

DISCUSSION PAPER SERIES

IZA DP No. 11748

**A Database on the Passage and Enactment  
of Recent State Minimum Wage Increases**

Jeffrey Clemens  
Duncan Hobbs  
Michael R. Strain

AUGUST 2018

## DISCUSSION PAPER SERIES

IZA DP No. 11748

# A Database on the Passage and Enactment of Recent State Minimum Wage Increases

**Jeffrey Clemens**

*University of California at San Diego*

**Duncan Hobbs**

*American Enterprise Institute*

**Michael R. Strain**

*American Enterprise Institute and IZA*

AUGUST 2018

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

## ABSTRACT

---

# A Database on the Passage and Enactment of Recent State Minimum Wage Increases

This paper presents a dataset that tracks effective minimum wage rates across the U.S. states, including the District of Columbia, from January 1, 2011 to January 1, 2018. We link minimum wage changes to their underlying legislation or ballot initiative and document key dates in their legislative histories. The key dates we track include the dates on which each measure was approved by the legislature, signed by the state governor, or passed via ballot initiative. We then calculate lags between the date on which each minimum wage increase was approved and the date on which it came into effect. Comparing minimum wage increases implemented via ballot initiative to those passed by state legislatures, we find that minimum wage increases enacted through legislation tend to have longer lags to the first increase, longer lags to the last scheduled increase, smaller initial increases, and larger total increases than minimum wage increases approved by ballot initiative.

**JEL Classification:** J08, J38

**Keywords:** minimum wage, inflation indexing, legislative history

**Corresponding author:**

Michael R. Strain  
American Enterprise Institute  
1789 Massachusetts Avenue, NW  
Washington, D.C. 20036  
USA

E-mail: [michael.strain@aei.org](mailto:michael.strain@aei.org)

## 1. Introduction

This paper presents and provides descriptive analysis of a dataset that tracks the minimum wage rates effective across the U.S. states and the District of Columbia from January 1, 2011 through January 1, 2018.<sup>1</sup> The dataset describes key dates in the legislative history of each minimum wage change, including the dates on which it was approved by the legislature, signed by the state governor, or passed via referendum at the ballot box. We link each minimum wage change to a specific piece of legislation or ballot measure and calculate lags between the date on which a minimum wage increase is approved and the date on which it comes into effect.

In the following sections, we begin by describing the construction of our database of minimum wage rates and legislative histories. We then define key variables in the dataset and present summary statistics regarding the magnitudes of recent minimum wage increases and the lags with which they were implemented. We then compare the minimum wage changes implemented via ballot initiative to those passed by state legislatures. To provide a concrete illustration of the steps we take, we walk through our construction of the database for the state of Maryland as an example.

## 2. Dataset construction

We construct a database of legislation on minimum wage increases by taking the following steps. First, we use data from the U.S. Department of Labor, state labor departments, and a database from Vaghul and Zipperer (2016)<sup>2</sup> to determine which states enacted minimum

---

<sup>1</sup> This database was used in a series of papers by Clemens and Strain (2017, 2018, forthcoming).

<sup>2</sup> As accessed on October 27, 2017, the Vaghul and Zipperer database contained federal, state and sub-state minimum wage rates for every day from January 1, 1972 to July 1, 2016 for all 50 states and the District of Columbia. The database was subsequently updated in April 2018 to include minimum wage rates effective through March 31, 2017. Source: <https://github.com/benzipperer/historicalminwage>.

wage increases of some form between January 1, 2011 and January 1, 2018. After identifying which states enacted increases, we use notices from state labor department websites to determine the effective dates of these increases. We then use a database of minimum wage legislation from the National Conference of State Legislatures (NCSL) to determine the dates on which the legislation mandating each increase were passed and signed (National Conference of State Legislatures, 2018). The NCSL database provides additional information regarding future increases associated with existing legislation, as well as special provisions such as transitions into regimes of inflation-indexed minimum wage rates. Finally, we check the dates in our database using local newspaper articles and press releases from state governments.

#### *Determining minimum wage rates*

We first gather data on state minimum wage rates from 2011 to 2018 to determine which states increased their minimum wage rates over this period (either through legislation or because the state has an inflation-indexed minimum wage). We supplement the minimum wage database of Vaghul and Zipperer with data from the U.S. Department of Labor and the NCSL state minimum wage database for 2017 and 2018. We next determine which states enacted increases set to specific dollar values, which we denote “increasers,” and which states enacted increases based on inflation indices, which we denote “indexers.”

#### *Assigning implementation dates*

For increases enacted by legislatures, we gather the chronological history of the relevant legislation from the National Conference on State Legislatures.<sup>3</sup> We record the date the bill was listed as “eligible for governor’s desk” as the date the increase was passed by the state legislature and the date the bill was “signed by governor” as the date of signature. For increases passed by

---

<sup>3</sup> The NCSL minimum wage legislation database is available here: <http://www.ncsl.org/research/labor-and-employment/minimum-wage-legislation-database.aspx>, last access August 2, 2018.

ballot initiative, we use the date on which the initiative was voted as both the date of legislative approval and the date of signature.

For states that index their minimum wage rates to inflation, we use notices from the state departments of labor to record the date when each minimum wage change was scheduled to go into effect. We code the enactment date as the date specified in the relevant legislation or ballot measure.

#### *Checking our results*

We cross-check each of the minimum wage changes in our database against multiple sources including local newspaper articles, press releases from state legislatures and governors' offices, notices from state departments of labor, and the minimum wage database created by Vaghul and Zipperer. For each minimum wage increase, we use a date reported by at least two sources. When our first two sources conflict, we resolve the conflict by looking to additional sources.

#### *States not enacting increases*

To complete the database, we take the final step of adding states that enacted no minimum wage increases between January 2011 and January 2018. For these states, we use data from the Vaghul and Zipperer minimum wage database. We confirm the absence of minimum wage changes in these states by cross-checking the Vaghul and Zipperer database against the NCSL database and the U.S. Department of Labor.

#### *Calculating lags for states enacting statutory changes*

For each piece of minimum wage legislation or ballot initiative, we calculate the number of days between the date the legislation was passed and the date the first and last increase associated with the legislation came into effect. We define these lags as the "lag to first

increase” and “lag to last increase.” For the last increase date, we use either (a) the last increase date before a new piece of legislation (or ballot initiative) increasing the minimum wage comes into effect or (b) the last scheduled increase before a state transitions to an inflation-indexing regime.<sup>4</sup> We treat each piece of legislation passed by a state legislature separately.<sup>5</sup> We count states as increasers through legislation if they passed any new statutory minimum wage increases between January 2011 and January 2018. States are counted as increasers through ballot initiative if they passed at least one minimum wage increase by ballot initiative any time between January 2011 and January 2018. In cases where states’ minimum wage rates are differentiated across groups of workers or firms, we use the rate that applies to large employers who offer health insurance benefits, and to workers ages 18 and over in urban areas.

### **3. Maryland as an example of dataset construction**

In this section, we use the state of Maryland to provide a concrete illustration of the steps we take to construct our database. We first gather data on Maryland’s effective minimum wage in each year in from 2011 to 2018. We begin by examining data from the database compiled by Vaghul and Zipperer, which extended through July 2016 at the time we compiled our database. We augment these data through January 2018 using data from the U.S. Department of Labor. To confirm these data and identify the precise dates on which minimum wage increases were enacted, we obtain additional information from the website of the Maryland Department of Labor.

---

<sup>4</sup> See <http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx>. As of August 2, 2018, the “Indexed Automatic Inflation Adjustments” column displays the date at which a state will begin indexing minimum wage rates to inflation. The last entry in the “Future Enacted Increases” column for each state is the date we use for the last scheduled minimum wage increase.

<sup>5</sup> For example, Rhode Island passed a bill increasing the minimum wage every year from 2012 to 2015. We count each of these bills as a separate increase.

To identify key dates in the history of the legislation underlying Maryland’s minimum wage changes, we use the bill history for the Maryland Minimum Wage Act of 2014 from the General Assembly of Maryland (2014). We identify the date that the bill was passed by the legislature as the date on which the bill was “eligible for governor’s desk.” We identify the date the bill was signed by the governor as the “date of signature.” In the bill history, there is ambiguity regarding the precise date on which the relevant legislation was passed. The bill history cites a “legislative date” of 3/31/2014 and a “calendar date” of 4/7/2014. We use the calendar date of 4/7/2014 because this date is corroborated by other sources. We corroborate the minimum wage rate, the effective date, date of legislative approval, and date of signature using a variety of sources including local newspapers, and press releases from the state legislature and office of the governor.

#### **4. Summary statistics**

Table 1 shows a division of states into two categories: states increasing minimum wages through legislation, and states increasing minimum wages through voter approval of ballot initiatives.<sup>6</sup> We next examine implementation lags and the size of the increases implemented by states that passed minimum wage changes. Table 2 displays the average lag in days between the date an increase was signed into law and the date the first and last increases took effect. Table 2 also reports the size of the first increase for states increasing their minimum wage rates, separately for legislation and ballot initiatives.

States enacting minimum wage increases through ballot initiatives tend to have shorter lags between the passage of the initiative and the first increase in the minimum wage. For ballot

---

<sup>6</sup> Four additional states, Florida, Missouri, Montana, and Ohio, increased their minimum wage rates between January 1, 2011 and January 1, 2018, but did so exclusively through increases triggered by inflation indexing provisions.

initiatives, the average lag to first increase averages 57 days. For states enacting increases through legislation, the average lag to first increase averages 256 days. Minimum wage increases enacted through legislation have also tended to have longer lags to last increase (1300 vs 583 days).

Ballot initiatives and legislation have also differed with regards to the magnitudes of the first increases enacted. For ballot initiatives, the first increase averages \$1.14. In states enacting increases through legislation, the first increase averages \$0.69. By contrast, the total increase has tended to be larger for legislation than for ballot initiatives (\$3.10 vs. \$2.60). Legislation has thus tended to involve longer implementation lags and, on average, more ambitious increases in total.

Column 4 presents simple t-tests for comparisons of lags and of the magnitudes of the increases enacted through ballot initiatives relative to legislation. Differences in the average lag to first increase, lag to last increase, and size of first increase are statistically distinguishable at conventional significance levels. Minimum wage increases recently adopted due to ballot initiatives and legislation thus appear to differ from one another systematically. It may thus be of interest to investigate whether their effects on the labor market also differ systematically.

## **5. Conclusion**

Data on federal, state, and sub-state minimum wages rates have been compiled by a variety of research groups and government agencies. We provide an additional resource on which minimum wage researchers can draw. Relative to existing databases, our database emphasizes aspects of the legislative history underlying each increase. We document whether minimum wage changes involve one-time increases, multi-phase increases, or continuing increases connected to inflation-indexing provisions. We further document whether changes

were connected to legislation or ballot initiatives. Finally, we detail the lags between the dates on which minimum wage changes were approved and the dates on which they came into effect.

Our descriptive analysis of recent minimum wage changes reveals several systematic differences between increases enacted through legislation relative to increases enacted through ballot initiatives. We find that minimum wage increases enacted through legislation tend to have longer lags to first increase, longer total durations, larger total increases, and smaller initial increases than minimum wage increases approved by ballot. We hope that these data on the origination and implementation of recent minimum wage increases will aid further research into the heterogeneous effects of minimum wage increases on labor market outcomes.

## References

- Clemens, Jeffrey, and Michael R. Strain. "Minimum Wage Analysis Using a Pre-Committed Research Design: Evidence through 2016." *IZA Discussion Paper Series*, no. 11427, 2018.
- Clemens, Jeffrey, and Michael R. Strain. "The Short-Run Employment Effects of Recent Minimum Wage Changes: Evidence from the American Community Survey." *Contemporary Economic Policy*, forthcoming.
- Clemens, Jeffrey, and Michael R. Strain. "Estimating the Employment Effects of Recent Minimum Wage Changes: Early Evidence, an Interpretative Framework, and a Pre-Commitment to Future Analysis." *NBER Working Paper Series*, no. w23084, 2017.
- General Assembly of Maryland. "Maryland Minimum Wage Act of 2014, HB 0295" Regular Session. 2014. (Accessed June 5, 2018).  
<http://mgaleg.maryland.gov/webmga/frmMain.aspx?pid=billpage&stab=03&id=hb0295&tab=subject3&ys=2014rs>
- National Conference of State Legislatures. "Minimum Wage Legislation Database." 2018. (Accessed June 5, 2018). [www.ncsl.org/research/labor-and-employment/minimum-wage-legislation-database.aspx](http://www.ncsl.org/research/labor-and-employment/minimum-wage-legislation-database.aspx).
- Vaghul, Kavya, and Ben Zipperer. "Historical State and Sub-state Minimum Wage Data." *Washington Center for Equitable Growth*. 2016. (Accessed October 27, 2017).

**Table 1: List of States with Statutory Minimum Wage Increases via Legislation and Increases via Ballot Initiative**

---

<u>Increasers through legislation</u>	<u>Increasers through ballot initiative</u>
California	Alaska
Connecticut	Arizona
District of Columbia	Arkansas
Delaware	Colorado
Hawaii	Maine
Maryland	Nebraska
Massachusetts	New Jersey
Michigan	South Dakota
Minnesota	Washington
New York	
Oregon	
Rhode Island	
Vermont	
West Virginia	

---

Notes: The underlying data on effective minimum wage rates comes primarily from Vaghul and Zipperer (2016), the National Conference of State Legislatures (2018), and the U.S. Department of Labor. Data on the process through which minimum wage changes were legislated come primarily from the National Conference of State Legislatures (2018), but also from sources including the webpages of individual states' labor departments. States are counted as increasers if they enact at least one minimum wage increase through legislation or by ballot initiative between January 1, 2011 and January 1, 2018. States are counted as increasers through legislation if they passed statutory minimum wage increases between January 1, 2011 and January 1, 2018. States are counted as increasers through ballot initiative if they passed a minimum wage increase by ballot initiative any time between January 1, 2011 and January 1, 2018.

**Table 2: Average Implementation Lags and Increases for all Statutory Increasers, Increasers via Legislation, and Increasers via Ballot Initiative**

	(1)	(2)	(3)	(4)
	All Statutory Increaser States	Increasers via Legislation	Increasers via Ballot Initiative	Difference in Means
Average lag between signature and first increase (days)	178.3 (148.5)	256.4 (143.3)	56.8 (2.224)	199.6*** (4.14)
Average lag between signature and last increase (days)	1020.3 (729.5)	1301.2 (761.1)	583.4 (411.1)	717.8* (2.58)
Average size of first increase (\$)	0.87 (0.42)	0.69 (0.26)	1.14 (0.49)	-0.44* (-2.82)
Average size of total increase (\$)	2.91 (1.76)	3.10 (1.98)	2.60 (1.41)	0.50 (0.65)
Number of States	23	14	9	

Notes: In columns 1 through 3, this table displays means and standard deviations (in parentheses) for initial and total implementation lags and initial and total minimum wage increases for states that enact statutory minimum wage increases between January 1, 2011 and January 1, 2018. Column 1 includes states which passed a statutory minimum wage increase sometime between January 1, 2011 and January 1, 2018. Column 2 includes states that enacted statutory minimum wage increases solely by passing new legislation, and column 3 includes states that enacted one or more minimum wage increases via ballot initiatives. Column 4 reports the results of a t-test between the two groups allowing for unequal variance between groups. T-statistics are in parentheses. The lag between signature and first increase is the number of days between the date a minimum wage increase was signed by the governor (for legislated increases) or approved by voters (for increases passed by ballot measure) and the date the first increase associated with the particular measure comes into effect. Similarly, the lag between signature and last increase is the number of days between approval and the final increase associated with the measure. \* p<0.05, \*\* p <0.01, \*\*\* p <0.001

## List of Variables

statefip – state fips code.

name – full state name.

statename – two-letter state abbreviation.

year – year.

month – month.

day – day.

date – full date variable.

effectiveminwage – effective minimum wage on a particular date. The effective minimum wage in a state is the larger of the state minimum wage and the federal minimum wage.

ballot – 1 if state passed minimum wage increases through a ballot initiative and 0 otherwise.

legislation\_date – date increase passed by legislature. If the minimum wage legislation was passed by ballot, legislation\_date is the date the ballot was voted on by the people of the state.

signature\_date – date increase signed by governor. If the minimum wage legislation was passed by ballot, signature\_date is the date the ballot was voted on by the people of the state.

leg\_lag\_first1 – days between legislation\_date and date the last scheduled increase associated with the first legislation passed takes effect.

leg\_lag\_last1 – days between legislation\_date and date the last scheduled increase associated with the first legislation passed takes effect.

leg\_lag\_first2 – days between legislation\_date and date the first scheduled increase associated with the second legislation passed takes effect.

leg\_lag\_to\_last2 – days between legislation\_date and date the last scheduled increase associated with the second legislation passed takes effect.

leg\_lag\_first3 – days between legislation\_date and date the first scheduled increase associated with the third legislation passed takes effect.

leg\_lag\_to\_last3 – days between legislation\_date and date the last scheduled increase associated with the third legislation passed takes effect.

leg\_lag\_first4 – days between legislation\_date and date the first scheduled increase associated with the fourth legislation passed takes effect.

leg\_lag\_to\_last4 – days between legislation\_date and date the last scheduled increase associated with the fourth legislation passed takes effect.

gov\_lag\_first1 – days between signature\_date and date the last scheduled increase associated with the first legislation passed takes effect.

gov\_lag\_last1 – days between signature\_date and date the last scheduled increase associated with the first legislation passed takes effect.

gov\_lag\_first2 – days between signature\_date and date the first scheduled increase associated with the second legislation passed takes effect.

gov\_lag\_to\_last2 – days between signature\_date and date the last scheduled increase associated with the second legislation passed takes effect.

gov\_lag\_first3 – days between signature\_date and date the first scheduled increase associated with the third legislation passed takes effect.

gov\_lag\_to\_last3 – days between signature\_date and date the last scheduled increase associated with the third legislation passed takes effect.

gov\_lag\_first4 – days between signature\_date and date the first scheduled increase associated with the fourth legislation passed takes effect.

gov\_lag\_to\_last4 – days between signature\_date and date the last scheduled increase associated with the fourth legislation passed takes effect.

first\_increase – dollar value of first increase associated with a particular piece of legislation.

total\_increase – dollar value of total increase associated with a particular piece of legislation.

originaltype – whether a state was classified as a statutory increaser or indexer on 1/1/2013.

wage2011 – effective minimum wage as of 1/1/2011.

wage2012 – effective minimum wage as of 1/1/2012.

wage2018 – effective minimum wage as of 1/1/2018.

end\_date – date of last scheduled statutory increase.

effective\_final – effective minimum wage after last scheduled statutory increase.

leg\_average\_lag\_first – average lag between the date of the first minimum wage increase associated with a particular piece of legislation or ballot initiative and the date the legislation is passed by the state legislature.

leg\_average\_lag\_last – average lag between the date of the last minimum wage increase associated with a particular piece of legislation or ballot initiative and the date the legislation is passed by the state legislature.

gov\_average\_lag\_first – average lag between the date of the first minimum wage increase associated with a particular piece of legislation or ballot initiative and the date the legislation is passed by the state governor.

gov\_average\_lag\_last – average lag between the date of the last minimum wage increase associated with a particular piece of legislation or ballot initiative and the date the legislation is signed by the state governor.

increasertoindexer – 1 if the state transitions from statutory increaser to indexer status the date new legislation goes into effect and 0 otherwise.

indexertoincreaser – 1 if the state transitions from indexer to statutory increaser status the date new legislation goes into effect and 0 otherwise.