Historical state and sub-state minimum wage data

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http://equitablegrowth.org/working-papers/historical-state-and-sub-state-minimum-wage-data
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Abstract
We introduce datasets of historical state and sub-state minimum wage levels for the United States. From these daily minimum wage increases, we create state and sub-state panels at daily, monthly, quarterly, and annual frequencies. The state datasets span May 1974 to July 2016 and the sub-state datasets include city and county changes from January 2004 to July 2016. Estimating teen wage and employment elasticities using the state data generate very similar estimates to those estimated using minimum wage data from other recent papers. For the most recent version of these data and the code that produces them, see https://github.com/equitablegrowth/VZ_historicalminwage/releases.

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1 Introduction

The story of minimum wage legislation in the United States begins at the state-level when, in 1912, Massachusetts became the first state to pass a minimum wage law as a way to protect women and child laborers from discrimination. Over the next decade, thirteen more states followed suit, creating a pastiche of minimum wage regulations that were gender, age, or even industry-specific (Atkas 2015). It was not until 1938, when President Franklin D. Roosevelt and his Secretary of Labor, Francis Perkins, helped establish the Fair Labor Standards Act, that a federal minimum wage (of 25¢ hour) was created. This original federal minimum wage law excluded certain industries like agriculture and domestic services but over time expanded its coverage.

Since then, the effective minimum wage rate has largely been the federal standard, but in response to federal inaction and the increasing popularity of minimum wages, states and local areas have also raised their minima. As of July 2016, 30 states have minimum wages that exceed the federal floor of $7.25 per hour. Twenty-eight cities and counties have set minimum wages above their state levels.

In this paper we document and release datasets for the more recent part of this history, describing minimum wage levels for states since 1974. We also provide minimum wage information for sub-state areas, such as cities and counties, who began raising their minimum wages in 2004. Researchers have long used data describing this variation, but these new datasets are unique in that they are available at the daily, monthly, quarterly, and annual frequency. The sub-state data is, to our knowledge, the first available panel dataset of city and county minimum wages. Below, we explain the contents of the public-use data, describe the state and sub-state variation in minimum wages, and show that these data produce estimates of employment and wage effects similar to data used in other recent papers.

2 Data

To assemble the state and sub-state historical minimum wage datasets, we relied on a wide variety of primary sources, including state legislation and resolutions. When these primary documents were unavailable for certain geographies, we extended our sourcing to federal reports from the Bureau of Labor Statistics, reports from state and local agencies, and postings on state labor departments’ websites. In the rare cases when official sources were unavailable, we turned to mentions about minimum wage levels in local newspaper articles. The Appendix of this paper lists all sources and we also provide electronic versions of all documents at https://github.com/equitablegrowth/VZ_historicalminwage/.

For state-level and sub-state-level minimum wages, we provide five datasets: a list of daily minimum wage changes and balanced panels of minimum wage levels at daily, monthly, quarterly and annual frequencies. As summarized in Table 1, we create a balanced state-level panel at the daily frequency for the 50 states and Washington, DC for the period May 1, 1974 through July 1, 2016. To aggregate data at the monthly frequency, we calculate minimum, mean, and maximum
<table>
<thead>
<tr>
<th>File prefix</th>
<th>Description</th>
<th>Dates</th>
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<td>VZ_state_changes</td>
<td>Dates of state-level changes</td>
<td>List of daily changes</td>
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<td>List of daily changes</td>
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<td>2004 - 2016</td>
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values of the daily minimum wage over the months May 1974 through July 2016 for each state. These values serve as an indicator of whether a change in minimum wage happened at any point during the month. We also calculate these values at the quarterly frequency for 1974q2 through 2016q3 and at the annual frequency for 1974 through 2016. For sub-state versions of these datasets, we repeat this process for cities and counties. These sub-state data begin on January 1, 2004, to our knowledge the date of the first sub-state minimum wage (Santa Fe). When states (or sub-state areas) have lower minimum wages than the federal (or state) minimum wage, we assume the federal (or state) minimum wage applies.

Additionally, certain states and sub-state areas also have employer size-specific minimum wages (Minnesota, Montana, and Pennsylvania) or minimum wages for employers who also provide health insurance (Nevada). Our list of changes and our daily minimum wage files provide information on all of these separate minimum wages. For our monthly, quarterly, and annual files, we only report aggregations of the higher minimum wage if a state or sub-state area has multiple minima for different types of employers.

3 Analysis

Figure 1 illustrates the minimum wage variation in the data, with the top panel showing the nominal federal minimum wage and population-weighted mean of the nominal state minimum wage.\(^1\) Nominal federal minimum wages have grown over the 1974-2016 period, from $2.00 in 1974 to the current value of $7.25. Average state minimum wages began to diverge somewhat during long periods of federal inaction, such as the late 1980s, and then rose substantially beginning in the late 1990s. The population-weighted mean state minimum wage in 2016 was $8.21, about 13.2 percent higher than the federal floor. At the same time, even with state increases, the minimum wage has not generally seen real growth over the last four decades. The second panel of Figure 1 shows that federal minimum wage is now about 16.6 percent lower than its inflation-adjusted value in 1976, and the average effective minimum wage across states is 5.5 percent lower than in 1974.\(^2\)

The third panel of Figure 1 plots the remarkable rise in the number of state and local minimum wages. In 1974, only three states had minimum wages exceeding the federal floor (Alaska, Connecticut, and Rhode Island). Between May 1, 1974 and July 1, 2016, there were 308 state-level minimum wage increases that were not part of federal minimum wage increases, with about 68.8 percent of these increases occurring after 2000. As of July 1, 2016, the minimum wages of 30 states exceed the federal standard. Twenty-eight cities and counties now have minimum wages higher than their relevant state floors.

Although datasets describing city and county minimum wage variation do not appear to be common, several scholars have made available datasets describing state-level variation for research on

\(^1\)Annual population data is available from the historical and current Census state estimates at \url{http://www.census.gov/popest/data/}. We project 2016 values using state-specific 2014-2015 population growth rates.

\(^2\)To calculate real values, we use the BLS CPI-U-RS for 1977-2015, linked to the CPI-U-X1 for 1974-1976. We project the 2016 index using the 2014-2015 growth rate.
Figure 1: Minimum wage levels and number of areas with statutory minimum wages

The figure illustrates the minimum wage levels and the number of areas with statutory minimum wages from 1975 to 2015. The data is presented in three subplots:

1. **Nominal Minimum Wage ($)**: The top subplot shows the nominal minimum wage levels over the years. The lines represent the nominal federal minimum wage and the mean nominal state minimum wage.

2. **Real Minimum Wage (2016 $)**: The middle subplot displays the real minimum wage levels in 2016 dollars. The lines indicate the real federal minimum wage and the mean real state minimum wage.

3. **Number of states or sub-state areas**: The bottom subplot depicts the number of states or sub-state areas with minimum wages above federal or state levels. The lines show the number of states or sub-state areas with minimum wages above federal and state levels, respectively.

The graphs provide a visual representation of how minimum wage levels and the number of areas with statutory minimum wages have evolved over time.
the wage and employment effects of minimum wage increases. Below we use common specifications for estimating teen wage and employment effects to compare our data to three other sources of minimum wage data: Allegretto and Nadler (2015), Autor, Manning, and Smith (2016), and Meer and West (2016). Our data and data from these three papers differ in terms of the period of coverage and time frequency. For a comparable analysis, we use the intersection of time periods across datasets (1984-2012) and use quarterly minimum wage variation, where we take quarterly means of the minimum wage in each dataset.

We then estimate hourly wage and employment elasticities for teens, ages 16-19, using Current Population Survey (CPS) data aggregated to the state-quarter level. We use the Outgoing Rotation Groups of the CPS to calculate quarterly mean hourly wages and Basic Monthly files of the CPS to calculate the teen employment-to-population ratio. The log of the teen mean wage or teen EPOP is the dependent variable, which we regress on the log on the quarterly minimum wage, along with the overall state unemployment rate, the teen share of the population, and state and time fixed effects. In addition to a model with common time fixed effects (which we call Model 1), we control for spatial heterogeneity in minimum wages using a model with Census-division-specific time fixed effects and state-specific linear trends (Model 2). Allegretto et al. (2016) demonstrates that this more saturated specification performs better for employment outcomes on a leaded effects falsification test. All regressions are state population-weighted.\(^3\)

Table 2 shows that, within models, the estimated elasticities are very similar across datasets in terms of effect sizes and statistical precision. Teen wage elasticities vary little at all across datasets or models, remaining between 0.235 and 0.254 for Model 1 and 0.256 to 0.263 for Model 2. The results are similar for employment elasticities. In Model 1, employment elasticities across datasets range from -0.165 to -0.180. Allowing time fixed effects to vary by Census Division and allowing states to follow different linear trends sharply reduces the estimated employment elasticities to close to zero, regardless of the data set used.

\(^3\)We exclude District of Columbia from the analysis because the Autor Manning Smith (2016) data do not have minimum wages for this area during 2007 through 2009.
Table 2: Wage and employment elasticities for teens, 1984-2012

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<td>(1)</td>
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<tr>
<td>Allegretto &amp; Nadler</td>
<td>0.251***</td>
<td>0.263***</td>
<td>-0.180***</td>
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<td>(0.027)</td>
<td>(0.025)</td>
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<td>5,800</td>
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<tr>
<td>Autor Manning &amp; Smith</td>
<td>0.254***</td>
<td>0.265***</td>
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<td>(0.026)</td>
<td>(0.025)</td>
<td>(0.041)</td>
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<td>5,800</td>
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<td>Meer &amp; West</td>
<td>0.235***</td>
<td>0.256***</td>
<td>-0.168***</td>
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<td></td>
<td>(0.029)</td>
<td>(0.025)</td>
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<td>0.264***</td>
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<td>(0.027)</td>
<td>(0.026)</td>
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*Note:* All models regress log of the mean teen wage or the teen EPOP on the log minimum wage, the overall unemployment rate, the teen share of the population, and state fixed effects. Model 1 includes common time fixed effects and Model 2 includes Census-division-specific time fixed effects and state-specific linear trends. Regressions are state population-weighted.
References


Appendix

Sources for historical state and federal minimum wages series

Below, we have listed bibliographic citations of the sources we used to determine the dates of change of the minimum wage for each state. These sources are presented in chronological order. PDF versions of these sources can also be found in the compressed public-use data package. Within the VZ_FederalMinWage_Changes and VZ_StateMinWage_Changes files, source names and citations have been abbreviated to mirror the corresponding PDF name, which include information about the state, source type (legislation, resolution, report, article, state website, Bureau of Labor Statistics, or Department of Labor), condensed source title, and date accessed.

Alabama


Alaska


Arizona


Arkansas


California


Colorado


Connecticut


Delaware


**District of Columbia**


Florida


Georgia


Hawaii


Idaho


Illinois


Indiana

Iowa


Kansas


Kentucky


Louisiana


Maine


Maryland


Massachusetts


Michigan


Minnesota


Mississippi


Missouri


Montana


Nebraska


Nevada


New Hampshire


New Jersey


New Mexico


New York


North Carolina


North Dakota


Ohio


Oklahoma


Oregon


Pennsylvania


Rhode Island


South Carolina

South Dakota


Tennessee


Texas


Utah


Vermont


Virginia


Washington


West Virginia


Wisconsin

Wyoming


Sources for historical sub-state minimum wages series

Below, we have listed bibliographic citations of the sources we used to determine the dates of change of the minimum wage rate for each sub-state area (comprised mainly of cities and counties). These sources are presented in chronological order by locality. PDF versions of these sources can also be found in the compressed public-use data package. Within the VZ_substateMinWage_Changes file, source names and citations have been abbreviated to mirror the corresponding PDF name, which include information about the city or county, source type (article, city website, proposition, ordinance, or report), condensed source title, and date accessed.

Albuquerque, NM


Bangor, ME


Berkeley, CA


Bernalillo County, NM


Chicago, IL


El Cerrito, CA


Emeryville, CA


Johnson County, IA


Las Cruces, NM


Lexington, KY

Long Beach, CA


Los Angeles, CA


Los Angeles County, CA


Louisville, KY


Montgomery County, MD


Mountain View, CA


Oakland, CA


Palo Alto, CA

Portland, ME

Prince George’s County, MD

Richmond, CA

Sacramento, CA

San Diego, CA

San Francisco, CA


San Jose, CA


Santa Clara, CA


Santa Fe, NM


Santa Fe County, NM


Santa Monica, CA

• “Santa Monica’s Minimum Wage Fact Sheet.” City of Santa Monica. 2016. https://cityofsantamonica.app.box.com/s/orba1ki18w5e4rvy9702dg5rxh6290qo.

SeaTac, WA


Seattle, WA


Sunnyvale, CA


Tacoma, WA

Washington, District of Columbia


