



Do Current Minimum Wage Studies Suffice?

Mitchell Munson, Gustavus Adolphus College

I. Introduction

There have been hundreds of studies done on the effects of minimum wage. Almost every single one of these studies focuses on how minimum wage affects employment levels. In economics, there always seems to be more than one effect to a cause. This paper's goal is to analyze if there is an issue with current minimum wage studies only focusing on the effects of employment levels. The paper starts by describing a brief history of minimum wage research. Following that, the study investigates the different adjustment channels firms use when a minimum wage is placed. This leads to analyzing what current minimum wage studies are describing, then comparing it to all the possible effects of minimum wage. Through this analysis, I find that there are significant shortcomings in the research which causes negative consequences. The paper concludes with recommendations on how minimum wage research can move forward in creating a more developed minimum wage research base.

II. Review of Minimum Wage Studies

Minimum wage has been one of the most debated and researched topics in economics, since the antipoverty policy was established in 1938 by the Fair Labor Standards Act (Neumark and Wascher 2006). The main controversy was whether or not the traditional competitive labor market model could be an accurate representation of the low-wage labor market (Neumark and Wascher 2006). In the model of perfect competition, it is assumed that a minimum wage placed above the equilibrium reduces employment levels. Some economists reject this model because they do not believe the labor market resembles a perfectly competitive model. These economists argue that some firms have monopsonist power and that a minimum wage would have relatively little effect on employment levels. Economists conduct studies to find empirical evidence to investigate the impact of minimum wage laws empirically. When the empirical studies suggest that minimum wage had a significant negative impact on employment, economists interpret this as evidence for the competitive model (Kaufman 2010). If the study found that minimum wage had zero or a positive impact on employment, economists would interpret this as evidence towards the monopsony model (Kaufman 2010). These views were debated heavily until the early 1980's, until an extensive report that reviewed most of the existing minimum wage studies found that a "time-series studies typically find that a 10 percent increase in the minimum wage reduces teenage employment by one to three percent" (Brown, Gilroy, and Kohen 1983). The study also found that minimum wage had no effect on adult wages (Brown Gilroy and Kohen 1983). This study became the economic consensus for minimum wage, giving a slight upper hand to the competitive model (Neumark and Wascher 2006).

But the consensus did not last long, and the minimum wage policy debate gained attention again in the 1990's. At that time, minimum wage rates continued to lose value to inflation and state governments increased their state's minimum wage (Neumark and Wascher 2006). Card and Krueger's study made the most impact in this time period because they created a new research method involving a regional case study approach to analyze how employment and wages were affected by a single state's minimum wage increase (Neumark and Wascher 2006). Card and Krueger used data from the restaurant industry in New Jersey and Pennsylvania. New Jersey

increased its minimum wage from \$4.25 to \$5.05, while Pennsylvania did not have any increase (Card and Krueger 1993). By comparing the two states before and after the increase took effect, researchers found that the \$0.80 increase in minimum wage caused a small decrease in New Jersey's unemployment (Card and Krueger 1993). In contrast, there was a small increase in unemployment in Pennsylvania (Card and Krueger 1993). These counterintuitive results gave a start to a new path of minimum wage research.

Card and Krueger's research study created much controversy about which method most accurately shows the effect of minimum wage. This new research method used a case study approach to compare before and after data for a specific region generated new interest in minimum wage research (Dube, Lester, and Reich 2010). Dube, Lester and Reich continued to advance Card and Krueger's research by making the study more applicable for a national scale (Dube, Lester, and Reich 2010). In contrast, the other major research method, which is considered the more traditional approach, analyzes minimum wage at a national level using "cross-state variation overtime" to estimate effects (Dube, Lester, and Reich 2010). Most of the new case study approaches produce the results that minimum wage does not affect employment, and the traditional approach usually finds a negative effect on employment (Dube, Lester, and Reich 2010). The minimum wage debate continues to evolve around the conflict between which econometric research method most accurately represents the effects of minimum wage.

Although determining which economic method is the most appropriate is important, I will not be analyzing the differences between the two, as many papers have done before. I believe it is equally, if not more so, important to discuss what past studies are missing and how future studies should be designed to effectively progress the economic knowledge of minimum wage effects.

III. Minimum Wage Adjustment Channels

One way to understand that current research fails to analyze the full effects of minimum wage, is to consider all the possible ways firms adjust to policy changes. This hypothetical process will illuminate what is missing from research studies. First, I will use the "adjustment channels" proposed by Schmidt to discuss the full effect of minimum wage (Schmitt 2013). Adjustment channels are methods firms use to change their business in reaction to a minimum wage. Schmidt finds these adjustment channels by analyzing three different models: competitive model, institutional model, and dynamic monopsony model (Schmitt 2013). Using all three of these models is important because it eliminates the argument of what type of market is the low-wage labor market. Also, these models aid the process in determining the majority of the adjustment channels, which will reflect the effects minimum wage causes on different groups of people.

First, the analysis of the competitive labor market. As said before, most economists would believe that a perfectly competitive labor market with a minimum wage placed above the equilibrium wage would cause a decrease in employment. Schmidt determines that firms in the competitive model have more ways to adjust their business model than reducing the amount of workers employed to take on the additional costs minimum wage produces. (Schmitt 2013). The other possible channels employers in a competitive market could use are reduction in hours, decrease in non-wage benefits, less on-the-job training, changes in worker composition, and higher prices (Schmitt 2013). Notice that all these channels are plausible actions that a firm can

Minimum Wage Studies

use, but firms usually only use one or two of them. Each adjustment channel shifts the burden onto three possible groups: firms, employees, consumers. For example, instead of firing a worker, the firm decides to reduce their employee's hours and provides less on the job training. This shifts the burden on to the employees. Another example is if the minimum wage affects all competitors in the industry, then each firm could increase the price of their product. This shifts the burden onto consumers. There are many other examples of combinations of adjustment channels.

Next, using the institutional model, Schmidt finds another set of different adjustment channels (Schmidt, 2013). The institutional model is different from the competitive model in two key ways. The first way is that not all labor is homogenous (Kaufman 2010). People have different skill sets, so not everyone can be substitutable for every job (Kaufman 2010). This creates a more inelastic labor supply curve (Kaufman 2010). The second is the labor market might be characterized by imperfect competition, which means that firms have more power to control wages and labor conditions than employees (Kaufman 2010). Schmidt finds that a minimum wage law enacted on institutional models creates different adjustment channels, which are mostly linked to productivity (Schmitt 2013). The adjustment channels are increasing worker productivity and "efficiency wages" (Schmitt 2013). The institutional model does not maximize performance of their workers because firms have more power over the workers, so the workers are less likely to leave. Since workers do not leave when they would have, they become less productive. The additional cost of the minimum wage incentivizes firms to maximize workers productivity through reorganization of the firm or the higher wages incentivizes more productive work. Another adjustment channel is an increase in economic stimulus of the low-wage workers from increasing their wages, which increases the demand for goods and services (Schmitt 2013). This increase in demand could be a partial way for the minimum wage costs to be covered. All these adjustment channels do not shift the burden onto one group but create positive effects in firms and the economy.

The final model to explain the possible adjustment channels employers use in response to minimum wage is the "dynamic monopsony" model. In a monopsony model the employer is a wage setter. Since, a monopsonist does not have to take the market wage; they must increase the wages of the rest of their workers when a new worker is hired (Schmitt 2013). To overcome this, monopsonists do not hire up to the maximum efficiency. This is where Schmidt finds the final adjustment channels. One of the "dynamic monopsony" model's adjustment channels is reduced turnover. The way higher minimum wage reduces turnover is that workers are less likely to quit if they have a higher paying job (Schmitt 2013). It costs companies more money to hire a new worker, than to keep an existing one. Reduced turnover can offset some of the costs resulting from the increased minimum wage. Another channel in this model is for the firms to reduce their profits (Schmitt 2013). This channel is the most burdensome for the firm because they take all the burden from the additional wages. The last channel that could occur is wage compression (Schmitt 2013). Firms take on the extra costs of minimum wage by decreasing the wages for the high wage jobs. This shifts the burden onto employees.

IV. Other Unknowns of the Minimum Wage Debate

One critical issue of minimum wage is determining when the effect of minimum wage occurs. In other words, when do firms make the adjustment to minimum wage. Meer and West found that

the consequences of minimum wage on employment happen over more extended periods compared to what studies have been examining (Meer and West 2016). If Meer and West found this for one channel adjustment then, it can be assumed that all channel adjustments can have different effects in the short run and long run (Fernandez-Villaverde 2018). For example, in the short run a firm may not be able to produce enough goods if they use the adjustment channels. In the long run, the firm finds if they will go out of business, if they keep producing goods with the additional costs of the minimum wage. The firm must substitute new technology with workers because now it is more profitable to invest in new technology than paying workers. Firms cannot always adjust in the short run but can in the long run. Another issue with minimum wage effects is there are different employment trends in different states and regions (Fernandez-Villaverde 2018). This means that minimum wage will have different effects on different regions because of differing labor growth rates (Meer and West 2016).

V. Empirical Research

After looking at most of the effects of minimum wage, I will examine what effects the actual minimum wage research studies analyze. After looking at the literature reviews of Neumark and Wascher and Schmidt, which cover the major current minimum wage studies, almost all studies concentrate their main research focus on wage rate and employment levels (Neumark and Wascher 2006) (Schmitt 2013). Yes, there are some studies that do try to find the other impacts of minimum wage. But none of the studies look at all the adjustment channels that firms can use. For example, Simon and Kaestner (2003) created a research study to look at how minimum wage affects fringe benefits and working conditions (Ilayperuma Simon and Kaestner 2003). They found that minimum wage does not affect fringe benefits and working conditions for low-wage workers and high-wage workers (Ilayperuma Simon and Kaestner 2003). Since, employers have the possibility to use one or more of the adjustment channels, it is possible for most of the employers to not use fringe benefits or working conditions as one of the channels but uses a different channel as their main one. Therefore, it is not beneficial for research studies to only look at one or two of the possible channels.

VI. What's Missing from Research?

Through reviewing the current minimum wage studies, it can be said the research is not a good representation of how minimum wage affects workers' quality of life. This is not due to the inconclusive results the studies have generated. Even if every study concluded that minimum wage did not affect employment rates, the studies would still not present the total effects of minimum wage. The research has such a narrow view of workers well-being. Workers may not be better off even if the rise in minimum wage increases their hourly wage and does not lay off workers. The minimum wage research has overlooked a long-standing labor economics theory presented by Adam Smith in "The Wealth of Nations" called compensating differentials (Smith 1937) Compensating differentials recognizes that the wage is not the only reason labor benefits from jobs. Non-wage characteristics like vacation time, health insurance, working conditions, flexible hours, etc... are included in determining a worker's overall utility. These non-wage characteristics should look familiar because most of them are included in the different adjustment channels that minimum wage makes firms do. Without the current research evaluating the different channels that firms use to adjust for minimum wage. The current minimum wage research gives society a very small view on how minimum wage affects workers

Minimum Wage Studies

overall well-being. I am not stating that it is easy or economically viable to determine the overall well-being of all workers but using such a limited view of well-being can be damaging.

VII. Consequences of Minimum Wage Studies' Limited View

Without the current research evaluating the different channels that firms use to adjust to minimum wage, we only know how employment levels are affected. We do not know which group of people, either the firm, labor, or consumers, are taking the burden of the minimum wage. The goal for minimum wage is to benefit the workers and to keep firms from taking advantage of their power in the labor market. But without relevant research we have no idea if minimum wage has the effects the government intends it to have. It could actually have the complete opposite. The higher the wage could be a burden on workers by the firm shifting the burden onto the workers by eliminating non-wage benefits. On the other hand, minimum wage could be exactly what the government intended by the firm taking the full burden of the extra costs. The problem is no one knows which it is because the majority of current research studies are only concerned about employment rates.

Another issue that comes along with minimum wage studies having a limited view of workers well-being is the public's perception of minimum wage laws. First, it is very hard to articulate the complex economic models and thought behind the research to the public. In this sense, the public will have an issue interpreting what the results of the study truly mean. Not everyone has a degree in economics. The other problem occurs is that the public does not realize what the research is not finding. So, even if someone did understand the research and learned from one article that minimum wage has no effect on employment. They may not realize all the unanswered questions the research is missing. They will believe that minimum wage has a positive impact on workers and not think twice about it. This is different from economists because most of them know about Adam Smith and compensating differentials.

VIII. Future Minimum Wage Studies

Now that it is established that minimum wage studies need to be more informative, I will discuss how future studies can progress in the right direction. My first recommendation is for researchers and government officials to be persistent about finding new data to study different adjustment channels. Here is an example of a research study that found data to show new results on a different adjustment channel. This study is "Minimum wage increases, wages, and low-wage employment: evidence from Seattle" by Jardim, Long, Plotnick, Inwegen, Vigdor and Wething (2018). In this research study they obtain data on "both headcount and hours-based measures of the quantity of labor" from Washington's Employment Security Department which let the researchers compute hourly wages of the workforce (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). This research also allowed them to look at all industries and worker demographics. This allowed them to apply their results to everyone, not just one industry like other studies have done (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). This research study was performed in 2015 when Seattle raised their minimum wage from \$9.47 to \$11, and the results during this minimum wage increase showed no change in employment levels and little change in hours (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). In 2016 when Seattle increased their minimum wage from \$11 to \$13, this caused a reduction in hours of low-wage jobs by about 6 to 7 percent and wages were only increased about 3 percent (Jardim,

Long, Plotnick, Inwegen, Vigdor and Wething, 2018). They determined this cost for a low-wage worker (someone making under \$19 an hour) would be an average of “\$74 per month per job” (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). \$74 per month can be a substantial amount for someone who is living paycheck to paycheck.

This research study is the exact development minimum wage research studies need to continue. This research was one of the first studies to use real hourly wages as a component in measuring the effects of minimum wage (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). Although the research does not investigate all the effects of minimum wage, it still pushes research in the right direction because it investigates an adjustment channel that has not been studied heavily. This adjustment channel is the actual amount of income earned not just the hourly wage. Other research only looks at the minimum wage and assumes the higher wage equals higher quality of life for the workers. This is a huge improvement because it shows that employers will shift the burden onto employees by decreasing their hours worked. In this case it actually made them worse off. Another important component this research study found is that only four states including Washington “collect quarterly hourly data in addition to earnings”, which does not allow one to create a study on the whole United States using this approach (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). The reason these four states collect this data is because it is a requirement by the unemployment insurance law (Jardim, Long, Plotnick, Inwegen, Vigdor and Wething, 2018). This is important because researchers cannot use this data for all U.S. states, implying studies will not be able to look at the national effect of hours lost caused by minimum wage. Researchers should continue off this data to determine the feasibility of obtaining it for all the other states. More energy also needs to be made in finding data to evaluate other adjustment channels that have not been studied yet.

Another important point studies need to focus on is keeping the overarching goal in mind: what are the effects of minimum wage? It is very easy for economists to get distracted by the debate of what is the most accurate econometric method. A portion of the debate needs to shift to the shortcomings of minimum wage research, with greater humility in the interpretation of results. Economists should not be arguing about whether or not minimum wage has positive or negative effects when they are only looking at employment levels. Just because they found a better econometric method does not change the fact that the results cannot indicate the full effect of minimum wage. Therefore, economists need to start being more open about how they interpret their results. Until economists realize this, minimum wage studies will not be able to progress as far as it could.

To conclude, minimum wage research is far from over because the present research has given inconclusive and limited findings. The goal of this paper is to show that politicians, economists, or anyone should not make their opinion on minimum wage research studies that focus only on employment levels or a small portion of the effects of minimum wage. It is important to continue research on the right path by analyzing more of the other adjustment channels. Then the policy makers can see the full-scale cost benefit analysis and determine if adjustments to minimum wage is the correct policy for the state or federal level.

IX. References

- Jardim, Ekaterina and Long, Mark C. and Plotnick, Robert D. and van Inwegen, Emma and Vigdor, Jacob and Wething, Hilary, Minimum Wage Increases, Wages, and Low-Wage Employment: Evidence from Seattle (June 2017). NBER Working Paper No. w23532. Available at SSRN: <https://ssrn.com/abstract=2992408>
- Brown, Charles, Curtis Gilroy, and Andrew Kohen. 1983. "Time-Series Evidence of the Effect of the Minimum Wage on Youth Employment and Unemployment." *Journal of Human Resources* 18 (1): 3–31. <https://doi.org/10.2307/145654>.
- Card, David, and Alan B Krueger. 1993. "Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania." Working Paper 4509. National Bureau of Economic Research. <https://doi.org/10.3386/w4509>.
- "Characteristics of Minimum Wage Workers, 2017 : BLS Reports: U.S. Bureau of Labor Statistics." n.d. Accessed December 8, 2019. <https://www.bls.gov/opub/reports/minimum-wage/2017/home.htm>.
- Dube, Arindrajit, T. William Lester, and Michael Reich. 2010. "MINIMUM WAGE EFFECTS ACROSS STATE BORDERS: ESTIMATES USING CONTIGUOUS COUNTIES." *The Review of Economics and Statistics* 92 (4): 945–64.
- Fernandez-Villaverde, Jesús. 2018. "The Economic Consequences of Labor Market Regulations." *THE UNIVERSITY OF CHICAGO LEGAL FORUM* 2017: 24.
- Ilayperuma Simon, Kosali, and Robert Kaestner. 2003. "DO MINIMUM WAGES AFFECT NON-WAGE JOB ATTRIBUTES? EVIDENCE ON FRINGE BENEFITS AND WORKING CONDITIONS." *NATIONAL BUREAU OF ECONOMIC RESEARCH, NBER WORKING PAPER SERIES*, .
- Kaufman, Bruce E. 2010. "Institutional Economics and the Minimum Wage: Broadening the Theoretical and Policy Debate." *ILR Review* 63 (3): 427–53. <https://doi.org/10.1177/001979391006300304>.
- Meer, Jonathan, and Jeremy West. 2016. "Effects of the Minimum Wage on Employment Dynamics." *Journal of Human Resources* 51 (2): 500–522. <https://doi.org/10.3368/jhr.51.2.0414-6298R1>.
- Neumark, David, and William L. Wascher. 2006. "Minimum Wages and Employment." *Foundations and Trends® in Microeconomics* 3 (1–2): 1–182. <https://doi.org/10.1561/07000000015>.

“Quarterly-Wage-Detail-Report.” n.d. | Employers - Unemployment Insurance Minnesota. Accessed November 27, 2019. <https://www.uimn.org/employers/wages-taxes/reports-payments/quarterly-wage-detail-report.jsp>.

Schmitt, John. 2013. “Why Does the Minimum Wage Have No Discernible Effect on Employment?” *Center for Economic and Policy Research*.

Smith, Adam. 1937. “The Wealth of Nations [1776].”