

# Raising the Minimum Wage in Pennsylvania

## INTRODUCTION

The *FY 2015-16 Executive Budget* includes a proposal that (1) increases the state minimum wage from \$7.25 to \$10.10 and (2) automatically adjusts future minimum wage levels to offset inflation. This research brief presents an analysis of the potential impact of that proposal. The analysis uses data from the Current Population Survey published by the U.S. Bureau of Labor Statistics to estimate the number of workers who would be directly or potentially affected by the proposal. It then uses responsiveness or elasticity parameters from the U.S. Congressional Budget Office to determine the number of workers who may receive a higher wage and those who may lose employment. The Independent Fiscal Office issues this research brief to fulfill its statutory obligation to provide an economic analysis of all economic and revenue proposals included in the *Executive Budget*.

Table 1 provides a comparison of minimum wage rates for Pennsylvania and adjacent states for 2015 and 2016. For 2015, all adjacent states require that employers pay a minimum wage that exceeds the federal minimum of \$7.25 per hour. For New Jersey and Ohio, the state minimum wage is tied to inflation as measured by the consumer price index for all urban wage earners (CPI-W). For the past year, that inflation measure reveals a decline, or disinflation, so those minimum wage rates remain unchanged for 2016. In Maryland, New York and West Virginia, the state minimum wage increases pursuant to statute.

The proposal increases the state minimum wage to \$10.10, but does not specify the year it becomes effective. For this research brief, the analysis assumes that the proposal is phased in to \$9.00 on January 1, 2016 and \$10.10 on January 1, 2017, and the analysis is limited to the first year that the \$10.10 wage is fully effective. Upon full phase-in, the Pennsylvania

minimum wage would increase by \$2.85 (39.3 percent) from its current level. For a full-time worker (40 hours per week) who earns minimum wage and retains employment, annual wage income would increase from \$15,080 to \$21,010, an increase of \$5,930. However, those wage gains would be reduced by the employee’s share of payroll taxes (7.65 percent), which would reduce wage gains to \$5,475. Under current law, wage gains may also be subject to the 3.07 percent state personal income tax, which would further reduce the gain to \$5,295. Federal income tax may also apply, depending on the characteristics of the worker.

**Table 1**  
**Minimum Wage in Adjacent States**

	<b>2015</b>	<b>2016</b>
Delaware	\$8.25	\$8.25
Maryland	8.25	8.50 <sup>1</sup>
New Jersey	8.38	8.38 <sup>2</sup>
New York	8.75	9.00
Ohio <sup>3</sup>	8.10	8.10 <sup>2</sup>
<b>Pennsylvania</b>	<b>7.25</b>	<b>7.25</b>
West Virginia	8.00	8.75

Source: National Conference of State Legislatures, “State Minimum Wages: 2015 Minimum Wage by State,” (June 30, 2015).

<sup>1</sup> For 2016, the rate is \$8.25 through June 30, 2016 and \$8.75 beginning on July 1, 2016.

<sup>2</sup> Annual increase subject to the change in the CPI-W.

<sup>3</sup> For employers grossing \$297,000 or less, the minimum wage is \$7.25.

## PENNSYLVANIA WORKERS WHO EARN THE MINIMUM WAGE OR LESS

The sole data source that can be used to inform the number of workers who may receive an hourly wage that is equal to or less than the federal minimum wage is the Current Population Survey (CPS), also known as the household survey. The CPS is a monthly survey of households conducted by the U.S. Census Bureau on behalf of the U.S. Bureau of Labor Statistics. It provides data on the labor force, employment levels, unemployment rates and various other demographic and labor force characteristics. The monthly survey includes 60,000 U.S. households and is designed so that state-specific observations can be weighted to yield population totals for individual states.

The CPS asks respondents to report their hourly wage, occupation, number of hours worked, age, sex, ethnicity and other demographic information. The survey also asks respondents whether they are compensated on an hourly or non-hourly (i.e., salary)

basis. For Pennsylvania, the CPS finds that workers who report they are compensated on an hourly basis comprise roughly three-fifths of total non-farm payroll employment. For the U.S., the respective share is lower.

There are several types of hourly-paid workers who may earn hourly compensation that falls below the federal minimum. The most prevalent example is workers who earn tips, such as food servers, bartenders and other service personnel. Employers may pay less than the minimum wage if a tipped employee earns at least \$30 per month in tips or commissions. For Pennsylvania, such employees can be paid a minimum wage rate of \$2.83 per hour.<sup>1</sup> However, an employer must make up the difference if the employee's tips plus the hourly wage fall below the applicable minimum wage. Other exempt employees include golf caddies, certain learners and students, farm laborers, domestic service workers in a private home and newspaper deliverers.

**Table 2**  
**Number of Workers, Hourly-Paid Workers and Minimum Wage Workers**

<b>Pennsylvania (000s)</b>	<b>2006</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Total non-farm payroll employment	5,760	5,625	5,690	5,730	5,744	5,790
Hourly-paid workers	3,456	3,255	3,400	3,450	3,471	3,450
Earn federal minimum wage	35	91	97	87	96	73
Earn less than federal minimum wage	61	115	96	108	93	83
Share earning federal minimum wage or less	2.8%	6.3%	5.7%	5.7%	5.4%	4.5%
<b>United States (000s)</b>						
Total non-farm payroll employment	136,403	130,269	131,843	134,098	136,394	139,023
Hourly-paid workers	76,514	72,902	73,926	75,276	75,948	77,207
Earn federal minimum wage	409	1,820	1,677	1,566	1,532	1,255
Earn less than federal minimum wage	1,283	2,541	2,152	1,984	1,768	1,737
Share earning federal minimum wage or less	2.2%	6.0%	5.2%	4.7%	4.3%	3.9%
Federal minimum wage	\$5.15	\$7.25	\$7.25	\$7.25	\$7.25	\$7.25

Note: Thousands of workers. Non-farm payroll employment based on employment location. CPS data based on residence of employee.

Source: Non-farm payroll employment from the U.S. Bureau of Labor Statistics, Current Employment Statistics. All other data from the U.S. Bureau of Labor Statistics, "Characteristics of Minimum Wage Workers," (various years).

Table 2 (previous page) presents CPS tabulations for Pennsylvania and the U.S. for 2006, and 2010 to 2014.<sup>2</sup> The data for 2006 represent the last full year before the federal minimum wage was increased to its current level of \$7.25 per hour. For Pennsylvania, the share of hourly-paid workers who earned the minimum wage or less increased from 2.8 percent (2006) to 6.3 percent (2010) once the higher minimum wage was effective for a full year. Since then, the CPS data show that the share of workers at or below the minimum wage has declined every year. The most recent data reveal that 4.5 percent of hourly-paid workers earn a wage at or below the federal minimum (excludes tips and other compensation). The pattern for U.S. workers is similar, but the share of hourly-paid workers who earn the federal minimum wage or less is somewhat lower.<sup>3</sup> For both Pennsylvania and the U.S., the share of workers earning the federal minimum wage or less declines over time because employers must pay employees higher wages to compensate for inflation.

## WORKERS DIRECTLY AFFECTED BY A HIGHER MINIMUM WAGE

Table 3 displays the distribution of hourly-paid workers by hourly wage class for calendar year 2014. The CPS data show that 157,000 workers earned a wage less than or equal to the minimum wage. A report issued by the Pennsylvania Department of Labor and Industry finds that approximately two-thirds of those workers reported an occupation in the food preparation and serving-related (54 percent) or retail sales and related (13 percent) industries. Hence, many of those workers may have received tips or commissions that augmented their wages. The report also finds that 30.0 percent of those workers were under age 20 and somewhat more than three-quarters (77.4 percent) were employed on a part-time basis.<sup>4</sup>

Following the conventions used by the U.S. Congressional Budget Office (CBO), this analysis makes two adjustments to these data to compute the number of workers who would be directly affected by a higher minimum wage. Workers who are directly

affected are defined as those projected to earn a wage that is less than or equal to the proposed higher minimum wage (\$10.10). Workers paid slightly more than the higher minimum wage could also be affected, and the potential impact on those employees is discussed in a later subsection. The two adjustments are as follows:

- ◆ The analysis assumes that survey respondents who report an hourly wage between \$7.00 and \$7.25 have misreported their wages and earn the federal minimum wage. For 2014, this adjustment adds 13,800 hourly-paid workers to those earning the minimum wage.
- ◆ The analysis also includes non-hourly paid workers who earn an effective hourly wage that is below the proposed \$10.10 minimum wage. For respondents who reported weekly earnings instead of an hourly wage (i.e., non-hourly paid employees), an effective hourly wage was computed as their reported usual earnings per week divided by their reported usual hours worked per week. The same computation was used by the CBO in their analysis.<sup>5,6</sup>

<u>Hourly Wage</u>	<u>Part-Time<sup>1</sup></u>	<u>Full-Time</u>	<u>Total</u>
\$11.00 or more	301	2,066	2,367
\$10.00 - \$10.99	117	185	302
\$9.00 - \$9.99	102	145	247
\$8.00 - \$8.99	176	105	281
\$7.26 - \$7.99	76	24	100
\$7.25	59	16	74
less than \$7.25	<u>63</u>	<u>20</u>	<u>83</u>
<b>Total</b>	<b>894</b>	<b>2,559</b>	<b>3,453</b>

Note: Thousands of workers. Data differ slightly from totals published by the U.S. Bureau of Labor Statistics (BLS) because the Census Bureau incorporates safeguards to CPS public use files to ensure that respondent information is not disclosed. The BLS uses the unadjusted, non-public data for its published tables.

<sup>1</sup> Part-time employees work less than 35 hours per week.

Source: Merged Outgoing Rotation Group dataset, National Bureau of Economic Research ([www.nber.org](http://www.nber.org)).

**Table 4**  
**Directly Affected Workers - 2017**

<b>Hourly Wage</b>	<b>Part-Time<sup>1</sup></b>	<b>Full-Time</b>	<b>Total</b>
\$9.00 - \$10.10	213	300	513
\$8.00 - \$8.99	186	129	316
\$7.25 - \$7.99 <sup>2</sup>	<u>154</u>	<u>72</u>	<u>226</u>
<b>Total</b>	<b>553</b>	<b>502</b>	<b>1,055</b>

Note: Thousands of workers.

<sup>1</sup> Part-time employees work less than 35 hours per week.

<sup>2</sup> Includes certain workers who report less than \$7.25 per hour.

Source: Merged Outgoing Rotation Group dataset, National Bureau of Economic Research ([www.nber.org](http://www.nber.org)).

Based on these adjustments and the 2014 wage distribution, Table 4 displays the projected wage distribution for calendar year 2017 that is used for the analysis. The projected wage distribution assumes overall employment growth of 0.9 percent per annum from 2014 to 2017 (roughly 53,000 new payroll jobs per year), but a modest contraction for those who earn \$8.00 or less (-0.5 percent per annum). These assumptions are consistent with historical trends that reflect a declining share of workers who earn the minimum wage over time.

The figures from Table 4 do not include service industry employees who earned an hourly wage that was less than the minimum wage in 2014. The data show that the vast majority of such workers were employed in occupations that receive tips (e.g., bartenders and food servers). Those workers could be affected by a higher minimum wage (employers must ensure that total compensation, including tips and commissions, at least equals the higher minimum wage), but the data do not allow the analysis to reliably estimate those amounts.<sup>7</sup> All self-employed individuals are also excluded from Table 4.

## THE POTENTIAL IMPACT OF A HIGHER MINIMUM WAGE

Having established the number of directly affected workers, the analysis uses parameters from a recent CBO report to inform the potential impact of the higher minimum wage on Pennsylvania employment levels.<sup>8</sup> The parameters from the CBO report are “central estimates” based on a wide array of academic studies. As noted by the report, most minimum wage researchers have focused on workers with low average wages, such as teenagers and workers in low-wage industries (e.g., food service). The CBO report first develops a teen-employment responsiveness or “elasticity” parameter to higher minimum wages (i.e., the response of employers to the higher wage), and then adjusts those parameters based on broader research to derive adult elasticity parameters.

For teenagers, the CBO report cites a central estimate elasticity of -0.1. That parameter implies that a 10.0 percent increase in the minimum wage would reduce teen employment by 1.0 percent. However, the report notes that this responsiveness parameter applies to all employed teenagers, and not just the subset that would be directly affected by the higher minimum wage. If an analysis focuses exclusively on workers directly affected, then the responsiveness or elasticity is considerably higher. The CBO analysis derives a modified elasticity that is 4.5 times higher (approximately -0.45) than the original elasticity which applies to teenage workers directly affected by the higher minimum wage. For adults, economic research suggests a lower responsiveness parameter, and the CBO report uses an adult employment elasticity that is one-third that of teenagers.

These responsiveness parameters apply to the average change in the wage of workers who would be directly affected by the higher minimum wage. The proposal increases the minimum wage from \$7.25 to \$10.10, or \$2.85 (39.3 percent). However, only a relatively small number of workers would realize that full gain in their wage, and the CBO elasticities were modified to reflect that fact. For this analysis, the

**Table 5**  
**Impact of \$10.10 Minimum Wage**

Employment Responsiveness Parameter	
Teens	-0.45
Adults	-0.15
Workers Directly Affected (000s)	<u>1,055</u>
Retain Employment	1,024
Lose Employment	31

Source: Elasticities from "The Effects of a Minimum-Wage Increase on Employment and Family Income," CBO (February 2014). Number of workers directly affected from tabulations from the 2014 Merged Outgoing Rotation Group dataset, National Bureau of Economic Research ([www.nber.org](http://www.nber.org)).

projected Pennsylvania wage distribution suggests that teens directly affected by the higher minimum wage would realize an average gain of 21 percent in their hourly wage, while adults would realize an average gain of roughly 12 percent. These Pennsylvania-specific parameters, combined with the elasticities from the CBO report, motivate the projected impact on employment levels.

Table 5 displays the results of the analysis. The analysis projects that 1.06 million hourly and non-hourly paid workers would be directly affected by the proposed increase in the minimum wage to \$10.10 in 2017. Based on the CBO elasticities and the projected wage distribution of Pennsylvania workers from the CPS data, the analysis projects a reduction of 31,000 jobs and continued employment at the higher wage by the residual. The projected employment reduction (3.0 percent) is similar to the CBO report, which found that 17.0 million U.S. workers would be directly affected by the \$10.10 minimum wage and 500,000 (3.0 percent) would lose employment.<sup>9</sup>

## OTHER WORKERS WHO MAY BE AFFECTED

Workers who earn an hourly wage just above \$10.10 may also be affected by a higher minimum wage. For example, employers may want to maintain wage differentials between certain workers, and may also increase wages for those who earn somewhat more than \$10.10 per hour. The CBO terms such effects as "ripple effects" that may apply to workers who earn up to \$11.50 per hour (for states with a minimum wage of \$7.25). For this analysis, the CPS data suggest that roughly 300,000 such workers could be "potentially affected" by the increase in the minimum wage. Although the CBO report notes that "available research suggests that the average effect on the wages of those workers would be positive," the agency did not have a basis to estimate the total number of workers whose earnings would increase. Following that convention, the impact on workers potentially affected by the higher minimum wage was not included in this analysis.

As noted previously, some employees who earn tips or commissions and receive an hourly wage that is less than the federal minimum could also be impacted by a higher minimum wage. If the minimum wage increased substantially, certain service industry employers may need to increase wages paid to employees if tips or commissions were insufficient to raise total hourly compensation to the new state minimum. Unfortunately, the CPS data do not identify how much wage compensation would need to increase to ensure that outcome, and those employees were not included in the analysis.

## **IMPACT ON ANNUAL WAGE INCOME**

The CBO analysis computes the impact of the higher minimum wage on family income. For this analysis, the IFO computed the change in annual wage income for workers directly affected by the higher minimum wage who retain employment. For those workers, a little more than half are part-time employees. The data reveal an average workweek of 20.1 hours per week for part-time workers, and 40.4 hours per week for full-time workers. The data also show an increase of \$1.75 per hour for a typical part-time worker and \$1.00 for a typical full-time worker.<sup>10</sup>

Based on these data, a part-time worker who is directly affected and retains employment would realize a \$35 increase in their weekly wages and \$1,830 in annual pre-tax wages. Employee payroll taxes would reduce that amount by 7.65 percent, for a net amount of \$1,690. If state personal income tax also applies, then the net amount would be further reduced to \$1,635.

A full-time worker who is directly affected and retains employment would realize a \$40 increase in their weekly wages and \$2,100 in annual pre-tax wages. Employee payroll taxes would reduce that amount by 7.65 percent, for a net amount of \$1,940. If state personal income tax also applies, then the net amount would be further reduced to \$1,875.

## **OTHER IMPACTS OF A HIGHER MINIMUM WAGE**

The CBO report discusses other impacts from raising the minimum wage. Specifically, the report notes four direct effects on the demand for goods and services. These include: (1) reduced consumption from workers who lose employment, (2) increased consumption from workers who retain employment, (3) reduced demand from business owners and shareholders due to lower profits and (4) reduced demand from consumers as higher labor costs are pushed forward to final prices.

Overall, the CBO report finds that raising the minimum wage would increase demand for goods and services and the second, third and fourth effects noted above would shift income from business owners and consumers to low-wage workers. Because low-wage workers spend a larger share of each dollar they receive compared to the typical business owner or consumer, total spending should generally increase. The CBO finds that the increase in demand from that income shift would exceed the reduction in demand from workers who do not retain employment.

## Endnotes

1. The CPS hourly wage data do not include tips or commissions. By law, tipped workers must receive total hourly compensation that at least equals the federal minimum wage. Other exempt workers may legally be paid less than the federal minimum wage.
2. Historical data are from the U.S. Bureau of Labor Statistics and may be found in the annual report entitled “Characteristics of Minimum Wage Workers” (various years). The Pennsylvania Department of Labor and Industry also publishes an annual report on minimum wage workers entitled “Analysis of the Pennsylvania Minimum Wage” (various years).
3. One factor that drives this result is the fact that many states have a minimum wage that exceeds the federal minimum. For 2015, 29 states (plus the District of Columbia) require that employers pay a wage that exceeds the federal minimum.
4. See “Analysis of the Pennsylvania Minimum Wage,” Pennsylvania Department of Labor and Industry, pages 16, 23 and 24 (March 2015).
5. For a small number of non-hourly paid workers, this computation yielded an implicit hourly wage that was between \$6.00 and \$7.25 per hour. The analysis assumes those workers would be directly affected by the higher minimum wage. These workers were not employed in occupations that generally receive tips or commissions.
6. Roughly fifty non-hourly paid respondents reported weekly earnings or hours that yielded an effective hourly wage that was implausibly low, such as two dollars or less. A small number of respondents did not supply a dollar amount of weekly earnings, but supplied all other relevant information. For these cases, the IFO based hourly earnings on other workers in the same occupation who have similar characteristics such as part- or full-time status, age, and private or public employer (e.g., school teachers). The great majority of these adjustments yield an implicit hourly wage that exceeds the proposed higher minimum wage.
7. Table 4 includes workers employed in occupations that receive tips who reported an hourly wage between \$7.25 and \$10.10. Employers were motivated to pay those workers an hourly wage that exceeded the federal minimum, and the analysis assumes they would increase wages if the minimum wage was increased to \$10.10. There were 74,800 workers in tipped occupations who reported an hourly wage between \$7.25 and \$10.10.
8. See “The Effects of a Minimum-Wage Increase on Employment and Family Income,” U.S. Congressional Budget Office (February 2014).
9. The CBO notes that the overall reduction could be smaller or larger than this central estimate. The agency estimates a two-thirds probability that the effect of the \$10.10 option would range from a very slight decline in employment to a decrease of 1.0 million workers (5.9 percent).
10. The computations exclude those who reported less than five hours worked per week. Inclusion of those workers has a very minor impact on the computed average workweek.

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