-sharing program. This policy has not successfully alleviated the constraints on districts that wish to spend more on education.[25]

In addition to providing general operating revenues to districts on a per pupil basis, Michigan uses categorical grants to adjust for cost differences across districts. Proposal A folded dozens of categorical programs into the foundation grant, including state contributions to teacher retirement. Categorical grants now constitute about 15% of state support for K–12 education, down from 44%. By far the largest of these programs is targeted for special education, with funding equivalent to nearly 10% of total foundation aid in 2000 ($777.6 million; Act No. 297, Public Acts of 2000). [26] The second-largest categorical grant ($269.1 million in 2000) was for "at risk" students, defined by income.[27] Other smaller categorical grants target adult education, bilingual education, gifted and talented education, vocational education, career preparation, technical assistance for school accreditation, and so on. There were no categorical programs to help districts with capital improvements.[28]

2.3 A Look at the Impact and Legacy of Proposal A

Revenues and expenditures across districts have equalized in the 1990s. The range in spending fell from $10,207 in the year preceding reform to $8,013 in the first year of reform, and to $6,685 by 2000, in 2001 constant dollars.[29] The coefficient of variation between districts dropped from 0.22 to 0.14 between 1991 and 2000 (figure 15.7).[30] In 1991, total revenue per pupil ranged from $4,680

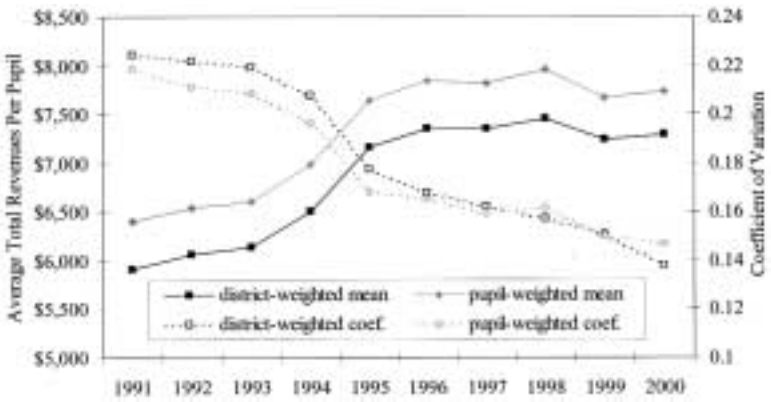
at the fifth percentile to $8,620 at the ninety-fifth percentile (again in 2001 dollars). By 2000, the values for these same districts were $6,355 and $9,285, implying a fall in the ratio from 1.84 to 1.46. This is in keeping with Prince (1996), who finds that the reform increased horizontal equity, though disparities still remain.

On average per pupil revenues rose by 26% between 1991 and 2000 in real terms, though the gains varied across districts. The districts that experienced the least growth during the 1990s were those with the highest total revenues at the beginning of the decade, reflective of the structural growth limits of Proposal A on high-spending districts. The average real growth rate for districts in the top decile in 1991 was only 3.1%, versus 42.8% for districts in the bottom decile.[31] Table 15.3 shows the correlations between percentage gains and demographic characteristics of districts from the 1990 Census. Many of the expected relationships are evident. Districts with lower income per capita, higher poverty rates, and lower state equalized property values witnessed greater gains in total revenues. However, schools with high proportions of black and Hispanic students and urban schools did not see greater gains.

The average gains per pupil in urban districts were lower (18%, 20% weighted by pupils) relative to those of other districts (28%, 27% weighted by pupils), defining urban districts as those with at least half of the population "inside" urban areas. The fifteen urban districts that saw the least gains were Lamphere, Warren Woods, Waterford, Oak Park, Bloomfield Hills, Garden City, Livonia, Farmington, Center Line, Southfield, Walled Lake, Pontiac, Melvindale Allen, Avondale, and Wyandotte, many of which are in the Detroit area and were among the higher-spending districts before Proposal A. However, most of the large inner-city districts did see substantial gains. Detroit's revenues rose by 31.8%; Flint's by 37.7%; and Lansing's by 31.9%. Grand Rapids saw an increase of only 16.6%. The large increases in total revenues for these areas led to an increase in the statewide percentile rank of revenues for these districts between 1991 and 2000: from top 19% to top 9% for Detroit; from top 18% to top 6% for Flint; from top 15% to top

FIGURE 15.7

Average Total Revenues Per Pupil and Coefficients of Variation (Standard Deviation/Mean) by Year, 1991–98 (2001 dollars)



SOURCE: Michigan Department of Education Bulletin 1014 data files (*http://www.michigan.gov/mde/1,1607,7-140-6525_6530_6605-21514–,00.html*).

TABLE 15.3

Correlations Between Revenue Gains in the 1990s and District Demographics

	Revenue gain	% Revenue increase	Income per capita	Hmstd. SEV	Non-Hmstd. SEV	% urban	% poor	% black or hispanic
Revenue gain	1.00							
% revenue increase	0.95*	1.00						
Income per capita	–0.47*	–0.51*	1.00					
Homestead SEV	–0.44*	–0.48*	0.75*	1.00				
Non–Homestead SEV	–0.27*	–0.29*	0.027	0.29*	1.00			
% urban	–0.24*	–0.34*	0.46*	0.17	–0.014	1.00		
% poor	0.49*	0.47*	–0.66*	–0.53*	–0.016	–0.14*	1.00	
% black or Hispanic	0.12*	0.013	–0.11*	–0.25*	–0.009	0.39*	0.50*	1.00

NOTE: * indicates correlation is significant at the 1% level.
SOURCE: Authors calculations based on National Center for Education Statistics 1990 School District Data Book data and Michigan Department of Education Bulletin 1014 data files (*http://www.michigan.gov/mde/1,1607,7-140-6525_6530_6605-21514–,00.html*).

5% for Lansing. Grand Rapids fell slightly in ranking, from the top 16% to the top 17%.

The shifts in revenues and tax burdens across districts may have affected property values. Using Proposal A as a natural experiment, Guilfoyle (1998) measures the extent to which differences in spending and tax burdens are reflected in higher home sale prices. He finds that a $1 tax differential leads to a $5.20 home value differential, and that a $100 increase in per pupil spending raises home values 0.4 to 0.6%. If a community were to raise spending through property taxation, the magnitudes of these effects would come close to canceling one another. This implies that districts with low spending and high property tax rates before the reform would have benefited from increased property values due to the combination of tax cuts and increased spending from Proposal A. Given that localities rely on local property taxes to finance nonoperating expenditures, this form of capitalization provides an additional equalizing mechanism.

In equalizing revenues across districts and increasing the revenues of the lowest-spending districts, school finance reform may also have translated into higher and more equal student achievement outcomes. Papke (2001) finds that student pass rates improved the most in those districts that had the greatest influx of new revenues. However, it is also true that high-performing districts did not have much room to improve under this crude measure of achievement (Cullen and Loeb 2002b).

Despite its apparent successes, Proposal A also created a number of tensions, most the result of the reduced flexibility at the local level. Prior to the reform, local districts had substantial control over the level of funding in their schools. Proposal A changed this, increasing funding in previously low-spending districts and constraining revenues in previously high-spending districts. Districts subject to spending ceilings are actively seeking to change the policy to allow for local supplementation. Legislation proposed in the summer of 2001 called for a revision to the law that would allow districts to raise up to one mill for school operating costs with voter approval. However, that bill did not pass, due to fears that it would undermine the initial reform and be a gateway to rising property taxes and inequities.[32] Voters do currently have access to equalized ISD millage, and it is likely that any further expansion of local leeway will also involve revenue sharing.

Constrained districts may find other ways around the restrictions without policy change. One way would be to expand special programs to garner more categorical aid. There is evidence from California's Proposition 13, which imposed strict limits on noncategorical program expenditures while exempting programs such as vocational and special education, that increased disparity in spending on these programs partly offset the reduced dispersion in general education spending per pupil (Sonstelie, Brunner, and Ardon 2000). Private contributions to schools may also partially offset the equalization. In California, prior to school finance reform there were 6 local education foundations designed to channel voluntary contributions to local schools; by 1992, there were 537 of these foundations, raising nearly $100 million in private money. Most of these contributions came to districts whose revenues fell as a result of school finance reform (Evans, Murray, and Schwab 2001). Fisher and Gade (1991) note that Arizona school districts have an incentive to mask expenditures normally considered to be operating expenditures as capital expenditures to avoid constraints imposed only on operating expenditures. This same incentive exists for the high-spending districts in Michigan (although the state does have some specific statutory definitions of eligible capital expenditures), while the reverse incentive may hold for low-spending districts. Preliminary analysis of Michigan data suggests that low-demand districts that saw their operating revenues expand dramatically following Proposal A were less likely to raise additional revenues for capital (Cullen and Loeb 2002a).

Three other tensions are worth noting. First, the current school finance program does nothing to equalize capital expenditures. Given this, districts with higher ability to pay will have better facilities. There are clear signs that many districts do not have access to sufficient funds to maintain current buildings or build for growing student populations. Options for expanding the state role range from providing subsidized loans to establishing a parallel foundation system for capital to full state takeover of responsibility (Theobald 2002). The difficulty with involving the state comes in designing an equitable system that does not penalize districts for investments already made.

Second, the system may overpenalize districts with falling enrollment (Theobald 2002). When school finance was controlled locally, revenues were not tied to per pupil enrollment, as they are now. If a district loses a student, revenues fall by the foundation amount while costs do not neces-

sarily follow suit, since many are fixed, at least in the short run. Existing facilities need to be maintained and programs need to run while they are reorganized to fit a shrinking population.[33] Even year-to-year fluctuations can be difficult if fewer students than expected enroll, since teachers are hired on the basis of projected enrollment. The current program partially addresses these concerns by determining funding enrollment counts based partly on February of the prior year (20%) and partly on September of the current year (80%). Some districts have been pushing the legislature to use a wider window for averaging.

Finally, the shift from local to state control means that K–12 education has to compete with other state priorities for funding. The vast majority of state funding for education is earmarked for education and does not come out of the general fund; thus, there is little competition in the short run. However, in the long run legislation can alter allocations to education. The state's revenue surpluses, substantial at the time of reform, have been used up, and there have been concerns about reductions in other state budget areas because of the guaranteed funding commitments for K–12 (Harvey 1995). The concern could easily go the other way. While the sales tax allocation is fixed in the constitution, the other earmarked revenues have a statutory basis. The 1994 legislation automated the yearly change in the funding level based on the statewide revenues per pupil for taxes earmarked for the School Aid Fund. To date, the legislature has used this level as a floor, going above it several times. In the future, fiscal pressure may lead the legislature to adjust the funding structure. Also, categorical aid is not protected in the same way that foundation aid is, so that high-cost districts with disadvantaged populations that rely on categorical grants may be at risk.

As these pressures grow over time, the state may have to respond by revising Proposal A. The challenge will be to correct weaknesses without undermining the progress that has been made.

3. The Choice Movement

While funding is a critical input to the education process, many feel that the K–12 system is not designed in a way that ensures the efficient use of resources. In the absence of direct mechanisms for holding administrators and educators accountable, parents' primary recourse when dissatisfied with a school system is to move or to attend a private school. Since both of these options can be costly, the traditional system under which students are assigned to schools based on where they live can lead to what are effectively local monopolies.

Proponents of school choice claim that providing parents with flexible nontraditional alternatives will give them more power to discipline schools that are not performing well, by exercising their choice to attend another school. The hope is that this market mechanism will benefit not only the students who actively participate but also the students who remain behind in public schools that are forced to improve by competitive pressures. Critics worry that only the most advantaged students will opt out, hurting the students who remain behind in the public schools that may not be able to improve in the face of declining resources.

School choice encompasses a wide variety of alternatives, both public and nonpublic. There has been a dramatic expansion of nontraditional schooling options over the past decade through both sectors. Currently, one in seven school districts nationally allows students to transfer schools within the same district (National Center for Education Statistics 1996), and nearly every major urban district has at least one magnet school that attracts students districtwide (Blank 1990). Since the first authorizing law was passed in Minnesota in 1991, the number of charter schools has increased to over 2,300 across thirty-four states (Center for Education Reform 2000). In addition, more than thirty cities have newly established privately funded voucher programs, and programs in Milwaukee, Cleveland, and Florida provide public funding for religious and nonsectarian schools.[34] Finally, while the rate of home schooling is low, it may have as much as tripled between 1991 and 1996 (Lines 1999) and was estimated to be 1.7% in 1999 (National Center for Education Statistics 2001c). Though all of these options break the link between where the family chooses to live and where the children attend school, each is subject to a distinct legal and regulatory environment. As such, the impact of expanding school choice will vary depending on the form the expansion takes.

Michigan legislators have supported aggressive expansion of choice through the public sector, authorizing both public school academies and schools of choice. The regulations regarding home schools have also been relaxed so that home school families are subject to fewer restrictions

and are no longer necessarily categorized as nonpublic. However, the MEA has not supported increased choice, especially in the form of vouchers. In 2000, after a vigorous campaign by the MEA, Michigan voters rejected a private school voucher proposal by a margin of more than two to one. Before discussing these specific state reforms, we first provide some background on the forms of choice and the evidence in favor of and against school choice.

3.1 Background on School Choice

The form of school choice that represents the most modest departure from the traditional system is open enrollment. These programs simply enlarge geographic attendance boundaries, so students may attend schools other than their neighborhood schools. The sending and receiving schools are typically on the same legal footing, though some magnet schools can selectively admit students. For transfers across district boundaries, sending districts typically lose the amount of per pupil state aid for each child who opts to leave; the resources are transferred to receiving districts. It is this explicit tie between funding and enrollment that is expected to discipline low-quality schools.

Charter schools represent an intermediate step toward private schools. They are public schools, but are often released from many state and local regulations. For example, in some states charter schools are not required to hire certified teachers. However, charter schools are held accountable through the oversight of the chartering authority. Further, most states do not allow charter schools to select students in any manner other than through a lottery. The hope is that the flexibility will foster innovation, while the constraints will maintain equal access.

Voucher programs integrate private schools into the finance of public education. Unlike neighborhood schools, private schools charge tuition, can be selective in admissions, and are not subject to the same comprehensive state regulations. They are also not subject to the same degree of public oversight, since curriculum and testing are generally not monitored. Home schools in most states are often subject to the same legal requirements as private schools. Voucher programs typically impose constraints on participating private schools, such as disallowing tuition charges in excess of the level of the voucher.

The first-order question about any of these forms of school choice is whether benefits accrue to students who take advantage of alternatives to traditional public schools. The bulk of the evidence is based on comparisons between students who attend public and private schools. The difficulty with attributing differences in outcomes between these students to choice alone is that they have actively chosen different paths, and are likely to differ according to other unobserved characteristics, such as motivation or parental effort. Though private school students outperform public school students on average, studies that account for this type of self-selection do not necessarily find the same positive effects.[35]

More recent studies are based on experimental designs. Studies of Milwaukee's private school voucher program that randomly selects recipients from among low-income students use a variety of methods to establish valid control groups and find anywhere from no achievement gains to large advantages.[36] While in theory randomization provides an ideal context for the evaluation of school choice, in this case over half of the unsuccessful applicants never returned to the public schools, and those who did return were from less-educated, lower-income families (Witte 1998). However, subsequent voucher experiments that have been more carefully designed from the outset also present a wide range of estimated program effects (see *www.ksg.harvard.edu/pepg /papers.htm*). Paralleling the research findings for private-sector options, studies of public-sector options such as charter schools and open enrollment also find mixed evidence for whether participants benefit (Cullen, Jacob, and Levitt 2000; Bettinger 2002).

The recent school choice experiments through voucher and charter school programs in the United States have generally not been large enough to estimate the effects on stratification, public school performance, and spillovers to students who remain behind.[37] There is evidence, though, that competition between neighborhood schools and between public and private schools under the traditional system of neighborhood assignment improves school efficiency by both reducing costs and improving student achievement (Hoxby 2000). Also, the high school open enrollment system in Chicago, in which nearly half of the students participate, appears to have benefited the students that did not participate despite substantial sorting by ability, perhaps through competitive effects (Cullen, Jacob, and Levitt 2000). Though it may simply be too early to

expect systemic effects, Michigan's charter schools have apparently not improved achievement at neighboring public schools (Bettinger 2002).

A caveat to applying lessons from the existing literature to predicting the impact of expansive school choice programs is that the general equilibrium effects may be very different from the partial equilibrium effects that have been measured. For example, even if current private school students outperform public school students, this does not mean attending private schools under a universal voucher program would have the same effect. For one, these benefits could arise from peer quality, which would then be significantly diluted. Also, schools that enter the system in response to choice to satisfy new demand may be very different from those that currently exist. Our state of knowledge is simply not complete enough to predict conclusively how the distribution of opportunity across students will ultimately be affected by school choice.

We focus below on recent innovations in public schooling options in Michigan. Neither institutional private schools nor home schools are currently eligible for public funds. The rate at which elementary and secondary education students enroll in private schools in Michigan has been declining slightly over recent years and is approximately at the national average.[38] Though the rate of reported home schooling has grown dramatically, from 887 students in 1990 to 1,914 in 2001, this represents an insignificant share of the student population.[39]

3.2 Public Schooling Options in Michigan

Michigan introduced a choice plan in 1994 as part of the implementing legislation for Proposal A. Under the choice plan, students can opt to attend public academies, known more widely as charter schools. Options were expanded in 1997 through "schools of choice" legislation that allows students to attend schools outside their home district. In both cases, state per pupil foundation aid follows the student. The idea is that schools will compete to attract students, since funding is directly tied to enrollment.

Open enrollment. Within Michigan districts, whether or not students can transfer across schools historically has been under the discretion of the local district. When intradistrict school choice was first introduced in 1997 (PA 300), students could choose to attend a traditional public school in a district outside of their home district but within the same ISD. The open enrollment program was expanded in 2000 (PA 297) to include contiguous districts outside the ISD, and to include districts in any contiguous ISD in the following year. School districts can refuse to provide slots for transfer students, but if they do and are oversubscribed, admission is based on a lottery. The receiving school district receives the minimum of its own and the sending district's per pupil state foundation aid. Students must pay for their own transportation.

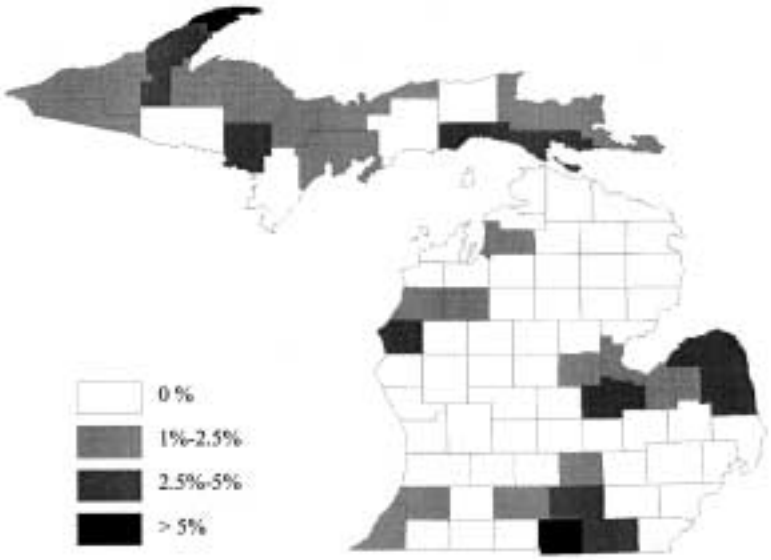
The initial reaction on the part of districts was mixed. Some districts were hesitant to participate, while others saw this as an opportunity to expand their budgets. By the second year of operation, 45% of districts were accepting students. By 2001, four out of every five school districts had signed on to participate. Between 1997 and 2001, the number of students participating grew from 7,836 to 33,506, approximately 2% of total enrollment.

Schools of choice have largely been a Detroit phenomena, with more than one-third of all transfers taking place within the metro area. However, figure 15.8 shows that there are pockets with greater activity in terms of transfers as a share of local enrollment. In terms of absolute numbers, the Detroit Public Schools have lost more students than any other in the state. In 2001, 3,082 left the city for schools in the suburbs. Early on, several neighboring districts hoping to expand their budgets took aggressive approaches to attract city students.[40] Metro districts that are losing students have been forced to respond. In the summer of 2001, the Detroit Public School system spent over $145,000 on its own marketing campaign.[41] The system is responding by offering free full-day kindergarten in several schools.

The general view is that open enrollment is having a positive impact in places with active student participation. However, schools that are losing students at rapid rates are experiencing budgetary problems.[42] The schools are finding that they cannot cut back on staff in equal proportions to the number of students that leave, particularly since students are drawn from different classes. Furthermore, once they cut services, the problem of student outflow is exacerbated. Proposals to help these schools maintain quality and respond have been put forward that would base state funding on the average of several years of student enrollment.

FIGURE 15.8

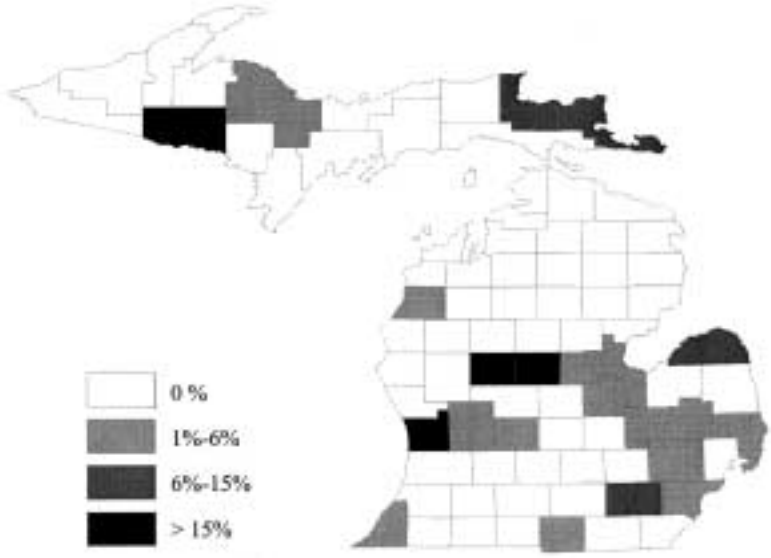
Percentage of Students Attending Schools of Choice by County, Michigan



SOURCE: Michigan School Report 1999 data files (*http://www.state.mi.us/mde/reports/msr99*).

FIGURE 15.9

Percentage of Students Attending Charter Schools by County, Michigan



SOURCE: Michigan School Report 1999 data files (*http://www.state.mi.us/mde/reports/msr99*).

Charter schools. Michigan first passed charter school legislation in December 1993 as part of the school finance reform (PA 362). In Michigan, charter schools are known as public school academies (PSAs). The first PSA opened in the 1993–94 school year. In the next two years of operation there were 14 and 44 PSAs, respectively. The numbers since then have steadily increased: 78 in 1996–97, 108 in 1997–98, 138 in 1998–99, 171 in 1999–2000, and 184 in 2000–2001. Despite the rapid growth in numbers of schools, only a small minority (1%) of students statewide attends PSAs. Figure 15.9 shows that the location of these schools is concentrated, so that participation rates in some counties are quite high.

Michigan's charter school law is one of the most permissive in the nation, Since the passage of the initial law, the state's control over charter schools has increased. A 1994 lawsuit charged that the law violated the state's constitution by allocating public funds to essentially private schools, since these schools had such a great degree of autonomy. Amendments to the law, including a requirement that PSAs hire certified teachers, were ruled sufficient for these schools to be classified as public by the Michigan Supreme Court in 1997. PSAs still do not necessarily have to participate in collective bargaining (collective bargaining requirements vary by authorizer), but unlike private schools they cannot discriminate in admissions (acceptance is by lottery) and cannot teach a religious-based curriculum.

In Michigan, several entities are eligible to grant charters. These include local and regional school districts, community colleges, and state universities. The cap on the number of university-sponsored charter schools will grow from 150 to 230 by 2017 (the cap was 100 in 1997, 125 in 1998). The entity that authorizes a charter, by accepting an application from an individual or nonprofit group, is responsible for monitoring its performance, and can revoke the charter. As of 2000, only six schools had been closed (Center for Education Reform 2000).

PSAs are financed by state allocations, which are based on the same per pupil foundation formula that applies to other public schools. A charter school receives either the per pupil foundation allowance for the district in which it is located or the state basic allowance plus $500, whichever is less (see table 15.2). There are no provisions for sources of capital funds or any access to local revenue bases, which is a problem since PSAs normally have large start-up costs. Because charter

schools are reimbursed the same amount regardless of grade level, and elementary per pupil costs tend to be lower, charter schools are concentrated in the lower grades. To address this, Horn and Miron (2000) recommend differentiated foundation grants based on average costs by grade level.

Early charter schools entered to serve minority and disadvantaged students. Along with the rise in the rate of charter schools operating for-profit from 16.7% to 71.4% between 1996 and 2000 (Horn and Miron 2000), the composition of students has shifted toward more advantaged majority students. Also, charter schools are serving special education students at less than one-third the rate of traditional schools. There are concerns that these patterns are, at least in part, due to selectivity on the part of charter schools through a variety of indirect means (Horn and Miron 2000).

There have been initial concerns about the performance of charter schools. Michigan's charter schools have performed below the state average in terms of the fraction of students achieving proficiency. However, it is important to remember that these schools serve disproportionate numbers of economically disadvantaged students, not including special education students. Still, recent studies that correct for the selection of less-advantaged students to PSAs continue to find no evidence of a positive impact on test outcomes (Bettinger 2002). The impact is likely to change, however, as the teaching force becomes more experienced and the schools have had more time to get established. Most PSAs have been in existence for a very short period of time and may have had large numbers of their students for even less time.

4. Accountability

In addition to implementing school choice programs with the hopes that market pressure will impose accountability, many states have turned to systems that hold students, teachers, and schools directly accountable for performance. Such systems can be valuable complements to school choice programs, ensuring that increased flexibility in schooling options does not compromise shared educational goals. However, those who are concerned that choice undermines support for the public sector often view accountability systems as preferred alternatives that focus energy on improving traditional public schools. Following the emphasis on the equalization of school resources and the growth in the state role in financing K–12 education over recent decades, it is also natural that states are turning their attention to monitoring the impact on outcomes and on efficiency.

On 8 January 2002, President Bush signed the "No Child Left Behind" Education Bill into law, requiring states to adopt standardized testing for students in grades three to eight, and to use the test scores in order to grade schools. Before this bill, "high stakes" standardized testing had been playing an increasing role in states' public education systems. Some states hold students directly accountable for their test performances. By 2000, twenty-eight states had passed legislation to establish minimum test standards required for a student to graduate from high school.[43] Some states also use test scores to determine grade promotions and summer school enrollments. Most states publish student test score information by school or district, and some use these scores as a basis for rewards or interventions. Currently, at least thirty-five states use student test scores to determine school ratings or school accreditation status. Of these states, fourteen use student performance measures to assign discrete grades or ratings to all schools or school districts.

Michigan recently implemented a reward system at the student level, and has continually revamped its school-level accreditation system since it was first established in 1990. Before we focus on Michigan's policies, however, we describe the general considerations associated with designing accountability systems and present evidence on the impact of these systems on both intended and unintended behaviors.

4.1 Issues in the Design of Accountability Systems

Performance-based incentive systems are common to public-sector bureaucracies where it is difficult to evaluate the production process. In the context of K–12 education, the lack of understanding, or at least of consensus, about what works makes measuring outputs particularly attractive relative to monitoring inputs and processes. While accountability systems are intended to improve school efficiency and student outcomes by focusing on the end product, however, these types of systems are inevitably imperfect.

The potential pitfalls fall into three broad classes. First, schools typically pursue multiple goals, some of which are not easily measurable. Since schools are evaluated on only some subset of activities, administrators and teachers may divert resources toward the measured outcomes and away from other valuable unmeasured outcomes. As an example, consider the testing of basic skills and area content. While this may encourage teachers to teach the standard curriculum and allow a way of quantifying quality, such testing may reduce opportunities for students to learn higher-order skills (McNeil and Valenzuela 2001).

A second class of problems arises because the specific instrument chosen to measure performance is typically only indirectly related to the outcomes that we care about. For example, consider that the goal is increasing math skills. If a specific test is used to evaluate those skills, teachers have an incentive to teach the content of that exam, which may not translate into an increase in student skills that would generalize to other test instruments. A second example is a policy that is based on pass rate thresholds. Though the goal may be to enhance learning for all students, evaluating schools based only on the number above or below that threshold may lead schools to neglect the highest- and lowest-achieving students. Different measures will have different distributional consequences, depending on how changes in students' performance at different points in the ability distribution translate into increased aggregate performance.

A third example of the disconnect between goals and implementation are systems that reward schools for average student achievement *levels,* when the goal is a move toward increased learning or value added to students. Achievement levels may largely be a measure of students' background when entering their schools. Schools with more advantaged student populations will appear to outperform other schools, whether or not they are equally effective at fostering student learning. More recent systems focus explicitly on value added by looking at changes in test scores.[44]

The final class of problems arises from the difficulty in designing systems that are "manipulation proof." For example, one method that has been used to account for students' preexisting academic abilities is to exclude some students from the exams. While this may enhance equity, it also provides schools with the opportunity to improve measured performance outcomes by controlling the composition of students taking the exam. States can safeguard against this and most of the other pitfalls by designing comprehensive and universal accountability systems (Ladd 1999).

A consideration that interacts with design issues is the level at which accountability is assigned. If an important reason for underachievement is the lack of student effort, then providing incentives to individual students can be efficacious. However, if it is schools and not students who are responsible for underperformance, than it is not necessarily fair to punish students for their misfortune. To the extent that teacher effort is the problem, policies that reward and punish teachers based on classroom performance are more relevant. Proponents of systems like merit pay also contend that tying pay more closely to performance will attract more able teachers to the profession. The dangers are that there are myriad opportunities for teachers to attempt to manipulate the system, such as by controlling class composition, and such policies may stand in the way of teacher cooperation. Providing incentives at the school level can encourage the kind of teamwork that is necessary for concerted improvement and systemic change.

4.2 Evidence on the Impact of Accountability Systems

Since testing has been the central element of most recently implemented accountability systems, the natural first-order question is whether state-imposed reforms have had an impact on learning, as measured by test scores. The evidence on this is mixed, and much of the controversy has centered on Texas. There is no question that Texas students have made dramatic improvements, according to the state-administered exams. However, researchers disagree about whether these gains are matched by gains on the NAEP (Grissmer and Flanagan 1998; Klein et al. 2000). Studies of a wider set of state reforms also find contradictory results (Rothstein 1998; Carnoy and Loeb 2002).

There is also an active debate about whether focusing on test scores has worsened other student outcomes. There is some evidence that minimum competency testing has increased disadvantaged students' probability of dropping out (Haney 2000; Lillard and De Cicca 2001). Reardon (1996) finds that high-stakes tests in the eighth grade are associated with 6–8% higher dropout

rates by the tenth grade. In contrast, Carnoy, Loeb, and Smith (2001) find that while higher scores on Texas's exams are associated with reduced dropout behavior in Texas, graduation and college enrollment rates have not improved in Texas since the implementation of high-stakes testing. It seems clear that performance gains do not spill over to other important indicators of educational improvement, though it is less clear whether these other areas are actually harmed.

The evidence on undesirable responses to accountability systems clearly demonstrates that the design problems mentioned in the prior section are of practical importance. Several studies support the fact that teachers are teaching to the specific tests, such as those studies listed previously that document that improvements on test instruments are not matched by parallel gains on other exams (Jacob 2002; Klein et al. 2000). Other researchers have uncovered evidence of a more pernicious form of manipulation through cheating by both students and teachers (Jacob and Levitt 2002). Schools also appear to be strategically manipulating which students are in the test-taking pool (Cullen and Reback 2002; Figlio and Getzler 2002), in some cases by classifying marginal students as disabled.

All of these undesirable behaviors involve real costs in terms of resources and diverted effort. There are also costs due to decisions that are made based on distorted measures of performance. To the extent that the accountability ratings reflect arbitrary differences in classification practices, these misleading ratings can lead to inefficiencies such as misguided educational policy decisions, misguided enrollment decisions, and unwarranted changes in property values.[45]

4.3 Accountability in Michigan

Michigan emphasizes accountability at the school level and has limited accountability at the student level. The basis for assessment is the Michigan Education Assessment Program (MEAP). The current version is designed to test specific criteria in each subject area, but a new version that is more closely aligned with state standards will be first implemented in 2003. Students are tested in math and reading in grades four and seven; in writing, social studies, and science in grades five and eight; and in all areas in grade eleven. While students need not score above a certain level on the high school proficiency tests in order to graduate, they do in order to graduate with state endorsement (CPRE 2000).

Though there are no student-level sanctions, a reward program was established through the Michigan Merit Award Scholarship Program in 1999 (PA 94). The goals were to increase access to postsecondary education and to reward high-achieving high school graduates. Under the program, eligible students receive a $2,500 scholarship to attend an in-state college and $1,000 to attend out-of-state colleges. To be eligible, students must take the MEAP high school tests for math, reading, science, and writing and meet the standards (score at Level 1 or 2) on all four.[46]

Very little is known about whether this program affects student effort while in school or influences student decisions about whether to pursue postsecondary education. If there are these types of benefits, they appear to be very unevenly distributed. While 34% of eligible white students qualified in the first year, only 20% of Hispanics and 7% of black students did.[47] The gap was also large between poor and more affluent school districts.[48] The concern is that the program ends up subsidizing students from more advantaged families because of the strong tie between family background and academic achievement.

The system of accountability through accreditation at the school level has been recently revamped. The system in place since 1993 had three levels of accreditation: summary, interim, and unaccredited. Though the top category had ambitious test performance thresholds and required full compliance with nonperformance provisions, the threat of losing accreditation was not real. A school could land in the middle category if more than half of the students passed only one MEAP test in any of the last three consecutive years. In 2000, only eight out of the more than three thousand schools were not accredited, even though many students were scoring poorly on the MEAP.

Fears that the interim category housed many failing schools and that Title I funds might be withdrawn without better monitoring of yearly progress led the State Board to develop a new performance-based accreditation system in May 1999. When the board moved to implement the plan in the spring of 2001, more than six hundred schools (one in five) were expected to lose accreditation, including nearly 40% of metro Detroit high schools.[49] Due to public backlash, the system was never implemented. Though the system included measures to capture improvement, critics argued

that the simultaneous inclusion of level thresholds unfairly penalized schools in low-income areas that could have low scores even if students were learning effectively.

With additional impetus from Bush's "No Child Left Behind" bill, the State Board has just approved the Education Yes! Accreditation System (14 March 2002). Under this system, schools receive letter grades of A, B, C, D-Alert, or Unaccredited. Schools not only receive an overall composite grade, but are also individually graded in six separate subareas: MEAP achievement level, change, and growth, as well as indicators of community engagement, instructional quality, and learning opportunities. Not only will reading, math, and science scores count, but so will social studies scores. Attendance and dropout rates are included among the student performance indicators to allay concerns about an overemphasis on test scores. The comprehensiveness of this new program promises to better measure what schools actually do.

There have been no specific negative consequences of losing accreditation in the short –run, since this status has been interpreted by the state as a signal of need for increased resources and support. In 2000, the State Board adopted a new policy entitled "Partnership for Success." Skilled educators are recruited to provide assistance and leadership to failing schools.[50] That same year the legislature introduced the Golden Apple Award to reward elementary schools that demonstrate sustained improvement.[51] Schools that have a minimum participation rate and significant test score gains over a three-year period are eligible for a minimum of $50,000 ($10,000 for use by the principal, plus $1000 for each full-time employee).

5. Prospect for the Future

The state of Michigan is simultaneously pursuing reform on a series of fronts in K–12 education. The school finance formula has been redesigned with an emphasis on equity. At the same time, school choice and accountability have been revamped to address the goals of flexibility and efficiency. Though these programs can complement one another, they can also be in conflict. For example, school choice has brought new complications for the design of school finance. Furthermore, as state-centered school finance and strong accountability increase state control, charter school reform strives to decentralize educational decision making. In order to continue to iterate toward a sustainable balance between this diverse set of goals, complicated interactions between the set of policies cannot be ignored.

It is also clear at this point that Michigan will face ongoing pressure regarding the overall adequacy of Proposal A funding levels to keep pace with school costs. There will also be a continuing debate over the proper balance of funding equity and local options for additional revenue for operations. There is growing pressure to consider how to address the inequity in the ability to finance capital that was explicitly ignored under Proposal A. The design of a new system for financing capital will create a second set of adequacy and equity questions for debate. Accountability will be a perennial issue, and Michigan may be destined to repeat its performance on accreditation, designing system after system with no true willingness to penalize failure or to intervene. Reaching broad social consensus on just exactly what we want our schools to do is counter to the very strong Michigan tradition of local control over educational programming–even when these local decisions are not wisely made or well implemented.

■

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NOTES

1. Average daily attendance in public elementary and secondary schools in Michigan was 1,991,235 in 1970; 1,758,425 in 1980; 1,446,996 in 1990; and 1,570,283 in 1999. In all four years, the state ranked either seventh or eighth in the nation (*Digest of Education Statistics, 2000,* table 43).
2. Here, and throughout the chapter, we refer to years by the fiscal year. For example, 1990 refers to the 1989–90 school year.
3. *Digest of Education Statistics, 2000,* table 44.
4. 1998–99 is the latest year available for the cross-state comparisons.
5. *Digest of Education Statistics, 1997,* table 66, and *Digest of Education Statistics, 2001,* table 67.
6. Average teachers salaries in Michigan were $9,826 in 1970; $19,663 in 1980; $37,072 in 1990; and $48,695 in 2000. The comparable national averages were $8,626; $15,970; $31,367; and $41,724 (*Digest of Education Statistics,* 2001, table 76).
7. The coefficient of variation is the standard deviation divided by the mean. It is a measure of the spread of the distribution.
8. The source for these facts is the MEA home page (*http://www.mea.org/Design.cfm?p=56*).
9. In keeping with its mathematics performance, Michigan scored slightly above the national average on all other NAEP tests, including fourth-grade reading in 1992 and 1998, fourth-grade science in 2000, and eighth-grade science in 1996 and 2000.
10. The SAT provides another potential achievement benchmark. However, only 11% of Michigan high school graduates took the SAT in 2000, placing it fifteenth from the bottom in terms of state-level participation. Though difficult to interpret because the pool of test-takers is particularly select, Michigan students scored above the national average on both the verbal (557 vs. 505) and math (569 vs. 514) sections.
11. Illinois data are not available for 1992, so we could not compare the gains in Michigan with the gains in Illinois.
12. The following education finance systems have been ruled unconstitutional by state courts: Alabama, 1993; Arizona, 1994; Arkansas, 1983; California, 1971, 1976; Connecticut, 1977; Kentucky, 1989; Massachusetts, 1993; Missouri, 1994; Montana, 1989; New Hampshire, 1997; New Jersey, 1973, 1990; North Carolina, 1997; North Dakota, 1993; Ohio, 1997; Tennessee, 1993; Texas, 1989; Vermont, 1997; Washington, 1978; West Virginia, 1979; Wyoming, 1980 (Education Commission of the States, 2000).
13. Connecticut is an example of a state that weights per capita income as well as property value in its formula.
14. Some states, such as Texas and Kentucky, use a combination of both types. Of the nearby states, Illinois and Ohio have modified foundation systems, and Indiana and Wisconsin have power-equalization systems.
15. For example, in Kentucky's *Rose v. Council for Better Education Inc. et al.* in 1989, the court held the state government responsible for providing an adequate education and went further to define adequate as providing students with the opportunity to develop seven specified capabilities (Evans, Murray, and Schwab 2001).
16. This picture of the average experience, however, masks variation in results across states that are at least in part due to differences in the types of equalization policies implemented (Hoxby 1998).
17. Prior to 1974, Michigan had a foundation plan with no local cap on mills (Brazer, Laren and Sung 1982).
18. A small number of the highest-spending districts prior to reform are allowed to levy additional mills on homestead property.
19. A grandfather clause allowed 13 (of the 524) K–12 districts that levied less than eighteen mills prior to reform to levy their previous millage rate.
20. In addition, the personal exemption on income taxes would have increased from $2,100 to $3,000; the single business tax would have increased from 2.35% to 2.75%; the real estate transfer tax would have increased from 0.10 to 0.75%, as it did under Proposal A; and the cigarette tax per pack would have increased from $0.25 to $0.40, instead of to $0.75 as under Proposal A.
21. Revenue eligible to be counted in the base con-

sisted of local school operating property tax revenue, state aid payments for formula aid, and categorical programs that were "rolled up" into the foundation allowance, including state payments for retirement and social security for district employees.

22. For 2002 the legislature made a special equity payment of $6,500 per pupil minus the foundation level for districts with foundations of less than $6,500.
23. "The Legacy of Proposal A: Tax Reform Shackles Many Metro Schools, Wealthy Districts Hit Hardest," *Detroit News,* 26 August 2001, *www.detnews.com /speicalreports/2001/propa/sunlead/sunlead.htm.*
24. Sixty-two of the 524 K–12 districts approved these mills for 1996 (Prince 1996).
25. Martha A. Trafford, "Proposal A Needs to Be Repaired," *Ann Arbor News,* 24 March 2002.
26. Special education funds are allocated through three programs. The largest reimburses districts at a minimum of 28.6138% of local costs for special education in general and 70.4165% of special education transportation costs. These rates are a result of the Supreme Court decision in *Durant v. State of Michigan* that the state had violated the Headlee Amendment by not maintaining proportional funding levels for the mandated program.
27. The allocation was 11.5% of the foundation allowance multiplied by the number of free-lunch-eligible students. Prior to 2000, the fifty-two "hold-harmless" districts, those with a foundation level $1,500 or more above the basic foundation, were not eligible for this aid. These districts now receive aid, but at a lower rate of 5.75%.
28. Michigan is one of only fifteen states that do not provide direct state aid for capital outlay and debt service (Public School Finance Programs of the United States and Canada: 1998–99, table 3.5). See chapter 30 on borrowing for a description of the method the state uses to make finance through debt easier for localities.
29. Adjustments from nominal to real dollars used the local and state government price index from the Bureau of Economic Analysis, National Income and Product Accounts Tables (*www.bea.gov/bea/dn/nipaweb/index.asp*), table 7.11: Chain-Type Quantity and Price Indexes for Government Consumption Expenditures and Gross Investment by Type. Revenue numbers are based on the 522 school districts in Bulletin 1014 data files in every year from 1991 through 2000. These data are available from the Michigan Department of Education at *www.michigan.gov/mde/1,1607,7-140-6525_6530_6605-21514--,00.html.*
30. The coefficient of variation is the standard deviation divided by the mean. It is a measure of the spread of the distribution.
31. Prince (1996) finds that revenues in the lowest-revenue districts increased by 30% between 1994 and 1997, while those in the highest-revenue districts declined by 4% in real terms.
32. "Fallout: Schools Face Budget Woes," *Detroit News,* Sunday, 26 August 2001, *www.detnews.com/specialreports/2001/propa/sunwoes/sunwoes.htm.*
33. The district that partly instigated the reform has gained 58% in revenues since then, but is having to cut special programs and eliminate staff because of shrinking enrollments ("Kalkaska Saved by Funding Law, but Small District Still Has Problems," *Detroit News*, 28 August 2001. *www.detnews.com/specialreports/2001/propa/tuckalk/tuekalk.htm.*
34. In *Zelman, Superintendent of Public Instruction of Ohio, et. al. v. Simmons-Harris, et.al.* (2002) the Supreme Court upheld vouchers for religious schools.
35. See Altonji, Elder, and Taber (2000) for a recent example and a review of the literature.
36. See Rouse (1998) for a review and critique of this literature.
37. Other evidence comes from international policy experiments with more expansive systems of school choice, though the lessons are somewhat limited by the lack of individual-level data. For example, New Zealand introduced unrestricted choice among all public and religious schools in 1991. Ladd and Fiske (2000) find that the gap between successful and unsuccessful schools has widened since then. However, because researchers have access to only aggregate data, whether this is due to real effects of choice or to changes in school composition cannot be determined. Hsieh and Urquiola (2002) find no evidence that the introduction of universal vouchers for private schools improved average educational performance in Chile, but found a sizeable increase in sorting.
38. Between the fall of 1991 and 1997, Michigan private school enrollment rates decreased from 10.7% to 9.9% (*Digest of Education Statistics, 2000,* tables 39 and 64).
39. Since 1996, legal parents and guardians do not need to be certified. The reported rate understate the actual rate, since these "exempt" home schools are not required to report to the state.
40. The source for the information in this paragraph is "Schools of Choice: Crossovers Reach 26,000; 1996 State Law Forced Competition," *Detroit Free Press,* 23 January 2001. *www.freep.com/news/education*

/choice 23-20010123.htm.

41. "Detroit Pulls Out Stops to Enroll Pupils," *Detroit News,* 23 August 2001. *www.detnews.com/2001/schools/0108/23/901-276244.htm.*
42. "Choice Plan Shifts Funds for Schools," *Detroit News,* 2 December 2001. *www.detnews.com/2001/schools/0112/02/d01-356898.htm.*
43. These statistics are based on the individual state summaries compiled by the Consortium for Policy Research in Education (2000).
44. Some states have approximated value added with changes over time in the average scores in particular grades. These can be very noisy measures due to student mobility and other sources of variability. Changes in the test scores of individual students over time are a more accurate measure.
45. Figlio and Lucas (2000) find that Florida's school report card ratings impact property values.
46. There are alternative routes to qualification based on combined MEAP and ACT or SAT performance.
47. "Merit Test Is Biased, ACLU Says," *Detroit News,* 28 June 2000. *www.detnews.com/2000/schools/0006/28/d01-82686.htm.*
48. School Equity Caucus (2001).
49. "State Flunks 600 Schools," *Detroit News,* 11 April 2001, *www.detnews.com/2001/schools/0104/11/901-210687.htm;* "No MEAP to Cost Schools Credit," *Detroit News,* 7 May 2001, *www.detnews.com/schools/0105/07/901-221480.htm.*
50. The funds sets aside for educators to help in the accredited school systems were to reach $10 million in 2003.
51. Appropriations for the Golden Apple Award were scheduled to be $8 million from 2000 through 2003.