



Executive Summary

Education policy in America is one of the hottest topics in communities across the country. Stories abound concerning the quality of teachers, the poor quality of teacher preparation, the rate at which teachers are leaving the profession, worsening shortages of teachers and the inability of states to meet the Federal government's minimum requirement for having certified teachers in front of school children.

The United States, however, is hardly alone in its increasing concern about getting and keeping the quality teachers it needs to remain economically competitive in the 21st century. Shortages of qualified teachers are pervasive in all advanced industrial countries today. Like us, these countries are finding it especially difficult to recruit teachers in mathematics, sciences, technology and computer science, and foreign languages.

The fact that most of the advanced industrial countries are encountering many of the same problems recruiting and keeping well qualified teachers in public school classrooms is directly attributable to the fundamental changes taking place in the global economy. Most workers in advanced industrial societies need a far higher level of education—the kind needed to do what Peter Drucker dubbed 'knowledge work' some years ago—to be able to cope with ideas in a way that was certainly not needed even recently by most workers.

That, we believe, is what has transformed the demand for teachers and created the shortages now so prevalent in the advanced industrial nations. The United States and its peers elsewhere are only beginning to realize the depth of the problem. So it is no surprise that the relatively tentative measures being taken by most nations are no match for the severity of the challenge.

No longer is a primary and secondary mass education system that relies on teachers to simply "keep school" at all adequate, yet that's the basic educational structure in place in advanced industrial societies today. Primary and secondary education systems in these countries took shape in the first quarter of the 20th century, when the overall objective of national primary and secondary mass education systems was to provide an eighth grade level of literacy to the vast majority of secondary school graduates.

Four-year college graduates were rare in those days, and those that were available were needed for the high priority technical and professional jobs available then. Teaching was not on that list, which meant that teachers were recruited from the bottom end of the distribution of those entering college and then trained to provide a modest level of literacy to the vast majority of school children. That approach is wholly inadequate in a rapidly integrating global economy that requires highly trained teachers to educate workers to levels well beyond an eighth grade level of literacy.



Now that more and more work is knowledge work (and low-cost countries can supply vary large numbers of relatively well-educated workers to global employers), most high school graduates in the advanced industrial nations will have to be prepared to do college level work. Inevitably, this will mean that the schools will have to recruit and retain teachers from the upper ranks of high school graduates going on to college.

To address these challenges, advanced industrial countries in Europe and elsewhere are trying many of the same remedies that the United States is experimenting with, such as across-the-board salary adjustments for teachers, and incentives targeted at attracting individuals to particular shortage areas. Though many of these actions roughly parallel developments in the United States, there are interesting and important variations on these themes that some countries have tried that could potentially be very interesting to American policymakers. And there are some points of substantial difference.

Consider some of the reforms now in use in other advanced, high-cost countries:

- Signing bonuses and forgiveness of college and university tuition fees in order to draw individuals into the teaching profession. In the United Kingdom, for example, teachers who agree to teach in shortage areas are forgiven their entire college tuition cost after they have served as teachers for ten years.
- Higher compensation in the early years in order to attract people who are concerned about their initial pay and are much less interested in the benefits they will receive as they get older. This is happening in Australia, Denmark, England, Finland, Norway, and Scotland.
- Escalating pay in the later years in an attempt to retain experienced teachers who might otherwise leave. Britain and other English-speaking countries are developing career ladder systems for their teachers.
- Extra pay and benefits to attract teachers of shortage subjects or to challenging schools. Singaporean teachers receive salary supplements to teach in shortage areas, higher ones to teach deaf students and even higher ones if they agree to teach students with mental disabilities. Danish teachers who agree to teach in remote areas are eligible for free accommodations, a home personal computer, and access to wholesale shopping
- Bonuses based on teachers' contributions to improved student performance. Chile provides a bonus to teachers who teach in the top-performing 25 percent of schools in each socio-economic band.
- Salaries based on agreements teachers work out with their principals to respond to the principal's priorities for the school. In Sweden, teacher salaries are individually negotiated based on the subject taught, the demographics of the school, the needs of the school, and the individual teacher's background, skills and performance.



How do all these types of reforms boost teacher compensation abroad compared to the U.S.? Well, teachers' compensation in the United States is higher in terms of Purchasing Power Parity dollars, but is lower in terms of the more valid measure of Gross Domestic Product per capita than in any of the other eight largest industrial nations. A study by the National Center for Education Statistics of US and other G-8 countries found that average entry level salary of American primary teachers was higher in 2001 PPP than every other country except Germany, but lower than all in GDP per capita. A more recent UNESCO report found that after 15 years of teaching American teachers average a higher salary GDP per capita than teachers in France and Italy but lower than Scotland, England, Japan, and Germany.

Another striking difference relates to the tradeoffs among teachers' compensation, class size and time spent with students in classes. Some nations with teacher-student ratios much like those in the United States have much larger class sizes, but expect their teachers to spend much less time during the school day teaching their students in classes. Teachers in these countries, among them Japan, typically have more time to plan, to confer with other teachers, to build curriculum and to work with their students individually.

Other countries, such as Switzerland offer higher pay and still expect their teachers to put up with long hours in the classroom, but provide smaller class sizes. Austria and Denmark have lower salaries, but also lower teacher hours and class sizes..

On the whole, however, these financial and professional incentives for teachers both here and abroad are well below the level of the comparable incentives being offered in the private sector for the achievement of comparable goals. Not surprisingly, then, these new teacher compensation efforts appear to be having relatively weak effects.

We should not be surprised that relatively modest financial incentives are not working very well in this country or any other country. Researchers speculate that the effects will not be larger unless the incentives approach those in the private sector as a proportion of base pay. What's more, highly qualified young people today are less interested in a fair day's pay for a fair day's work than they are in an outstanding day's pay for an outstanding performance during that day. And they are much less interested in a career than they are in doing something next that is interesting and personally rewarding.

These same challenges are facing countries struggling to attract and retain principals who are willing and able to deal with the new challenges of leading school reform and meeting community expectations for high performance of all students. In most countries studied, principals are paid more than teachers, but many argue that this is not enough to compensate for the long workday and workweek they experience or the constituencies with whom they work to build consensus for change. Many countries are calling for additional training and performance-based contracts for their principals.



Complicating the reform picture is the role of unions, which differs across countries. Many countries boast high levels of membership, such as in Europe, where unions are seen as social partners who are involved in policy making on many issues beyond just wages, hours and working conditions. In most countries, unions are trying to figure out what their role should be in times of changing expectations for teachers and schools.

In this paper, we take a key feature of teaching policy—teachers’ compensation—and examine it from the perspective of the way policies on that topic are evolving in a variety of countries and, as well, what researchers are reporting about both the problems and the effects of the policy approaches that other nations have been trying. Our purpose is to enrich the information available to American policy makers with the experience and reflections available from other countries faced with much the same problems as we.

In the report that follows several detailed aspects of teacher and principal compensation are examined, including:

- Teacher compensation levels among countries
- Incentives for teaching in challenging schools or in shortage subject areas
- Performance-related salary systems
- School leader (principal) compensation systems
- Relationship of teacher salary levels and class size
- Influence of teacher unions on compensation Issues

For each section, there is an appendix that provides further detail about individual country systems as well as the ways in which they are addressing the specific topic. As you’ll see, we’ve done an exhaustive review of the data available on teacher compensation abroad.

So what did we learn from this research effort? As you’ll see, our analysis points to some surprising conclusions, even though our research reveals a fundamental fact: Teachers respond to the same incentives that professionals in a wide variety of other fields respond to. Specifically:

- Teacher compensation works best to attract and retain quality candidates when teachers’ pay is high relative to compensation in other professions.
- Capable young people entering the profession prefer a compensation system based on the quality of their work to one that compensates everyone without respect to the quality of their teaching.
- The use of many “objective” criteria to determine teachers’ merit, and thus some component of teachers’ pay, improves teacher performance.
- Given a chance, teachers would prefer to negotiate their compensation with their principal rather than have their union negotiate their salary on their behalf.

Similarly, the expectations of principals rest on compensation and professional rewards that reflect higher career aspirations. When educators were only expected to “keep school,” what mattered most to an ambitious school administrator was subordinates (that is, teachers) who were loyal. Teachers knew this. To the extent that principals had discretion in handing out rewards of all kinds to teachers, they would do so on the basis of personal loyalty, not merit as defined by the quality of their teaching.

Punishments were meted out on the same basis. A preference for uniform salary schedules and strong union intervention in personnel disputes was a natural reaction to these conditions. Now, however, the tide is turning. Today, school systems in the industrialized world want principals that:

- Lead their schools to higher performance. As they do so, loyalty will recede as the principal determinant of how the rewards are handed out and the ability of the teacher to improve student performance will rise to the top.
- Align those performance goals with teachers’ career expectations. As they do so, teachers will be much more willing to let their own rewards depend on the judgments of what their school systems need to improve.

In short, teachers and principals respond to the same incentives that all other professionals respond to. Yet our analysis also shows that those incentives have to be structured properly. Understanding how other industrialized nations go about reforming their school systems to meet these goals requires complex analysis and exhaustive research. As you’ll see, the United States has a lot to learn from their reform experiments—lessons we can put to good use to ensure our economy remains competitive in the 21st century.