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Economic growth is tied closely to a math-smart culture. This is a problem for the Badger State.

By Eric A. Hanushek and Paul E. Peterson

The nation was transfixed in 2011 when Gov. Scott Walker pushed for major changes in the pay and benefits of public employees, resulting in massive protests at the Capitol. Publicly, the motivation for this was the state's precarious fiscal situation, but the subtext was a move to change the collective bargaining rights of public employees — notably teachers. The media quickly focused on the battle that pitted the governor and his legislative allies against the current employees of the schools.

But that was perhaps the wrong way to view the situation. Little to no mention was made of the state of those schools. Between 1992 and 2011, the improvement in achievement by Wisconsin students was the fourth worst of the 41 states for which data are available.

In that relatively short time, Wisconsin moved from sixth to 14th in the rankings. This signaled a fundamental set of problems ranging from the future earnings of Wisconsin students to the growth and prosperity of the entire state.

And, yes, it has ramifications for the nation as a whole.

The import of achievement for long-run economic outcomes is the subject of our new book, *Endangering Prosperity: A Global View of the American School*. Along with Ludger Woessmann, our colleague from Munich, we have considered not only the performance of the United States from an international perspective but also the position of each state. To understand the implications of achievement for the citizens — and especially the children — of Wisconsin fully, we begin with the national story.

Since the 1960s, researchers have developed the capacity both to measure achievement of U.S. students and to ascertain how this compares to students in other countries. These assessments jointly tell an alarming story. Only 32 percent of U.S. high school students are proficient in math, according to the National Assessment

of Educational Progress, often called “the nation’s report card.” More startling, this puts us in 32nd place in the world among political jurisdictions surveyed by the Program for International Student Assessment.

The percentage proficient in Germany, for example, is 45 percent; in Canada, it is 49 percent; and in Singapore, the highest performing independent nation, it is 63 percent.

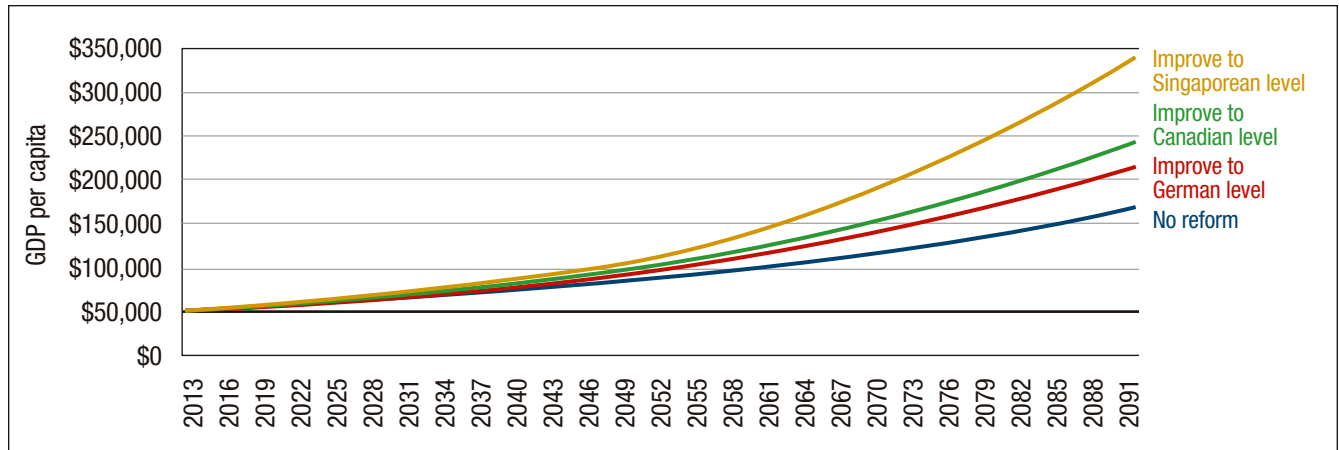
The story carries over to the top end of achievement. We have all heard of the need to expand and deepen our STEM education — science, technology, engineering and math. The United States has led the world in innovation, and this in turn has made our country rich. But the percentage of high-achieving math students in the United States — and in most individual states — is shockingly below that of many of world’s leading industrialized nations.

All that might be mere cocktail chatter were math skills not so critical for the nation’s economic productivity. Variations in math and science skills translate into dramatic differences in economic growth rates.

We’ve simulated what would happen to the U.S. gross domestic product if we improved student achievement over the next 20 years to levels currently seen in our international competitors. The chart on Page 28 traces the

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The impact of skill improvement in the U.S.



Projected development of real GDP per capita over the next 80 years depending on whether the U.S. does not improve its skills or enacts an educational reform that gradually lifts student achievement to the level of Germany, Canada or Singapore.

Source: Authors' calculations.

alternate paths of GDP per capita that history indicates are likely if we could raise the achievement of our students — and thus raise the skills of our future workforce.

If the United States could lift its performance just to the Canadian level, the present value of benefits over the next 80 years would be some five times our current gross domestic product. That translates to an average 20 percent salary increase for every employed member of society for the next eight decades.

With economic returns of that magnitude, concerns about the rising cost of Medicare, Social Security, defense spending and public indebtedness can be reduced from overwhelming to quite manageable. Yet, despite the need for a rapidly growing economy to tackle our outsized problems, the United States tolerates a performance of 17-year-olds today that is no higher than that of their peers in 1970. As a recent commission led by Joel Klein, former chancellor of the New York schools, and Condoleezza Rice, former secretary of state, put it: “America’s failure to educate is affecting its national security.”

Wisconsin has more students on average who are proficient in math — 37 percent — than America as a

whole but lags far behind neighboring Minnesota, where the figure is 43 percent. In international comparisons, Wisconsin falls between Austria and the Slovak Republic.

Similarly, the Badger State fares slightly better than the U.S. average in its percentage of students advanced in math, 8 percent. But, again, it has slipped in rankings and now falls far behind its immediate neighbor to the west (11.5 percent) and even further behind Massachusetts (15 percent). Massachusetts, in turn, falls far behind such places as Singapore and Shanghai.

Excusniks say the U.S. numbers are phony, because so many more Americans remain in high school than their counterparts elsewhere. But, in fact, the high school graduation rate in the United States is only at the average rate for all countries in the industrialized world.

Other excuses also abound. One of the most popular is to blame the situation on immigrants and minorities. We, too, decry the lack of educational opportunity provided to many attending urban schools — only 15 percent of Hispanic high school students are math proficient and, shockingly, only 11 percent of African American students are.

But the educational performance of white students, at

42 percent in both Wisconsin and in the nation as a whole, is still well below that of all Dutch students (49 percent), all Swiss students (53 percent), all Koreans (58 percent), and all students of 13 other political jurisdictions PISA surveyed. Fixing American education will take much more than redesigning the schools of Chicago, Los Angeles, Milwaukee and Washington, D.C.

The truth is that even Wisconsin students from educated families are struggling. In eight states, including Minnesota, a majority of students from college-educated families are at least proficient in math. That is not the case in Wisconsin.

It hasn't always been this way.



Historically, Wisconsin has had strong schools.

In 1992, when NAEP first provided a comparative picture of performance, Wisconsin was sixth in the nation out of the 41 states that voluntarily participated in the testing. But when we consider changes in performance for Wisconsin in the same way that we judged that of the aforementioned nations, we see that Wisconsin had the fourth worst growth performance of the 41 states, and its ranking dropped to 14th.

In short, Wisconsin's student achievement rates in math, reading and science have grown but not nearly as fast as almost anywhere else in the United States. Since 1992, Wisconsin's achievement has grown slower than all but Iowa, Maine and Oklahoma. States making the largest gains — places like Maryland, Florida and Delaware — have been improving at a rate two to three times the rate in states with the smallest gains.

Those favoring the current system typically argue that all would be better if we just put more money into the system. But the data of the last two decades show that this is not the answer — especially in Wisconsin. Across states, there is no relationship between increases in

funding on schools and improvements in achievement. Moreover, Wisconsin stands out. It has increased its spending since 1990 at almost precisely the national average, only to get achievement gains that fall at the bottom of the nation.

The legislative actions in 2011 inspired by Walker's Act 10 were aimed at the fiscal imbalances, but they also included famously the moves to change the bargaining dynamic of schools and unions. Importantly, they opened up considerable flexibility for local districts to take new, bold action. As Christian D'Andrea describes in the fall 2013 edition of *Education Next*, there are

signs of a number of experiments in changing the hiring, staffing and administration of districts.

What will the results be?

The best evidence available suggests that Wisconsin is moving in a generally productive direction. States that improve employ a strong overall accountability system but then permit districts wide flexibility to find the tools to get the job done. Thus, the structure made possible by Act 10 is consistent with research evidence.

It is of course too early to tell whether the actual operations of the schools will bring Wisconsin back to its 1992 U.S. position and thus elevate it in international comparisons. But that something dramatic was needed can hardly be disputed. Gov. Scott Walker is to be applauded for taking action in the face of intense opposition. ■

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