"Economic analysis of recovery in states with higher minimum wages than national law"

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ABSTRACT

I explore two groupings of states separated by whether or not their minimum wage is higher than the federal minimum wage to help better understand the potential effects of the minimum wage on employment. This piece looks directly at economic recovery in recession. Direct employment has been studied extensively but with mixed results, this piece takes a more macro viewpoint on the data from a labor sector standpoint and proposes other variables that could impact jobs. The data are analyzed through an OLS linear regression model for both combined and separated groups. The data show that the negative expected impact from the minimum wage on recovery is not supported and actually the opposite is statistically significant in the data set. More data need to be analyzed and added to better understand this complex issue. Nevertheless, the analysis provides an interesting discussion point related to the inherently complex issue of the minimum wage and implies that policymakers in states with higher than federally mandated minimum wages may not need to be as concerned about massive layoffs during recession and recovery years.

Introduction

The minimum wage is arguably one of the most controversial issues in economics. It also happens to be one of the most well researched, analyzed and scrutinized policy decisions related to economics. The issue has risen in terms of state importance in recent years as federal change in the minimum wage has stalled, due to political partisanship (Gallaso 2014). Also, the minimum wage has risen in importance in recent years as the trend of bubbles and economic recessions become even more predominant, whether internal to an economy or through external uncontrollable events (McCarty et. al 2013). Most economists agree that the minimum wage should not exist at all in a perfectly competitive system, but it has been argued that some minimum wage could continue to exist at least in the short term and thus it is interesting to analyze whether or not it is having other negative effects on our economy besides a direct effect on employment (Klein et. al 2013). Most recently, the study by the Congressional Budget office in 2015 also found that the federal minimum wage proposed by the Obama administration would have a negative impact on employment elasticity (CBO 2015).

Also, the minimum wage has risen in importance in recent years as the trend of bubbles and economic recessions become even more predominant, whether internal to an economy or through external uncontrollable events (Miao, Wang 2012). Bubbles by their very nature are traps destined to burst and cause damage to economies (Breitung, Kruse 2013). Economies are subject to natural rises and falls but economies also face unnatural changes that can cause significant hits to certain sectors. The labor sector is specifically hit frequently by dramatic changes, especially low wage level employees who, as most

economists would agree, are more likely to be laid off in a recession because they are lower productivity employees (Parent 2015). Bubbles are disastrous to employees at the low wage sectors because it is more likely that they will be laid off. Specifically, the United States saw a large spike in unemployment in a few recent bubbles and recessions. There are at least three bubbles from the 1999 Tech Bubble to the terrorist attack on 09/11 to the most recent "great recession" and 2010 real estate bubble. (Fullbrook 2012). As with the natural progression of bubbles, they will inevitably burst. This creates an interesting policy issue due to the lack of ability to prevent economic bubbles (Konig, Pothier 2015). These bubbles, since they cannot be avoided, create a threat for state economies. To avoid potential pitfalls, states could prepare for the potential volatility in the market related to bubbles. The 09/11 bubble is significant because of the damage it did to the economy and the fact that it was an externally caused bubble, thus unavoidable. Since, the bubble was related to a terrorist attack, no internal prediction of it could prepare businesses for potential changes. Increased research can provide value in the potential conversations related to public policy, academic research, and the general public's understanding of the concept.

If we consider the minimum wage based on the potential axiom that the minimum wage law passed most recently was in the best interest in our country. Then it is certainly losing purchasing power due to inflation over the time period (Officer, Williamson 2015). Thus, the minimum wage is more likely to be discussed in the future, especially with growing concerns over recessions and bubbles. Thus, indirect effects of the minimum wage could be an interesting topic for research. The notion of economic recovery related to the bubble tied to the financial crisis could be a fascinating economic analysis with implications on future decision-making (Jones et. al 2014). This hypothesis is that states with a minimum

wage higher than the federal minimum will recover slower around the recession of 2008, which I have put in the middle of my data set by selecting 2003-2013 for the years I analyze.

Some minimum wage contrarians claim that positive effects are potentially an explanation for the lack of quantifiable evidence supporting negative employment elasticity related to the minimum wage (Dube et. al 2010). These positive effects that have been suggested include prices passed down to consumers, reduced turnover, and increased worker productivity related to morale (Dube et. al 2010). Yet, almost all economists have a tendency to make conclusions from the standpoint that there is not a large amount of specific labor market research that is statistically significant with a positive coefficient or that past analysis was not done using advanced econometrics or time series data (Brown 1999); (Neumark, Wascher, 2007). Neumark and Wascher also have some of the most robust and cited research in the area. A large percentage of the economics field supports their findings (Klein et. Al 2013).

Lee and Saez offer, "a minimum wage can increase low- skilled workers' wages at the expense of other factors of production-such as higher skilled workers or capital-and hence can be potentially useful for redistribution. However, it may also lead to involuntary unemployment, thereby worsening the welfare of workers who lose their jobs." (Lee, Saez 2012). A large amount of research and literature has been dedicated to the direct effect of minimum wage changes on employment in the effected (and surrounding) geographic areas after raises in the minimum wage. Most research using advanced techniques has found a negative impact on employment (Doucouliagos, Stanley 2009). Some research has come to a conclusion that there is no direct effect on employment, which could lead to a quick conclusion that employment, in general, is not negatively effected by the minimum wage

(Doucouliagos, Stanley 2009). This simple conclusion fails to properly include the potential negative impacts of the minimum wage outside of the realm of direct effects. With significant research done on the direct impact on employment levels, there is potential in other areas. The research hypothesis proposed is to analyze the potential effect on secondary or tertiary factors that should be considered in the holistic decision-making regarding the minimum wage from a policy standpoint. Specifically, is economic recovery affected? Many of these have been investigated previously through interviews with managers and business owners with mixed results (Hirsch et. al. 2011). This last hypothesis will be what I intend to investigate in this research, "Should states with a state minimum above the federal minimum wage be concerned about their economic recovery in terms of jobs when an economic recession occurs?"

Background

Card and Krueger, in 1994, helped lay the ground work for large empirical studies on the minimum wage by analyzing how 410 fast food chains' employment was impacted by analyzing them before and after a law in New Jersey raised the minimum wage from $4.25 to $5.05 (Card, Krueger1994). This piece is largely considered a landmark publishing that anchored minimum age research and helped direct the next 12-15 years of research as different individuals tried to either expand or criticize on their findings. Card and Krueger also expanded on this research in *Myth and Measurement: The New Economics of the Minimum Wage* by analyzing the change in average minimum wage of teenagers, which they found to be positive, and the effect on their employment, which they concluded was not significant (Card, Krueger 1994). These pieces were then criticized by David Neumark and William Wascher in *Minimum Wage,* where they analyzed using much more sophisticated

analysis techniques including time series and econometrics to actually conclude that when this data was analyzed in this way they found the opposite of Card and Krueger and that "the preponderance of evidence supports the view that minimum wages reduce the employment of low-wage workers." (Neumark, Wascher 2000). This piece by Neumark and Wascher also expanded the scope to include low wage workers outside of teenagers, which was considered a major flaw in the research done by Card and Krueger, although teenagers are largely effected, they are not the only group that could be considered (Neumark, Wascher 2006). If targeting poverty is the goal, teenagers with low skill level jobs are not the wage sector that needs to be impacted and considered, which is what the Card and Krueger research focused on initially.

In regards to the manner in which economies address income disparity and job growth, some economists and policymakers argue that raising the minimum wage addresses this issue. While many other economists and policymakers suggest that specific policies can address the issue in a more direct manner by training low skilled workers so that they are better qualified for medium skilled jobs with higher wages (Lynch 1989); (Lee 2009). This increase in worker quality or human capital would increase the wages of the new medium skill workers, while reducing the supply of unskilled workers, which potentially could increase their wages as well (Mankiw 2007).

Research Advances

Card and Krueger's and Neumark and Wascher's research became key pieces in the research realm. Countless studies have been done based off of these initial pieces. Post 2000's, there emerged what has been considered a "4th strand" of minimum wage research, with the initial being the classical analysis followed by Card and Krueger's as the second

strand and Neumark and Wascher's as the third (Dube 2011). This research focused on creating a holistic viewpoint of the two contradictory streams that had emerged by analyzing the entire spectrum of pieces based on the validity of their statistics to better represent the true effect on employment. Neumark and Wascher published a key piece in 2006 titled *Minimum Wages and Employment: A Review of Evidence from the New Minimum Wage Research*. This piece analyzed studies surveying the effect on employment and found that the data consistently supported the findings that minimum wages hurt employment, although most data are not statistically significant. They also help by putting forward the note that few studies "provide convincing evidence of positive employment effects of minimum wages, especially from those studies that focus on the broader groups for which the competitive model predicts disemployment effects." (Neumark, Wascher 2006 p. 120-121). This is why some prominent contrarians have not found significant data to support a negative correlation but a positive correlation has not been found (Neumark, Wascher 2006). The large majority of studies including the more recent meta analyses by Doucouliagos and Stanley as well as Wolfson and Belman both found that the median and mean of most studies found around a correlation of 0 or slightly negative (Doucouliagos, Stanley 2009); (Wolfson, Belman Forthcoming).

The Doucouliagos and Stanley study of 2009 is the more interesting of the two because it analyzed a total of 64 minimum wage studies published from 1972 and 2007 and had an n=1,492 and still found that the majority of studies centered around 0 employment elasticity. This study concluded with "Two scenarios are consistent with this empirical research record. First, minimum wages may simply have no effect on employment…Second, minimum-wage effects might exist but they may be too difficult to detect/and or are very

small." I think it is far more likely that the data are often just insignificant and that changes across a variety of issues exist but are spread across such a variety of effects that no single effect is great enough to be captured within a single "snapshot" or based on the axiom that the economy is in a system of equilibrium from the point of change. The data could be increasingly studied in both directions in terms of effects, with considerations added to markets being dynamic. This could better incorporate non traditional market issues. An increased use of cost benefit analysis from the proponent side could provide a very interesting framework for the minimum wage, if we consider the minimum wage as adding a "public good". Although, the fact still remains that a zero employment effect of minimum wage does not imply that tradeoffs do not exist. Indeed, it is quite possible that negatives or positive effects in other areas of the employment relationship and thus further research possibilities exist.

Model and Variable Explanation

The model used focuses data with face validity based off of simple economic theory as well as a few items that have been used in previous studies. The model has ten states a piece between two separate types. The first type is states with a state minimum wage mandating a minimum wage above the federal minimum. The second type is states with the federal minimum wage. The model has hand-selected states in the analysis based off of an attempt to try to balance the variation in natural differences in state GDP growth. In other words, it analyzed how certain states performed in the years 2013 and 2014 and has 3 low performing states, 4 middle level performing states and 3 high performing states according to their state GDPs for each type. Their performance ranking was defined by percentage different from average expected GDP. Through this separation of states into groups, the

model can include a variety of states that have simpler tax and minimum wage codes and thus try to isolate just the independent variables especially X_1, without having data that may not be entirely valid because it cannot accurately depict the true labor situation.

The model used is:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$ estimated by OLS regression

Y is non-farm jobs measured in number of jobs in a state economy in December of a given year. The X_1 variable, % above the federal minimum wage, is the main variable of interest. This will be telling to whether or not states with minimum wages higher than the federal minimum are associated with stronger expected job numbers. I would like to see if states with minimum wages higher than the federal minimum recover slower in an economic recession than states that have the federal minimum wage as their minimum because the labor sector would then have an artificially higher "price floor" that would cause a loss of jobs. This time frame surround 2008, which had a strong recession with a rise in unemployment related to the financial sector (Farmer 2012). The X_2 variable is a variable to include changes in population (noted in a percentage change over previous year) which can help contain the in and out migration of states based on changes in minimum wage, this can also help control spillover effects. Previous research has shown that population changes can be associated with job growth (Facchini et. al. 2011). Population cannot be separated into simply net migration in both directions for terms of analysis due to availability, but this would be ideal because there are positive effects in opposite directions. X_3 is GDP growth of the state in percentage terms over previous year, which has been shown in previous research to be an indicator of jobs (Cross, 2007). X_4 is the state corporate tax rate which if increased would likely decrease jobs as companies have less money to spend on hiring. X_5 is a variable

to separate out recession years following the recession in 2008. For the state corporate tax rate, the highest corporate tax rate by bracket was used due to the logical axiom that most of the highest revenue bracket cut off points are around $100,000 in annual revenue and most companies fall into this range.

Data also had to be organized with a series of 20 separate state fixed effects variables to isolate each state's data separately so natural differences in state's expected jobs were controlled in the regression. This was accomplished by creating dummy variables for each state. The states I chose are seen in Table 4. The final data set had 220 observations (n=220), with 20 different states being analyzed from the time period 2003 through 2013. In terms of final analysis, both lag and non-lag models have merit (Table 4, Doucouliagos, Stanley 2009). The key difference between lag and non-lag models in this data analysis is that the lag models are comparing the previous year's minimum wage observation with the current year's employment observations, while the non-lag model put all the observations together by year. Models 1-3 are analyzed with non-lag, and models 4-6 are analyzed with lag to test if the employment of a year had an effect on the minimum wage.

Results

In the analysis, Models 1-3, in Table 2, use the initial dataset unchanged with each factor being a predictor of employment in terms of non-farm jobs in thousands. Model 1 analyzes each factor against employment without any interaction variables. This model found a constant of 10,222.77 thousand jobs with a standard error of 66.39 thousand, with R square and an adjusted R squared of .997. The overall significance of the entire model was .00, thus was significant at all confidence levels. It had an overall standard error of estimate of 153.81 thousand jobs. This model found that Minimum Wage, State GDP, and Recession Year were

statistically significant, at the 1%, 5%, and 5% levels respectively. Population was very close to being statistically significant, and would potentially become so with a larger n. Minimum Wage had a coefficient of 3.48 with a standard error of 1.33, indicating that a 5% increase over the minimum wage, an increase of 36 cents with today's federal minimum which is not unrealistic, would correlate with an expected 17,400 additional jobs. The State GDP had a coefficient of 6.87 with a standard error of 3.23, indicating that a 3.5% increase in state level GDP, which is a reasonable amount of growth, would correlate with an expected 24,045 additional jobs. The Recession Year variable indicates that in a year identified as a recession, there would be an expected additional 57,540 jobs in the economy. This variable seems counterintuitive at first, but it is likely due to the fact that although State GDP changes and Population changes were both in the model, there exist many additional factors that would be included in a time series technique. These years marked as "recession year" are in subsequent years after 2008 and thus would have naturally larger economies since the United States economy expanded over the time frame. The rest of the factors in the model were not statistically significant, but state fixed effects were included.

Model 2 had the same variables as statistically significant at the same levels while also including a variable multiplying Minimum Wage by Recession Year to see if there was a significant impact related to the combination. The interaction variable was not statistically significant. Minimum Wage had a coefficient of 3.54, State GDP had a coefficient of 6.78, and Recession Year had a coefficient of 62.67. Model 3 analyzes the same base factors as well as Minimum Wage multiplied by State GDP. The interaction variable was not statistically significant. Minimum Wage, State GDP, and Recession Year were all

statistically significant at the 5%, 10%, and 5% respectively. These three variables had coefficients of 3.49, 6.88, and 57.53 respectively.

In Table 3, I changed the data by having the minimum wage from the previous year corresponding with that year's employment. This allows for an analysis that helps address the concern that states with higher employment are more likely to naturally implement a minimum wage higher than the federal minimum, because their economies can afford the damage. Model 4 only has Population statistically significant at the 10% level with a coefficient of 28.47 and a standard error of 16.58, thus a 4% increase in population over the previous year would correlate with an expected 113,880 additional jobs. No other factors were statistically significant, and state fixed effects were still included. This model indicates that no negative correlation related to the minimum wage is indicated regarding non-farm jobs and state minimum wages above the federal minimum when considering previous year effects, so the expected negative effects are likely found elsewhere. The model was estimated with an R squared and adjusted R squared of .997 and a standard error of 143.21 thousand jobs, with an n=200. Model 5 added Minimum Wage multiplied by State GDP, but again was not statistically significant. Model 6 analyzed the same base variables but included the interaction variable, Minimum Wage multiplied by Recession Year. This interaction variable was not statistically significant. Population was still statistically significant at the 10% level with a coefficient of 28.43. State fixed effects were included in models 4-6 as well.

Discussion

These results provide a variety of challenges at first glance as they do not align with standard analysis and as with most models there are some limitations. The first key limitation is that although there were not collinearity issues related to the VIF's of the regression, this

type of research very typically has 3,000-5,000 observations while my data set had only 220

observations. This increased data set could better outline the correlation between the

minimum wage as well as other variables. I would expect, as has been previously discussed,

that the population variable would likely become statistically significant as the number of

observations increase. Also, the model does not have a time series component to the level

necessary to achieve standard results. The recession year variable just indicates in a general

sense which years were after 2008 in the data set from 2003-2013, but the variable itself

should have a negative coefficient as states recover from the recession. Unfortunately, this

was not the case.

      This unexpected positive result on the recession variable was likely due to the lack of

a time series component to the model. The population percentage change and the state GDP

change likely cover changes over time in a broad sense, but as the model shows there was

still a positive coefficient associated with it. Although this coefficient was only 52,000 jobs

when the United States economy adds typically over 100,000 jobs per month in a healthy

state. A time series component would better encapsulate these expected changes and create a

better model overall.

      The data also would have more expected reaction between variables as n increased,

the interaction variables, although very interesting conceptually, were not statistically

significant in the model and thus just create an opportunity for future research. These

interaction variables were the direct analysis piece of the data set. They were directly

addressing the research question. Unfortunately the research question had to be addressed

indirectly due to their insignificant nature in the model. An increase in observations could

change this.

Also, the analysis of this model creates an interesting predicament for states, as they have to balance social welfare, jobs and their own trust funds and the potential tradeoffs of each. The increase in unemployment related to an increased minimum wage would both increase the total enrolled number of individuals on state benefits but also increase the amount of expected jobs lost. My model did not find this to be significant in terms of jobs lost, but it could be related to some states taking the loss for other states. In either case, states start to consider what is in their own best interest even if it is not in the best interest in the economy as a whole. Future research could be done on this to create a more clear perspective on the matter, at least comparatively.

Future Research

As with much research related to the minimum wage, this piece specifically left more questions than it answered. Ignoring some of the arbitrary questions over whether or not this type of model is better than another, lag versus non lag, or other factors. The piece itself leads to a variety of unanswered questions. I think that it would be interesting to explore in greater detail some of the micro type questions that were found in the previous research at a macro aggregate level. These could be based off of some of the interview type qualitative research that has been done related to the minimum wage. Specifically, it would be interesting to analyze whether or not the conceptualization of individual businesses holding on to more talented employees could be seen at the macro level. A potential way to do this would be to analyze states with high union participation percentages because in those states you could find that it is true that certain individuals are being held on to longer than you may initially expect in the analysis because of other external costs. One potential explanation is that the employer could be worried about their talent already being above the average level of

talent available and thus it could be more costly for them to find a new individual to fill the role than for them to take the short-term loss (Yang et. al 2012). This falls in line with traditional analysis. Another possibility is the conceptualization that employers do not have perfect information related to what talent exists on the market and thus they are more likely to keep the known commodity versus a potentially unfamiliar expenditure into searching for a more talented option.

These factors previously mentioned are just expansions and dissections of the current model. Research also should be done in a variety of other factors to see where the negative effects of the minimum wage are significantly affecting the data. The positive effects on employment can be explained through a variety of means measured below but the negative effects still need to be discovered in other areas. Benefits could create an interesting variable for discussion. As a potential short-term loss creates a lack of flexibility in other areas, benefits could be affected. It could be interesting to look at expected benefits in these areas that are affected and see if benefits are affected significantly in a recession. Similarly, one could expect a negative effect to occur in promotions. It could be possible that companies in this range are promoting individuals to middle management slower because they cannot afford to do so at the typical pace. Another possibility is more direct; it could be that companies are taking a direct loss to profits in the short term for an expected long-term gain. The benefits from loyalty and retention could just outweigh the retraining costs (Yang et al. 2012). This could be seen by analyzing company profits for publicly held companies with high low wage sector employees against their expected profits, and then comparing this number to the actual number of employees fired in these sectors. Then, this number could be

brought to the macro level by analyzing the entire sector. The minimum wage in any form of

the analysis is important for the future of policy making and economics due to the effect on

Conclusion

The results that I found in my analysis provide an interesting picture of the potential

importance of the minimum wage but did not directly support my hypothesis. I expected to

find a negative coefficient when the minimum wage data was isolated, in general analysis. I

did not find this to be the case and the interaction variables were not statistically significant.

The positive variable associated with the Minimum Wage in Models 1-3 could potentially

slightly lower the concerns of states with a minimum wage higher than the federal minimum

wage under the conditions between 2003-2013. These conditions include the varying

minimum wages, the economy growing at a national level and states attempting to increase

jobs after the . This implication must be cautiously observed. It is likely that the negative

effects associated with the minimum wage are being spread across other areas not directly

measured in this model. Possibly, there may be an indirect effect where the states with the

higher wage are growing jobs by attracting talent and increasing their population, the states

with the federal minimum are experiencing the loss of jobs and other negative effects of the

minimum wage, while other states gain. This aligns with classical analysis because overall

there would be an expected loss in jobs, but a portion of jobs would potentially be transferred

to the higher wage states at the cost of the lower wage states.

Another potential explanation is that companies are either absorbing the higher cost in

their margins or are passing the cost on to consumers; both would be harmful to economies.

Other effects are also possible with savings for companies possible in training costs and head

hunting costs, if employers are concerned at the micro level that their talented employees will

be costly and difficult to replace. This also operates under the assumption that the cost of keeping them at the higher wage is lower than the potential cost of the new hire and other associated costs. It is also possible that companies are willing to sacrifice a short-term loss for a long-term gain if they truly believe that their internal talent advantage is greater than the potential cost of an employee or high retraining costs. This also assumes though that even amongst low skill workers there is a distinguishable talent difference that would show up in behavioral differences in managers.

Another item is that the analysis was tied only to non-farm jobs and only looked at the model from a macro perspective of each state and not by separate labor markets, so Neumark's criticism of labor sector accuracy is probably relevant to this model. The data could add more variables as well to better explain the positive coefficient of the recession year. The population variable could become statistically significant, as it is in other research as previously mentioned, if more observations are added. There are sure to be other factors that could continue to improve the model even with the adjusted R square being as high as it is. During my research on the subject, I failed to find a specific analysis looking at bubbles and the minimum wage's effect on economic recovery in terms of jobs. This could be an interesting area for future research as bubbles have grown in concern related to public policy. Overall, this analysis creates an interesting piece for a brief analysis of the minimum wage. Policymakers in states with higher than federally mandated minimum wages may not need to be as concerned about massive layoffs during recession and recovery years, due to their state minimum wage being higher than the federal minimum, or at least relatively to states that do have the federal minimum.

Appendix (Tables)

Table 1

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$ estimated by OLS regression

Y	Non farm jobs (# of jobs, i.e. 33,245) in thousands
X_1	Minimum wage (% over the federal min. wage, i.e. 12.4%)
X_2	Population (% change over previous year, i.e. 2.3%)
X_3	State GDP (% change over previous year, i.e. 1.7%)
X_4	State tax rate (% of corporate tax rate-highest bracket, i.e. 8.5%)
X_5	Recession year (n-1 Variable, 2003-2007(0), 2008-2013(1))
X_6	Changes based on model (separately specified)

Table 2

Predictors of Employment (Dep. Variable=Non Farm Jobs in Thousands) (Std. Errors in Parentheses)			
Variable	Model 1	Model 2	Model 3
(Constant)	10222.77(66.39)	10220.12(66.83)	10222.73(66.96)
Min Wage (% over Fed Min.)	3.48(1.33)***	3.54(1.34)***	3.49(1.80)**
Population (%Δ)	25.56(17.54)	25.41(17.58)	25.56(17.59)
State GDP (%Δ)	6.87(3.23)**	6.78(3.25)**	6.88(3.63)*
Recession Year (0=no, 1=yes)	57.54(6.19)**	62.67(29.01)**	57.53(26.27)**
State Tax Rate (% in top bracket)	11.72(23.87)	12.47(23.99)	11.71(24.01)
Min Wage* Recession Year	…………	-77.81(187.31)	…………
Min Wage* State GDP	…………	…………	-.096(22.64)
State Fixed Effects	Included	Included	Included

R Squared (respectively)=.997, .997, .997, Adjusted R Squared (respectively)=.997, .996, .996

Std. Error of Estimate (respectively)= 153.81, 154.21, 154.14 N (respectively)=220, 220, 220

*, **, *** indicate significance at the .10, .05, and .01 levels, respectively

Table 3

Predictors of Employment (Lag Model, Previous Year's Min. Wage on Current Year's Employment) (Dep. Variable=Non Farm Jobs in Thousands) (Std. Errors in Parentheses)			
Variable	Model 4	Model 5	Model 6
(Constant)	696.00(218.94)	660.05(219.80)	671.39(222.02)
Min Wage (% over Fed Min.)	-.49(1.20)	-1.23(1.31)	.07(1.44)
Population (%Δ)	28.47(16.58)*	27.89(17.54)*	28.43(16.60)*
State GDP (%Δ)	3.90(3.05)	2.30(3.25)	3.82(3.06)
Recession Year (0=no, 1=yes)	-4.49(24.26)	6.07(25.32)	5.80(28.34)
State Tax Rate (% in top bracket)	-23.91(22.95)	-19.95(23.06)	-22.08(23.13)
Min Wage* Recession Year	…………	…………	-102.50(145.29)
Min Wage* State GDP	…………	24.70(17.50)	…………
State Fixed Effects	Included	Included	Included

R Squared (respectively)= .997, .997, .997
Adjusted R Squared (respectively)=.997, .997, .997
Std. Error of Estimate (respectively)= 143.21, 142.80, 143.42
N (respectively)=200, 200, 200
*, **, *** indicate significance at the .10, .05, and .01 levels, respectively

Table 4

Federal Minimum Wage States	Texas, Wyoming, New Hampshire, Iowa, Louisiana, Wisconsin, Pennsylvania, Tennessee, Idaho, South Carolina
States Above the Federal Minimum Wage	Maine, Rhode Island, Alaska, Florida, New Jersey, Arizona, Oregon, Nebraska, Washington, Vermont

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