

Updating the Minimum Wage: Setting a Uniform Wage Across a Diverse America

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February 16, 2021

One of the top priorities for both the new Democratic majorities in Congress and the new Biden Administration is to raise the Federal minimum wage to \$15 from its present value of \$7.25, the current minimum price for labor set in 2009.¹ The first potential bite at the apple is expected to come when Congress takes up the legislation to fund President Biden's American Rescue Plan² later this month on reconciliation (assuming such a move can pass the Byrd rule).³ While Republicans are generally opposed to such an effort, it should be noted that there is also resistance from within the Democratic party that may spoil the effort.⁴

Democratic Senator Joe Manchin of West Virginia, for instance, has signaled opposition to a nationwide \$15 minimum wage. West Virginia has some of the lowest wages in the nation, so the large increase will wreak havoc on his state's economy. Manchin is not opposed in principle to minimum wages but prefers something more like \$11 an hour.⁵ Senator Jon Tester of Montana, another low wage state, is not fully on board with the Biden proposal and wants some geographic variation in the minimum wage. The CBO projects that a \$15 minimum wage will result in 1.4 million lost jobs (0.9% of the workers) and low-wage states like Montana and West Virginia will carry a disproportionate share of job losses.⁶

Senators Manchin's and Tester's concerns about a *uniform* Federal minimum wage exposes an

important but often ignored aspect of the debate. Given widely divergent costs of living across the United States, wages correspondingly differ materially among states and within states;⁷ a national minimum wage does not and would therefore have widely varying effects. According to data from the Bureau of Labor Statistics ("BLS"), the median hourly wage for the country in 2019 was \$19.37 but wages vary considerably with a range of \$15.00 to \$35.74 (better than a two-fold spread). Of states with Democratic senators, only West Virginia and Montana are in the 25th percentile of mean wages. The remaining Democratic senators serve relatively high-wage states where the wage hike will be less impactful. No state that leans Democratic by the Cook Partisan Voting Index ("PVI") is in the 25th percentile of mean wages.

If Congress wants to raise the Federal minimum wage, then my analysis points to a national minimum wage of \$10, phased-in over five years from about \$9.

Minimum wages have long been a hot topic among economists and many empirical studies on the topic have been published over the years. While the results are decidedly mixed, a recent review of all published studies on the minimum

wage written by Professors David Neumark and Peter Shirley and published by the National Bureau of Economic Research (“NBER”) concludes: (a) there is a clear preponderance of negative estimates on employment in the literature; (b) this evidence is stronger for teens and young adults as well as the less-educated; (c) the evidence from studies of directly-affected workers points even more strongly to negative employment effects; and (d) the evidence from studies of low-wage industries is less one-sided.⁸

Since state and local governments may defect from the federal standard and set higher minimum wages (but never a lower one), the geographic variation in minimum wages sought by many Members of Congress, including Democrats, may be left sensibly to state and local governments.

The economics profession’s conclusions and disagreements are of little practical consequence at this point as the decision now belongs to politicians. It is not the economists but the elected officials who must answer to their constituent businesses, those unable to find work at the minimum wage, and low-wage workers. Current minimum wage policy arises from a political equilibrium, not an economic one.⁹ As such, it makes sense to look to political outcomes to shed light on feasible federal policy on the minimum wage.

If Congress seeks to set a *uniform* federal minimum wage, then that minimum must be sized to fit the lowest-wage countries or else it will cause material economic harm in low-wage states. In this PERSPECTIVE, I exploit the fact that many states have set minimum wages above the federal level to establish the relationship between these discretionary minimum wages

and median state wages. Then, I extrapolate these observed political outcomes to low-wage states to estimate minimum wage levels such states might accept. If Congress wants to raise the Federal minimum wage, then my analysis points to a national minimum wage of \$10, phased-in over five years from about \$9. Since state and local governments may defect from the federal standard and set higher minimum wages (but never a lower one), the geographic variation in minimum wages sought by many Members of Congress, including Democrats, may be left sensibly to state and local governments.

A \$10 minimum wage has wide bipartisan and business support. The U.S. Chamber of Commerce a \$10 minimum wage (a number supported by former President Donald Trump).¹⁰ A recent survey found that most Americans chose a minimum wage in the \$10 to \$15 dollar range.¹¹ Also, the CBO estimates that with a \$15 minimum wage “about 1.3 million workers who would otherwise be employed would be jobless in an average week in 2025,” but a \$10 minimum wage would result in “almost no effect on employment in 2025.”¹² A recent WALL STREET JOURNAL survey found that among economists that favor a minimum wage, the appropriate level was \$10.83. And, Senator Manchin, a critical vote for the minimum wage, supports something around an \$11 price floor.

A \$10 minimum wage has wide bipartisan and business support.

Data

Occupational wage data for the states and the District of Columbia are obtained from the Bureau of Labor Statistic’s Occupational Employment Statistics.¹³ Among other variables, the data includes total employment the average and median hourly wage rates, and

the hourly wage at the 10th, 25th, 75th, and 90th percentiles. The data is measured annually.

Data also is obtained from the Department of Labor on state-level minimum wages for the same years.¹⁴ For states without a state-level minimum wage, the federal price floor is used. If a state has a range of minimum wages, then the minimum wage is taken to be the highest value in the range.¹⁵ Minimum wage data for 2021 is obtained from Paycor.¹⁶

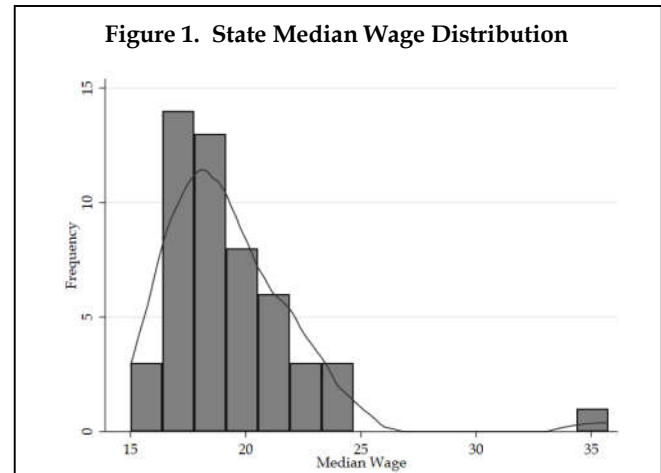
Regardless of how one conceptualizes the notion of an “optimal minimum wage,” it is quite improbable that the best minimum wage will be the same for all states.

A state’s political leanings are measured in two way. First, I create a variable indicating the number of U.S. senators serving the state that are Democrats.¹⁷ Since both Independent senators (Bernie Sanders, Vermont, and Angus King, Maine) caucus with the Democrats, I label them Democrats. Also, the two shadow-senators for the District of Columbia are labeled Democrats. Second, the political leanings of the state are measured by Cook Partisan Voting Index (“PVI”).¹⁸ A variable measuring the partisan lean of the Cook PVI is constructed by setting the Republican leanings to negative values and the Democratic leanings to positive values.¹⁹

A National Minimum Wage?

While a national minimum wage is the same for all states, wages are not. Mean and median hourly wages differ materially among states. Across the states, the median hourly wage is \$19.37. The range of wages is very wide, with a minimum of \$15.00 and a maximum of \$35.74. The mean wage is \$24.89 with a range of \$19.27

to \$43.17. Figure 1 provides the histogram of the median wages among the states.



The effects of a \$15 uniform minimum wage are certain to be more problematic for a state with a median wage of \$15 than for one with a median wage of \$35; a fact not lost on Senators Manchin and Tester, among others. Given the wide variation in wages, does it make sense to have a “national” uniform minimum wage applicable to all states? A national standard chosen by Democrats in rich states (e.g., Nancy Pelosi from California and Chuck Schumer from New York) will be too high for low-wage states (like West Virginia and Montana), but a standard set by low-wage states may be largely ineffective in high-wage states.

One approach to wage variation supported by some Democrats is a geographically diverse minimum wage that accounts for wage disparity across geography, an idea supported by Senator Tester and Congresswoman Terri Sewell (D-AL).²⁰

Another approach, which embraces geographic variation in the minimum wage, derives from the fact that state and local governments are free to set a minimum wage higher than the federal minimum wage, but not below it. Many states and localities have set a minimum wage above, and several others equal to, federal requirements. In 2021, state minimum wages exceed the federal minimum wage for 30 states

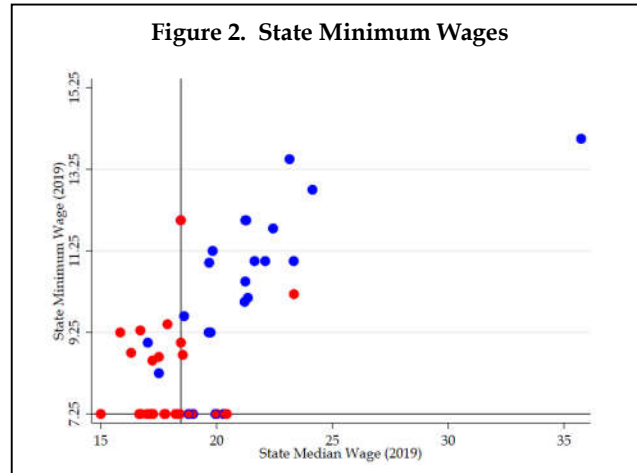
and the District of Columbia, with a maximum minimum wage of \$15 in the District of Columbia (equal to 42% of the District's median wage).

With state and local defection to higher minimum wages a possibility and a reality, it seems sensible that if there is to be a uniform national minimum wage, that minimum wage should be reasonable for the economies of low-wage states since high-wage states (or cities) can freely set higher legal minimums. Regardless of how one conceptualizes the notion of an "optimal minimum wage," it is quite improbable that the best minimum wage will be the same for all states.

Estimating the Political Minimum Wage

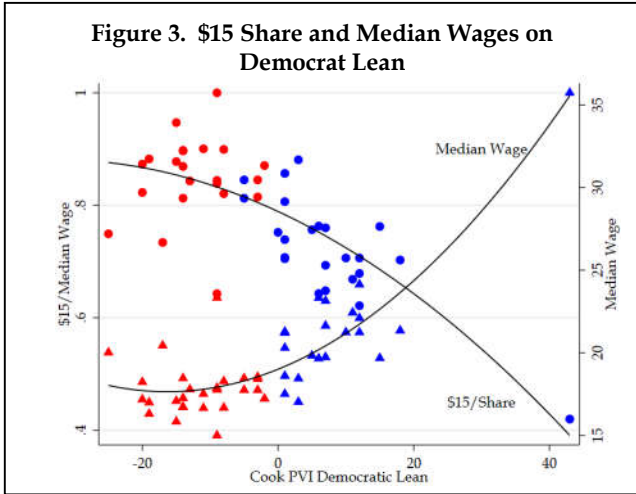
In 2021, thirty states and the District of Columbia had set minimum wages more than the current federal wage floor. These defections are mostly in high-wage states. The correlation coefficient between the state minimum wage in 2021 and the mean wage in 2019 (the last year available) is 0.73.²¹ Also, there is a high correlation of minimum wages the Cook PVI which measures how Democratic a state leans ($\rho = 0.73$). Twenty-one of these 31 states and territories with higher minimum wage rules lean Democratic by the Cook PVI.

The minimum wage is a partisan issue. Figure 2 provides a scatter diagram of the state minimum wages and the state's median wage. Blue dots indicate states currently with a Democratic lean; Red dots indicate states with a Republican lean; and the red dot with blue outline indicate states with no partisan lean. A strong positive correlation between median wages and state minimum wages is apparent. Also, high-wage states have a Democratic and low-wage states have a Republican lean. Democratic leaning states are more likely to have minimum wages above the federal level, but they also have median wages above the national average.



One might think that the minimum wage might receive more effective political support in low-wage states, but this is not the case. Low-wage states heavily lean Republican, suggesting that states with low-wages worry a high minimum wage will have negative consequences or else such price controls contradict the deregulatory and more Libertarian leanings of Republicans. The minimum wage is, after all, an affront to the price system.

With wages positively correlated to Democratic leaning, it may be argued that in setting a high federal minimum wage, Democrats are willing to impose a burden on Republican states they are not willing to themselves to embrace. Figure 4 provides the scatterplots and quadratic fits of the \$15 share of median wage and the median wage on a state's Democratic lean based on the Cook PVI. The figure is color-coded as before. Democratic states, with their higher wages, are more able to absorb a high minimum wage. The impact of a \$15 minimum wage is more substantial, and thus risks greater harm to the labor market, in Republican states.



A cynic might view a \$15 minimum wage as a means by which high-wage Democratic states “raise rival’s costs” on Republican states. Raising rival’s cost is a concept from Antitrust law that holds that a firm may be willing to take action that imposes costs on itself if that action imposes greater costs on its rivals. In the District of Columbia, the minimum wage is \$15 in 2021, which is just 42% of its median wage. Alabama’s median wage is \$15.48, so an equivalent minimum wage is \$7.12, but a \$15 minimum wage equals 97% of the median wage.

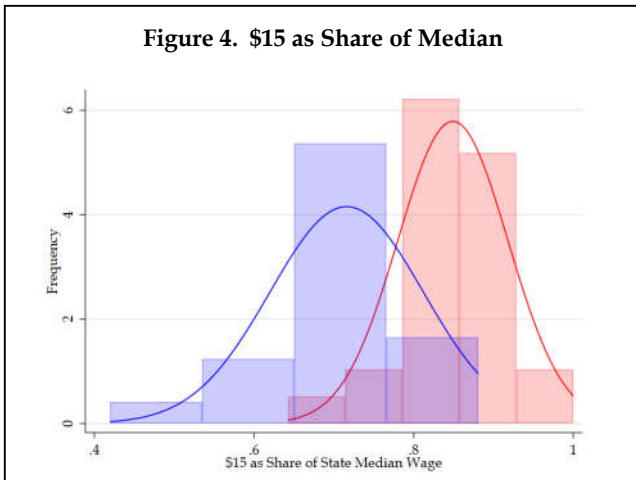


Figure 4 illustrates the distributions of the ratio of \$15 to the median wage across states that lean Republican (in red) or Democratic (in blue).²² The mean share is 72% in Democratic leaning states and 84% in Republican-leaning states. The impact of a \$15 minimum wage is more

substantial, and thus risks greater harm, in Republican-leaning states.

Setting the Minimum Wage

Minimum wages are established in a political process that presumably reflects both economic and political considerations. The “optimal” minimum wage in state i at time t , therefore, may be written as $\tilde{w}_{i,t}^{\min} = f(E_{i,t}, P_{i,t})$, where E and P are economic and political factors. My goal here is not to describe the process by which this optimal minimum wage is determined, but rather I assume the actual minimum wages in each state to reflect this process.²³

In a simple formulation, let the median wage in a state reflect the economic factors and Cook’s VPI representation of the state’s political environment. The relationship that determines the desired minimum wage in each state may be approximated by the regression:

$$w_i^{\min} = \alpha + \beta_1 w_i + \beta_2 PVI_i + \varepsilon_i \quad (1)$$

where w_i^{\min} is the minimum wage in state i , w is the median wage in state i , PVI_i is the Cook PVI for the state, and ε is a random disturbance term.²⁴ To be as current as possible, minimum wage data is for 2021 and median wages are from 2019 (the last full year available).²⁵ Since the data is censored at the federal minimum wage, the model is estimated by Tobit regression with a lower limit of \$7.25.

Several peculiarities of minimum wage laws should be mentioned. First, several states have set minimum wages below the federal level, though in many cases these laws were codified years ago and are ineffective. Second, the minimum wage laws are not always uniformly applied to all labor. Some states limit the higher wages to firms of certain sizes; the District of Columbia excludes dry cleaners; and so forth. Third, several states have state minimum wage laws equal to the federal limit, so a political action has taken place, though to no practical

effect. Also, these states have not raised the minimum wage above the federal limit despite many legislative sessions in which to do so. In any case, I set the lower limit of the Tobit regression to the Federal minimum wage and take the observed state decisions, or lack thereof, as indicators of the state’s preferences, which presumably reflect the political and economic environment in each state.

The estimated coefficients of Equation (1) are:

$$\hat{w}_i^{\min} = 6.925 + 0.123w_i + 0.160PVI_i + \hat{\epsilon}_i \quad (2)$$

The constant term and the coefficient on PVI are both statistically different from zero at the 5% level or better, though the median wage coefficient is not. This pattern is the result of collinearity. As discussed above, the state minimum wage and partisan lean are highly correlated.

Equation (2) can be used to obtain predictions of the minimum wage arising from the political equilibrium for all states. I construct a 95% confidence interval around the predicted value of the minimum wage in 2021. These predictions are summarized in Table 1 for at various definitions of a “low wage.” These predictions depend both on the median wage of a state and its partisan lean. To begin, I set the PVI equal zero for a bi-partisan solution.

Table 1. Implied Minimum Wage (2021)

Standard	Estimate	90% Conf. Interval
Minimum	\$8.77	[7.09, 10.44]
10 th Percentile	\$8.98	[7.78, 10.18]
25 th Percentile	\$9.05	[7.98, 10.11]
Median	\$9.19	[8.35, 10.03]

At the lowest median wage and without partisan lean, the minimum wage prediction is \$8.77 with a confidence interval of \$7.09 to \$10.44. As the median wage increases, the predicted minimum wage rises slightly and the confidence interval shrinks as the median moves closer to the sample mean. These results suggest

a bi-partisan minimum wage is something like \$9 and maybe as much as \$10. Notably, for low-wage states, adhering to the current federal minimum wage of \$7.25 is entirely consistent with the decisions of states setting a higher minimum wage as such differences may be attributable to the same response in the face of disparate economic conditions (e.g., a difference in median wages).

The \$9 prediction has an interesting property. Comparing median (or mean) wages between 2019 and 2010 (when the \$7.25 minimum wage became effect), the average annual growth rate in wages is 2.0%. If the federal minimum wage had increased at the same rate as median wages, then the federal minimum wage in 2021 would be \$9.05. This minimum wage is consistent with the predictions in Table 1.

Table 2. Implied Minimum Wage (2021)
(With Partisan Lean)

Standard	Estimate	90% Conf. Interval
<i>Partisan Lean: Republican +10</i>		
Minimum	\$7.17	[5.67, 8.66]
10 th Percentile	\$7.38	[6.21, 8.54]
25 th Percentile	\$7.44	[6.34, 8.54]
Median	\$7.59	[6.53, 8.64]
<i>Partisan Lean: Democratic +10</i>		
Minimum	\$10.37	[8.25, 12.49]
10 th Percentile	\$10.58	[8.97, 12.20]
25 th Percentile	\$10.65	[9.18, 12.11]
Median	\$10.80	[9.63, 11.96]

The effects of partisan lean on the predictions are summarized in Table 2. I use +10 lean for both Republican and Democratic states, a lean that approximates the average lean in Republican or Democratic states.²⁷ Republican lean of this size reduces the predictions by about \$1.60, while Democratic lean increases the prediction by the same amount (the model is linear). The spread between Republican and Democratic lean is a substantial \$3.20.

Table 3. Phased-in Minimum Wage

Standard	Estimate	90% Conf. Interval
2021	9.05	[7.98, 10.11]
2022	9.23	[8.17, 10.29]
2023	9.42	[8.36, 10.49]
2024	9.61	[8.55, 10.67]
2025	9.81	[8.75, 10.87]
2026	10.01	[8.95, 11.07]

These predictions are based on 2021 data and the minimum wage, if one can be decided upon, will likely go into effect no earlier than 2022 and be phased-in over time. As summarized in Table 3, assuming a 2% growth rate a \$9.05 minimum wage in 2021 (based on the 25th percentile from Table 1) would rise over the next five years to: (1) \$9.18 in 2022; (2) \$9.37 in 2023; (3) \$9.56 in 2024; (4) \$9.76 in 2025; and (5) \$9.95 in 2026. Therefore, a reasonable minimum wage, phased-in over five years, would be approximately \$10.

Alternative Approach

A high and uniform federal minimum wage is likely to be a poor policy given the high wage disparity among states. I am not, of course, the first to recognize the problem. Professor Arin Dube, a leading expert on minimum wages, recommends a “wage floor based on local economic conditions.”²⁸ To do so, Dube suggests that a “natural target is to set the minimum wage to half of the median full-time wage.” Dube does not consider, however, the establishment of a uniform federal minimum wage, as I do here, but diverse minimum wages that reflect local economic conditions.

Table 4 summarizes a minimum wage based on Dube’s approach may be compared to the state-specific minimum wages predicted here. Note that Dube’s calculations are based on 2019 median wages, the last year of wage data available. My predictions are also based on 2019 wages, but the predictions are for 2021

minimum wages. Some differences, therefore, are expected.

Table 4. Implied Minimum Wage vs. Uniform Share

Standard	Estimate (Tobit)	90% Conf. Interval	50% Median Wage
Minimum	\$8.77	[7.09, 10.44]	\$7.50
10 th Percentile	\$8.98	[7.78, 10.18]	\$8.36
25 th Percentile	\$9.05	[7.98, 10.11]	\$8.63
Median	\$9.19	[8.35, 10.03]	\$9.23

In all, the recommendations are highly comparable. Dube’s approach produces a minimum wage inside the 95% confidence interval of my predictions and the point estimates are very similar.

Table 5. Implied Minimum Wage vs. Uniform Share (Price Parity Adjusted)

Standard	Estimate (Tobit)	90% Conf. Interval	50% Median Wage
Minimum	\$8.77	[7.09, 10.44]	\$8.53
10 th Percentile	\$8.98	[7.78, 10.18]	\$9.12
25 th Percentile	\$9.05	[7.98, 10.11]	\$9.36
Median	\$9.19	[8.35, 10.03]	\$9.75

In Dube’s analysis, he considers wages adjusted by a cost-of-living index (price parity). Table 5 summarizes the results where the median wages are adjusted by the Bureau of Economic Analysis’s (“BEA”) Regional Parity Index.²⁹ Here, the results are even more comparable. Both approaches point to a minimum wage well below \$15 and close to \$10. At the 25th Percentile, a 2026 minimum wage target would be \$9.44 or \$10.77 based on Dube’s approach, the latter accounting for price parity.

Conclusion

Wages vary across states, but a uniform federal minimum wage does not. A minimum wage suitable for New York, with its relatively high median wages, may not be reasonable for West Virginia, which has some of the lowest wages in the nation. A \$15 minimum wage, for instance,

is 67% of New York's but 92% of West Virginia's median wage. A one-size-fits-all policy can be a bad approach to setting a federal minimum wage when this reality is ignored. Several Members of Congress from lower-wage states have indicated as much, and more than half of U.S. states have set minimum wages above the federal level, mostly in higher-wage and Democratic leaning states. These state-level minimum wage outcomes presumably reflect state legislatures balancing the economic and political concerns particular to their jurisdictions. In this PERSPECTIVE, I use data on state-level minimum wages to predict a minimum wage for low-wage states, most of

which continue to adhere to the federal minimum. I estimate that a minimum wage of \$10, phased-in over five years from an initial wage of about \$9, is reasonable for low-wage states. High-wage states can defect from this \$10 minimum wage to better match their economic and political realities without imposing high costs on their poorer neighbors.

NOTES:

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¹ *History of Changes to the Minimum Wage Law*, Department of Labor, Wage and Hour Division (Viewed on February 11, 2021) (available at: <https://www.dol.gov/agencies/whd/minimum-wage/history>).

² See *President Biden Announces American Rescue Plan*, THE WHITE HOUSE (January 20, 2021) (available at <https://www.whitehouse.gov/briefing-room/legislation/2021/01/20/president-biden-announces-american-rescue-plan>).

³ S. Hansen, *All Eyes Turn To Stimulus After Trump Impeachment Acquittal – But Hurdles Remain In Deeply Divided Congress*, FORBES (February 15, 2021) (available at: <https://www.forbes.com/sites/sarahhansen/2021/02/15/all-eyes-turn-to-stimulus-after-trump-impeachment-acquittal-but-hurdles-remain-in-deeply-divided-congress/?sh=a1f9577142a6>).

⁴ S. Kapur, *Democrats Clash Over a \$15 Minimum Wage in the Covid Relief Package*, NBC News (February 11, 2021) (available at: <https://www.nbcnews.com/politics/congress/democrats-clash-over-15-minimum-wage-covid-relief-package-n1257077>).

⁵ *Id.*

⁶ *The Budgetary Effects of the Raise the Wage Act of 2021*, CONGRESSIONAL BUDGET OFFICE (February 8, 2021) (available at: <https://www.cbo.gov/publication/56975>).

⁷ For example, across California's metropolitan areas for which the Bureau of Labor Statistics report wages, average hourly wages range from \$19.02 to \$46.06. This variation is wider than average wages vary among states: \$21.57 to \$45.44.

⁸ D. Neumark and P. Shirley, *Myth or Measurement: What Does the New Minimum Wage Research Say about Minimum Wages and Job Loss in the United States?*, NBER WORKING PAPER No. 28388 (January 2021) (available at: https://www.nber.org/system/files/working_papers/w28388/w28388.pdf). Also see D. Cengiz, A. Dube, A. Lindner, and B. Zipperer, *The Effect of Minimum Wages on Low-Wage Jobs*, 134 QUARTERLY JOURNAL OF ECONOMICS 1405–1454 (2019). An interesting discussion of the empirical evidence is provided in D. Gill, *Through the Minimum Wage Looking Glass: Economic Consensus Unrealized*, UCLA Anderson Review (October 3, 2018) (available at: <https://anderson-review.ucla.edu/minimum-wage-primer-leamer>).

⁹ See, e.g., W.F. Ford, T. Minor, and M.F. Owen, *State Minimum Wage Differences: Economic Factors or Political Inclinations?*, 47 BUSINESS ECONOMICS 57-67 (2012).

¹⁰ E. Buchwald, *Joe Biden Wants a \$15 Minimum Wage – Here's What's Standing In His Way*, MARKET WATCH (Nov. 18, 2020) (available at: <https://www.marketwatch.com/story/joe-biden-wants-a-15-minimum-wage-heres-whats-standing-in-his-way-11605015609>); G. Altschuler, *Minimum Wage Hike Could be Biden's Bipartisan Breakthrough*, THE HILL (January 3, 2021) (available at: <https://thehill.com/opinion/white-house/532397-minimum-wage-hike-could-be-bidens-bipartisan-breakthrough>); T. Kludt, *Donald Trump Says He'd Support \$10 Minimum Wage*, CNN (July 27, 2016) (available at: <https://www.cnn.com/2016/07/27/politics/donald-trump-minimum-wage/index.html>).

¹¹ J. Smith, *83% of Americans Say \$7.25 Minimum Wage is Not Enough: Poll*, YAHOO (February 3, 2021) (available at: <https://www.yahoo.com/now/83-of-americans-say-725-hour-minimum-wage-is-not-enough-poll-184507957.html>).

¹² *The Effects on Employment and Family Income of Increasing the Federal Minimum Wage*, Congressional Budget Office (July 2019) (available at: <https://www.cbo.gov/system/files/2019-07/CBO-55410-MinimumWage2019.pdf>).

¹³ Data available at: <https://www.bls.gov/oes/tables.htm>.

¹⁴ Data available at: <https://www.dol.gov/agencies/whd/state/minimum-wage/history>.

¹⁵ States with a range of minimum wages usually apply the lower minimums to special cases and smaller firms.

¹⁶ Data available at: <https://www.paycor.com/resource-center/minimum-wage-by-state>.

¹⁷ Data available at: https://en.wikipedia.org/wiki/List_of_current_United_States_senators.

NOTES CONTINUED:

- ¹⁸ Cook PVI data available at: <https://cookpolitical.com/state-pvis>.
- ¹⁹ As reported, the lean is indicated, for instance, as R+12 or D+6. The PVI variable used for analysis would convert these two values to -12 and +6.
- ²⁰ S. Zeller, *Why some Democrats are nervous about a \$15 minimum wage*, ROLLCALL (February 8, 2021) (available at: <https://www.rollcall.com/2021/02/08/why-some-democrats-are-nervous-about-a-15-minimum-wage>) (“12 House Democrats are on the record preferring to allow regional differences based on the cost of living. The group, led by Alabama’s Terri A. Sewell, sponsored 2019 legislation to implement their proposal.”). This group produced the *Paying Hourly Americans Stronger Earnings (PHASE) in \$15 Wage Act* in 2019 (available at: <https://www.congress.gov/bill/116th-congress/house-bill/2080/text?r=61&s=1>).
- ²¹ Excluding states at the federal minimum wage, the correlation coefficient is 0.765.
- ²² The smooth lines are an overlay of a normal distribution.
- ²³ For an example of such a model, see, e.g., A. Lindbeck and J. Weibull, *A Model of Political Equilibrium in a Representative Democracy*, 51 JOURNAL OF PUBLIC ECONOMICS 195-209 (1993).
- ²⁴ The results are nearly identical if the mean wage is replaced by the median wage.
- ²⁵ A model that takes the annual minimum wages and median wages for year 2014 through 2019 provides nearly identical results.
- ²⁶ The variance term equals 5.03.
- ²⁷ The mean of partisan lean (with Republican lean being negative) is -2.59 with a minimum of -25 (Republican lean) and a maximum of 43 (Democratic lean). The mean for Republican states is -10.5 and for Democratic states is 8.7.
- ²⁸ A. Dube, *Proposal 13: Designing Thoughtful Minimum Wage Policy at the State and Local Levels*, The Hamilton Project (June 2016) (available at: https://www.brookings.edu/wp-content/uploads/2016/06/state_local_minimum_wage_policy_dube.pdf). Professor Dube’s webpage is: <https://arindube.com/>.
- ²⁹ Data available at: <https://www.bea.gov/data/prices-inflation/regional-price-parities-state-and-metro-area>.