Teams versus Bureaucracies:

Personnel Policy, Wage-Setting, and Teacher Quality in Traditional Public, Charter, and Private Schools

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Abstract

This paper examines reasons why personnel policy and wage setting differ between traditional public, private, and charter schools and the effects of these policies on academic measures of teacher quality. Survey and administrative data suggest that the regulatory freedom, small size of wage-setting units, and a competitive market environment make pay and personnel practices more market and performance-based in private and charter schools as compared to traditional public schools. These practices, in turn, permit charter and private schools to recruit teachers with better academic credentials as compared to traditional public schools.

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Introduction

Personnel policies in public schools are the subject of considerable policy debate. This debate arises out of concern about the quality of the public school teaching workforce and its effect on student achievement. Research suggests that one of the most important contributions of schools to student achievement gains is the quality of classroom teachers (Hanushek and Rivkin, 2004; Goldhaber, 2002). The No Child Left Behind Act reflects this concern in its requirement that schools employ only fully qualified teachers by the 2005 school year to be eligible for Title I compensatory education funds.

In other industries, human resource policies are seen to play a critical role in employee productivity and business performance. Yet human resource policies in public k-12 seem peculiarly out of sync with those in other sectors of our economy, most notably with higher education, and, as we will see, with charter and private k-12 schools. Several examples illustrate this point. Unlike most other professions, the pay of public school teachers is determined by rigid salary schedules that base pay on years of experience and graduate academic degrees or credits, with no differentials by field, by effort or quality of performance, or differential working conditions between schools within a district.[1] These rigid pay schemes virtually guarantee shortages by field, since most school districts cannot maintain a pay schedule for all teachers sufficiently attractive to prevent shortages in any field. (Could a higher education institution afford to maintain a uniform pay scheme sufficiently high to prevent shortages in finance or

[1] There are some pay differentials, but these are primarily for added responsibility such as coaching and after school activities.

accounting?) Moreover, since low SES or high minority schools tend to have the highest turnover of faculty, these rigid salary schedules guarantee that such schools will have the least experienced teachers with the fewest academic credentials.

In the area of contract renewal, most public school teachers earn tenure, i.e., automatic contract renewal, after a few years on the job. This makes it very difficult for dismiss senior teachers for anything but the most egregious failures in job performance. In practice, most dismissals of tenured teachers seem to be associated with criminal activity, psychological disorders, or serious moral turpitude -- not poor classroom performance (Bridges, 1992).

Recruitment and job assignment are restricted by highly complicated licensing regulations. In medicine, law, dentistry, architecture, nursing, and virtually every other licensed profession, states issue a single license. However, in education, states routinely issue over one hundred certificates and endorsements by field. Even excluding vocational and administrative licenses, the number of academic licenses routinely exceed 50-60. In Missouri, by no means an atypical state, the Department of Elementary and Secondary Education currently issues 89 non-vocational and 171 vocational certificates and endorsement for K-12 teachers.[2]

Finally, teaching is the most highly unioned profession, with roughly 75 percent of teachers in traditional public schools (i.e., not charter) covered by a collective bargaining agreements. In large urban districts, these agreements run roughly two hundred pages or more, are highly detailed, and cover not only wage setting, but staff

[2] Even this understates the complexity of the teacher licensing system. These are currently-issued certificates and endorsements. However, since states routinely change these licenses and "grandfather" the old codes, the number of valid types of licenses is far greater. In Missouri, the certification file has 781

assignment, recruitment, layoffs, personnel evaluations, dismissals, benefits, and other personnel policies.

In this paper, we examine differences in personnel policy between traditional public schools, charter, and private schools and attempt to understand how these policies are shaped by the institutional and market framework within which these schools operate. We then discuss how these personnel policy differences may contribute to the academic quality differences observed between the sectors. This paper builds on earlier research in the area. Ballou (2001) and Ballou and Podgursky (1997, 2001) examine differences in teacher quality and personnel policy in public and private schools using earlier vintages of the Schools and Staffing Surveys and a small sample of charter and private schools. Both studies find personnel policy differences between private, charter, and traditional public schools. More recently Caroline Hoxby (2002), augmented the 1994-95 Schools and Staffing data with her own survey of charter schools. She found significant differences in the teacher demand between the sectors. Goldhaber, et. al. (2005) develop an analytical model of merit pay adoption to explore why school districts choose to adopt merit pay. This paper brings some new data and analysis to bear on this topic, particularly for charter schools.

Data

The primary sources of data in this paper is the 1999-2000 Schools and Staffing Survey (SASS), a representative national survey of schools, districts, principals and teachers conducted regularly by the National Center for Education Statistics of the U.S. Department of Education. It is a major source of information on public and private K-12

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valid codes. In the face of such complexity, it is hardly surprising that school districts are often forced to resort to the use of emergency or provisionally-licensed teachers to staff some classrooms.

teachers and schools in the U.S. Earlier waves of the survey were conducted in 1987-88, 1999-91, and 1993-94. However, the 1999-2000 school year was the first time that SASS included a separate charter school survey. Details on SASS are provided in Appendix A. In addition, we use state administrative data on schools and teachers in a particular labor school district – Kansas City Missouri – that has a particularly high rate of charter school penetration.

Institutional Background

The notion that product market conditions "spill over" into the labor market, and influence wages, collective bargaining, and personnel policy has a long history in labor economics (e.g., Lewis, 1963) The argument that we construct is congruent with this approach. Differences in personnel policies between traditional public, private, and charter schools can be seen as a reaction to the exogenous regulatory and market environment within which the schools operate. These personnel policies, in turn, affect the ability of schools to purchase and retain quality teachers. This causal argument is illustrated in Figure 1.

(Figure 1)

The most obvious difference between these sectors has to do with market competition. Charter and private schools are schools of choice and are thus subject to competitive product market pressures. If parents do not choose these schools for their children the schools will go out of business. For the most part, this is not the case with traditional public schools. While there is some choice within this sector (e.g., magnet schools) typically children are assigned to schools within attendance zones and schools do not need to compete for parent customers.

Of course, there may be political pressures from taxpayers for public schools to adopt cost-efficient personnel policies, but in the political realm these may be offset by the demands of other better-organized "stake-holder" groups such as teachers, school administrators, and other school employees. In addition, individual taxpayers may be relatively uniformed as to the costs of different management practices.[3] To the extent that public school administrators are insulated from market pressures, we can expect them to adopt more "comfortable" personnel policies that raise their own utility, or that of other education interest groups, rather than increase efficiency. Teacher dismissals and performance-based pay systems require effort on the part of school administrators, increase stress, and usually involve confrontation with teacher unions. A more comfortable path is to acquiesce to teacher union preferences for single salary schedules and other restrictions on managerial authority. We hypothesize that greater competitive pressure in the product market should lead to more market and performance-based personnel policies.

A second factor explaining the choice of personnel policies is the size of wage-setting units. The wage-setting unit in private and charter schools is typically the school, whereas in traditional public schools wage-setting is at the district level. In fact, most personnel policy concerning teachers – the level and structure of teacher pay, benefits, recruiting – is centralized at the district level in traditional public schools. Researchers who study personnel policy in business find that the size of an establishment plays an important role in the type of personnel policies firms use (Brown, 1990).

[3] Hoxby (2000) has highlighted the role of Tiebout competition among public school districts. Black (1999) finds evidence that school quality is capitalized in housing prices.

Figure 1 illustrates the dramatic differences in the size of the wage and personnel units in traditional public and private schools. There are approximately 15,000 public school districts in the U.S., however, the size distribution of these districts in terms of teacher employment is very highly skewed. As a consequence, most teachers are employed in large school districts. One quarter of teachers in traditional public schools are employed in districts with at least 2100 FTE teachers, and half of traditional public school teachers are in districts with at least 561 FTE teachers.[4] Thus, the typical teacher finds herself in a large firm with standardized, bureaucratic wage-setting. By contrast, the average charter school – an independent employer -- employs just 16 FTE teachers, barely larger than the average private school (15 FTE's).

(Figure 2)

The size of the employing unit is an important factor in understanding a firm's choice of personnel policies. In small teams, it is much easier for supervisors or fellow workers to monitor job performance. This makes merit or performance-based pay less controversial. On the other hand, large school districts have a great deal of trouble implementing merit pay systems for teachers (Hatry, et. al. 1994). In part, this is because they must come up with evaluation systems that guarantee horizontal "equity" across the many schools in the district bargaining unit – essentially a hopeless endeavor. Private and charter schools are under no requirement that their performance assessments be identical to those of other schools. They need only assure their teachers that they are

[4] There are approximately 15,000 public school districts in the U.S., however, the size distribution of these districts is very highly skewed. In 1999-00, 658 districts (5.5 percent of all districts) enrolled 10,000 or more students. However, these large districts accounted for just over half of student enrollments (50.5 percent). On the other hand 3910 districts (22 percent of all districts) enrolled under 300 students. These tiny districts accounted for just 1 percent of student enrollments (U.S. Department of Education, 2002, Table 90). This skewness is also seen in Figure 1. The average public school district employs 203 teachers, whereas fifty percent of teachers are in districts with at least 561 teachers.

treated fairly within the school. Teachers unhappy with the pay system at the school can always "vote with their feet" and go to another school with a more compatible pay regime.

Evidence for this "team" perspective is seen in teacher responses to a series of attitudinal questions on job control and work relationships reported in Table 1. Charter and private school teachers report greater levels of influence on academic standards and curriculum than did teachers in traditional public schools. More to the point, they report closer and more productive relationships with their principal, greater congruence in values and outlook, and more cooperative relations with colleagues than do teachers in traditional public schools.

(Table 1)

In principle, public school districts need not be so bureaucratic. They could adopt more decentralized systems of personnel policy, give school principals more control over teacher recruitment and pay, and adopt more of a team model. However, this brings us to the next important difference between the sectors: collective bargaining. The percent of teachers covered by collective bargaining agreements in charter schools is far lower than in traditional public schools. (SASS does not bother to elicit this information from private school respondents since very few private schools bargain collectively with their teachers.) Seventy percent of public school districts, employing 73 percent of teachers, have collective bargaining agreements covering their teachers (Table 2). This contrasts with just 14 percent of charter schools (employing 18 percent of charter school teachers). The absence of a binding collective bargaining agreement is an important source of personnel flexibility in charter schools. Teacher unions in general have been opposed to

more flexible market or performance-based pay systems. Grievance procedures in collective bargaining agreements also make it more difficult to dismiss poorly performing teachers.

(Table 2)

Collective bargaining also reinforces centralized wage-setting and personnel policies. State labor regulators define school districts rather than schools as the "appropriate bargaining unit" for collective bargaining. Given the substantial resource costs in bargaining a contract, and the fixed costs of administering it, both labor and management favor centralizing bargaining at the school district level. This tends effectively standardizes personnel policy within the school district and makes the entire district an "internal labor market."

A final environmental factor is teacher licensing. Traditional public schools must hire licensed teachers. Private schools, particularly at the secondary level, routinely hire uncertified teachers. Many states permit charter schools to hire uncertified teachers. This permits private and charter schools to recruit from a much larger pool of candidates in filling teaching positions. Other things being equal, this should raise teacher quality.[5] The percent of teachers holding regular state teacher certification is reported in Table 3. Ninety three percent of teachers in traditional public school are hold regular state

[5] This assumes, of course, that school administrators are actually seeking out the best teaching candidates and have good information about teacher quality. Traditional economic rationales for licensing (e.g., Shapiro, 1986) , based on asymmetric information do not seem applicable to teaching. Unlike other professions, teachers do not sell their services directly to the public, rather, they are hired by experienced education professionals (principals, superintendents) who are themselves licensed. For further discussion of this point see Ballou and Podgursky (1999).

licenses. This contrasts with 70.9 percent in charter schools and 58.2 percent in private schools (slightly lower in non-religious private schools).[6]

(Table 3)

Of course, the lower percent certified in charter and private schools may reflect supply rather than demand factors. Charter and private schools may wish to hire certified teachers but they don't apply. At least for charter schools, these data suggest otherwise. Administrators in the SASS charter school survey were asked a series of question about state regulations from which they were waived ("Does your school's charter include waivers or exemptions from the following state or district policies?") They were also asked about various hiring criteria used by the school (e.g., full standard state certification, graduation from a state-approved teacher education program). Table 4 reports results from a cross-tabulation of these two questions. We split our sample of charter schools into two groups – schools that had the flexibility to hire non-certified teachers and schools for whom this requirement was not waived. Schools for which the requirement was waived were much less likely to use certification as a necessary condition for hiring. For schools with a waiver, 65 percent used certification as a criteria to consider for hiring, but only 23 percent actually required it. This suggests that while teacher certification is seen as a valuable attribute by charter school administrators, so are other teacher characteristics. School administrators are willing to "trade off" certification for other desirable teacher attributes.

[6] In Table 3 and subsequent tables, we report results for all private school teachers and for private school teachers in non-religious regular schools. By "regular" we exclude schools that have a special program emphasis such as special education or education for handicapped students, Montessori, military, etc. Our goal is to identify schools providing educational services similar to those provided by traditional public schools. Because the SASS sample size is so much smaller for these non-religious regular private schools, the standard errors are considerably higher than for the other groups.

(Table 4)

The tabulations are consistent with open-ended survey questions asked in Ballou and Podgursky (2001). Respondents were asked to comment on "… the most important ways that teacher recruitment and hiring differed from traditional public schools in your area." In states where it was permitted, the most common difference noted by charter school respondents was their ability to hire non-certified teachers. One respondent captured the spirit of many with his succinct reply: "Certification is not the gate-keeper."

Level and Structure of Compensation

In the previous section, we hypothesized that the more competitive environment combined with the smaller firm size and greater flexibility would lead to greater differences in compensation policies between traditional public and private or charter schools. Table 5 presents data on methods of teacher pay in the three sectors. In this table we find that 96 percent of public school districts (accounting for virtually one hundred percent of teachers) report that the district has a salary schedule for teachers. In contrast, only 62 percent of charter and 66 percent of private schools report using a salary schedule to set teacher pay.

(Table 5)

In SASS, school administrators were also asked a series of questions about incentive pay: "Does the district (school) use any pay incentives such as cash bonuses, salary increases, or different steps on the salary schedule to … [reward x]." Responses to these questions are reported in rows 2-6 of the table. The question that most closely corresponds to traditional merit pay is "excellence." In that case, only six percent of traditional public school administrators responded in the affirmative. The rates for

charter (36 percent) and private schools (22 percent) were much higher. Charter and non-religious private schools were also more likely to pay bonuses to recruit or retain teachers in shortage fields.

While private and charter schools seem less inclined to use salary schedules and somewhat more inclined to use incentive pay, on the face of it most seem to have pay systems similar to those in public schools. However, this overlooks a very important source of pay flexibility in private and charter schools. In these schools, pay is set at the school-level, whereas in traditional public schools the pay is set district-wide. In the latter case, it means that dozens, or in larger school districts, hundreds of schools are locked into a single salary schedule. For example, the New York City school district has 1206 schools, Dade County, 356, Chicago, 602, LA Unified, 660. In each of these cases all teachers in the district are covered by a single district-wide salary schedule.

Unfortunately, the sampling design in SASS limits our ability to analyze the dispersion of teacher pay within metropolitan labor markets or within districts. In order to get a better appreciation of these sources of pay variation, we examine data for charter and traditional public schools in the Kansas City area. (Similar private school data are not available.) Missouri's charter school law is unusual in that it only permits charter schools in the two largest school districts (St. Louis and Kansas City). The Kansas City case is interesting because the penetration rate of charters is very high. In fall, 2002, there were 17 charter schools in operation with a total enrollment of roughly 6700 students, or 19 percent of total public school enrollment. This high penetration rate makes it reasonable to talk about a charter school sector in this local labor market.

Table 6 presents some data on public school teacher pay in the Kansas

City charter sector and surrounding labor market for public school teachers. Our dependent variable is regular term teacher pay for full-time teachers.[7] We present data on the KC school district and all school districts in the county. Average pay in the charter schools ($37,918) is lower, but this reflects in part the lower average level of teacher seniority. Our interest, however, is in the dispersion of teacher pay. The third and fourth row of the table report the R-squared and mean squared error (MSE) from a regression of regular term teacher pay on a cubic in experience and an indicator variable for whether the teacher holds an MA degree. These statistics clearly indicate that education and experience explain much less of the dispersion in teacher pay in the charter sector. However, the lower R-square may be explained by the fact that there is less variation in experience (and fewer MA's) in the sector. However, more striking is higher MSE. In spite of the considerably lower average pay in the charter sector, the MSE is significantly higher. Thus, pay is considerably more diverse in the charter school sector, in ways not explained by teacher experience and graduate degrees.

(Table 6)

How much of this dispersion is within versus between schools? The bottom rows in the table provide a simple ANOVA decomposition of pay in the charter and traditional sectors. In the traditional public schools, inter-school variation accounts for only 5-7 percent of the total variation in pay. By contrast, in the charter sector, inter-school variation accounts for 34 percent of total variation. If we restrict this comparison to teachers with relatively low seniority (less than ten years), the charter-non-charter differences narrow, but the same pattern holds. Inter-school differences in average pay

[7] All pay and school data are from administrative data files maintained by the Missouri Department of Elementary and Secondary Education.

account for 46 percent of total variation in charters, as compared to just 22 percent in the KC district and only 12 percent in the county.

While we should be cautious about generalizing to other teacher labor markets, these comparisons suggest that there is a larger unexplained dispersion of teacher pay in the charter school sector. Ballou (2001) reports similar findings in comparisons of teacher pay in public and private schools. Thus, even if teachers within a charter school are paid entirely off of rigid salary schedules, these data suggest that there is considerable variation in pay between schools, which may permit pay at the school level to adjust to market conditions. For example, Podgursky (2001) reports that in the 1993-94 school year, starting teacher pay in private elementary schools was 12 percent lower than private secondary schools. For teachers with an MA and ten years experience the gap was 17 percent.

Dismissals for Performance

Of course, rigid salary schedules might not be as costly if teacher experience and graduate education were strong predictors of teacher productivity. Surveys of the education production find little support for a positive effect of teacher MA degrees, and teacher experience has little effect beyond the first few years (Hanushek and Rivkin, 2004) Nonetheless, in principle a seniority-based wage structure might be efficient if less effective teachers are weeded out over time. However, personnel policies in traditional public schools are not likely to produce such an effect. Teachers in traditional public school districts receive automatic contract renewal or tenure after three to five years on the job. After receiving tenure it is very difficult to dismiss a teacher for poor job performance. Moreover it is not at all clear that public school districts take full

advantage of the opportunity to weed out poorly performing probationary teachers. Interestingly, although there has been much discussion of this problem of poor monitoring of probationary teachers, there has been little systematic data collection. The only empirical study of which we are aware is Bridges (1992), who surveyed 141 mid-size school districts in California. He found annual dismissal rates for probationary teachers of roughly one percent – hardly consistent with rigorous screening.

Fortunately, for the first time, the 1999-00 SASS has included items on teacher dismissals. School or district administrators were asked the number of teachers dismissed for poor performance over the previous year. Respondents were asked about total dismissals of teachers with three or fewer years experience (typically untenured) and more than three years (usually tenured). These totals are reported in Table 7. The typical public school district dismissed just .9 low experience teachers and only .3 high experience teachers. The average charter school dismissed .5 low experience and .3 high experience teachers. The total dismissals for private schools were lower for both groups (.2).

(Table 7)

As we saw in Figure 1, the teaching workforce in public school districts is far larger than for charter or private schools. Thus the dismissal rate for traditional public school districts (i.e., dismissals as a percent of the teaching workforce) is far lower than for charter or private schools (Figure 8). The annual dismissal rate for all teachers in traditional public schools is just .6 percent of the teaching workforce.[8] For charter schools, the dismissal rate is 4.9 percent and for private schools the dismissal rate is 2.6

percent. Of course, at the time of this survey, the vast majority of charter schools had been in existence just one or two years. One might expect higher dismissal rates as part of the "shakeout" of staff involved in opening a new school. After all, in such schools, virtually all the teacher are probationary. Multivariate analysis of the charter school dismissal rate finds that it tends to tends to decline sharply with the age of the charter school and approaches the rate of private schools after several years of operation.

Teacher Quality Measures

Ideally one would like the personnel policies described above to be linked to direct measures of teacher performance as measured by student learning. Unfortunately, such data are not available. Instead we must make do with indirect measures of teacher quality. In our case, we will use measures of teacher academic quality. There is some evidence in the education production function literature that broad-based measures of teacher academic skill such as ACT or SAT scores, or proxies like college selectivity, are associated with greater teacher effectiveness (Ballou and Podgursky, 1997; National Research Council, 2001). In addition, education policy-makers have shown a strong desire to recruit teachers with more rigorous academic backgrounds. In this spirit, we consider several measures of the broad general skills and academic training of teachers.

Table 8 reports estimates of linear probability models for these teacher quality measures. We estimate these models on samples of teachers from the 1999-2000 Schools and Staffing Surveys. For each teacher quality measure, we estimate four models. The first model has no covariates and simply amounts to a t-test comparing mean quality in charter and private schools with traditional public schools. For example, in row one

[8] Unfortunately, the SASS school survey did not ask school administrators the number of teachers with three or fewer or more than three years of seniority. Thus, we cannot compute dismissal rates for the two

we find the probability that a charter school teacher had an academic major was .095 (9.5 percent) higher than a teacher in a traditional public school. A similar finding holds for private schools. Adding covariates and state effects lowers the charter effect somewhat, to 6.9 percent, but has little effect on the private school advantage. As in the previous tables, in the next two rows we disaggregate the private school estimates to secular, regular emphasis versus all other private schools. The difference between the traditional public and secular private schools is quite substantial (15.6 percent).

(Table 8)

The remaining rows in the table consider three other teacher quality measures – math or science major, and two measures of college selectivity (Barron's top 2 and top 3). In nearly all cases, private schools (particularly secular regular emphasis) and charter schools are significantly more likely to have teachers of higher academic quality.

Table 9 provides a bit of a robustness check for these findings. Here we return to our Kansas City area public schools. Unfortunately, state administrative data do not readily permit identification of a teacher's undergraduate major. However, it is possible to code the selectivity of the teacher's undergraduate college. The results of this exercise are reported in Table 9. Consistent with our finding with SASS, charter schools in the Kansas City teacher labor market, in spite of their somewhat lower pay, seem to be attracting teachers of higher academic quality, as measured by college selectivity. The advantage is largest when comparing the charters to traditional public schools in the KC district. However, it is interesting to note that the charter advantage even holds when the sample is broadened to suburban schools in the rest of Jackson County.

(Table 9)

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groups separately.

Conclusion

This paper examines reasons why personnel policy and wage setting differ between traditional public, private, and charter schools and the effects of these policies on academic measures of teacher quality. Survey and administrative data suggest that the regulatory freedom , small size of wage-setting units, and a competitive market environment make pay and personnel practices more market and performance-based in private and charter schools as compared to traditional public schools. These practices, in turn, permit charter and private schools to recruit teachers with better academic credentials as compared to traditional public schools.

One criticism of charter schools has been that they are not particularly innovative and, in terms of classroom practice, tend to resemble traditional public schools (e.g., Wells, 1998; AFT, 2002). Whether this is a correct assessment of pedagogy and curriculum, we cannot say. However, in the area of teacher personnel policy, available evidence suggests that there are major differences between traditional public schools and charter schools. These findings reinforce those found in our earlier survey research (Podgursky and Ballou, 2001) and in Hoxby (2002). Charter schools seem to be using the regulatory flexibility they have been granted in this area to forge very different policies. Our analysis finds that in many respects, personnel policy in charter schools more closely resembles that in private schools than traditional public schools.

References

American Federation of Teachers. 2002. Do Charter Schools Measure Up? The Charter School Experiment after 10 Years. Washington, D.C. (July).

Ballou, Dale. 2001. "Pay for Performance in Public and Private Schools." Economics of Education Review. Vol. 20, pp. 51-61.

Ballou, Dale and Michael Podgursky. 1997. Teacher Pay and Teacher Quality. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Black, Sandra. 1999. "Do Better Schools Matter? Parental Valuation of Elementary Education." Quarterly Journal of Economics. Vol. 114 No. 2 (May). Pp. 577-599.

Bridges, Edwin. 1992. The Incompetent Teacher: The Challenge and the Response. Philadelphia, PA: Flamer Press.

Brown, Charles. 1990. "Firm's Choice of Methods of Pay." Industrial and Labor Relations Review. 43 (Special Issue). pp. 165S-182S.

Goldhaber, Daniel, Hyung-Jai Choi, Michael DeArmond, Daniel Player. 2005. "Why Do So Few Public School Districts Use Merit Pay?" University of Washington.

Goldhaber, Daniel. 2002. "The Mystery of Good Teaching." Education Next. Vol. 2 No. 1. (Spring). http://www.educationnext.org/20021/50.html.

Hanushek, Eric and Steven Rivkin. 2004. "How To Improve the Supply of High Quality Teachers." Brookings Papers on Education Policy: 2004. Washington, DC.: The Brookings Institution, pp. 7-44.

Hatry, Harry P, John M. Greiner, and Brenda G. Ashford. 1994. Issues and Case Studies in Teacher Incentive Pay. Washington, DC: Urban Institute.

Hoxby, Caroline. 2000. "Does Competition Among Public Schools Benefit Students and Taxpayers?" American Economic Review. Vol. 90 No. 5. pp. 1209-1238.

_____. 2002. "Would School Choice Change the Teaching Profession?" Journal of Human Resources Vol. 37 No. 4. pp. 892-912.

Keller, Bess. 2002. "Cincinnati Teachers Rebuff Merit Pay." Education Week. May 29.
http://www.edweek.org/ew/ewstory.cfm?slug=38cincy.h21&keywords=Cincinnati%20AND%20teacher

Lewis, H. Gregg. 1963. Unionism and Relative Wages in the United States: An Empirical Inquiry. Chicago: University of Chicago Press.

National Research Council. 2002. Testing Teacher Candidates: The Role of Licensure Tests in Improving Teacher Quality. Washington, DC: National Academy Press.

Podgursky, Michael. 2001. "Regulation versus Markets: The Case for Greater Flexibility in the Market for Public School Teachers." in H. Walberg and M. Wang (eds.) Tomorrow's Teachers. Richmond, CA: McCutchan Publishing. pp. 117-148.

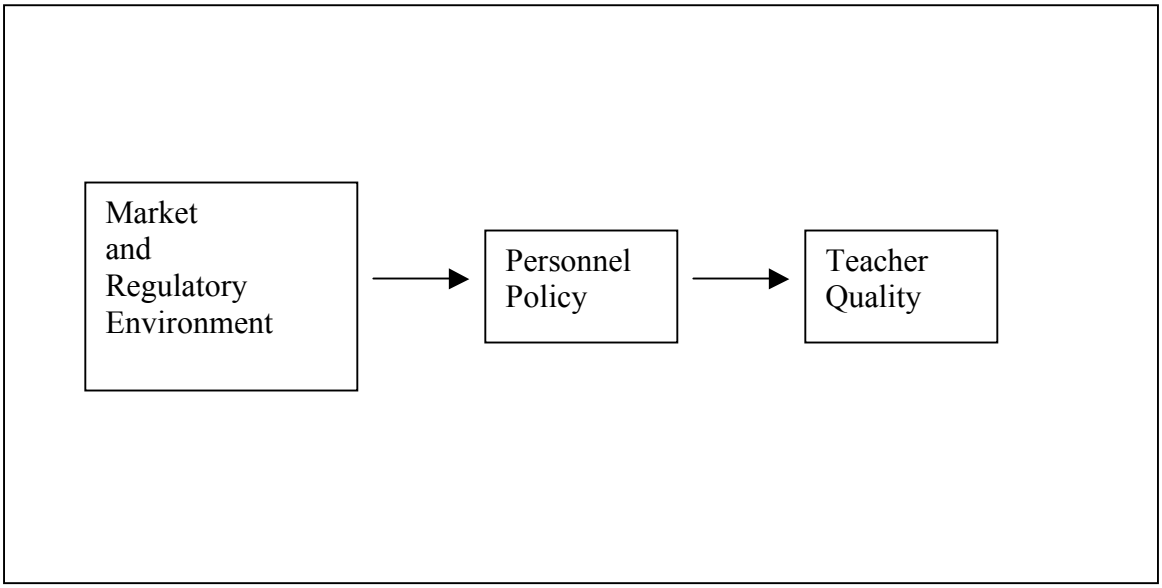
Podgursky, Michael and Dale Ballou. 2001. Personnel Policy in Charter Schools. Washington DC: Fordham Foundation. www.edexcellence.net.

Shapiro, Carl. 1986. "Investment, Moral Hazard, and Occupational Licensing." Review of Economic Studies. Vol. 53. pp. 843-862.

U.S. Department of Education. National Center for Education Statistics. 2002. Digest of Education Statistics 2001. Washington, D.C. http://www.nces.ed.gov/pubs2002/digest2001/

Wells, Amy Stuart. 1998. Beyond the Rhetoric of Charter School Reform: A Study of Ten California School Districts (Los Angeles, CA: University of California at Los Angeles.

Figure 1


Market
and
Regulatory
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Teacher
Quality

Figure 2

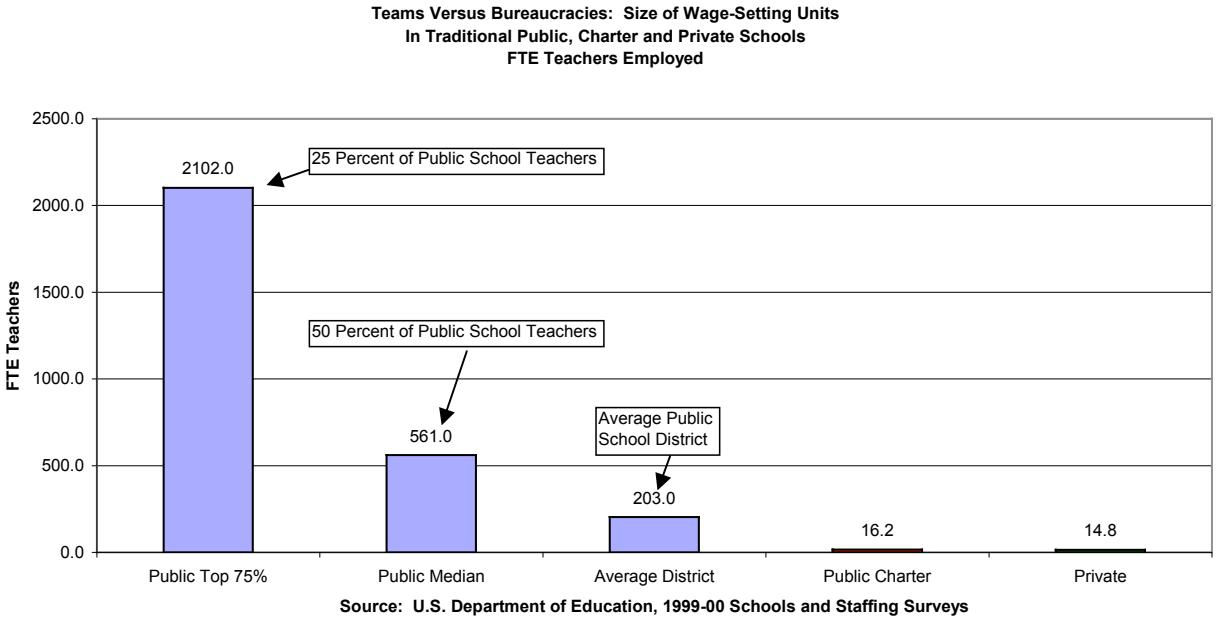
Teams Versus Bureaucracies: Size of Wage-Setting Units
In Traditional Public, Charter and Private Schools
FTE Teachers Employed
2500.0
2000.0
1500.0
1000.0
500.0
0.0
FTE Teachers
2102.0
25 Percent of Public School Teachers
50 Percent of Public School Teachers
561.0
Average Public School District
203.0
16.2
14.8
Public Top 75%
Public Median
Average District
Public Charter
Private
Source: U.S. Department of Education, 1999-00 Schools and Staffing Surveys

Table 1 : Teacher Influence and Attitudes in Traditional Public, Charter, and Private Schools

	Traditional Public	Charter	Private	Private, Non-religious, Regular School
How Much Influence do you think that teachers have over school policy?				
Setting performance standards for students. [a]	3.00 (.010)	3.47** (.015)	3.70** (.015)	3.89** (0.041)
Establishing Curriculum. [a]	3.18 (.010)	3.70** (.017)	3.85** (.016)	4.25** (0.041)
The school administrator's behavior toward the staff is supportive and encouraging. [b]	.788 (.004)	.802** (.004)	.873** (.004)	.861** (0.021)
Most of my colleagues share my beliefs and values about what the central mission of the school should be. [b]	.847 (.003)	.866** (.003)	.922** (.003)	.912** (.001)
There is a great deal of cooperative effort among the staff. [b]	.783 (.003)	.844** (.005)	.890** (.005)	.867** (.020)

a. Mean value on a scale of 1-5, 1= no influence, 5= a great deal.

b. 1-4 Likert scale with 1= strongly agree, 4= strongly disagree. Percent reporting agree or strongly agree.

** Difference between charter/private and traditional public school significant at .01 level of significance.

Source: 1999-00 Schools and Staffing Surveys.

Table 2

Percent of Districts, Schools, and Teachers Covered by Collective Bargaining Agreements

	Public	Charter
Percent of Units (public = districts, charter = schools)	69.8 % (0.7)	14.4 % (0.5)
Percent of Teachers	73.4 (0.7)	17.8 (0.7)

Source: 1999-00 Schools and Staffing Surveys

Table 3

Percent of Teachers Holding Regular State Certification in Traditional Public, Private, and Charter Schools[a]

(standard error in parenthesis)

	Traditional Public	Charter	Private	Non-Religious Regular School
Certified Teachers as a Percent of Teaching Workforce	93.0 (0.2)	70.3** (0.7)	58.2** (0.8)	52.6** (2.8)

a. Excludes teachers holding state emergency or temporary state licenses.

Source: 1999-00 Schools and Staffing Surveys.

Table 4

Percent of Teachers Certified in Charter Schools With Certification Waivers

Certification Requirement	Not Used	Used But Not Required	Required	Total
Waived	11.5	65.3	23.3	100.0
Not Waived	3.8	26.3	69.9	100.0

Source: 1999-00 Schools and Staffing Surveys.

Table 5

Teacher Salary Schedules and Teacher Incentive Pay in Traditional Public, Charter, and Private Schools

(standard error in parenthesis)

	Traditional Public (%)	Charter (%)	Private (%)	Non-religious Regular School (%)
Is there a salary schedule for teachers in this school?	96.3 (0.29)	62.2 (0.72)	65.9 (1.24)	45.1 (5.60)
Does this school currently use pay incentives such as cash bonuses, salary increases, or different steps on the salary schedule to reward:				
NBPTS Certification?	8.3 (0.37)	11.0 (0.43)	9.6 (0.88)	14.8 (5.5)
Excellence in Teaching?	5.5 (0.35)	35.7 (0.65)	21.5 (0.93)	42.9 (5.5)
Completion of in-service professional development?	26.4 (0.70)	20.5 (0.56)	18.7 (0.88)	26.0 (5.67)
Recruit or retain teachers in fields of shortage?	10.4 (0.464)	14.9 (0.54)	7.9 (0.61)	15.0 (3.40)

Source: 1999-00 Schools and Staffing Surveys.

Table 6

Variation in Kansas City Area Teacher Pay Within Traditional and Charter School Sector: 2002-2003 Regular Term Pay, Full-Time Teachers

	Charter Schools	All Jackson County (12 School Districts)	Kansas City, Missouri School District
Average Salary	$34,918	$41,466	$41,748
Average Public School Teaching Experience	8.0	13.3	14.1
Residual Variation in Pay[a]			
Root MSE	$6703	$4716	$5534
R^2	.292	.762	.699
N teachers	314	7018	2278
ANOVA			
% Variation Between Schools			
All Teachers	33.9%	5.1%	6.7%
Public Exp 10 years or less	45.5%	22.4%	11.5%
N schools	17	118	72

a. Root MSE and R^2 from following regression:
RTPAY = b0 + b1 E + b2 E^2 + b3 E^3 + b4 MA+, where RTPAY is regular term teacher pay, E is years of public school teaching experience, and MA+ is a dummy variable indicating whether the teacher had an MA or higher.

Table 7

Teachers Dismissed Annually for Performance

(standard error in parenthesis)

	Traditional Public	Charter	Private	Non-Religious Regular School
Number with Less Than 3 Years Experience	0.831 (0.016)	0.533 (0.014)	0.208 (0.012)	.249 (0.043)
Number with 4 or More Years Experience	0.293 (0.046)	0.318 (0.014)	0.228 (0.023)	.224 (0.077)
Dismissed As A Percent of the Teaching Workforce[a]	1.1% (0.2)	7.5% (0.2)	3.7% (0.3)	2.3% (0.4)

Source: 1999-00 Schools and Staffing Surveys.

a. For charter and private, percent of total teaching workforce, for traditional public, percent of FTE teacher employment in the district.

Table 8: Measures of Academic Quality of Teachers in Public, Private, and Charter Schools
(t-statistics in parenthesis)

Teacher Characteristic	Public	Charter	Private, all	Private, non-rel. regular	Private, other	Covariates and State Effects (51)[a]	N
Academic Major	---	.095*** (10.38)	.075*** (12.42)	---	---	No	52031
	---	.069*** (7.20)	.072*** (11.27)	---	---	Yes	51762
	---	.095*** (10.39)	---	.236*** (14.09)	.054*** (8.57)	No	52031
	---	.069*** (7.17)	---	.156*** (9.53)	.061*** (9.12)	Yes	51762
Math or Science Major	---	.000 (1.00)	.022*** (3.69)	---	---	No	52031
	---	-.015 (1.47)	.008 (1.21)	---	---	Yes	51762
	---	.000 (1.00)	---	.044*** (3.14)	.018*** (2.74)	No	52031
	---	-.015 (1.47)	---	.025* (1.73)	.004 (.65)	Yes	51762
UG College Selectivity (top 3)	---	.162*** (20.44)	.042*** (8.01)	---	---	No	52031
	---	.146*** (16.91)	.027*** (4.74)	---	---	Yes	51762
	---	.162*** (20.48)	---	.238*** (16.33)	.017*** (3.09)	No	52031
	---	.145*** (16.85)	---	.201*** (13.76)	.004 (.71)	Yes	51762
UG College Selectivity (top 2)	---	.159*** (20.94)	.002 (.40)	---	---	No	52031
	---	.131*** (15.95)	-.012** (2.26)	---	---	Yes	51762
	---	.159*** (20.96)	---	.122*** (8.77)	-.013*** (2.53)	No	52031
	---	.131*** (15.90)	---	.096*** (6.88)	-.026*** (4.66)	Yes	51762

a. Covariates include rural, suburban, central city indicators, secondary/combined indicator, percent minority students in the school, and 51 state/DC effects.

Source: 1999-00 Schools and Staffing Surveys.

Table 9

Academic Measures of Teacher Quality: Kansas City, MO and Surrounding Jackson County School Districts

School Year 2002-2003

	Barron's Selectivity Level	
	Top 2	Top 3
KC Charter Schools	2.1%	31.3%
KC District Schools	1.1%**	28.3%**
Rest of Jackson County	.6%**	30.4%**

** Difference between KC Charters and other cell significant at 1 percent.

Source: Missouri Department of Elementary and Secondary Education. Core Data and Teacher Certification Administrative Data Files

Appendix: Data

The 1999-2000 Schools and Staffing Survey (SASS) is a representative national survey of schools, districts, principals and teachers conducted regularly by the National Center for Education Statistics of the U.S. Department of Education. It is a major source of information on public and private K-12 teachers and schools in the U.S. Earlier waves of the survey were conducted in 1987-88, 1999-91, and 1993-94. However, the 1999-2000 school year was the first time that SASS included a separate charter school survey.

The following are descriptive statistics on the 1999-2000 SASS.

- Traditional Public Schools
  - Districts (4,690), schools (8,432), principals (8,524), teachers (42,086)
- Public Charter Schools
  - Schools (870), principals (891), teachers (2,847)
- Private Schools
  - Schools (2,611), principals (2,734), teachers (7,098)