

Avery Davis

Dr. Pantuosco

Labor Econ

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Teacher shortages in America

There is a shortage of skilled labor in America today but there is no sector that this problem is more acute education. The news has often covered strikes by teachers unions across the country, where teachers have been asking for more pay from state governments. It is clear that teachers are underpaid compared to other college graduates this makes the profession of teaching much less attractive in recent years. This is because of the nature of the labor market for teachers causing them to be underpaid as a whole. The main reason for the shortage of teachers is because of the uncompetitive salary of teachers when compared to other occupations for college graduates leading to a shortage of people who want to become teachers. This has led to a decrease in the quality of education in many places across America. The quality of education is extremely important to this country and could have adverse impacts on the nation as a whole and individuals in the future. The places where these problems are felt the most is in high poverty areas. The goal of this paper is to identify the effects of the shortage of quality educators in America. To analyze education statistics across states and to present possible solutions that can make teaching a more attractive career choice for college graduates.

Everyone in America knows that teachers are underpaid, but just how underpaid are they? The average salary for a teacher in the United States in 2018 was \$60,483 and this represented a 1.4% increase from the year before, but it was a -4% change from 2009. America

has one of the largest expenditures when it comes to spending per student, but the United States is very far behind the rest of the world when it comes to teacher pay. Teachers on average make 21% less than other college graduates. This pay penalty is even larger for males at 31.5% and is one of the reasons that there are so few male teachers. Of course the fact that teaching was traditionally done by women has a role to play in the lack of male teachers but the majority of the reason is because males are paid so low compared to what else that could be doing. This means that people make the investment in human capital are receiving 21% less on their returns for their investment when choosing to become a teacher over other profession. Also, the pay penalty remains for the entire life of a teacher until he or she finds a different occupation or retirement and actually widens as time goes on and earnings remain stagnant. Another issue with the way that teachers get paid is the fact that their wages don't increase in real terms over the course of their careers. In most professions pay will increase over the course of an individual's career.

Teacher pay ends up getting determined by two factors the number of years working in the school district and level of schooling. This creates a stepped pay scale that favors the most educated and the most experienced teachers. The problem with this system is that the increases in pay for additional schooling are not always large enough to actually make people want to go back to school. Additionally, this system tends to be very rigid and does not allow for higher wages for teachers with special skills or teachers who are just really good at their job. Lastly most districts have policies where teachers level of pay may rest or go down if they move to another school district. This is very harmful to teachers because it makes it much harder to move school districts to make more money with their experience. but This is something that

also has one effect that is positive, this disincentives teacher to move districts. Teacher turnover has been associated with high costs to the school district and lower performance from students.

Teacher tend to have pretty good benefits ranging from full pensions to small grants. Teachers are able to receive some forms of non-salary compensation just like many other professions. There are also other smaller payments that some school districts may give to teachers such as merit pay for performance. Merit pay, and other such payments are normally around \$1,500. The benefits that teachers receive tend to vary district to district but in the majority of cases the benefits don't add up to enough to supplement the loss taken in pay by choosing the profession of teacher.

There are some reasons teachers are going to make less money than other professions though. Individuals can get non-monetary benefits from being a teacher. This follows the logic of hedonic wage theory, where an individual doing a job can derive utility or value out of the job itself. This can be seen in teachers by them staying afterschool to help students while not getting payed or by teacher who choose to work in private or religious schools. Another point to consider of that teachers only work 180 days a year. But it is clear from the number of reported vacancy's and the fact that 20% of k-12 teachers take summer jobs and 18% of them work an outside job during the school year that they are not being payed enough.

Another problem in the way teachers get paid is how school systems are funded. School systems are primarily funded at the municipal level though they do receive money from the state and federal government. The primary funding method is through revenue raised via property taxes (this can vary widely state to state). Funding through taxes presents a problem

for policy makers as they try to balance taxation. Taxation is tricky because it's not popular for people in power to raise taxes, but it may have to be done in many cases to get a large enough budget to actually pay teachers what is needed. Property taxes are also somewhat problematic because the revenue that is gotten from the taxes is dependent on home values and they can vary widely from district to district. Places with lower property values typically will have less money to fund their school systems and less money to attract high quality teachers.

Teacher demand has been going up in recent years and this is putting an even larger strain on the education system. Demand for teachers in the past 10 years has grown about 17%. This is due to two different things a need to reduce the student to teacher ratios and because of growing student enrollment. After the great recession school districts cut back on spending and got rid of any excesses in their district. This is something that is only exacerbating the shortage of teachers because student enrollment is rising and is projected to increase at an accelerating rate. This causes student to teacher ratios to change in a negative way. So this is a problem because even if school districts were able to put a stop to teacher leaving the job the need for teachers is still going up. This means that school districts will have to find ways to attract even more teachers and keep the ones that they already have.

The best option for a solution to this problem is to pay teachers a wage that is more competitive with the wages of other college graduates. This solution though it sounds easy is not easy to implement in practice. That is because of the structure of the labor market for teachers. The labor market is a monopsony model this is where there are few buyers of the teacher's labor in a given area, and there is high moving cost for teachers because of the way that school districts pay structures are arranged. This gives the school districts more power in

the ability to set prices¹. This means that teachers wages will be lower because of the structure of the market. Making the sort of raise that would bring teachers to a competitive level seems to be out of the question. Therefore, giving teachers benefits that other professions may not have; maybe a better and possibly cheaper option that could help make teaching a more attractive profession.

One of the ways that school districts can attract teachers and make the job more attractive to people who may want to become teachers is by giving salary more benefits based on performance. These types of programs suggest changing the way that teacher pay schedules are set up. The current system is based on the amount of time a teacher spends at a specific district and is set up with pay hikes that are the same for all teachers. The problem with this is it does not reward teachers who are better at their jobs and have a higher marginal product of labor. Defining the marginal product of labor for teachers is extremely hard to quantify because of how hard it is to tell what factors effect educational attainment. In the past school districts and states have used standardized tests to figure out teacher quality. Standardized tests are not a great way of assessing teachers because of the enormous number of factors that go into students' scores. The problem with this approach is that it's very hard to actually asses teacher performance because every class is different. Every student is different and their performance in school has to do with many factors outside of the teachers control. It has been shown that the students income level has a larger impact on educationally attainment than teachers. This makes it extremely hard to tell what is actually causing students test scores. Additionally, it is hard to evaluate teachers on standardizes test scores because we know that not all students are suited to those types of tests.

Teacher attrition is very costly to both students and the school district with a nationwide attrition rate of 16% this problem needs to be addressed. In a business job turnover is very costly but it is much costlier in education. There is the cost of interviewing and finding a replacement teacher and given the conditions of the labor market for teachers this is challenging. Also, the time that a teacher decides to leave really matters, if a teacher leaves during the middle of the school year the school must find a short-term replacement so that students can continue to learn. The thing is that the short-term subs are often unqualified and do not provide the same quality of teaching. So, there are costs put on the students in the form of lower educational attainment and the school district gets monetary and time costs imposed on them. Additionally, higher attrition rates often come along with more teachers teaching subjects they were not trained to teach. Also, there is evidence that it leads to higher numbers of underqualified teachers meaning there will be lower educational quality. One of the most important things that must be solved is reducing the teacher attrition rate. Another important thing to keep in mind while talking about teacher attrition is that teachers with more training levels seem to leave their jobs less.

There is no easy solution to the problem of teacher shortages, but we do know a few ways that can help to attract more teachers and keep the ones who are already in the profession. Lowering barriers to entry seem like a way to get more people into the profession of teaching but there are side effects to that route of treatment. It seems like it could be one of the best options but those who enter the profession while working on their qualifications or even teachers who are under qualified tend to have almost two times the rate of attrition of teachers who are fully qualified. Finding a way for teachers to get paid more is a much better

rout when trying to address the shortage. One option is giving teachers benefits such as student loan debt forgiveness or lowering the cost of education for people that would like to become teachers. These ideas could have some impact on attracting more people to the profession, but their effects will be somewhat limited because they are only beneficial to teachers in the early parts of their career. The people who decide to become teachers will be payed less than other college graduates and this gap in pay persists for their entire lives. The idea that teachers get loan forgiveness will only shrink the pay gap for the period in their career where they would be paying off loans and that may not be enough. Another solution is to offer better benefits like better health care plans or better pension plans. These ideas could definitely work but they will be extremely hard to get fund because they are often provided at a district level. Many school districts around the country don't have adequate funding already and these plans will put more strain on them.

One of the ways to make teachers level of pay more competitive with other professions that is promising is to give large tax breaks on the state and federal level to teachers along with lowering their cost of education. This way school districts don't have to take more money out of their already tight budget to pay teachers more. The idea would be to cut teachers' taxes to a level that would put them in a more competitive with other college graduates. The tax breaks can be done on income, property, and on pension payments for when teachers retire. This in combination with student loan forgiveness could potentially give the boost in income over the course of an individual's entire professional life to make teaching more competitive. Programs such as tax breaks and tax breaks on pensions are already in place in many states. If this type of

program could be used by states and the federal government in the school districts that have the hardest time finding teachers, it may be able to help.

¹Example of a monopsony labor market. The wage and quality in this situation is at (W_1, Q_1) and would be at (W_c, Q_c) if this market was perfectly competitive.

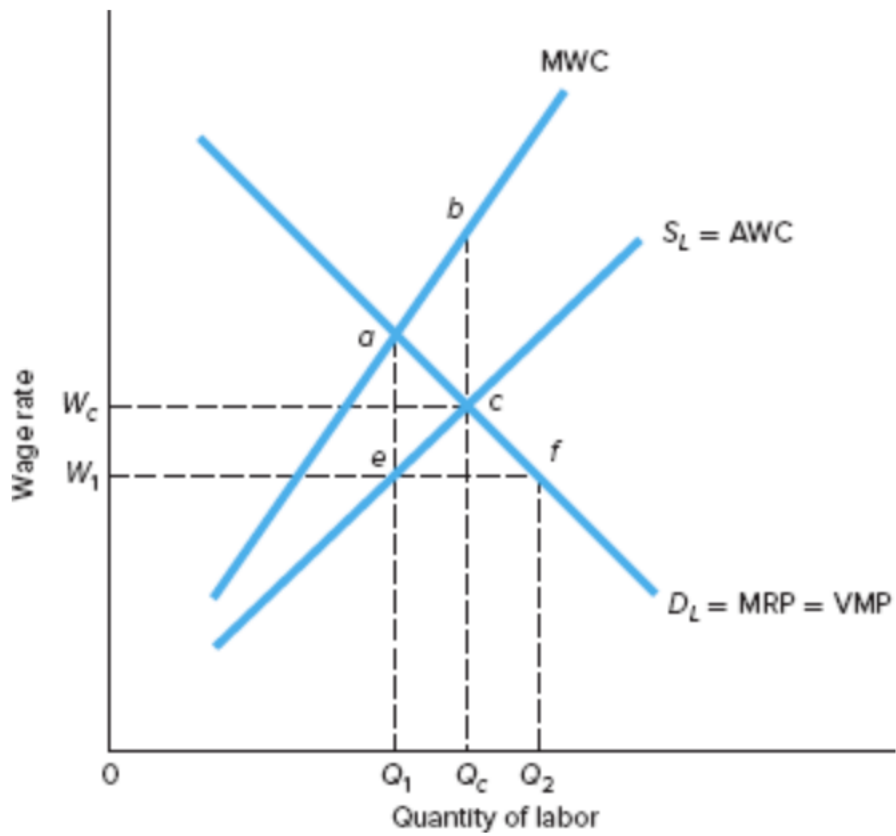


Image from McConnell, Campbell R., et al. *Contemporary Labor Economics*. McGraw-Hill Education, 2017.

Works Cited

- Akhtar, Allana. "Chicago Schools Shut down as the Country's Third Largest School District Braces for a Teacher's Strike." *Business Insider*, Business Insider, 16 Oct. 2019, www.businessinsider.com/american-teacher-shortage-underpaid-overworked-teacher-strike
- Economic Snapshot • By Sylvia Allegretto • April 4. "Teachers across the Country Have Finally Had Enough of the Teacher Pay Penalty." *Economic Policy Institute*, www.epi.org/publication/teachers-across-the-country-have-finally-had-enough-of-the-teacher-pay-penalty/.
- García, Emma, and Elaine Weiss. "The Teacher Shortage Is Real, Large and Growing, and Worse than We Thought: The First Report in 'The Perfect Storm in the Teacher Labor Market' Series." *Economic Policy Institute*, www.epi.org/publication/the-teacher-shortage-is-real-large-and-growing-and-worse-than-we-thought-the-first-report-in-the-perfect-storm-in-the-teacher-labor-market-series/.
- Gruber, Kerry. "The Patterns of Teacher Compensation." *National Center for Educational Statistics*, Jan. 1996, nces.ed.gov/pubs/web/95829.asp.
- Ladd, Helen F., and Lucy Sorensen. "Teacher Turnover and the Disruption of Teacher Staffing." *Brookings*, Brookings, 1 May 2019, www.brookings.edu/blog/brown-center-chalkboard/2019/04/29/teacher-turnover-and-the-disruption-of-teacher-staffing/.
- Podolsky, Anne, et al. *Solving the Teacher Shortage How to Attract and Retain Excellent Educators*.
- "Understanding Teacher Shortages: 2018 Update." *Learning Policy Institute*, learningpolicyinstitute.org/product/understanding-teacher-shortages-interactive.
- Will, Madeline, and Stephen Sawchuk. "Teacher Pay: How Salaries, Pensions, and Benefits Work in Schools." *TopSchoolJobs*, TopSchoolJobs, 23 Aug. 2019, www.topschooljobs.org/article/how-salaries-pensions-and-benefits-work-in-schools/.
- "Solving the Teacher Shortage: How to Attract and Retain Excellent Educators." *Learning Policy Institute*, learningpolicyinstitute.org/product/solving-teacher-shortage.
- "3.8 Pay: How Has Teacher Pay Changed?" *ED100*, ed100.org/lessons/teacherpay.

