

# Is there a “Qualified Teacher” shortage?

**Washington**—As American schools reopen, a 15-year effort to “professionalize” the job of teacher is running up against a strong counterforce—the urgent need to fill classroom vacancies.

— *Christian Science Monitor*, August 26, 2002

The headlines in those early years of No Child Left Behind (NCLB) were consistently alarming. “As Standards Rise, Too Few Teachers,” was the one the *Christian Science Monitor* story referred to above. “Federal Education Report Finds Shortage of Qualified Teachers,” noted a headline in the *Washington Times* the following year.

In the flurry of activity surrounding implementation of NCLB’s student proficiency mandates, the federal requirement to have a “highly qualified” teacher in every classroom by 2005 seemed more like an impossible goal. The concern predated NCLB, of course: “Clinton Addresses U.S. Teacher Shortage” was a headline from August 2000. But NCLB’s demand that all new teachers hold at least a baccalaureate degree or higher, be fully licensed, and have demonstrated subject-matter competence in the areas they teach surely heightened the anxiety. However, 2005 has come and gone and the highly qualified-teacher crisis never happened. Why not?

The shortest answer is that the dearth of qualified teachers is largely a myth. So is the related notion that raising teachers’ pay across the board would bring significantly more qualified numbers to the profession. In fact, the resources

provided to most public schools are adequate to recruit and retain a competent teaching workforce. A much more productive line of inquiry is one that explores the costs of the inefficient, rigid structure of the teacher compensation system and the possible benefits of replacing it with a more market-based system.

## In Search of a Qualified-Teacher Shortage

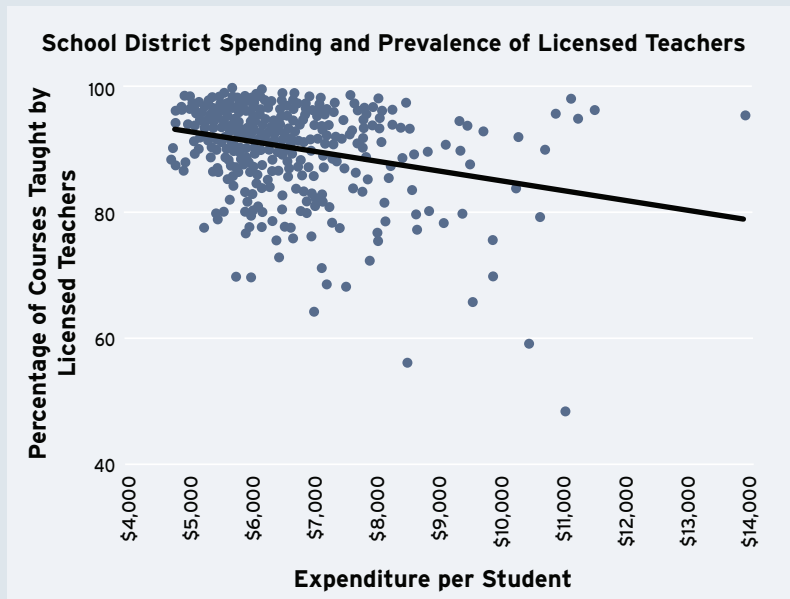
Are school districts really beset by a shortage of the qualified teachers needed to meet regulatory standards? Despite the headlines telling us of the teacher drought, there are at present no nationwide data that would help us answer this

What factors  
do affect  
the market  
for teachers,  
anyway?

BY MICHAEL PODGURSKY

## Diminishing Returns (Figure 1)

Missouri school districts that spend more per pupil tend to have lower percentages of courses taught by licensed teachers.



Note: Expenditure per student is based upon average daily attendance. Teachers must be certified in the course subject matter to be considered licensed.

SOURCE: Missouri K–12 Public School Districts, 2001–02

systems in the nation. The school-age population is growing rapidly. The state has major fiscal difficulties. Much of the stress is self-inflicted: recall that in 1996 voters on a statewide ballot passed a class-size reduction initiative that greatly exacerbated teacher shortages and led to an exodus of teachers from many urban classrooms as suburban jobs opened up. In spite of these travails, in school year 2003–04, 89.4 percent of California public school teachers held full teaching credentials in their teaching area. Another 5.3 percent were in supervised intern or pre-intern programs. Only 5.2 percent were teaching with substandard credentials (emergency or waiver).

Still, virtually no school district is in full compliance with licensing laws. Missouri, for instance, tracks the percentage of courses taught by teachers with inappropriate licenses. During the 2002–03 school year, only two Missouri K–12 school districts had no courses taught by an inappropriately licensed teacher. The state average for teachers without proper credentials was 9.5 percent per district. Worth noting is that the prevalence of such teachers seems to have little to do with per pupil district spending. In fact, the district data show that higher spending per student is associated

with a *decrease* in the percentage of courses taught by licensed teachers (see Figure 1).

Why is noncompliance unrelated to spending? Presumably, districts with higher relative pay would have lower turnover and thus fewer vacancies. They would also have larger applicant pools and thus more qualified applicants per vacancy.

But consider teacher licensing laws in Missouri. Like most other states, Missouri issues a single license to practice medicine, law, dentistry, accounting, nursing, and veterinary medicine. However, in the area of K–12 education, its Department of Elementary and Secondary Education currently issues 260 different certificates and endorsements (171 vocational, 89 nonvocational). This is only part of the story. There are levels of certification (permanent or provisional) for all of these and a host of grandfathered codes. The result of all this is 781 valid certification codes in the master teacher-certification file. And there is nothing unique about Missouri.

Now combine this complex licensing system with the dynamics of the teacher labor market, and the result is less than complete compliance even under the best of conditions. At the district level, roughly 10–12 percent of teaching

question. One reason for this is that licensing standards vary from state to state. The most commonly used national data file, the Schools and Staffing Survey, includes a survey in which roughly 42,000 public school teachers were asked about their education backgrounds and teaching credentials. In the most recent available

survey (1999–2000), 90 percent of public school teachers reported that they have regular state certification in their primary teaching area.

Administrative data from states or school-district report cards tend to reinforce these findings, even in those states that are said to have the most significant problems. California certainly represents one of the most highly stressed public-school

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positions turn over each year. Many of the exits are temporary, for child rearing or other family matters, and roughly one-third of district-level turnover comprises interdistrict transfers of experienced teachers. Inevitably, many school administrators find themselves scrambling against short deadlines to fill classrooms with qualified teachers.

Even with qualified teachers available, some classrooms necessarily will be filled with teachers whose certification papers are not in order. Perhaps the teacher's license has expired and new approval is pending. Or maybe the state regulators have simply misplaced the certification paperwork.

Given the byzantine complexity of state teacher-licensing laws, the natural dynamics of the teacher labor market, and bureaucratic delay in granting and transferring credentials, full compliance is nearly impossible. Teacher labor markets likely have a natural rate of non-compliance that is above zero for many of the same reasons that the national economy has a "natural rate of unemployment" that is above zero. For this reason, it is unrealistic to hold school districts to a standard that requires perfect compliance with state licensing and NCLB requirements.

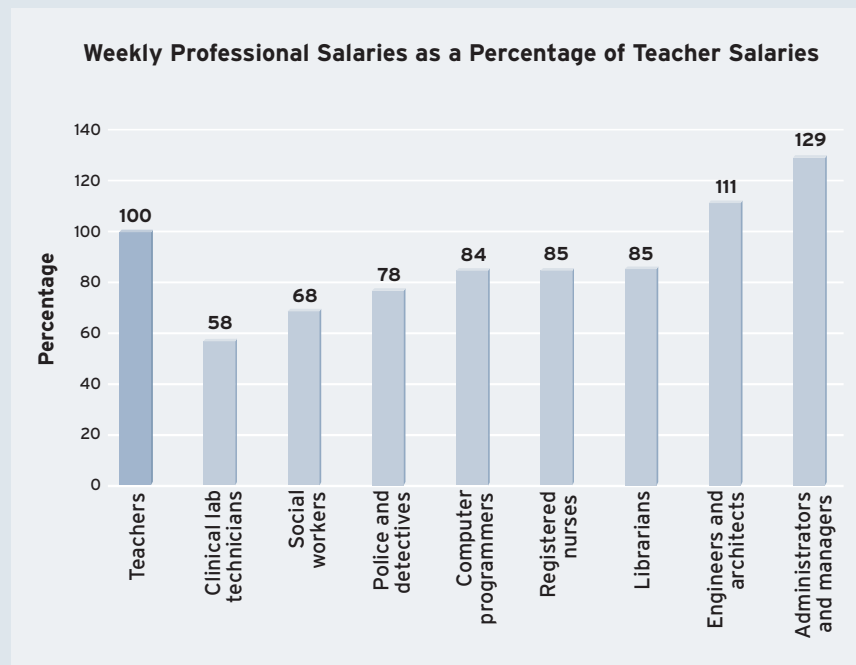
### Pay: Teachers Compared with Other Professionals

Interestingly enough, pay is not the main stumbling block to more, and more-qualified, teachers. Despite the conventional wisdom that teachers are underpaid relative to other professions (thereby depressing the quality of the pool of teachers that schools can recruit and retain), teachers are paid a salary that is comparable to that of other professionals.

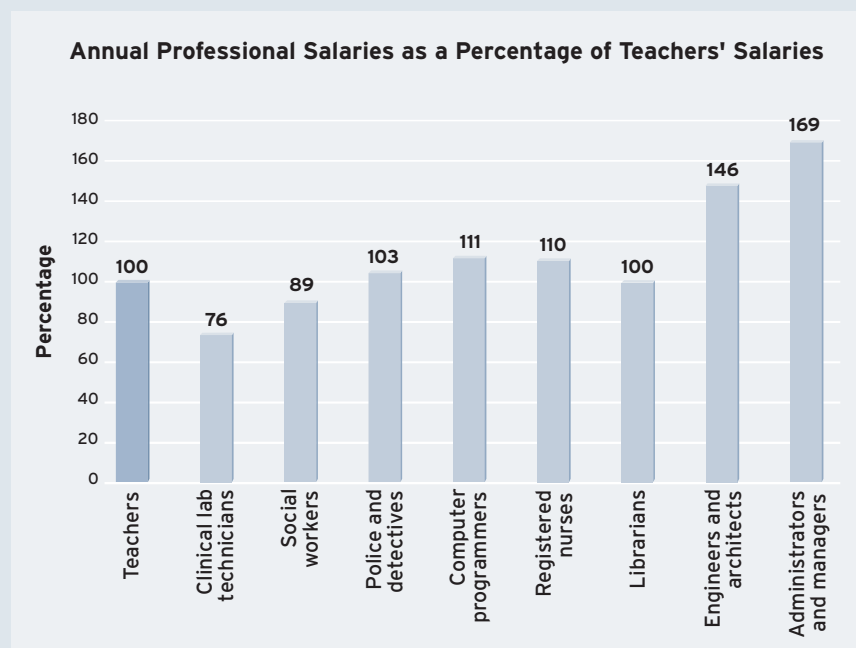
I compared teacher and nonteacher pay for 2003 in the 15 largest metropolitan areas, accounting for roughly one-third of the U.S. population. We can safely assume that they represent roughly one-third of the public school teachers as well. For the comparison, I selected

### Underpaid? (Figure 2a)

*Teachers' weekly salaries are generally above those of other professionals ...*



(Figure 2b) ... even though they earn less on an annual basis.



Note: Salary data for the 15 largest Metropolitan Statistical Areas (MSAs) were used for the comparisons.

SOURCE: Author's calculations from the 2003 Bureau of Labor Statistics National Compensation Survey

occupations for which college degrees (but generally not postgraduate degrees) are common or required and for which U.S. Department of Labor data are available for many of these metropolitan areas. I do not claim that these occupations represent the relevant nonteaching earnings for teachers in all fields, but they probably are relevant for some. More likely, these occupations represent the general wage structure in the local labor market. Most teachers take jobs near where they grew up or went to college. So it isn't national earnings of, say, computer analysts that matter; it's the earnings of computer analysts in the local labor market. The weekly salary calculations shown in Figure 2 are based on pay for weeks worked rather than weeks under contract. Measuring pay by weeks worked increases the weekly pay for nonteachers because they have more paid leave than teachers.

The analysis of these data shows that, in these 15 metropolitan areas, teachers have a very large premium in comparison with clinical lab technicians and social workers. Compared with librarians, teachers have virtual parity in annual earnings but a 20 percent premium in weekly earnings. Their annual pay is roughly 10 percent below computer programmers, but on a weekly basis is 20 percent above. Teachers' annual pay is less favorable than that of architects, engineers, managers, and administrators, but weekly pay is very similar. In sum, these data suggest that on a weekly basis, teachers' pay is quite competitive with that of many other professions.

Data from a survey of households by the Census Bureau's March 2003 Current Population Survey reinforces the findings based on the Department of Labor data. The data from

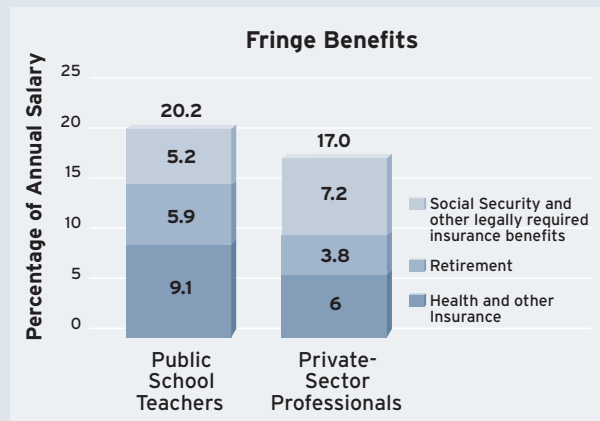
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this survey enable us to look at teachers' pay in both urban and rural areas. Since wages tend to be lower across the board in rural areas, one will overestimate the nationwide teacher versus nonteacher gaps unless one takes urban and rural pay differences into account. Once we do so, the annual pay of female teachers rises to 96 percent of that of other female college-educated workers. Thus, on a weekly basis, female teachers earn more on average than nonteachers.

Anecdotal data also suggest that, even setting aside the enormous benefit of the job security that accompanies tenure, the fringe benefits of public

### Fringe Benefits of Teaching (Figure 3)

*The total fringe benefits paid on behalf of public school teachers are higher than those for private-sector workers.*



Note: Private-sector workers include all management, professional, and related personnel. "Other legally required insurance" includes Medicare, state and federal unemployment insurance, and workers compensation. "Other insurance" includes life insurance and short- and long-term disability.

SOURCE: Bureau of Labor Statistics. "Employer Costs for Employee Benefits—June 2004"

school teachers compare favorably with those in the private sector. According to recently released Department of Labor data, insurance (primarily health insurance) and retirement contributions are a substantially larger percentage of total compensation for teachers compared with professional employees in private-sector employment (see Figure 3). Most teachers are not covered by the federal Social Security system, so legally required contributions by their employers are somewhat smaller for teachers, but overall, benefits total 20.2 percent of payroll for teachers and 17.0 percent for private-sector managers and professionals.

Whether we look at salary or fringe benefits, there seems to be ample evidence that, when compared with other professions, teachers are paid adequately enough to attract qualified individuals to the job.

### Better Teachers' Pay Does Not Mean Better Student Outcomes

Even if our nation's schools are not beset by a widespread shortage of qualified teachers and teachers are paid salaries comparable to other professionals, there are still those who believe that teachers' pay is too low, that their salaries are simply not commensurate with our expectations of a good education for our children. This conviction, which we can call "social underinvestment," views teachers' qualifications as a continuum. We are underinvesting in teacher

quality in the sense that a dollar increase in teachers' pay would yield more than a dollar of benefit to society in the form of student achievement gains. However, research to date finds little evidence of a strong positive effect of teachers' pay on student achievement.

One review finds that 14 of 17 studies that use student-level data and include measures of previous student achievement to assess the value that a teacher adds to student learning showed teachers' pay to have no effect on student achievement. Two sophisticated studies of teachers' effects conducted in 2005 cast further doubt on a positive wage effect. Brian Jacob and Lars Lefgren find no relationship between teachers' pay and their performance in a mid-sized, western school district (see "When Principals Rate Teachers," *research*, page 58); and Eric Hanushek, Steven Rivkin, and Daniel O'Brien, in a 2005 working paper published by the National Bureau of Economic Research, report no relationship between teacher productivity and changes in pay, suggesting that surrounding districts do not pull the most effective teachers from the city by offering higher salaries. Moreover, even in studies finding a positive effect, there is no evidence that across-the-board pay increases are a cost-efficient policy.

To supplement this research evidence, one can also learn from the private-school market for teachers. Suppose, for instance, that the benefits of higher teachers' pay did, in fact, outweigh the costs, and that public schools were setting teachers' pay inefficiently low. If that were the case, one would expect to see private schools, which operate in a very competitive market, paying teachers more. After all, private-school parents should be willing to pay higher tuition to support higher-quality teachers if it enhances their own children's achievement. And many of these same parents will soon be paying college tuition rates, far in excess of those in K-12.

There are, of course, legitimate objections to public-private comparisons. First, many private schools have a religious orientation and are staffed by teachers of the same religious denomination. To the extent that such schools are advancing a religious mission, they and their teachers are not comparable to public K-12 schools. Second, private schools are generally more selective in admissions than public

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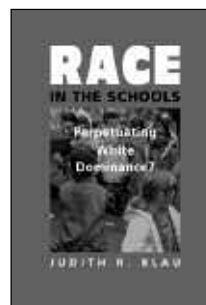
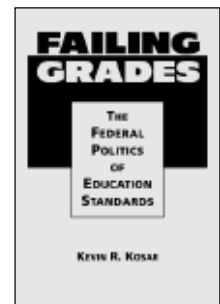
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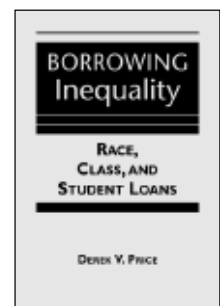
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schools and, on average, have students with higher socioeconomic status. To the extent that this results in better-behaved and more academically motivated students in private-school classrooms, it makes for a more attractive teaching environment.

I attempted to compare public and private school teachers' salaries in a way that would address these concerns. I analyzed earnings data only for private school teachers in non-religious private schools. In addition, I excluded private schools that have a special emphasis (such as special education, Montessori, Waldorf) and focused on schools that most closely resemble traditional public schools in mission.

Even with these adjustments, the data suggest that private school teachers earn only 87 percent on average of what public school teachers earn. A critic of private-public comparisons might still argue that private school teaching is not comparable to public school teaching since the socioeconomic status of the former students is higher. In order to make public schools more comparable to private ones, therefore, I exclude more than 90 percent of the public school teacher sample and retain public school teachers only in low-poverty (less than 5 percent eligible for free or reduced-price lunch) suburban schools. In such cases, private school teachers earn even less, just 80 percent of what their public school counterparts earn. And not only are private school salaries lower, but the benefits are lower as well.

It is possible that teachers find the ability of private schools to exclude unruly students a form of "compensation," but the fact that we observe selective private schools paying much lower teachers' salaries suggests that whatever positive effects higher teachers' pay could have on teachers' quality, administrators must believe that the outlay would not produce commensurate benefits in student achievement, or at least benefits of sufficient magnitude that parents would be willing to pay for them.

## The Bottom Line

In the end, the most reasonable standard for determining if teachers' pay or quality is adequate is whether a district is meeting current regulatory standards. Some skeptics argue that qualified-teacher standards are not very high. And no doubt there is some merit in this charge. But what standards do we use?

However seriously we may wish to improve student achievement through higher teacher quality, the research to date does not provide observable buttons to push. In fact, the evidence linking any type of teacher training, licensing, or testing to student achievement is mixed at best. While measures of teachers' general academic skills, such as SAT scores and college selectivity, are often statistically significant predictors of teachers' effectiveness in raising student achievement, their effects are modest in size.

All of this virtually guarantees shortages, or recruitment difficulties, in some fields and schools at some time, even if the overall level of resources for pay and benefits in the district are more than adequate. For example, in 2004 there were 25 applicants for every elementary-school vacancy in Missouri, but just 5 for each chemistry opening. If a single-salary schedule for a school district yields a large surplus of qualified applicants for elementary education, social studies, and physical education, but no qualified applicants in physics or speech pathology, is teachers' pay in this district adequate? By suppressing performance or field-based pay differentials, these schedules may be driving able teachers out of the profession. A district that insists it must raise the pay of all teachers in the district because it cannot recruit a certified speech pathologist is not spending money wisely.

Finally, state licensing standards must have some flexibility. As noted above, the large number of certifications and endorsements guarantees that virtually no district can assure that every class will be taught by a teacher with the right certificate and endorsement. Indeed, most of the "out of field" teaching in public schools would disappear overnight if states issued a single license in K-12 teaching as they do in medicine, law, accounting, and other professions. Short of that, aggressive development of "alternative route" licensing programs that target existing vacancies holds considerable promise. Teachers in some small rural schools cannot be licensed in every field in which their teaching skills are required. Here, too, licensing standards must have some flexibility.

In short, there may be a good case for raising the pay of some teachers—such as those in fields or schools that are difficult to staff or who are exceptionally effective in the classroom. However, there is little evidence that across-the-board increases in relative pay for all teachers are necessary to staff public schools with qualified teachers.

*Michael Podgursky is professor of economics at the University of Missouri-Columbia.*

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