EDUCATION REFORM AS ECONOMIC REFORM Evan Osborne

In 1642 the Massachusetts Bay Colony enacted an ordinance pronouncing, for the first time on these shores, that public education was a fundamental mission of the state. The Law of 1642 expressed concern over lack of knowledge of English and of the "Capital Lawes." By 1647 towns in Massachusetts of at least 50 people were required to hire a school master, because the "Old Deluder Satan" was prone to tempting children into ignorance of the scriptures. Education has thus since the earliest days of the country been seen as a public function in the United States. In the founding era, Jefferson was the most famous advocate of broad public schooling. But it was not until the era of industrialization and mass immigration in the latter portion of the 19th century that public schools, from grammar school through the universities, became an imperative in most states. The need to acculturate immigrants and to prepare citizens to participate in an increasingly sophisticated economy was a primary driving force in this movement.

But at least since the publication in 1983 of "A Nation at Risk," American public schools have been as notorious for their flaws as they once were celebrated for their necessity. What are seen as the myriad problems of public schools have drawn much comment, often including highly detailed solutions to what are claimed to be highly specific yet complete causes of these problems. The maze of competing diagnoses and proposals makes education reform a difficult problem to study. But reforming education shares some features with the problem of reforming economic policy, a widely studied problem. Economic reform seeks to improve economic growth and hence the opportunity available to residents of the reforming country, and educational reform similarly seeks to better provide children with the skills that open up more choices to them. This article applies some of the

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findings of the literature on economic reform to draw lessons about repairing American public education.

Taking the Measure of American Education

U.S. education may in theory be measured against some hypothetical ideal, but constraints afflicting collective education apply in all countries, not just in the United States. The performance of U.S. students relative to that of students in other countries is revealing, in that a poor U.S. performance would indicate problems peculiar to this country. The National Center for Education Statistics has summarized results of international performance on standardized tests in science and mathematics (NCES 1997). The standardized mean scores for each country are reported in Table 1.

The results are striking in one sense. American students begin above average, and decline relatively throughout. Every day in an American school seems to cause the average American student to fall further and further behind his foreign counterparts. This is a rather striking finding. It suggests that the problems in American schools are not related to the higher levels of poverty and inequality that by some measures prevail in the United States and that in theory bring with them many substantial handicaps to school performance. Nor does poor American performance appear to be related to differential family structure, religious objections to modern science, or any of the other usual suspects often trotted out as explanations. There is no reason to think that these problems begin to take hold late in a student's educational life. Rather, if these were significant causes of poor American performance the *relative* gap should be similar throughout the school life. Note that black American achievement measures relative to those of white Americans are relatively constant as students move through the school system. Data from the National Association of Educational Progress show that in mathematics, blacks' scores are 87.1, 86.3 and 88.9 percent of whites' scores in 4th, 8th, and 12th grade, respectively. In science, the relative scores are 78.0, 75.6, and 79.7 percent.¹ Thus, it appears that in international comparisons American students do not start out doing poorly, but they end up that way. The problems appear to be in the schools rather than in the broader society.

Spending across countries does not appear to be a likely candidate either, because like the aforementioned other factors, its effects

 $^{^1\}mathrm{Constructed}$ by author from the search tool at http://nces.ed.gov/nations reportcard/naepdata.

should be as salient at each stage of the schooling process. If there is a monotonic relationship between relative spending and relative performance, then if the United States spends 20 percent less than Japan (for example) the gaps in relative U.S. performance should show up at the earliest levels. The United States certainly should not be in the higher strata in the early years. As a check, Table 2 presents multinational data on both total public and private spending on education as a percentage of GDP and per student in 2000 (OECD 2003) and the total number of school hours per year.² These are measures of inputs into education. The United States is not a particularly lowspending nation, ranking 14th out of 35 nations in spending as a percentage of GDP. Considering that the United States is among the wealthiest OECD nations, per-student expenditure is actually quite large, as can be seen in the second column, where the United States ranks second only to Switzerland out of 25 nations. The time input is also apparently not responsible. While the United States does have a short school year measured in terms of days (38th out of 42), it ranks close to the top in total number of hours per year (4th out of 27). While the inconsistency with respect to these two time measures is somewhat surprising, it is identical to the finding in Matheson et al. (1996).

In short, the United States spends a substantial amount on each of its students, and while the students spend a reasonable amount of time in school, the more years they are there the worse they do relative to other countries. Given the dominance of public schools in American education, it is worth exploring their performance in particular. The TIMSS data do not break down performance between publicly and privately schooled students, but comparisons can be made within the United States, using other data available from the NAEP and presented in Table 3. The total gap, in the top row, between public schools (not including Defense Department and Bureau of Indian Affairs schools, which NAEP reports separately) and Catholic and non-Catholic private schools is obvious.

However, selection effects—for example, the higher innate student ability or more productive learning environment provided by parents of those who attend private schools—may operate. The statistical attempts to correct for this effect often become so complex, fragile, and contradictory that one can find evidence for almost any specific educational proposition one wishes to make. Neal (2002) summarizes a substantial literature indicating that private schooling raises

²Total number of school hours per year is derived from the Barro-Lee data set by multiplying reported school days times hours per day for each country (available at www.nber.org/ pub/barro.lee).

		rade 12	mds 1,118	1,111	1,083	1,072	and 1,064	k 1,056	1,051	aland 1,051	ı 1,049	1,038	1,030	1,029	y 992	a 960	954	.ep. 953	952	951	States 941	894	705		1,000	1,030
		C	1. Netherla	2. Sweden	3. Iceland	4. Norway	5. Switzeřla	6. Denmarl	7. Canada	7. New Zea	9. Australia	10. Austria	11. France	12. Slovania	13. Germany	14. Lithuani	15. Hungary	16. Czech Ř	17. Russia	18. Italy	19. United	20. Cyprus	21. S. Africa		Average	Median
	RMANCE		1,250	1,176	1,172	1,138	1,115	1,110	1,105	1,101	1,101	1,097	1,091	1,091	1,075	1,073	1,067	1,065	1,058	1,058	1,054	1,047	1,046	1,040	1,036	1,034
TABLE 1	1995 TIMSS Perfor	Grade 8	1. Singapore	2. Japan	3. Korea	4. Czech Rep.	5. Belgium-Flemish	6. Hong Kong	7. Bulgaria	8. Netherlands	8. Slovenia	10. Austria	11. Hungary	11. Slovakia	13. Australia	14. Russia	15. Switzerland	16. Ireland	17. Canada	18. England	19. Sweden	20. Thailand	21. Israel	22. Germany	23. France	24. United States
			1,208	1,172	1,171	1,134	1,124	1,124	1,120	1,110	1,108	1,098	1,089	1,081	1,080	1,064	1,056	1,037	1,036	1,032	1,030	989	979	677	963	955
		Grade 4	1. Korea	2. Singapore	3. Japan	4. Netherlands	5. Austria	5. Czech Rep.	7. Hong Kong	8. United States	9. Australia	10. Slovania	11. Ireland	12. Canada	13. Hungary	14. England	15. Scotland	16. Latvia	17. Israel	18. Norway	19. New Zealand	20. Greece	21. Iceland	22. Cyprus	23. Thàiland	24. Portugal

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25. Iran	845	25. New Zealand	1,033	
26. Kuwait	801	26. Norway	1,030	
		27. Scotland	1,015	
Average	1,050	28. Spain	1,004	
Median	1,072	29. Belgium-French	662	
		30. Greece	981	
		30. Iceland	981	
		32. Denmark	980	
		33. Latvia	978	
		34. Romania	968	
		35. Lithuania	953	
		36. Cyprus	937	
		37. Pórtugal	934	
		38. Iran	898	
		39. Kuwait	822	
		40. Colombia	296	
		41. S. Africa	780	
		Average	1,003	
		Median	1,046	
NOTE: Scores are the combin SOURCE: NCES (1997).	led math and sci	ence scores for each country.		

	TABLE 2						
	Spending and School Hours						
	Spending (% of GDP)	Spending (\$ per student)	Hours				
Australia	4.4	6,894					
Austria	3.9	8,578	960				
Belgium	3.6	6,889					
Canada	3.6	5,947	975				
Cyprus		—	840				
Czech Rep.	3.1	—					
Denmark	4.2	7,726	1,040				
Finland	3.5	6,094	874				
France	4.3	7,636	972				
Germany	3.6	6,826	760				
Greece	3.0	3,859	900				
Hungary	3.0	2,446					
Iceland	4.9	6,518					
Ireland	3.0	6,518					
Italy	3.3	7,218	816				
Japan	2.9	6,266					
Korea	4.0	4,069	986				
Luxemburg		—	1,080				
Mexico	3.8	1,615	780				
Netherlands	3.1	5,912	1,000				
New Zealand	4.6	—	1,000				
Norway	3.7	8,476					
Poland	3.7	—	950				
Portugal	4.1	5,349	980				
Slovakia	2.8	1,927					
Spain	3.3	5,185	1,025				
Sweden	4.4	6,339	1,200				
Switzerland	4.3	9,780					
Turkey	2.4	—	875				
United Kingdom	n 3.8	5,991	960				
United States	3.9	8,855	1,148				
Mean	3.7	6,117	958				

SOURCES: OECD (2003) for spending; Barro and Lee (1994) for school hours.

achievement after correcting for selection effects. The work summarized in Jimenez, Lockheed, and Paqueo (1991), which studies the less politically charged issue of education in developing countries, also overwhelmingly supports the superior performance of private education there after correcting for selection effects. But McEwan (2001) uses Chilean data—Chile being a country with an extensive voucher system—to suggest that selection effects may explain most of the achievement gap. However, Chile (like other countries) substantially limits the ability of private schools to deviate in spending, curriculum (i.e., output) and factor ratios from what prevails in public schools (Merrifield 2005). The manner in which public and private schools compete in Chile is similar to what we would expect if a state steel monopoly were opened to competition, but with competitors required to adhere to the same labor contracts and charge the same prices for the same products. The benefits of competition in such an environment are presumably substantially eroded.

With that caveat in mind, a relatively straightforward technique exists for at least crudely correcting for some of these selection effects. Table 3 shows the performance of the NAEP measures of reading, mathematics, science, and total scores broken down by several characteristics that might result in selection advantages for private schools while not affecting their intrinsic performance parents' education, race, region, and eligibility for the federal schoollunch program (a proxy for poverty). One consistent pattern emerges-public schools perform significantly worse than private ones across all categories. This result is robust across all different methods of slicing up the data. There is, in contrast, no discernible difference between Catholic and non-Catholic private schools. These data do not conclusively correct for the possibility that other undetectable selection effects operate within the homes of parents likely to choose private schools, but they do correct for broader society-wide selection effects-for example, the higher percentage of povertystricken households possibly represented in the public schools. It is at least plausible that public schools disproportionately account for poor American relative educational performance.

Education Reform as Economic Reform

The aforementioned evidence is clear: American schools perform badly in an international context, and public schools appear to do particularly poorly within the United States. It is impossible to reform American education without recognizing, first, that the problem exists and, second, that it is first and foremost a public-sector problem. Identifying the problem as deriving from the "public" in public education is actually a promising approach to the problem, because it opens the door to applying the findings from the literature on economic policy reform. The last quarter-century has seen many countries, with varying degrees of success, attempt to change

	FABLE 3		
Public and H	PRIVATE AC	CHIEVEMENT	
	Public	Non-Catholic Private	Catholic
Reading (1998)			
Total	289	302	303
By Parental Education			
<h.s.< td=""><td>268</td><td></td><td></td></h.s.<>	268		
H.S. grad.	278	295	296
Some post-H.S.	290	301	298
College grad.	299	306	307
By Race			
White	296	307	307
Black	268		283
Hispanic	272	295	293
Asian	287	_	301
By Region			
NE	289	310	298
SE	282	302	
Central	294	291	306
West	290	307	—
Math (2000)			
Total	300	315	315
By Parental Education			
<h.s.< td=""><td>278</td><td></td><td></td></h.s.<>	278		
H.S. grad.	287	296	301
Some post-H.S.	299	309	308
College grad.	312	322	320
By Race			
White	307	317	318
Black	273	296	291
Hispanic	281	305	301
Asian	318	333	324
By Region			
NE	303	320	309
SE	290	311	315
Central	305	315	318
West	300	315	320
By School-Lunch Eligibility			
Eligible	280	—	285
Not eligible	304	314	310

continued

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	PUBLIC AN	D PRIVATE AG	CHIEVEMENT	
		Public	Non-Catholic Private	catholic
Science (20	00)			
Total		145	160	161
By Parental	Education			
<h.s.< td=""><td></td><td>125</td><td>_</td><td>135</td></h.s.<>		125	_	135
H.S. grad.		134	144	148
Some pos	t-H.S.	146	152	156
College gr	rad.	155	166	166
By Race				
White		153	162	164
Black		122	146	141
Hispanic		126	144	148
Asian		152	166	165
By Region				
ÍNE Ö		149	165	167
SE		140	155	163
Central		149	159	163
West		144	162	155
By School-L	unch Eligibi	lity		
Éligible	0	120	_	134
Not eligib	le	150	156	157
Overall Rad	cial Differe	nces		
	White	Black	Hispanic	Asian/PI
Reading	294	267	272	286
Math	308	274	283	319
Science	154	123	128	153

TABLE 3 (continued) PUBLIC AND PRIVATE ACHIEVEMENT

Source: Calculated by author from search tool at http://nces.ed.gov/ nationsreportcard/naepdata.

growth-destroying economic policies. Elements often include privatizing state-owned companies, cutting government spending and inflation, and restoring market pricing. Some of these reforms are directly analogous to reforms that would improve public education and some are not, but the entire process contains lessons that are useful in the school-reform debate.

To see education policy as economic policy is to open a window into a whole range of possibilities. The primary tool used is the rentseeking model of costly economic policy pioneered by Tullock (1967) and Krueger (1974), and ways to minimize rent-seeking suggested by that body of work. Rent-seeking theory views the government as a

passive dispenser of special privileges—import protection, monopolistic access to government licenses required to engage in ordinary commercial activity, tax breaks, and so on. These favors are allocated to individuals on the basis of how many resources they spend to influence the government via lobbying, bribery, voting, or other political competition. These special privileges generate costs such as higher taxes or prices and excessive competition by favored industries for scarce resources that are borne by the rest of the population. State control of the economy also causes actors inside and outside government to attempt to expand the portion of the economy under government control.

Becker (1983) extends the analysis by phrasing the competition as one of groups rather than individuals and showing that the competition for rents rewards groups that are small. He also optimistically predicts that political competition, which works like economic competition, tends to promote less inefficient forms of rent-parceling. There are two distinct processes that cause rent-seeking to be inefficient. Much of the empirical work on rent-seeking has emphasized the deadweight loss caused by the diversion of resources from production to redistribution. For example, every dollar spent by an automaker lobbying the government is unavailable to make more and better cars. However, an effect that is arguably secondary in economic policy is primary in educational rent-seeking: the price distortions caused by the creation of special privileges and limits on competition. For example, controversial ideological positions can be promoted via education of everyone's children rather than through more traditional political activism or social persuasion that tries to influence the government or fellow citizens directly. The pursuit of those goals becomes relatively cheaper. It is suddenly cheaper to promote longrun policies or values about government, sexual behavior, multiculturalism, or a host of other specific goals not shared by one's fellow citizens when one can influence future generations via the school system than if one has to achieve these goals through more traditional means. A cultural protectionist who seeks to promote his language and culture similarly finds it easier when he can persuade the schools to do it than when he has to persuade the government to fund such protectionism directly. Particular curriculum requirements or assessment measures are other ways in which pressure groups can reap benefits through educational rent-seeking while foisting the direct and indirect costs of those policies substantially on everyone else. These are all subtle alterations in the price of effort required to achieve a political goal, and it has the same effect as any other price distortion. Objectives that might be left to one's own family or to voluntary persuasion become ensnared in politics and especially the politics of education. Those objectives and the ideologies that spawn them become more prevalent when the effort required to promote them declines.

There is no reason to assume a priori that the United States would be more affected by educational rent-seeking problems than other wealthy industrial democracies. However, by other measures of clean governance the United States does relatively poorly compared with such nations. For example, the Transparency International ratings of corruption for 2003 show that, for the 25 nations in the survey with per capita GDP of at least \$15,000, the United States only ranks 18th in terms of clean governance (TICP 2003). Similarly, in a World Bank measure of corruption control the United States ranks 16th out of 24 such nations (GRICS 2002). The reasons for the relatively mediocre quality of U.S. governance are beyond the scope of this article. But the fact that it appears to be relatively corrupt compared with nations with which it is most similar in terms of standard of living allows the prima facie inference that education too will be unusually prone to corruption. This may help explain the poor performance of U.S. public education.

If rent-seeking is a significant problem, who is doing the seeking? The pressure group that draws the most attention in criticism of U.S. public schooling is surely school employees. Teachers, principals, and support staff are often thought to receive a substantial premium by their ability to exert political pressure via methods including, but not limited to, strikes. Segal (2004) gives numerous examples of particular groups that benefit from rent-seeking in public education, including teachers, administrators, local school board politicians, and custodians. But as suggested earlier, consumers of educational services are also rent-seekers, because the public funding of schools gives them an incentive to try to get the taxpayers to subsidize their ends. These targeted privileges are somewhat different from the standard rentseeking benefits of higher wages, less competition, and limited competition, although those are common as well. Rather, these are rents in consumption—the generation of outputs that benefit small groups even though the entire community is taxed to provide them and is required to unwillingly consume the services. Because public education requires others to fund human capital that bears both high monetary and nonmonetary returns for relatively narrow groups, it is likely to be subject to ferocious rent-seeking efforts.

The Value of Localized Funding

One possible inference of rent-seeking theory is that political conflict tends to be greater when funding sources are disconnected from

spending. In standard rent-seeking models there is a common pool of funds generated by the productive efforts of the participants, with the distribution of the spoils depending on how hard each individual fights, that is, on the allocation by each individual of effort away from production toward conflict. But in education funding the setup is frequently even more discouraging. Benefits are often locally decided, at the level of a local jurisdiction such as a school district or even a single school. But the necessary taxes are often imposed at a higher level, so that the burden of rent-seeking in substantial measure falls on those who are not even part of the local jurisdiction. In such circumstances rent-seeking effort is likely to be even more severe. For example, when all the costs of special education privileges are borne locally, individuals within that community may still seek to impose their curricular or other goals on other members of the community, but there is less ability to take advantage of the smallnumbers effect by kicking the funding farther up the federal chain. When the costs of these policies are borne by taxpavers throughout the state or nation the political cost to a local district's acquiescing to these special-interest pressures is smaller. Elsewhere I have analyzed how ethnic conflict can be lowered when ethnic groups have exclusive authority over purely ethnic matters, but no formal voice in such nonethnic matters as defense and social-welfare spending (Osborne 2000). If ethnicities are given an official role in nonethnic choices, those choices tend to become ethnically defined. Similarly, the ability to impose the cost of special privileges on those outside the jurisdiction sharpens the incentive to expand those privileges.

The task then is to limit the ability of those interested in such privileges from foisting their costs on those who have no such interest. To the extent that such conflicts play out entirely within a particular school district they are partly unavoidable. However, when particular rent-seeking objectives are geographically concentrated, the use of the limitations on taxation enabled by a federal system may be helpful in controlling educational rent-seeking. Assume that the entire burden for providing a curriculum element such as extended bilingual education that is costly both in terms of requiring resources such as specially trained teachers as well as forgone opportunities to teach other things or in other ways must be borne locally rather than at the state or federal level. The chances that such a harmful and costly curricular requirement will be imposed are then smaller. This strongly suggests that local funding of schools is a key ingredient in lessening political struggles over curricular matters.

However, in recent years the trend has been in the other direction. In the interests of equalizing expenditures across school districts, many states are either voluntarily moving the funding base away from districts and toward state governments or are under court order to do so. In recent years even the federal government has increased its participation in, and hence control over, educational funding. The pursuit of federal funding for local rent-seeking objectives in curriculum, employee work conditions, and so on should increase if the federal government continues to expand its role in education funding. Whether funding inequality drives educational-outcome inequality (a commonly offered motivation for centralizing education funding) is an open and interesting question (albeit one not suggested by the above-mentioned international comparisons). However, the analysis here suggests that regardless of the answer, such centralization is an invitation to more rent-seeking, an unequivocal drawback.

Mobility of Students and Schools

Tiebout (1956) famously argued that jurisdictional competition could allow local governments to more closely align provision of local government services with individual preferences. Jurisdictions, somewhat like firms, would organize distinct taxation and spending patterns in response to citizen migration. This insight predated the rentseeking revolution, but its usefulness remains, albeit in an altered way.

In rent-seeking models, the problem to solve is minimizing the destructive effects of redistributive competition rather than maximizing the alignment of service provision with citizen preferences. But the degree of inefficiency lost to rent-seeking is a margin of competition as well, as Becker (1983) notes. Thus, the ability to migrate from inefficient jurisdictions will tend to curb inefficiency. Policies that promote the ability to transfer from poorly performing schools to as many preferable ones as possible will promote better school performance for the same reason that some literature suggests that openness to global economic forces promotes better governance (Damania et al. 2004, Neeman et al. 2003). Of course, parents' income constraints may be an obstacle to mobility—poor parents, in other words, may find it difficult to take advantage of better schools. Loosening those constraints in the service of mobility is then suggested.

This argument is well-known, being the primary appeal of school vouchers. However, a second sort of mobility has not been considered—mobility of schools. Rather than students transferring from one school to another, it is possible to conceive of public schools unusually burdened by policies imposed from above being allowed to exit their jurisdictions and either operate independently or join

another jurisdiction. In Tiebout models there is an implied assumption that each jurisdiction is a compact set, and that jurisdictions collectively partition the entire unit through which citizens may migrate. Rent-seeking models also generally suppose a single compact jurisdiction into whose contest-success function rent-seeking expenditures are poured. In both cases jurisdictions themselves are exogenous.

But some literature studying other problems posits flexible jurisdictions. Casella and Weingast (1995) and Frey and Eichenberger (1999) invoke the notion of geographically overlapping jurisdictions to provide public goods in a European Union built on a foundation of traditional nation-states. In their construction, a single resident of a particular location may consume public goods produced by different jurisdictions that do not cover identical geographic areas. The unit of analysis in their work is the individual who chooses to subscribe to this or that provider of particular public services.

But it is worth considering whether schools should be free to exit districts to become either independent agents or members of a new district. The ability to exit promotes the localizing objective outlined earlier and allows the school's ultimate decisionmakers (administrators, parents, or others) to more closely align their preferences with the offerings of educational providers. Such a measure would admittedly be a second-best response if income-constrained parents were not free to enroll their students where they wish, in public or private schooling. But political opposition to vouchers is well-established, and this possibility means that schools with similar goals or student profiles but separated by geographical distance within a larger school district could then coalesce around their distinct concerns.

Dramatic versus Incremental Reform

A key issue in economic reform is the speed of change. Once the decision to reform has been made, the choice of whether to engage in complete and immediate or slow, incremental change must be made against the backdrop of constraints based on political maneuvering room. Mehlum (2001) argues that only gradual reforms may be politically feasible, in that dramatic reform may generate so much short-term pain that the reform will be canceled, while Fischer and Sahay (2001) believe, based on an analysis of post-socialist economies, that bold reform is preferred. Arrow (2000) argues that dramatic reform risks chaos and incremental reform may not be credible, but comes down on the side of the latter. However, empirical literature is sparse. In at least one empirical study dramatic reform outperforms

incremental reform both in durability of reform and in subsequent economic performance (Osborne 2004).

One of the difficulties in public-school reform is that solutions are assumed to be highly specific—more teachers (or more money), charter schools, vouchers, greater reliance on standardized testing, and so on. But incremental economic reform may fail because the initial payoffs are relatively low, and opponents mobilize public opinion so that reform in general loses political support. The economy then may deteriorate further. If education reform is similar, piecemeal changes of the sort outlined previously risk worsening educational achievement. Dramatic reform is then suggested. However, the analogy to dramatic reform in the educational context merits further delineation.

When economic reform is needed, distortions alter people's incentives and cause them to make privately optimal choices that cause the overall economy to perform poorly. The analogy to education is a close one. If schools currently emphasize self-esteem at the expense of factual instruction, students might then overestimate their future chances of success, blame failures on external forces rather than their own choices, and systematically underinvest in human capital. Likewise, if schools emphasize ethnic studies and tribalism-reinforcing topics, students will interpret the empirical landscape of society in ways that emphasize tribal determinism. But the solution in economic reforms is to end the distortions. Individuals then make choices unencumbered by prices that are artificially high or low, and resources are used more efficiently. The original inefficiency arises because government can coercively alter prices in ways that citizens must at best passively accept or at worst respond to by engaging in inefficient appropriative activity, which further distorts incentives.

Ending the distortions caused by rent-seeking pressure requires the freedom that people in the larger economy already possess—the freedom to weigh competing alternatives and select the best one, so that poor alternatives are readily penalized. Thus, a key lesson of viewing education reform as economic reform emerges: *education becomes more effective only if individual choice increases*. In this instance, the ultimately relevant individuals are parents. Their preferences and constraints, and hence their preferred choices, differ. For sorting to work they must be given the freedom to weigh alternatives and to select the one that best suits them. The task at hand is to give them meaningful choices, so that educational arrangements that are undesirable can be displaced via competitive processes by those that better meet their needs. If enough parents possess both income and mobility, then the market should offer a menu of choices

that provides options of greater value than the status quo for most participants.

Dramatic reform works because it quickly promotes proper incentives, to which *individuals* respond. The education equivalent of such reform *must* involve substantially greater choice. Anything else—for example, greater reliance on testing, higher standards for teachers, particular curriculum reforms-not only does not eliminate the desire to engage in political pressure to undo or alter these changes, but encourages more of it from the negatively affected parties. When, for example, testing disproportionately impacts some groups, they have an incentive to agitate to change the tests or weight them differently. In the end the goal that testing is supposed to achieve—better academic performance—may improve, may be unaffected or may move further beyond reach. Just as failed economic reform in Latin America and elsewhere has led to public pressure and rent-seeking agitation for more than completely undoing the changes whose very incompleteness or lack of permanence brought about the failure, command-and-control, top-down, highly specific changes in educational policy can be expected to prompt further centralization of control, a corresponding further susceptibility to rent-seeking and an eventual further deterioration in performance.

Conclusion: Thinking about the "Public" in Public Education

The unifying feature of the analysis here is decentralized choice at the level of the parent and the school. The primary justification offered is the desire to avoid rent-seeking, with the deadweight losses and distortions that accompany it. However, the choice imperative can just as productively be expressed in terms of the decentralizedinformation problem of Hayek (1945). The inability of a highly centralized education authority to collect the necessary localized information on what is valued and what must be sacrificed to achieve particular educational objectives means that it will make poor choices even if well-intentioned. By imposing a single educational plan on large numbers of people with their own particular circumstances, even absent rent-seeking there is substantial waste. For example, parents who would be willing to pay more for disabled services find that their local schools devote few resources to that and far more to gifted students, or vice versa. Central planning leads to problems even without rent-seeking.

But there is a long-standing argument against leaving education to

individual choice. That argument is that education is a public good. Even the most ardent proponents of limited government agree that public goods can constitute a market failure, so that public provision improves social welfare. Fairly typical of claims that education so qualifies is Lubienski (2000: 211):

Yet, although it provides private benefits to students, schooling is also a public good—something we increasingly forget. This is not a new insight. For years, people have associated the wide distribution of schooling with progress, an informed citizenry, assimilation into shared values, lower birthrates, lower crime rates, and so forth—as well as (for better or for worse) AIDS prevention, abstinence, inculcation of entrepreneurial values, teaching a shared language, providing hot meals, and other social services and agendas. In view of wider effects, economists refer to the 'externalities' of mass education to explain the general societal benefits that accrue from the wide diffusion of education.

The problem with such public-goods analysis of education is that the features that supposedly make it so, such as those outlined above, are actually not features of public goods. Pure public goods are characterized by nonrivalry and nonexcludability in consumption. While education has the nonrivalry characteristic up to a point-one student's consumption of a teacher's presentation does not preclude other students from simultaneously listening—the effects are subject to crowding costs. Indeed the importance attached to low studentteacher ratios as a key requirement of quality schooling is evidence of how quickly these effects set in. And, even apart from crowding effects, since schooling is excludable despite its nonrivalrous nature it is-much like cable television but unlike national defense-not in fact a pure public good, but rather what is known variously as a toll good or marketable public good. Such goods are often provided privately and publicly simultaneously (e.g., recreational facilities). And some aspects of public education (for instance, individual teacher attention or time devoted to assessment) are rivalrous in any event.

What the author quoted above actually emphasizes, without sensing the difference, is that benefits to other members of society are instead positive externalities. The alleged market failure in education arises primarily not from public-goods problems but from the positive spillovers of a properly educated citizenry. These distinctions are not simply abstract. Pure public goods generally must be at least publicly funded if not produced, while externality problems are often better remedied through taxation or subsidy, assuming the tax or subsidy we get (instead of the one we want) is actually a welfare improvement. That the outputs of the public-choice process are considerably far

from first-best policy is a key prediction of rent-seeking theory. To argue that an externality exists is not to argue that the effect of whatever public policy results from an effort to tackle that externality actually enhances welfare. Market failure does not automatically imply government success.

The optimal response to this type of market failure, assuming that rent-seeking does not so corrupt the public decisionmaking process that intervention makes things worse, may involve subsidy of the purchase of private educational output or a legal minimum private investment by parents. To simply require that citizens demonstrate certain minimum standards of education by a certain age, or to subsidize schooling in whatever format parents choose, would yield most or all of the external benefits without the rent-seeking problems that may cripple public production. These solutions are not perfect, in that pressure groups would struggle over the size of the subsidy and attempt to dilute it by requiring or forbidding certain types of education, but is probably an improvement over simple public production, particularly monopolistic public production.

In addition, the extent to which public education of a particular child is a positive externality depends on the extent to which his parents fail to internalize its benefits. The presumption in a free society must surely be that parents are in most things the best judges of the type of education their children should receive. There is no reason to suppose that parents systematically wish to shortchange their children in competence in math, reading and science, citizenship skills, "socialization," or the other types of outputs produced by public education. There is an implied arrogance in the positiveexternality characterization of public education, a belief that parents have preferences that bring about inadequate investment in their children—that parents, for example, have mostly mercenary goals for their children and will underemphasize the skills needed to be proper citizens. That is a mistake. In addition, to assume that public production of education should disproportionately bear the burden of producing sufficient investment in an educated citizenry is perhaps to misunderstand not just the taxonomy of market failure but the behavior of most parents and the proper division of labor between family and state in a free society.

As noted earlier it is probable that income constraints will cause some parents to underinvest in their children's education relative to the optimum. But public production is not necessarily the only answer to that failure. Any option that provides such parents with resources to make the necessary investment—assuming they have no desire, absent resource constraints, to underinvest—will suffice to produce an optimally educated citizenry. This analysis suggests that the options considered should maximize parental choice and flexibility at the school and district level. Some public schools can undoubtedly compete effectively, just as municipal departments in areas such as sanitation often win bidding contracts when city services are privatized, but reforms should be carried out with an eye to avoiding top-down solutions and privileging of public (or any other) schools specifically.

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