Teachers' Unions:
Outcomes and Reform Initiatives

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Teachers' unions are formidable foes of meaningful educational reforms.... The resulting frustration of long-ignored parents is manifesting itself in the profusion of charter and for-profit schools.

Charlene K. Haar (1998)

I. Introduction.

The "little red school house" was once a powerful metaphor for public perceptions and views of public schools in the United States: small schools founded on a strong consensus of both purpose and means; supported by strong communities of active, concerned parents; attended by eager, disciplined children; and taught by hard-working, dedicated teachers. Whether or not perception ever fully matched reality, public perceptions are now very different and have been for several decades. National surveys "...depict an American public angered by their perceptions of the state of public education. Many see the schools as mirroring the moral decay that infects society. The public feels the schools are no longer theirs, that they have been captured by teachers, reformers, unions, or others." (Wadsworth, 1997)

Some of the strongest attacks are reserved for teachers' unions, with recent evidence that unions increase costs while increasing high-school dropout rates (Hoxby, 1996) and claims that contracts and unions impede both school performance and reform initiatives (Raham, 1999). Discontent with public schools in general and teachers' unions in particular has fueled interest in a variety of reforms: vouchers, charter schools, teacher "pay for performance" plans, and a myriad of school accountability proposals and initiatives.[1] Indeed, the spirit of "reform" has been so contagious that even the teachers' unions have been taken up by the inertia of reform, with calls by Robert Chase, President of the National Education Association, for a "New Unionism" based upon collaborative bargaining with school districts to help improve the performance of schools. Most recently, President Bush and Congress (including an unlikely ally, Senator Ted Kennedy) have joined forces to enact a federal reform initiative.

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[1] Prominent critiques of public schools and teachers' unions include Chubb and Moe (1990), Hanushek *et al* (1994), Burtless (1996), and contributors to Ladd (1996).

But what do we really know? Do teachers' unions lower student performance? Are "pay for performance" plans for teachers a good idea? What kinds of plans have been tried, and what is the evidence on how well they work? What about private-school alternatives? Are private schools really better than public schools, as many believe? If so, then voucher or tuition assistance programs might be successful in improving student achievement by shifting students from public to private schools. If not, then will school voucher programs simply further segregate students by the socio-economic factors of education, income, and race? What about the rapidly growing charter school movement? Are these schools more effective alternatives for students in the public schools? What good evidence do we have?

In our contribution to this volume, we review the evidence on the effects of teachers' unions on public schools. Much of this evidence will be discomforting to critics of teachers' unions; other evidence discomforting to teachers' unions. In the end, though, we seek to identify concrete issues about the interaction of schools and teachers' unions that may help focus efforts at improving schools. Next, we survey key trends in the "standards and accountability" movement, along with evidence on their effectiveness; review the evidence on "pay for performance" or "incentive pay" plans; evaluate the evidence on the relative effectiveness of public versus private- and charter-school alternatives, as well as voucher and plans designed to encourage alternatives; discuss the relationship between these issues and the recent federal education reform act; and consider the NEA's move toward a "New Unionism." We conclude with a summary of key findings and a discussion of future directions for reform.

II. Collective Bargaining and Outcomes.

What evidence is available to assess the concrete effects of teachers' unions on public schools? Where evidence is available, what are the most reliable conclusions one can draw? Other reviews of teachers' unions often ask related, but different questions that emphasize the institutional context, evolution, and operation of collective bargaining in public schools. Two prominent examples of this genre are *Teacher Unions in Schools* (Johnson, 1984) and *The Changing Idea of a Teachers' Unions*

(Kerchner and Mitchell, 1988). Indeed, other contributions to this volume offer related perspectives.

Our point of departure here relies heavily on *Unions and Public Schools* (Eberts and Stone, 1984) and a recent critical survey by Stone (2000). The latter poses the following conjecture: Suppose we had no *direct* evidence on the influence of teachers' unions, but instead had only the *indirect* implications from the effects of unions elsewhere, whether in private industry or other portions of the public sector. What might we expect, based only on the patterns found for unions elsewhere, about the effects of teachers' unions? The typical effects of unions, as reviewed for example in the classic *What Do Unions Do?* (Freeman and Medoff, 1984), offer a sharp perspective on the likely effects of teachers' unions on teacher pay and benefits, working conditions, cost of instruction, and student achievement.

Teacher pay and benefits

Unions want "more," said Samuel Gompers. In sectors other than public schools, evidence suggests that pay and fringe benefits for union workers typically exceed those of non-union workers. While the magnitude of the differential can vary substantially from one sector to another, the pay differential is typically 8 to 10 percent for "identical" workers and even higher for fringe benefits (Freeman and Medoff, 1984, pp. 47, 67-8). To the extent that teachers' unions are similar to those elsewhere, we would expect similar pay and fringe benefit differentials for unionized teachers.

Two detailed studies (Baugh and Stone, 1982; and Hoxby, 1996) using different techniques and sample data find evidence that, indeed, unionized teachers do tend to earn more, in the range of 5 to 12 percent.[2] The range of this pay premium is consistent with the typical range found for union pay premia in other sectors. While evidence on the pay premium is more extensive than on the fringe-benefit premium, Eberts and Stone (1984, p. 146) do present evidence on fringe benefits for one state. Based upon contracts for New York public schools, they find a significantly positive effect for fringe benefits for teachers, one substantially larger than for the corresponding effect on pay. This result corresponds to

[2]Kleiner and Petree, 1988 find only a small differential, but rely on aggregate data with few controls.

evidence from other sectors, where the effect on fringe benefits is typically larger than the effect on pay.

Working conditions

Unions typically push for improvements in working conditions for their workers, but also often push to "standardize" the workplace. While there are many studies of workplace conditions and processes for public schools and teachers' unions, there are few controlled studies that permit reliable comparisons between unionized and nonunionized schools. For working conditions, three studies offer some evidence. Eberts and Stone (1984) rely on national data from the Sustaining Effects Survey of elementary schools to study both the student-teacher ratio and the amount of paid preparation time for teachers. The student-teacher ratio is nearly 12 percent lower and the amount of paid preparation time is about 4 percent greater for unionized teachers. Kleiner and Petree (1988, p. 316) use state-level data and also find a decline (7 percent) in student-teacher ratios for unionized teachers. Similarly, Hoxby (1996, p. 695) uses district-level data and finds a decline of about 9 percent in her preferred specification.

Along with improvements in working conditions, unions also tend to "standardize" the workplace, as well. Eberts and Stone (1984, p. 149) examine detailed contract items for districts in New York and find a greater reliance in unionized schools on traditional classroom organization, as compared to other instructional methods. In national data for fourth-grade students Eberts and Stone (p. 156) also find that unionized schools are less likely to rely on a variety of specialized, more idiosyncratic instructional methods in mathematics: 42 percent less time with a specialist, 62 percent less with a specialized aid, 26 percent less time with a tutor, and 68 percent less time in independent, programmed study. As we will suggest later, these kinds of standardizations, common to unionized workplaces, may have substantial consequences for atypical students, in ways that are different from those for average students.

Unions and their members are certainly interested, too, in protecting employment, either from temporary downturns in enrollment or from incentives to reduce employment as the costs of union pay

and fringe benefits rise.[3] Student-teacher ratios tend to be lower in unionized schools, even in the face of higher pay and more costly fringe benefits, and the two major types of contract items that tend to protect teachers from employment loss are class-size limitations and reductions-in-force (RIF) provisions. Eberts and Stone (1984, pp. 143-44) find that these two types of provisions tend to increase employment and the total cost of instruction above what it otherwise would be.

Cost of instruction

Increased pay, better fringe benefits, improved working conditions, a more standardized and regulated workplace, and the kinds of protection against loss of employment common in union contracts typically come at the expense of a higher cost of production in other unionized sectors.[4] To what extent is this true for teachers' unions? The answer, while appearing obvious, is potentially complex, since the more attractive employment compensation and environment might attract more able teachers, offsetting at least to some extent the higher costs with better teaching and higher levels of student achievement. While a few early studies (e.g., Hall and Carroll, 1975; Chambers 1977) find little or no difference in the costs of operating unionized schools, the two most detailed studies provide quite consistent evidence of higher operating costs. Eberts and Stone (1986) find that the cost of operating unionized elementary schools is about 15 percent higher; the cost of unionized high schools about 8 percent higher. Similarly, Hoxby (1996) relies on different, more recent data and finds a union cost differential of about 12 percent.

Student achievement

The question the public is most concerned with, of course, is whether teachers' unions affect student achievement. For this question, evidence on "productivity" from other sectors is mixed. For some

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[3] Labor restrictions are normally required for "efficient" contracts, as in (McDonald and Solow, 1981).

[4] In some exceptional cases, total costs of unionized production are lower at very large scales of integrated operations (e.g., as found by Allen, 1986, in construction and Wilson *et al*, 1995, in sawmills).

sectors, unionized workers appear to be more productive, in others less. In most cases, though, the differences, one way or the other, are modest, especially in the most controlled studies.[5] Indeed, we argue that the evidence suggests that the critical conclusion is not whether or not the overall effect of teachers' unions on student achievement is positive or negative, but the more specific ways in which teachers' unions appear to influence the effectiveness of schools.

What is the evidence for student achievement? The ideal experiment is not available. One would like to randomly assign students to schools that are also randomly assigned to union or nonunion status, and then observe student achievement over time. The best approximations to this ideal experiment employ extensive control variables for both student and school attributes, as well as controls for the nonrandom assignment of students and schools. Despite numerous studies of teachers' unions and student achievement, even good approximations to the ideal experiment have been difficult to achieve.

Often, the most widely reported evidence is based upon state-level data for SAT or ACT scores, with relatively few detailed student controls. Two prominent state-level studies are Kleiner and Petree (1988) and Nelson and Rosen (1996), who find roughly similar positive effects for teachers' unions on either average SAT or ACT scores at the state level – between 4.5 and 8 percent. Kleiner and Petree also find a positive effect on high-school graduation rates of roughly the same magnitude (4.4 percent).

A few studies have used individual student data with relatively detailed controls for both student and school attributes to look at student achievement. These include Eberts and Stone (1987), Milkman (1989, 1997), Grimes and Register (1990), and Argys and Rees (1995). Across four different samples of students (the Sustaining Effects Survey, High School and Beyond, the National Assessment of Economic Education, and the National Educational Longitudinal Survey) and three different grade levels (fourth,

[5]Studies of unions and productivity include Pencavel (1977) for British coal fields, Clark (1980a, 1980b) for cement producers, Ehrenberg *et al* (1983) for municipal libraries, Allen (1986) for school and office construction, and Mitchell and Stone (1992) for western U.S. sawmills.

tenth and twelfth), these studies yield remarkably consistent results. Collectively, they find statistically significant, positive effects of teachers' union on average student scores on various standardized exams of between 1.0 and 2.0 percent. Given the divergences in samples, grade levels, test measures, and empirical methodologies, the congruence of these findings is impressive.

Hoxby (1996), though, finds negative effects for teachers' unions. Based on school-district level data for high-school drop-out rates, this study finds that teachers' unions are associated with a 2.3 percent increase in student drop-out rates, and infers that unionization reduces student achievement. Hoxby also explores whether or not these effects on drop-out rates are increased by a lack of competition among local school districts. Interacting a Herfindahl measure of school-district concentration with union status, she finds that union effects on the drop-out rate are larger in areas with little inter-district competition. The study is relatively well controlled, so this "competition" result appears especially powerful.

Hoxby's results raise the question of how teachers' unions can raise measures of average student achievement on standardized exams yet also increase high-school drop-out rates. One simple answer, of course, might be that low-scoring students are more likely to drop out, so that relatively higher scoring students remain to take the tests. While this answer might be a factor, it is not a very satisfactory answer for the positive achievement results found in much earlier grades (in this case, fourth grade), where the drop-out rates are much lower and the achievements results are still similar to those for high school.

We believe that a more satisfactory answer lies in the evidence on the effect of teachers' unions on the *distribution* of student achievement, rather than on average student achievement. Eberts and Stone (1984) and Milkman (1989) both find an inverted-U shape for the effects of teachers' unions on student achievement. The effects are modestly positive for average students, but negative for atypical students in the upper- and lower-tails of the distribution of pre-test scores.

This pattern may help to reconcile the evidence of positive effects on achievement for average students with negative effects on high-school drop-out rates. We know that drop-out rates are very

highly correlated with student success in schools, and that low performing students are much more likely to drop out. If teachers' union tend to reduce the academic success of weak students, then one would also tend to expect an increase in the drop-out rate, since the weakest students are the most likely to drop out.

But what explains the differential effects across levels of student ability? Part of the answer appears to be related to our earlier discussion of the standardizing effect of teachers' unions on schools. We know that unionized schools rely to a greater extent on traditional classroom instruction, less on a variety of specialized modes of instruction. Since standard methods are likely to work best for the "norm" (or average student) and specialized modes best for atypical students, one might expect the pattern of differential effects found across levels of student ability.[6] This explanation is reinforced by Argys and Rees, who find that these differential effects are no longer significant after one controls for the type and size of the instructional setting and other related class factors.

This conclusion seems to offer a more pragmatic, even optimistic, direction to explore in understanding and responding to the differential patterns for student achievement in effects of unionized and nonunionized schools. For student achievement, it may be relatively more important for unionized schools to pay particular attention to the diversity of instructional settings for atypical students; and for nonunionized schools to pay particular attention to average class sizes. This conclusion is reinforced by the consistent evidence in the Eberts-Stone, Milkman and Hoxby studies that reductions in class sizes are more effective in nonunionized schools, as well as by evidence in the Argys-Rees study that use of more specialized instructional modes would be effective for low- and high-ability students in unionized schools.

III. Reform Initiatives

[6]Even within the traditional organization of classroom instruction, the use of hourly tutors with selected students improves student performance, especially among disadvantaged students (e.g., Farkas, 1993).

By many accounts the release in 1983 of the report *A Nation at Risk*, prepared by the National Commission on Excellence in Education, marked the beginning of the current, sustained wave of educational reform. Teachers, who before that time had enjoyed a rather obscure place in the eyes of the public, suddenly found themselves at center stage in the controversy over poor student performance. The immediate response to the report was to set up systems to improve the accountability of teachers and schools. For many, the focus was on monitoring and assessing teacher practices and tying compensation to their performance. For the two decades prior to the reform, these issues had become the prerogative for teacher collective bargaining. Since Wisconsin first allowed teachers to bargain collectively in 1962, teachers' unions across the nation had sought to establish a "web of rules" that regulated the activities of teachers, defined their rights and duties to particular assignments, governed the evaluation process, determined class size, and of course negotiated compensation. Thus, in many respects, the reform movement collided head on with the union movement, which by the early 1980s included nearly two-thirds of the nation's public school teachers.

The first waves of reform initiatives were not widely embraced by teachers' unions. McDonnell and Pascal (1988), in studying the role of unions in implementing reform, provide evidence that the bargaining process continued to place material gain, such as higher salaries and benefits and better working conditions, over efforts to increase teacher professionalism and accountability. Johnson and Kardos (2000) also document the stance of teachers' unions in supporting and implementing reform efforts and conclude that many unions tried to stall the initial reform process in the belief that the public would soon lose interest. Union organizations have found, however, that the public has not lost interest, and in many respects they have called for more sweeping reform, such as vouchers and charter schools, that could attack the very existence of public schools and thus the existence of teachers' unions.

In an address a few years ago at the National Press Club, the president of the National Education Association, Robert Chase, reminded his nearly 2 million teacher members of the need to recognize that

the educational system must be reformed and unions must take an active role in planning new strategies and implementing them:

> *"The imperative now facing public education could not be more stark: Simply put, in the decade ahead, we must revitalize our public schools from within, or they will be dismantled from without. ...The vast majority of Americans ...want higher quality public schools, and they want them now. Our challenge is clear: Instead of relegating teachers to the role of production workers – with no say in organizing their schools for excellence – we need to enlist teachers as full partners, indeed, as co-managers of their schools. Instead of contracts that reduce flexibility and restrict change, we – and our schools – need contracts that empower and enable."*[7]

In the following sections, we describe three types of reform initiatives – accountability, incentive pay, and school choice. These have gained considerable support among policy makers and been implemented to varying degrees across the country. We focus on evidence of their effectiveness in improving student outcomes, in particular test scores, as well as the stance and role of teachers' unions in the reform efforts.

Accountability

Reforms to improve the accountability of schools have taken two primary directions. The first has sought to improve the existing system by implementing changes that directly affect the internal operations of schools. Chief among these are efforts to establish standards for student performance, measurement tools to track their progress, and prescribed consequences for students, teachers, and schools. The second type of accountability goes outside the public schools and enhances parental choice of schools in an effort to put added competitive pressure on schools to improve. This wave of reform has resulted in a number of different voucher programs, making the cost to parents of sending their children to private schools more comparable to that of public schools. It has also resulted in publicly supported "charter" schools outside the direct control of local school boards as additional alternatives to conventional public schools.

Central to both types of initiatives has been the need to assess the performance of students and thus the progress of schools. The Nation-at-Risk report raised the public's awareness of the importance of outcomes over process. Prior to the report, the focus had been primarily on the *number* of students

[7]Robert Chase, President, NEA, National Press Club, February 5, 1997, Washington, D.C.

attending school or the dollars spent per child. After the report appeared, the public increasingly wanted to know the *quality* of the schooling. Were students learning to read and write at an acceptable grade level, were they mastering basic quantitative skills, were they taught problem-solving skills, and were they properly prepared to find a job immediately after graduation or to go on to college? To make these assessments, tests have been proposed and implemented to measure a student's academic progress. Testing, of course, is not new to American schools, but what is new is the standardization of tests, along with more prominent roles for the state and federal government, in devising and administering the tests.

Today, nearly every state has implemented a school accountability program with the help and encouragement of the federal government. According to a recent study by Betts and Danenberg (2002), these programs are based upon three elements: 1) content standards that mandate what a student should know and when they should now it, 2) an assessment system that tracks the progress of students vis a vis the state standards, and 3) a set of responses by the state that may include financial incentives, penalties, sanctions, or additional resources.

Betts and Danenberg offer a list of arguments typically put forth by proponents and critics of these programs. Those who favor such a system argue that making school performance more transparent to the public and especially to parents can put needed pressure on schools to perform better. Proponents claim that schools will be forced to improve their operations and teachers will be more productive when presented with well-defined goals and are held accountable to these goals through the close scrutiny of their adherence to the goals and a carefully designed system of consequences.

Critics point out that state-level standards may be unfair to both affluent districts with high expectations for their students and low-income districts that lack adequate school- and home-based resources to adequately meet the needs of the students. For instance, they argue that imposing one standard on all students and imposing sanctions on districts that do not meet this standard and rewarding districts that do may divert resources from the poor districts, which need the additional resources, to

affluent districts, which don't. A somewhat related concern is that the state will be slow in adjusting these standards in response to changing times or the specific needs of selected school districts. Critics are also concerned about the assessment system. They believe that teachers will tend to "teach to the test" and focus their instruction on the narrower content covered on tests, rather than offer broader topics and more in-depth treatment of the subject matter.

At first blush, teachers' unions should find standards-based systems attractive because they promote the standardization of the workplace. With clearly defined goals and objectives and mandates to adhere to these standards, teachers understand what is expected of them, they are protected from capricious directives from building administrators that may distract them from these goals, and they can relate negotiated contract provisions, such as class size reduction, to accomplishing these standards. On the other, standards-based accountability intrudes into the teacher's autonomy in the classroom. It dictates the curricula that the teacher should follow, the tests that they should administer, and establishes the outcomes that are expected. The first two items – curricula and testing – have been outside the immediate discretion of teachers, although teachers do participate in their design and implementation. Being held accountable for student outcomes, however, is the major point of contention. Teachers believe that it can expose them to arbitrary treatment by administrators, makes them responsible for things outside their immediate control, and bases compensation on ambiguous criteria (Johnson and Kardos, 2000).

States have established standards-based accountability systems more on principle and promise than on any evidence of their effectiveness. Although some states have had these systems in place for more than a decade, evaluations of the effectiveness of these systems are not that common and those that have been attempted offer at best preliminary results. School-based performance systems have been adopted by districts in a number of states. For example, districts in Kentucky and South Carolina have implemented a system in which high-performance schools receive additional revenue that can be used at

the schools' discretion, including in some cases offering additional compensation to teachers. Clotfelter and Ladd (1996) analyze Dallas' performance-based system and find an increase of 10 to 12 percent in the pass rate on selected state-wide tests. Unfortunately, the study does not use a true control group, and there is a similar rate of improvement in the year prior to the implementation of the performance-based system.[8]

One of the most careful analyses of such programs is the Betts and Danenberg evaluation of California's recently adopted school accountability program. The program, enacted in 1999, was based on highly specific and comprehensive standards, a new norm-referenced statewide test and a high school exit exam, and a complex series of rewards and punishments for school staff and students. The study analyzes recent trends in both the level and distribution of test scores and school resources. They consider two trends to be particularly important: test scores have risen significantly since the implementation of the accountability program while teacher resources have declined. They further emphasize that these trends are particularly evident for the lowest performing schools. Betts and Danenberg interpret these results to suggest that accountability reforms and public scrutiny spurred genuine achievement growth (p. 42). They also recognize that the patterns are consistent with teaching to the test or a growing familiarity with the tests and testing process, possibilities that detract from the success of the program. Nonetheless, they find that testing and related aspects of accountability have not diluted the high school curriculum, nor has it widened inequality in the curriculum between top- and bottom-performing schools (p. 41).

Incentive pay

One widely accepted approach to achieving accountability is to link teacher compensation to student outcomes. Until the time of the reform initiatives in the mid-1980s, collective bargaining had

[8]Private sector businesses reward workers more through promotions and group-based merit systems, such as gain-sharing or profit-sharing, than through individual merit rewards (Prendergast, 1999). See Kruse (1993) for a study of the effects of profit-sharing in private industry.

sought to treat teachers equally. With few exceptions, teachers with the same years of experience and the same educational attainment were given the same level of compensation. There was little differentiation between the performance or ability of teachers. Many collective bargaining contracts did not allow administrators to distinguish between teachers according to their performance, and they did not even allow peer review. Therefore, the notion of incentive pay for teachers was antithetical to unions.[9]

Nonetheless, incentive pay has been introduced in several unionized districts, but most of these attempts were short-lived. Even if unions offered their wholehearted support to such a scheme, there are several aspects of the educational process that make it difficult to implement a successful pay-for-performance system for individual teachers. Advocates of incentive-based schemes to reform public schools often refer to the private sector as an example of individual performance-based compensation systems and as one that schools should emulate. Yet, even the simplest incentive models are subject to problems, and evidence reveals that only a small proportion of jobs in the private sector base compensation on explicit contracts that reward individual behavior (e.g., Lawler, 1983). The simple, static principal-agent model that Prendergast (1999) postulates rewards agents for taking on additional risk through a pay-for-performance contract with higher (mean) wages. In her model, the performance measures used are noisy and the efficacy of the incentives depends on the risk aversion of the agents.

It is widely recognized that "incentives" may result in unintended, sometimes perverse, consequences. Prendergast uses the term "dysfunctional behavioral responses"; Murnane and Cohen (1986) "opportunistic behavior." Institutional factors that may result in such dysfunctional responses include poorly defined or poorly measured outcomes, leading to a reliance on subjective evaluations that may be flawed; multi-tasking,; team production; and multiple stakeholders. Subjective evaluations may be flawed because evaluators may be subject to "moral hazard" issues, individuals may engage in non-

[9]Indeed, many have argued that one of the major reasons that teachers supported union representation was to take the compensation decisions out of the hands of administrators.

productive activities to curry favor with their evaluators, or evaluators may end up with distributions of ratings that are compressed due to a reluctance to give very high or low ratings (Prendergast, 1999).

Four constraints that may reduce the effectiveness of incentive-based compensation appear to characterize the teaching and learning process of schools.[10] These are: 1) the reliance on subjectively measured outcomes, 2) the need to perform multiple tasks during the course of the day, 3) the use of team teaching where more than one teacher is responsible for the outcome of student or classroom, and 4) the existence of multiple stakeholders with diverse objectives.

Empirical evidence clearly documents that people respond to incentives, but there may be several wedges between performance measures and the actions of teachers that tend to mitigate against individual level, incentive-based compensation schemes – just as they often do in the private sector. The net result of these forces remains an empirical issue. Yet, little empirical evidence examines the effects of merit pay on student achievement. Most of the literature on merit pay systems documents the institutional experiences in districts – for the most part, rather short-lived and usually negative. For example, a major study of merit-based pay (Hatry, Greiner, and Ashford; 1994) find that most (75 percent) merit pay programs in existence as of 1983, were no longer operational in 1993.[11] An interesting self-described limitation of the Hatry et al. (1994) study is that they do not examine student achievement. They note,

> *We would especially have liked to have performed an in-depth analysis of the impact of incentive programs on student achievement. However, very few of the participating districts had attempted any systematic evaluation of the effects of their incentive plans on student achievement, even though a basic assumption behind incentive plans is that teachers can indeed significantly affect learning. (pp. 7–8).*

In one Pennsylvania district, Tulli (1991) finds no gains in student achievement from a bonus system.

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[10] Here, we rely heavily on arguments also presented in Murnane and Cohen (1986). Dixit's (1999) analysis of incentives in education also coincides closely with ours. He suggests four complications in educational settings that confound the simple "principal-agent" model of implicit contracting: multiple goals, multiple principals, lack of competition in the product market, and agents motivated by intrinsic values.

[11] Murnane and Cohen (1986) also emphasize the short-lived nature of merit pay systems.

In related work, we have studied one high school that implemented a merit pay system in 1996 and a "comparable" high school that maintained a traditional system.[12] Community High School, which implemented the merit pay system, is an alternative education facility that has an enrollment of approximately 500 students pursuing a high school diploma and 100 students pursuing other certifications. These students often do not succeed in traditional settings and usually experience problems with attendance and retention. Consequently, the performance-based incentives were targeted on student retention. The detailed results are found in Eberts, Hollenbeck, and Stone (forthcoming).

These results, based on "difference-in difference" analysis that controls for extraneous factors, showed that incentives worked, but that a misalignment of incentives with desired goals can yield unintended results. We find that students attending the high school with the pay-for-performance system had a higher retention rate but a lower course completion rate than those in the comparison high school. The administrators who set up the system also expected that grades and average daily attendance would increase, but results reveal no difference in these two measures vis-a-vis the comparison group.

School choice

Private school experience

A chief motivation for interest in various programs of school choice is the belief that private schools are more effective in educating students than public schools, and thus they offer a viable alternative to parents and a serious competitive threat to public schools. Basic empirical evidence would seem to support this belief. Private-school students score higher on average on standardized academic tests and are more likely to graduate from high school and attend college than public-school students. However, private-school students and their families differ in important ways from public-school students, so it is difficult to determine whether the differentials arise from differences in the schools or from

[12]Unfortunately, the data only refer to course-related information such as grades and daily attendance, with no information about the students other than ID number.

differences in the students who attend the schools. Is it the schools or the students? If it is primarily the schools, then expanded programs of school choice might offer opportunities for improved student performance. If it is primarily the students, then expanded school choice might further exacerbate student segmentation along income, ability, education, and racial lines – without any real improvements in student performance.

We do know from a number of studies (e.g., Figlio and Stone, 2000) that private-school students are disproportionately high-income, high-SES and high ability, as well as disproportionately white. We also know from the Figlio-Stone study that local- and school-level policy variables can influence the segmentation of students between private and public schools. Controlling for local crime rates, increased inter-district competition within the public sector, and lower student-teacher ratios all are powerful forces in holding students in the public sector and lowering relative enrollments in local private schools. For example, a number of state initatives in school-finance related issues – such as tax limitation measures and, perhaps surprisingly, "equalizing" school-finance reforms – tend to lead to increased student-teacher ratios (Figlio 1997, 1998). Thus, the wave of various school-finance related initiatives in many states could lead to even greater segmentation between public and private schools, in terms of income, ability, education, and race. Indeed, Downes and Greenstein (1996) find evidence of substantial new private-school entry during the period immediately following California's Proposition 13 tax limitation measure and the *Serrano* court decision equalizing school spending.

Beyond the question of the extent to which various school-choice programs might exacerbate current trends toward segmentation of students along income, education, ability, and racial lines, there remains the question of whether it is the students or the schools that explain the differences in the performance of private- and public-school students. Here, the most detailed studies, appear to offer increasingly consistent evidence. With careful controls for the initial sorting of students into private and public schools, a number of recent studies find little or no difference in the performance of students in

the two sets of schools. Based on a nationally representative sample of over 12,000 students, for example, Figlio and Stone (1999) find a positive performance differential for private schools only for the probability of two years of college attendance (and the selectivity of the college attended), with no significant differences overall in the performance on standardized tests. Only for a few subgroups do they find that private-school students outperform public-school students, after correcting for the nonrandom selection of students into the two sectors. Notable among these exceptions, though, are African-American youths attending private schools in very large urban areas.

These findings are consistent with a number of other recent, well controlled studies, including Neal's (1997) finding that Catholic schools particularly benefit urban minorities, Rouse's (1998) finding of a modestly positive differential for private schools in her analysis of the Milwaukee school-choice experiment, and recent evidence by Howell *et al* (2000) that reported the effects of school vouchers on student test scores in three large cities with concentrations of minorities. The report found that no students, other than African-Americans, appeared to benefit from the voucher experiments. With this evidence in mind, we now turn more directly to the issues and evidence related to various forms of school choice.

School-choice experiments

By tradition and culture, Americans tend to place tremendous trust in the power of choice. Most subscribe to the notion that an efficient market economy is based on the ability of each consumer to freely choose the goods and services that best meet their preferences at the lowest possible price. If this belief is truly ingrained in the minds of American families, then why hasn't it extended to K-12 education? Why haven't taxpayers insisted that government simply give each family a voucher to pay for education at any school that they choose? For school reformers who have touted vouchers as the next great innovation to improve the U.S. educational system, and there are many who hold this view, the inability to gain widespread support from voters for such a reform is perplexing.

The most recent reminder of this paradox was the sound defeat of two major state referenda to permit states to use public dollars to fund vouchers. California's proposal to give each of its 6 million school-age children a $4,000 voucher was defeated by 70 percent to 30 percent. Michigan's more limited scheme to give vouchers of up to $3,300 to students in districts designated by the state as failing was also defeated by the same wide margin. In many ways these two attempts to implement a statewide publicly funded voucher system are the culmination of a decade of experimentation with both public and private voucher schemes. The defeat of the two state ballot measures may arise in part from the lack of a consensus on the effects of the various manifestations of school-choice initiatives on student achievement.[13]

Educational reform based upon school choice has taken two major forms in the past decade. The first approach is to offer vouchers worth up to a fixed limit that can be used to pay for tuition at a private school. The first public voucher program was initiated in Milwaukee in 1990. The program initially offered vouchers of about $2,500 to 1 percent of the Milwaukee Public School's students, or about 1,000 low-income children. About a third of those receiving vouchers used them to attend private schools. Choice was limited to non-religious private schools. In 1995, the enrollment cap was raised to 7 percent, and religious-affiliated schools were allowed to participate. By the end of the decade, nearly 6,000 students used their vouchers to attend non-public schools. Since then, the Cleveland Public School System and the state of Florida have implemented similar programs.[14] Voucher programs have also been initiated by private groups. One compilation of privately funded scholarship programs reports that in 2001 nearly 100 such programs have given tuition grants to more than 50,000 students (Garrett, 2001).

Charter schools are another form of school choice, although more limited in scope of choice than

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[13]A recent Phi Delta Kappa/Gallup poll showed that 52 percent of parents who send their children to public schools support proposals to allow school choice, such as vouchers.

[14]Florida has initiated a tax-credit for up to 25 percent of educational expenses that exceed $250 per child.

the voucher programs. Charter schools are public schools chartered by the state that receive public funds, typically based upon enrollment. The governance and regulations of charter schools vary by state. In place of an elected school board, most charter schools are governed by a separate body, which is typically not elected by the public. In some states, such as Michigan, they are appointed by the chartering agency and not even elected by the parents. In many but not all states, teachers must be certified and the board members are considered public officials accountable to state laws and regulations. Most charter schools are not allowed to charge tuition, but can raise money from foundations and other sources, excluding the families of the students. Since Minnesota passed the first charter school law in 1991, more than 2,000 charters have been established in 30 states with over 500,000 students. Arizona, California, and Michigan account for over 40 percent of the schools and 50 percent of the students.

In arguing the merits of school choice, proponents argue that private schools are more effective in meeting student needs, in part because they are not encumbered by government bureaucracy and political pressures. Proponents also cite open competition for students as a means of sparking new innovations and customizing educational curricula and experiences to meet the needs of different students. They also see school choice as returning control of a student's education to parents.[15] Opponents, on the other hand, argue that perceived effectiveness of private schools over conventional public schools results not from the greater effectiveness of the private schools themselves, but in their ability to attract more motivated students from higher-income families. In their view, conventional schools can be improved from within, and these school improvement initiatives are well underway. As public schools reduce class size, restructure district-level governance, and customize services, many opponents see open competition through school choice as disruptive to these efforts and as counter

[15]Milton Friedman, one of the first in the modern era to advocate wide-spread vouchers for education, reiterates these points in a recent article "The Next Big Free-Market Thing," published in the *Wall Street Journal*, July 9, 1998. Others who have written extensively in favor of vouchers and school choice include Chubb and Moe (1990) and Hill, Pierce, and Guthrie (1997).

productive.

The verdict on school choice should rest with the empirical evidence. Not surprisingly, surveys report that parents who use vouchers to send their student to a school of choice are highly satisfied with their choice. There is also evidence that vouchers increase the access of low-income, low-achieving, and minority students to voucher schools. Nevertheless, access of students with disabilities and those with poorly educated parents has not improved as much. Similarly, vouchers are shown to play only a modest role in increasing racial integration, and this takes place primarily in highly segregated communities. Despite these positive effects, the evidence to date on student achievement is inconclusive.[16]

The Milwaukee voucher program has received the most scrutiny in terms of evaluating its effect on student achievement. Three major studies have been conducted, each drawing somewhat different conclusions. One study finds no effect, another finds that students who attended nonpublic schools attained higher scores on both math and reading, and a third study finds that voucher students did better in math but not in reading. The obvious question is how can three groups of evaluators looking at the same program come up with different findings as to their effectiveness. The essential difference in these studies rests with the group of students that the evaluators use to compare outcomes with those who actually used the voucher to enroll in an alternative school. Valid evaluations of such programs require that the outcomes of those who use the vouchers to attend an alternative school be compared with otherwise identical students in the public schools.

As with the evaluation of union-nonunion different in student achievement, the ideal evaluation would randomly assign students to one kind of school with another. Unfortunately, this is not strictly possible for either the union-nonunion question or the school choice issue. The best that one can typically do is to find a group that has the same characteristics, including socioeconomic and other

[16]These results are summarized from the study by Gill, et al. (2001), which provides the most comprehensive and objective evaluation of the effects of vouchers and charter schools to date.

factors, that might lead to different levels of motivation and family support. The most widely accepted methodology is to take advantage of situations in which voucher programs cannot accommodate all those who apply, and thus a lottery is used to choose among the applicants. For the Milwaukee program, a comparison group can be constructed along these lines by including those who received vouchers but could not find space in a participating school. The studies that find higher scores for voucher students than for the comparison group use this approach. A critique of these studies, conducted by Rand Corporation researchers, concludes that the results are not significant enough to inform the policy debate surrounding vouchers. One reason for their conclusion is that all evaluations looked at the program only during its first few years of operation, when a one percent cap on vouchers was in place and an even smaller percentage of students actually used vouchers to attend other schools. The outcomes for this handful of students may not be representative for the nearly 10,000 who went through the program in 2000-01.

Privately funded voucher programs administered in four other cities – New York City, Charlotte, Dayton, and Washington, D.C. – have also been evaluated using a methodology similar to the preferred evaluations of the Milwaukee program. These evaluations find little overall improvement in student tests for those using vouchers. They do, however, find modestly positive effects for African Americans. This positive result is consistent with the evidence on public-private school performance differentials, where there is little or no difference on average, but positive differences for minorities, especially African Americans, attending religious school in large urban areas.

Evaluations of the charter school movement have offered evidence that is no more conclusive than for vouchers. Studies have looked at two issues. First, they have considered whether or not students who attend charter schools perform better on standardized tests than those who attend conventional public schools. This question considers whether charter schools – through more innovative curricula, more specialized attention, or more dedicated and able teachers – are more effective in delivering

educational services. Studies that address this question try to control for differences in the ability, motivation, and home support of students, as was attempted with the voucher evaluations. Second, studies have considered whether the presence of charter schools in close proximity to conventional public schools prompt public schools to be more innovative and responsive to students. This question is typically evaluated by examining the district level averages of test scores before and after nearby charter schools have opened, compared with districts that did not experience the opening of charter schools.

Three studies, one for each of the three states in which charter schools are most prevalent, have addressed the first question based upon the preferred approach of using individual student test scores. The studies for Texas and Arizona are able to follow students from one grade to the next. Therefore, they can look at the differences in test scores over time, which helps to control for differences in characteristics of students attending charter schools and those attending conventional public schools. The Texas study, conducted by Gronberg and Jansen (2001), finds that conventional public schools slightly outperformed charter schools, but that "at-risk" charter schools did marginally better than conventional public schools. The at-risk charter schools were specially-designated schools established by the Texas legislature to target students with special circumstances, such as failing a number of courses, low scores on the state standardized test, and unusual personal situations. The state was more lenient in granting at-risk charters than regular charters. Gronberg and Jansen also consider the length of time that a charter school was in operation and found that student test scores improved as schools matured, which suggests that over time charter schools may be a more viable alternative to conventional public schools, to the extent that public schools are not prompted by competition to improve as well.

A study of Arizona charter schools is more favorable to charter schools. The evaluation team of Solmon, Paark, and Garcia (2001) find that students in charter schools outperformed those in conventional public schools on both math and reading tests. As in Texas, students who changed from a public school to a charter school did worse their first year than those who stayed in public schools, but

improved thereafter.[17] Students spending two or three years in charter schools did better on math and reading tests than students spending that time period in conventional public schools, although the reading test gain was not large but still statistically significant.

A Michigan study by Eberts and Hollenbeck (2001) finds that students in conventional public schools outperformed those in charter schools on most of the standardized tests, which included math, science, reading and writing.[18] The analysis was limited to students in K-6 grade, since most of the charter schools in the state concentrate on these grade levels. As in the Texas study, relative test scores in Michigan improved with the length of time a charter has been in operation. Unlike the other two studies, the Michigan study differentiates between charter schools that were operated by not-for-profit organizations and those that were run by for-profit companies. The distinction is important since one might expect that organizations subject not only to the competition for students but also the competition for investors' money might be more innovative and efficient than those that are not subject to market pressures. However, students in for-profit charter schools performed worse than those in not-for-profit charter schools, and students in either type of charter school performed worse than in conventional public schools. The Michigan study also considers whether nonwhite students do better in charter schools than conventional public schools, as found to some extent in the voucher programs, with no statistically significant benefit to nonwhite students of attending charter schools.[19]

Hoxby (2001) has analyzed the second question regarding charter schools – whether their competitive pressure improves public schools – in Michigan and Arizona. Using what is referred to as a

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[17]The negative effect on student test scores is a well documented phenomenon. Nelson and Hollenbeck (2001) question whether it is reasonable to compare the group of students that moved from a charter school to a conventional public school to those that stayed in the conventional public school for both years.

[18]Bettinger (1999) and Miron and Horn (2000) also provide similar evidence on Michigan charter school.

[19]Eberts and Hollenbeck did not report results for African Americans alone. It may be the case, as it was with voucher programs, that only African Americans benefitted from vouchers and not other ethnic groups.

"difference-in-difference" control technique, she finds large and positive effects of charter schools on public schools. She reports that students in Michigan public schools that faced competition scored upwards of 1.37 scale points higher after they began to face competition compared with those in schools that did not face competition. She found slightly higher results using another technique to detrend the test scores. Using the same techniques, she found similar results for Arizona. It is interesting to note that the improvement in conventional public schools came about in a relatively short period of time, typically in no more than three to four years. In this short time frame, it is conceivable that the teaching staff of these schools stayed primarily the same and curriculum was not drastically changed, since such revisions typically take several years particularly if new text books are required.

Hoxby's results point to the urgent need to open the "black box" of all these evaluations, including vouchers, to examine what is happening inside the school building and classroom to bring about these results, or in the case of vouchers, for the results not to change that much. What new course have public schools subject to competition from charters in Michigan and Arizona taken to turn around their programs and enhance the academic achievement of their students. Have unions played a significant role in Michigan, a strong union state, in helping to devise the strategies to improve performance? Does the increase in performance of public schools, as shown by Hoxby's results, account for the small difference in the performance of charter schools and traditional public schools, and even in the alternative schools participating in the voucher programs. If so, then why have public schools, which supposedly are burdened by stifling bureaucracies, been so quick to improve when the private schools or charter schools have not?

Without answers to these questions, it is difficult to assess the merits of the various reform efforts. Pay incentives have been shown to work, although on a very limited basis, but the problem is that within a complex process such as the delivery of educational services, it is difficult to construct an incentive structure that is sufficiently aligned with the various goals of education and that satisfies the

various stakeholders. Incentive pay mechanisms of the type proposed for public schools have rarely been adopted in the private sector. More promise lies in group incentive schemes, in that they are not only more consistent with the complexity of educational process but also more attractive to teachers. School choice in the form of vouchers and charter schools has been highly touted by prominent thinkers and researchers. Yet, those programs in operation have not provided evidence convincing enough to encourage widespread adoption of this approach, except possibly for their effects for African-Americans in large urban areas or, indirectly, on conventional public schools.

Current Reform Initiatives – NCLB

Where does the reform movement currently stand? Looking to the federal government for clues at that level of involvement in public education, one sees the current Bush administration embracing several of the forms that we have discussed. The No Child Left Behind Act (NCLB), which was enacted in January 2002 as the reauthorization of the Elementary and Secondary Education Act of 1965 (ESEA), contained four principles of education reform, as proposed by the George W. Bush Administration. These are: 1) accountability for results, 2) state and local flexibility in using federal funds, 3) the use of proven educational methods, and 4) expanded choice for parents. As proposed and implemented, the NCLB, appears consistent, or at least not inconsistent, with the best evidence we have on various reforms.

The new law strengthens accountability for results in Federal education programs by requiring states to set standards in reading and mathematics and to develop adequate yearly progress objectives that will result in groups of students achieving proficiency within 12 years. In addition, states must conduct annual reading and math assessments for all students in grades 3-8 and states, school districts, and schools must report annually on their progress in helping all groups of students to reach proficiency. School districts and schools that fail to achieve their annual adequate progress objectives will be subject to corrective measures. In addition, chronically failing schools must give students the option to transfer

to a better school and to obtain supplemental educational services from public- or private-sector providers. Schools that meet or exceed their adequate yearly progress objectives will be eligible for State Academic Achievement Awards.

The fourth leg of the NCLB – expanding school choice – reinforces school accountability by expanding the schooling options available to students and the means for parents to send their children to these schools. For example, if a school continues to fail to meet state standards, the law permits parents to use Title I dollars to obtain supplemental educational services from other providers, including faith-based organizations. The NLCB also provides resources to expand and enhance charter schools. A total of $375 million was included in the President's 2003 budget request for this purpose. The NLCB also provides funding to help conventional public schools develop and implement comprehensive reform programs that are based on reliable research and effective practices. The budget requests additional funding for development of new technology, reduced class size, community learning centers, and teacher development. ***New Unionism***

In recent years, both of the major teacher unions, the National Education Association and the American Federation of Teachers, have pursued a new approach to collective bargaining. Referred to as the "new unionism," this collaborative approach calls for greater teacher participation in the determination of curriculum and instruction and more emphasis on improving student achievement. In launching these initiatives, presidents of both unions asserted the critical need to improve public schools in order to preserve their unions. To do this, the two presidents argue, unions must provide the leadership to empower and enable teachers to be full partners in school reform.

Unions have called for participation in the decision making process long before this current movement began. Analysis of union contracts in the late 1970s and early 1980s shows that teachers represented by collective bargaining placed greater importance in participation in planning course content than in student assignment or teacher assignment, and teacher collective bargaining contracts

contained provisions that allowed teachers to have a voice in decision making (Eberts and Stone, 1984). In most cases, participation was advisory and unions did not have final say on curriculum or instructional matters that went beyond the working conditions of class size and time spent on instruction or preparation.

Therefore, the innovative aspect of the new unionism centers around ways to empower and enable teachers. The mission statement of the Teacher Union Reform Network, which was established in 1995 as a consortium of the NEA and AFT and several of its local affiliates to implement the new unionism, brings the key issue surrounding the new approach into sharp focus. It states that it is the "union's responsibility to collaborate with other stakeholders in public education and to seek consistently higher levels of student achievement by seeking to expand the scope of collective bargaining to include instructional and professional issues." Proponents argue that only by bringing teachers fully into the process can successful school improvement be achieved; opponents claim that once shared decision making is included in collective bargaining contracts, flexibility is lost, school improvement initiatives are stifled, and soon attention shifts from what is right for the student to whether or not school administrators have adhered to the contract. Furthermore, once teachers have an opportunity to grieve these issues, the educational policy of a school district ends up in the hands of a disinterested third party arbitrator.[20]

Two other issues appeal for close attention in considering the new unionism. One is the simple fact that we really know little about what works and what doesn't work in the current reform movement. Obviously, there are various practices related to instruction and curriculum design that are better than others. But when it comes to more sweeping reform such as incentive pay or accountability systems, the evidence is weak. Codifying educational policy into the collective bargaining agreement without clear evidence that it is effective can lead to both disappointment and wasted efforts. Yet, it may be difficult

[20]Black (2002) offers several of these critical points.

to remove ineffective contract provisions if the provisions are seen by some stakeholders as protecting their self interests – even if they do little or even impede the progress of the students they were designed to serve. This problem leads to a second issue – accountability. Those unions that are quick to ask for participation in the reform process are typically not as eager for their members to be held accountable for the outcomes of the process, specifically student outcomes. If evaluations of the outcomes of the reform movement show anything, it is that education is a risky business. Outcomes are not certain, and many factors contribute to a child's educational achievement. The new unionism is on its way to recognizing that collective bargaining must be adapted to allow teachers to participate in a proactive attempt to find new ways to educate the nation's children. At the same time, with empowerment must come responsibility, and only through systems of accountability in which risk is recognized and accepted can real progress be made.

IV. Concluding Remarks

Teachers' unions have taken some of the strongest criticism for both real and perceived deficiencies of public schools, as well as for opposing a variety of reform initiatives. Our review of the evidence suggests that much of the criticism is misplaced. It is not true that on average students fare worse in unionized schools, all else the same. If anything, average student performance on standardized tests is slightly higher. It is also not true that, all else the same, students on average fare worse in public schools, whether unionized or not.

Even so, teachers' unions should not rest too comfortably, either. While on average students fare at least as well, if not better, in unionized schools, atypical students – students well below or above average ability – do appear to fare less well because instructional settings are more standardized, less individualized in unionized schools. Similarly, while students in general fare at least as well in public schools as in private schools, minority students, especially African-American students, living in large urban areas appear to fare better in private, especially private religious, schools. These findings should be

near the top of the list of concerns for teachers' unions, as well as for public schools in large urban areas with concentrations of minority students.

Our review and analysis of various school reform efforts reveal few firm, reliable conclusions. What we don't know about the true effectiveness of leading reform initiatives clearly outweighs what we do know – whether the issue is school standards and accountability, merit-based incentive pay systems, or charter schools and voucher plans. That is not to say, however, that we don't know anything. There is evidence, here and there, that in some cases a well designed, focused initiative may be effective. As this kind of positive evidence accumulates, one can hope that the expectations for "new unionism" or "reform bargaining" will lead teachers' unions to embrace, or at least accommodate, initiatives that work, whether these turn out to be well designed systems of standards, school-based incentive plans, or even in limited cases focused plans for school choice that avoid further exacerbating segregation along the lines of education, income, or race.

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