The Dismal Productivity Trend for K–12 Public Schools and How to Improve It

Benjamin Scafidi

Over the past decade, Richard Vedder has become widely known in academic, policy, and media circles for his work on productivity in higher education. In fact, however, Vedder (1996, 2000; Vedder and Hall 2000) studied issues in K–12 education before turning to higher education with his 2004 publication, *Going Broke By Degree: Why College Costs So Much*. This article highlights Vedder's contribution to debate on productivity in American public K–12 education and updates his findings with more recent data. It finds that the productivity problem in K–12 public education is actually worse than Vedder suggests is the case for higher education. This article also reconsiders a solution Vedder proposed to ameliorate the K–12 productivity problem—parental choice combined with the conversion of individual public schools into autonomous, employee-owned enterprises.

Richard Vedder and the Economics of Education

One can think of productivity as outputs divided by inputs. Vedder, in his work on higher education, has been concerned about

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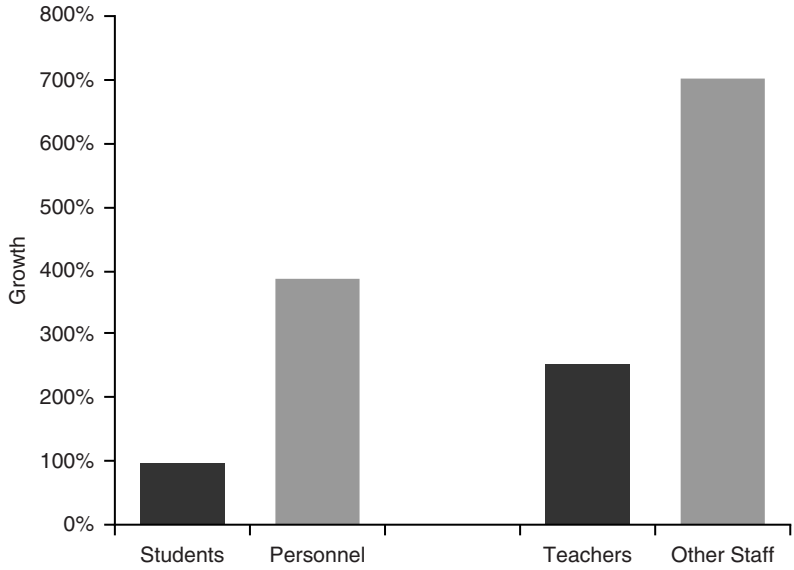
both sides of the productivity equation—that is, higher costs and stagnant or declining output. He adopted a similar approach in his earlier work on K–12 education. In 1996, he wrote a report for the Center for the Study of American Business at Washington University, entitled "School Daze: Productivity Decline and Lackluster Performance in U.S. Education." That report showed the tremendous increases in public school staffing that occurred from 1950 to 1993. According to data from the National Center for Education Statistics, in 1950, there were just over 5 full-time equivalent (FTE) public school employees per 100 students, while by 1993, there were more than 11 FTE school employees per 100 students. Vedder showed that this staffing surge was disproportionately due to increased employment of those who were not lead teachers. As Vedder put it, "While the number of administrators per pupil rose about 50 percent, the big increase was in support staff and in quasi-instructional staff (e.g. teacher aides, guidance counselors)" (Vedder 1996: 4–5).

Using student test results from the National Assessment of Educational Progress and the Scholastic Aptitude Test, Vedder also showed that the output of K–12 public schools—that is, average student performance on standardized exams—either decreased very slightly (1971 to 1992) or increased by about 2 percent (1978 to 1992) during the time period under study. However, this stagnant or slightly higher output occurred at the same time as a dramatic increase in real public school spending and staffing.

The Modern Staffing Surge in K–12 Public Education

According to data available from the U.S. Department of Education's National Center for Education Statistics, between fiscal year (FY) 1950 and FY 2009, the number of K–12 public school students in the United States increased 96 percent, while the number of FTE school employees increased 386 percent (see Figure 1). American public schools hired personnel at a rate four times faster than the growth in student numbers over that period. However, the numbers above obscure important information regarding the nature of the long-term and dramatic increases in staffing. One can place public school employees into two categories—lead teachers and "other" staff (administrators, teacher aides, counselors, cafeteria workers, bus drivers, and so on). Between 1950 and 2009, teaching personnel grew by 252 percent while administrators' and other staff

FIGURE 1
Growth in K–12 Public School Students and Personnel, FY 1950 to FY 2009



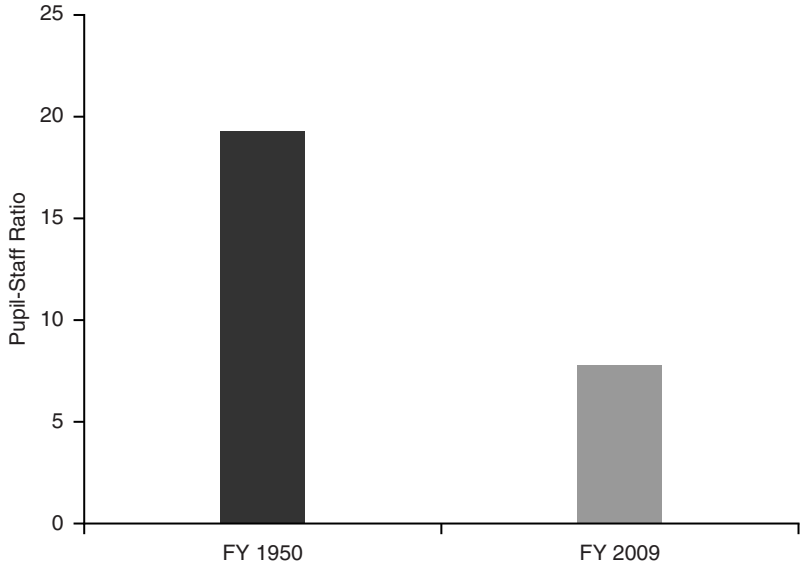
Sources: National Center for Education Statistics (1991b: Table 77; 1995: Table 38; 2011: Tables 36 and 87).

numbers increased 702 percent. That means the rise in "other" staff was more than seven times faster than the increase in students.

Given that public school personnel increased at a much faster rate than students, staff to student ratios declined significantly between 1950 and 2009, as shown in Figures 2 and 3.[1] These trends continued over the past generation. As Figure 4 shows, the number of K–12 public school students in the United States increased by 17 percent between FY 1992 and FY 2009, while the number of FTE school employees increased by 39 percent. Teachers saw a 32 percent rate of

[1]Pupil-teacher ratios are a different concept than average class sizes. Average class sizes are typically measured as how many children are in the average "regular" classroom, which does not include classrooms with one child or a very small number of children. Pupil-teacher ratios are smaller than average class sizes because some teachers get work periods where they are not leading a classroom and because some students get pulled out of regular classrooms for all or part of the school day for individual or small group instruction and other educational services.

FIGURE 2
Pupil-Staff Ratio, FY 1950 and FY 2009



Sources: National Center for Education Statistics (1991a: Table 76; 2012: Table 89).

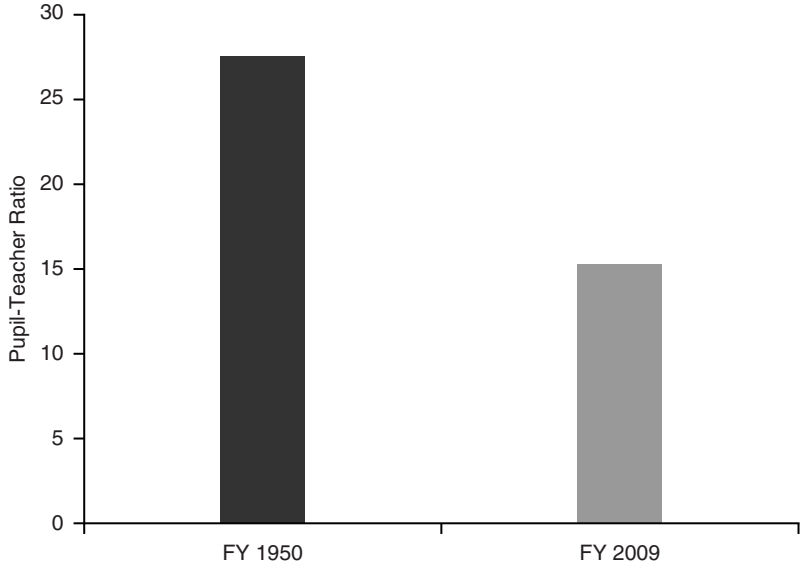
growth, while administrators and other staff experienced a 46 percent rise. That upsurge in nonteaching personnel was 2.3 times greater than the increase in students over the same 18-year period. For teachers, growth was almost twice as large as the increase in students.

In the mid-1990s, Vedder was not the only one warning about too much central administration in K–12 public schools. For example, two well-known public schooling advocates wrote in 1995 that, "educational bureaucracies become endlessly expanding financial sinkholes that eat up resources and create only mischief and red tape" (Berliner and Biddle 1995: 257). And, of course, those words were written *before* much of the increase in administration and other non-teaching personnel depicted in Figure 4 took place.

Did No Child Left Behind Make Us Do It?

The expansion in public school staffing between FY 1992 and FY 2009—including the relatively large increase in nonteaching personnel—cannot be blamed on the federal No Child Left Behind

FIGURE 3
Pupil-Teacher Ratio, FY 1950 and FY 2009



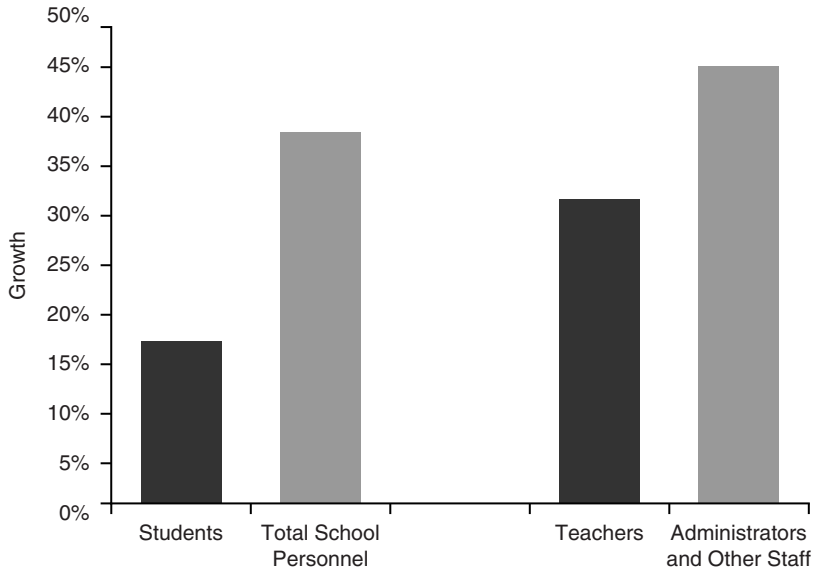
Sources: National Center for Education Statistics (1991a: Table 76; 2012: Table 69).

(NCLB) law. During the pre-NCLB period, FY 1992 to FY 2001, public schools saw their student populations grow 13 percent while school personnel numbers increased 29 percent. The number of teachers increased 23 percent, about 1.75 times the increase in students, while the number of administrators and other staff rose by 37 percent—almost 3 times the increase in student numbers. From the school year in which NCLB was passed (FY 2002) until FY 2009, the number of students rose 3 percent while the number of public school teachers and administrators both increased about 7 percent. The primary difference between the NCLB era and the preceding time period is that the trend toward faster growth in nonteaching staff than in teaching staff was halted.

Although Staffing in U.S. Public Schools Dramatically Increased, Student Achievement Did Not

Is there evidence that increased public school staffing and disproportionate spending on nonteaching personnel improved student

FIGURE 4
Growth in K–12 Public School Students and Personnel, FY 1992 to FY 2009



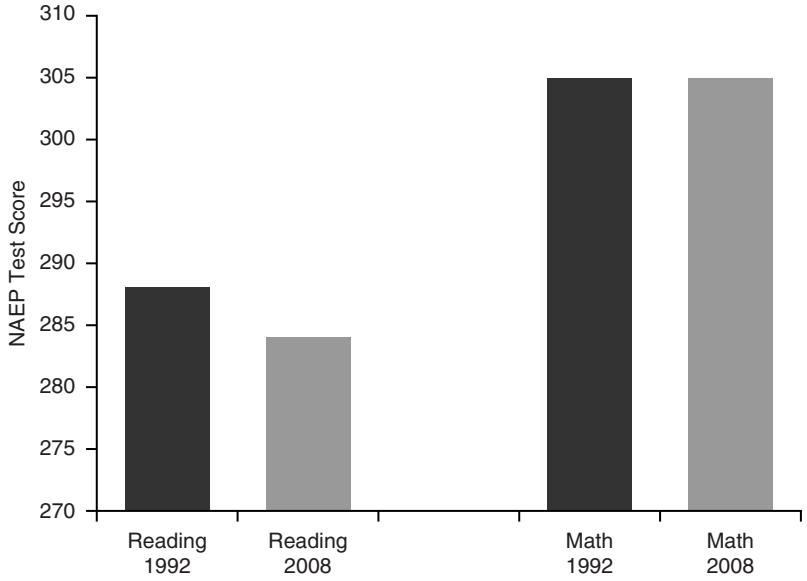
Source: National Center for Education Statistics (1994: Tables 40 and 85; 2011: Tables 36 and 87).

achievement in the United States?[2] After three decades of decline, America's public high school graduation rate has increased slightly over the past generation. Using the most accurate measure of the on-time public high school graduation rate, the National Center for Education Statistics reports that the rate increased from 74.2 percent to 74.7 percent between FY 1992 and FY 2008.[3] However, the public high school graduation rate in 2008 remained slightly below where it was four decades earlier (Heckman and LaFontaine 2010).

[2]While Vedder (1996) considered this specific issue, others have analyzed whether inflation-adjusted increases in spending per student have increased student achievement. Important contributions to this literature include Hanushek and Lindseth (2009) and Greene (2006). Their own studies and their surveys of the literature suggest that the very large increases in real spending per student over time have not been accompanied by increases in student achievement.

[3]This information on public high school graduation rates comes from Table 112 of the *Digest of Education Statistics: 2010* and Table 101 of the *Digest of Education Statistics: 2006*, both from the National Center for Education Statistics (NCES) at the U.S. Department of Education.

FIGURE 5
National Assessment of Education Progress (NAEP) Test Scores, Age 17, Public Schools, 1992 and 2008



Source: National Assessment of Education Progress Long-Term Trend Assessment.

Moreover, since 1970, the financial returns in the labor market have declined in relative terms for high school dropouts. This alone should have led to an increase in the public high school graduation rate. Yet, in fact, public high school graduation rates fell over a time period when the economic incentive for students to graduate rose.

The National Assessment of Educational Progress (NAEP) is a series of exams given to samples of students ages 9, 13, and 17. As shown in Figure 5, scores on the NAEP Long-Term Trend Assessment have not increased over the time period under examination, during which public school staffing ballooned.[4]

[4]The NAEP Long-Term Trend Assessment is conducted every four years on a national sample of 9-, 13-, and 17-year-old students. This exam is better than the Main NAEP Assessment for analyzing national trends over time because the Long-Term Trend Assessment has been "relatively unchanged" since it was created, while the Main NAEP Assessment changes "about every decade to reflect changes in curriculum." For a description of the NAEP Long Term-Trend Assessment and how it compares to the Main NAEP Assessment, see nces.ed.gov/nationsreportcard/about/ltt_main_diff.asp.

It may be argued that staffing in American public schools needed to increase from its level several decades ago. Prior to the racial integration of public schools, many African American children had little or no taxpayer funds spent in their segregated schools. Second, students in less wealthy school districts often had much less spent on their education than students in more affluent areas. Third, students with special needs often had relatively few resources devoted to them. Court cases and changes in federal and state policy led to very large increases in public school staffing in the 1950s, 1960s, 1970s, and 1980s. All this being said, however, student achievement in American public schools did not improve when there were large increases in staffing. Therefore, with productivity defined as outputs divided by inputs, it seems clear that there has been a significant decline in the productivity of K–12 schools over the course of the period in question.

Are American Students Getting Worse?

Perhaps the additional public school staff were necessary because American students have become more disadvantaged over recent decades. Many believe children enrolled in schools today are "harder to teach" than children a generation ago (Berliner and Biddle 1995). Family breakdown, increased child poverty, and other factors may have caused the decline in graduation rates and the lack of increased test scores. There is evidence that family breakdown and low family income do contribute to lower levels of student achievement (see, for example, Heckman 2008).

Still, although rates of living with one parent increased significantly in the latter half of the 20th century, in other respects, current American students are more advantaged than their parents were. Specifically, American students typically live in households with more income, more-educated parents (although that will change because of the decline in public high school graduation rates), and fewer siblings than previous generations. Higher income, more-educated parents, and fewer siblings have all been shown to increase student achievement. Thus, those factors may offset the negative social trends that may decrease student achievement.

Because there are factors that, by themselves, would lead to increases or decreases in student achievement, the extent to which American students are harder or easier to teach overall relative to the past is an empirical question. Hoxby (2003) finds that the

characteristics of American students in 1998–99 were on balance "more beneficial for achievement" relative to 1970–71. Greene and Forster (2004) use a "teachability" index to estimate changes over time in challenges to student learning, and their results are strikingly similar to Hoxby. Student disadvantages that impede learning actually declined by 8.7 percent between 1970 and 2000. These empirical studies suggest that American students did *not* become harder to teach during the period of large increases in per pupil spending, flat American high school graduation rates, and constant or declining test scores.

How Can Public Schools Lower Class Size and Increase Administrative and Other Nonteaching Staff, Yet Not Increase Student Achievement?

If a given teacher has a smaller class size, she may be more effective because she could spend more time with each student on his or her unique needs. Also, there may be better classroom discipline, fewer disruptions, and so on. It is unlikely that teacher would become less effective with fewer students in the classroom. Nevertheless, when class sizes are lowered, many students will in practice be taught by a newly hired teacher—and that is the key insight needed to understand the tradeoff between class size and teacher effectiveness. Tradeoffs between quantity and quality exist in many realms of life, including class-size reduction (Levine 1999). If public schools across a state or the entire nation implement class-size reductions, they would have to hire thousands of additional teachers, and this is likely to reduce the average quality of teachers. Rivkin, Hanushek, and Kain (2005), Koedel and Betts (2011), and many other empirical studies document the wide disparity in teaching effectiveness within the public education system. Based on those empirical results, Hanushek (2010) demonstrates that even modest improvements in teacher effectiveness would produce very large gains in student achievement. Accordingly, state governments and local public school boards should have been more concerned with improving teacher effectiveness than lowering class sizes. Analogously, it seems likely that hiring more nonteaching personnel would lower the average quality of that workforce in the same way.

Another concern with hiring more nonteaching staff is the possibility it increases bureaucracy and reduces the amount of time and

energy teachers can devote to their students. "I used to be up late preparing creative lessons that I loved. Now I'm up late getting my data in," a Fairfax, Virginia, teacher told the *Washington Post* in 2011. The *Post* reporter continued, "She and others from her school said administrative chores have become so excessive that teachers have broken down and cried at work" (McCartney 2011). The *Post* article pins the blame for the increase in "administrative chores" for teachers on testing requirements under NCLB. However, excessive paperwork for teachers has long been a feature of the American public education system. In 1987, researchers had teachers fill out time diaries and found that, on average, they spent eight hours per week on paperwork either at school or at home (Freed and Ketchem 1987). In addition, public school teachers and administrators often have complained about excessive paperwork under the federal Individuals with Disabilities Education Act (IDEA). The National Association of Elementary School Principals (NAESP) and others have advocated for a reduction in paperwork. NAESP quoted one teacher as saying, "It's the additional special-education paperwork that I find most burdensome because I have to generate the same information and repeat it over and over on different forms" (Klein 2004: 58). A study commissioned by the U.S. Department of Education found that paperwork was burdensome for special education teachers and recommended reducing it (Klein 2004).

A decline in average educator quality (the result of hiring more teachers and nonteaching staff) and increased bureaucracy and paperwork (which is perhaps inherent when more nonteaching staff are employed) may explain why increased staffing in public schools does not appear to have boosted student achievement.[5]

[5]Proponents of smaller class sizes typically cite evidence from the Tennessee STAR experiment, which finds that smaller class sizes in grades K–3 may lead to achievement gains for students. While this conclusion is controversial, let's suppose for the sake of argument that it is an accurate interpretation of the research. Even if it is the case that this experiment—which involved 11,600 students—showed that class size reductions boosted student achievement, care must be taken in attempting to translate that result into policy. A statewide, national, or other larger scale reduction in class size could have different effects because of the very large number of new teachers who would have to be hired to create the smaller classes. It is likely that these new teachers would be less effective, on average, than the incumbent teachers. Based on the evidence that there are extremely large differences in teacher effectiveness, new teachers could lead to lower average student achievement and offset any gains from the smaller classes taught by the incumbent teachers.

Opportunity Cost of the Increased Employment of Nonteachers

As a thought experiment, suppose that between FY 1992 and FY 2009, the percentage change in employment of nonteaching staff had mirrored the percentage change in the student population. Between FY 1992 and FY 2009, the number of nonteaching personnel in American public schools increased from 2.1 million FTEs to 3.1 million FTEs, an increase of 46 percent. If the number of nonteaching personnel had instead matched student growth and increased by 17.2 percent, the number of nonteaching personnel nationwide would have been 2.5 million in FY 2009. Thus, the actual number of nonteaching personnel was more than 606,000 FTEs above what it would have been had staffing growth been proportional. What's more, some claim that a large proportion of public school budgets represent "fixed" costs. If that were true, the increase in administration should have been *less* than the increase in students.[6]

As an extremely cautious assumption, let's assume that the average compensation and employment costs of those nonteaching personnel were only $50,000 per year per employee in FY 2009.[7] If that were the case, what would public schools in the United States have been able to save if they had limited changes in the employment of administrators and other nonteaching personnel to the changes in their student populations? The answer to that question comes from taking the "extra" nonteaching personnel and multiplying it by the assumed $50,000 in costs per employee. For the United States as a whole, that calculation indicates that American public schools would have had an additional $30.3 billion in FY 2009 (that's 606,633 × $50,000 = $30.3 billion). That $30.3 billion would represent annual recurring savings in public schools, which could be used for other worthy purposes. For context, $30.3 billion could have provided about 3.3 million students with $9,000 vouchers to be used to offset tuition payments at private schools. Alternatively, $30.3 billion could have

[6]For estimates and an analysis of fixed and variable costs in public education, see Scafidi (2012a).

[7]Data on the employment costs of nonteaching and nonadministrative personnel in public schools are not readily available. However, please see endnote 30 in Scafidi (2012b) for evidence that this $50,000 figure is perhaps a large underestimate.

been used to give each teacher in FY 2009 a raise of over $9,400 per year—a move that might, presumably, increase the quality of those entering the teaching profession.

Comparing Productivity Changes in American Higher Education and K–12 Education

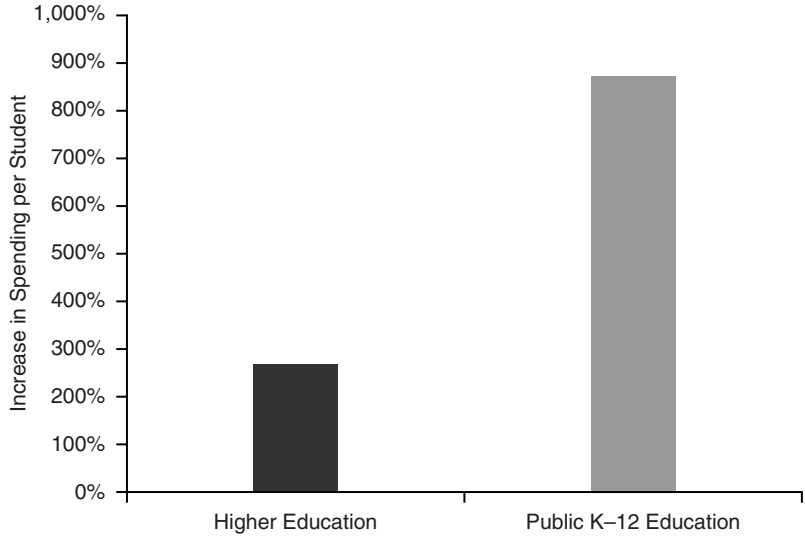
In *Going Broke by Degree: Why College Costs Too Much*, Vedder shows that real current spending per student in U.S. higher education increased from $5,008 per student in 1929–30 to $18,396 in 1999–2000—a real increase of more than 267 percent (Vedder 2004: Table 3-1). Current spending excludes capital expenditures, and his data covered both public and private colleges and universities.

From 1976–77 to 1999–2000, Vedder finds the increase in university staffing per 100 students increased from 18.52 to 20.83, an increase of 12.5 percent. During these time periods, Vedder makes a case that university teaching and research outputs were roughly stagnant (Vedder 2004: 50–59). Thus, Vedder believes—based on his research—that over time, colleges and universities have significantly higher costs yet similar rates of output.

In the preceding sections of this article, I have made the case that outputs in American K–12 public education have been roughly stagnant over time, as measured by student test scores and public high school graduation rates. But how have costs and staffing in K–12 public schools changed over time as compared to the data Vedder cites for higher education? Using the same data source as Vedder, the *Digest of Education Statistics*, which is published annually by the National Center for Education Statistics at the U.S. Department of Education, the real increase in current spending per student in public K–12 education has increased from $900 per student in 1929–30 to $8,765 in 1999–2000—an increase of 873.9 percent. As shown in Figure 6, the increase in real public school spending per student was more than three times the increase that occurred in higher education over this 70-year period.

Regarding staffing, I could not use the exact same time period as Vedder due to a lack of data availability. However, for a shorter time period than considered by Vedder—1980–81 to 1999–2000, staffing in K–12 public schools increased 17.4 percent from 10.24 staff per 100 students to 12.02. As shown in Figure 7, staffing per 100 students

FIGURE 6
Real Increase in Current Spending per Student, 1929–30 to 1999–2000



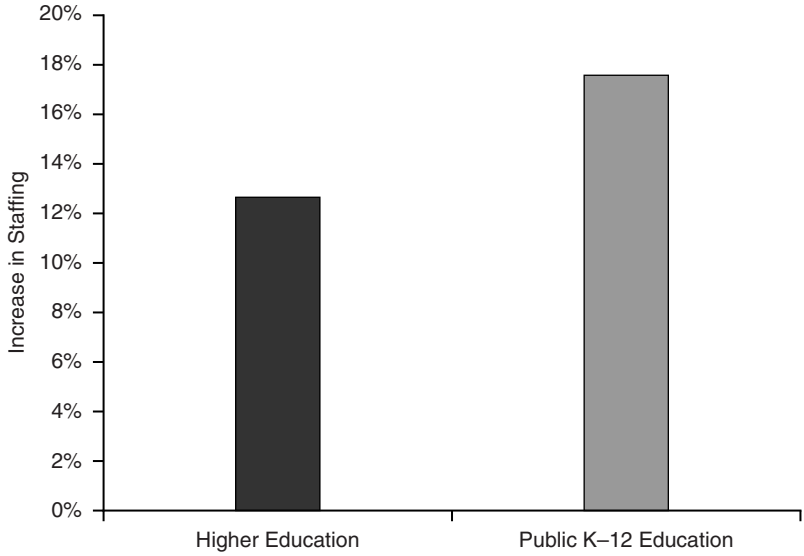
Sources: Vedder (1996: Table 3-1) and National Center for Education Statistics (2011: Table 190).

in K–12 public schools increased faster than the corresponding number in higher education.

What has happened to staffing since 2000, when Vedder's analysis ended? The more recent trends in staffing are compared in Figure 8. In higher education, the trend has reversed—colleges and universities have less staffing in recent years as compared to 2000. Specifically, in 2009–10, institutions of higher education employed 18.1 staff per 100 students, a staffing decline of 15.1 percent since 2000. But, in public K–12 education, the staffing surge continued. K–12 public schools employed 12.02 staff per 100 students in 1999–2000, and by 2009–10, staffing had increased 7 percent to 12.87.

Suppose that Vedder's analysis finding stagnant outputs in higher education, and both Vedder's and my analyses finding stagnant outputs for public K–12 education, are all correct. If that is the case, then the productivity decline in public K–12 education is significantly greater than that for higher education.

FIGURE 7
Increase in Staffing per 100 Students, 1997–2000 for Higher Education, 1980–2000 for K–12 Education



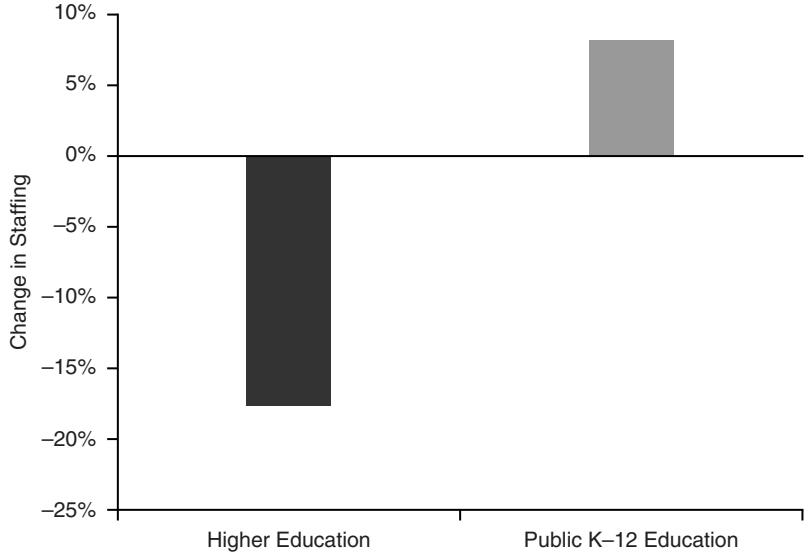
Sources: Vedder (1996: Table 3-3) and National Center for Education Statistics (2011: Tables 39 and 84).

For higher education, Vedder has proposed a variety of potential solutions to solve the productivity problem, including allowing more competition among providers and choice for consumers, allowing for-profit institutions more access to higher education markets, online learning, tying taxpayer subsidies to students to the value-added in their knowledge and skills, and greater use of private certifications of skills that bypass higher education altogether (Vedder 2004). The next section of this article describes Vedder's creative proposal for simultaneously solving the productivity problem in K–12 public education and overcoming political resistance to greater competition and more parental choice in schooling.

Universal School Choice and Converting Public Schools to Employee-Owned Enterprises

In a short book, *Can Teachers Own Their Own Schools?*, published in 2000 by the Independent Institute and the Thomas B.

FIGURE 8
Change in Staffing per 100 Students, 2000–10



Sources: Vedder (1996: Table 3-3); National Center for Education Statistics (2011: Table 254; 2012: Table 196; 2015: Tables 203.10, 213.10).

Fordham Institute, Vedder makes a case for universal school choice, as well as for turning over ownership of public schools to public school employees. Vedder proposes that ownership of individual public schools be turned over to school employees through an employee stock ownership plan (ESOP).

Under the Vedder-ESOP proposal, public school employees would be given shares of stock ownership in the public schools where they are employed. As a starting point for discussion, he suggests that principals would receive 200 shares for each year of experience, teachers and other professional staff (assistant principals, counselors, librarians) would receive 100 shares for each year of experience, and support staff (bus drivers, cafeteria workers, and janitors) would receive 50 shares of stock for each year of experience. The principal would be the initial CEO of the company, and the company would own all school property.

Updating and simplifying an example from Vedder (2000), suppose a school had 1 principal, 50 teachers, 22 professional staff, and

28 other staff, and that each staff member had 15 years of experience. Under Vedder's allocation of stock, the principal would own 3,000 shares (15 years × 200 shares), each teacher and professional staff member would own 1,500 shares (15 years × 100 shares), and other staff would own 750 shares each (15 years × 50 shares). The total number of ownership shares would be 132,000. Of those 132,000 shares, teachers would own 75,000 shares; other professional staff would own 33,000 shares; other staff would own 21,000 shares; and the principal would own the remaining 3,000 shares.

Suppose the value of all school assets minus debt—land, building, buses, computers, desks, books, and so on—was $5,000,000. This $5,000,000 is the book value of the school (I have purposely set a low amount so as to be cautious in this example). Suppose, further, that the shares were worth 2 times the book value.[8] Under these assumptions, a teacher's 1,500 shares would be worth over $113,000 at the outset ($5,000,000/132,000 shares = $37.88; and $37.88 × 2 × 1,500 shares = $113,636).

Each employee-owned school would now operate in an autonomous and competitive educational marketplace. Since all taxpayer funds devoted to K–12 education would be allocated directly to parents, parents would have a choice among schools, which in turn would have to compete for students and funds. All schools, including employee-owned schools, would have complete autonomy to decide their tuition, curriculum, class size, pay scale, student discipline, employee dismissal, governance, and all other school policies. Of course, all laws that apply to private schools would apply to employee-owned schools as well.

To be sure, some education reformers are skeptical that public school employees should be given ownership and control over tens of thousands of public schools worth billions of dollars. But skeptics should consider this significant transfer of wealth in light of the other piece of the Vedder-ESOP plan—universal school choice. Employee-owned schools would face a market test—students and the funds dedicated to their education would flow to the schools their parents deem best. If the employee-owned schools could not attract

[8]The companies in the S&P 500 are currently worth more than 2.5 times book value, despite not having a guaranteed market the way K–12 education does, with its taxpayer funding and compulsory attendance laws. Accordingly, this multiple of 2 may be low.

enough students, then the employee-owners would face a stark reality. Their choices would be to (1) improve the quality of their academic and social offerings, (2) hire new and better management, (3) sell their school land and facilities to another educational provider, or (4) see the value of their stock fall dramatically. Thus, employee-owners would have a powerful financial incentive to offer excellent educational programs or sell the valuable assets they own to someone who will.

In addition to ownership shares, myriad other details would need to be specified to convey ownership of public schools to public school employees. For example, should employee-owned schools be allowed to sell their assets for uses outside the K–12 education sector? Allowing the sale of school assets for a wider variety of uses would increase the value of these employee-owned assets. Relatedly, I offer one tweak to Vedder's outline, in the interest of even further increasing opportunities for parents to choose among schools. I would allow public school employees to own vacant school properties as well. Many urban school districts collectively own hundreds of vacant school buildings. These districts have a poor track record in repurposing these properties or selling them (Dowdall and Warner 2013).

I see three tangible benefits of the Vedder-ESOP idea for public schools. First, the incentives of public school employees would become significantly more aligned with the interests of students and their families. Instead of advocating for job protections, cumbersome work rules, more nonteaching positions, and generous retirement benefits, employee-owners of schools would advocate within their own school communities for changes that would increase enrollments and student and family satisfaction. Of course, employee-owners would continue to advocate for more generous taxpayer funding for K–12 education. That would not change relative to the status quo, but employee-owners would face a new and powerful incentive to meet the unique needs of each and every child. Otherwise, children whose needs are not being met will move to other schools that will meet their needs, and the dollars used to fund their education will move as well. Furthermore, those employee-owners would see the value of their stock ownership fall. By contrast, employee-owners who did offer an excellent education that is valued by parents would see the value of their stock ownership rise.

Second, teachers and other public school employees would come to see the benefits of increased diversity in school offerings—not just

for students and parents, but for themselves as well. They would be able to create academic and social environments that they believe are best for students and not be subject to the preferences of federal, state, and local officials who impose a large and ever-changing array of mandates on local schools. Given greater autonomy, job satisfaction would increase.

Third, the Vedder-ESOP idea would significantly increase parental choice and the diversity of educational offerings available to parents. Instead of being largely the same in terms of academic and other offerings like current public schools, employee-owned schools would differentiate their offerings and give parents opportunities to match academic and other programs to the specific needs of their children.

Would teachers and other public school employees support stock ownership? While they would lose the certainty of union-negotiated or government-imposed class size limits, salary schedules, and teacher tenure, they would instead gain autonomy and ownership. Vedder writes, "They (teachers and others) would be trading off the lifetime job security under the old arrangement for a significant increase in their wealth plus a greater say in how the school will operate" (Vedder 2000: 30).

Vedder and Hall (2000) find that allowing more competition and choice in K–12 education produces another benefit for teachers. They point out that, theoretically, more competition among schools for students would also lead to more competition among schools for teachers. More competition for teachers would lead to higher pay and better benefits and working conditions. Using 1996 data on Ohio public school districts, Vedder and Hall find that teachers in public schools would experience a $1,084 salary increase if the share of the students in their school districts who attended private schools increased from zero to 20 percent. This salary increase was equal to about 3 percent of the average district teacher salary in Ohio at that time.

Given these benefits, and given the evidence we have about the benefits of increased parental choice in education, the Vedder-ESOP proposal is something education experts, policymakers, parents, and other citizens should debate and something enterprising states or school districts should pursue.[9]

[9]See Forster (2013) for a summary of the evidence regarding programs that extend parental choice in education to private schools.

Conclusion

Richard Vedder is well known for his work on higher education. But his contribution to our understanding of the productivity problem in K–12 education is significant too. Regarding the latter, in 1996, Vedder pointed out the declining productivity in K–12 education—that is, stagnant outputs with significantly greater taxpayer-funded inputs over time (Vedder 1996). To reverse the decline in productivity, Vedder (2000) offers a creative proposal to inject more competition among providers and choice for consumers into the K–12 school system, by converting American public schools into for-profit, employee-owned enterprises.

While Vedder has been rightly concerned with productivity in American institutions of higher education, the analysis presented here shows that the productivity problem in American public K–12 schools is significantly greater. Specifically, over the 1929–30 to 1999–2000 time period analyzed in Vedder (2004), the real increase in current spending per student in higher education increased by 267 percent, while the corresponding increase for public K–12 schools was about 874 percent. Furthermore, in the first decade of the 21st century, staffing per 100 students declined in American colleges and universities by 4.8 percent. Thus, at least one side of the higher education productivity equation has improved in recent years. However, the trend in public K–12 education has continued to worsen—during the first decade of the 21st century, public school staffing per 100 students increased by 7 percent.

Perhaps it is time to heed Vedder's advice for public K–12 education and expand competition and choice through vouchers, tax credits, and by converting individual public schools into autonomous, employee-owned enterprises.

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