

## *Executive Summary*

# The Impact of Minimum Wage Increases in Rural and Urban Pennsylvania

By:

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Over the past several years, there has been a great deal of discussion at both the state and national levels about increasing the minimum wage from the current \$7.25 per hour. This study, conducted in 2016, attempted to measure the impact of raising the minimum wage in Pennsylvania.

The study estimated the effects of an increase in the minimum wage in rural and urban Pennsylvania from \$7.25 to either \$9.00 or \$10.10 per hour assuming that such a change will be implemented in 2017. The research team used the U.S. Census Bureau's 2014 American Community Survey (ACS) Public Use Microdata Sample (PUMS) data because of the large sample size and the ability to estimate the impact on urban and rural areas.

The data analyzed in the study covers workers aged 16 and older with earned income during 2014 from private for-profit or nonprofit employment in Pennsylvania. The study defined minimum wage workers as those earning an hourly wage between \$2.83 (the legal minimum for tip-earners) and \$7.25, the legal minimum wage rate. "Near-minimum wage" workers include those who are indirectly affected by minimum wage increases when employers attempt to maintain a wage differential, which is estimated up to \$11.53 per hour, among low-wage workers.

Many empirical studies showed that minimum wage workers in Pennsylvania and the U.S. share similar

socio-demographic characteristics; they were mostly female, young, white, high school or less educated and never married.

The researchers conducted this study to determine if there were significant differences between rural and urban Pennsylvania workers earning minimum wage or less.

## Results

### *Wage Earner Characteristics*

The study results showed that there were many similarities between rural and urban minimum wage earners in Pennsylvania. For example, Pennsylvania minimum wage workers are mostly female, are mostly white, are mostly young, have never been married, have a high school diploma or less, speak English, drive to work, commute less than 15 minutes to work, and are employed in services such as retail trade and hospitality.

There seemed to be no significant industrial or occupational differences between rural and urban minimum wage workers in Pennsylvania.

There were only slight differences between rural and urban Pennsylvania minimum wage earners. For example, rural workers are significantly more white, more are teenagers, a higher percentage of rural workers has a high school diploma or less, more are English speaking, more have a disability, and rural workers spend less time commuting to work.



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The Center for Rural Pennsylvania is a bipartisan, bicameral legislative agency that serves as a resource for rural policy within the Pennsylvania General Assembly. It was created in 1987 under Act 16,

the Rural Revitalization Act, to promote and sustain the vitality of Pennsylvania's rural and small communities.

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*Effects on Employment, Income, Poverty*

The research also reviewed and summarized relevant empirical literature dealing with the effects of minimum wage increases on employment, income and income maintenance programs. The most noteworthy was the study by the Congressional Budget Office (CBO), which published *The Effects of a Minimum Wage Increase on Employment and Family Income* (February 2014), that estimated the effects of two possible minimum wage increases on the national economy: \$9.00 per hour and \$10.10 per hour. Given the thoroughness of the CBO approach, and the similarity of objectives between its report and this research, the researchers adopted the CBO methodology to estimate the impact of minimum wage increases on the Pennsylvania economy.

Employment

To estimate the number of workers affected, the researchers extrapolated wages to 2017 by applying the inflation estimates from the Consumer Price Index (CPI), and employment levels to 2017 by applying the estimated employment growth rates by the Pennsylvania Department of Labor and Industry. Based on these projections, the researchers estimated that 844,577 Pennsylvania workers (310,376 rural, and 534,201

Estimated Number of Workers Directly and Indirectly Affected by Minimum Wage Increase to \$9 in 2017											
Teenagers (16-19 years old)				Adults (20 years and older)				All Workers			
		% of PA				% of PA				% of PA	
<b>Rural</b>	Direct	42,715	36%	<b>Rural</b>	Direct	210,999	29%	<b>Rural</b>	Direct	253,714	30%
	Indirect	4,930	4%		Indirect	51,732	7%		Indirect	56,662	7%
	<b>Total</b>	<b>47,645</b>	<b>40%</b>		<b>Total</b>	<b>262,731</b>	<b>36%</b>	**	<b>Total</b>	<b>310,376</b>	<b>37%</b>
<b>Urban</b>	Direct	64,673	54%	<b>Urban</b>	Direct	376,404	52%	<b>Urban</b>	Direct	441,077	52%
	Indirect	7,127	6%		Indirect	85,996	12%		Indirect	93,124	11%
	<b>Total</b>	<b>71,801</b>	<b>60%</b>		<b>Total</b>	<b>462,400</b>	<b>64%</b>	**	<b>Total</b>	<b>534,201</b>	<b>63%</b>
<b>PA</b>	Direct	107,389	90%	<b>PA</b>	Direct	587,402	81%	<b>PA</b>	Direct	694,791	82%
	Indirect	12,057	10%		Indirect	137,729	19%		Indirect	149,786	18%
	<b>Total</b>	<b>119,446</b>	<b>100%</b>		<b>Total</b>	<b>725,131</b>	<b>100%</b>	**	<b>Total</b>	<b>844,577</b>	<b>100%</b>

Source: 2014 ACS 1-year Public Use Microdata Samples (PUMS). Notes: 1. Wages in 2014 were extrapolated to 2017 based on CPI inflation forecasts. 2. Employment levels in 2014 were extrapolated to 2017 based on estimated employment growth for all of Pennsylvania's workers made by the Pennsylvania Department of Labor and Industry's Center for Workforce Information and Analysis for 2014-2024. 3. Wages for directly affected workers = \$2.96 to \$9.00. 4. Wages for indirectly affected workers = \$9.01 to \$9.88. 5. \*\* Margin of error (95% confidence level) for the total number of workers affected: Rural = 3.2%; Urban = 2.4%; PA = 2.0%.

urban) will be directly and indirectly affected by the proposed increase in the minimum wage from \$7.25 to \$9.00. If the minimum wage is increased to \$10.10 in 2017, the number of directly and indirectly affected workers is estimated to reach 1,201,352, comprising 438,799 rural workers and 762,553 urban workers.

To calculate the number of job losses due to minimum wage increases, the researchers applied the estimated employment elasticities on the projected 2017 employment. Based on these calculations, the researchers estimated that if the minimum wage in Pennsylvania is raised to \$9.00 per hour in 2017, total job losses may range from 7,650 to 15,300, out of which 2,780 to 5,559 will be in rural areas, and 4,870 to 9,741 will be in urban areas.

Under the \$10.10 option, the expected job losses in 2017 may range from 28,667 to 57,334, out of which 10,396 to 20,792 will be in rural areas, and 18,271

to 36,542 will be in urban areas. The estimated number of absolute job losses will be greater in urban areas than rural areas because most workers are employed in urban areas; however, there is no significant difference in the percentage of job losses between rural and urban areas.

Estimated Number of Workers Directly and Indirectly Affected by Minimum Wage Increase to \$10.10 in 2017											
Teenagers (16-19 years old)				Adults (20 years and older)				All Workers			
		% of PA				% of PA				% of PA	
<b>Rural</b>	Direct	48,317	34%	<b>Rural</b>	Direct	279,328	26%	<b>Rural</b>	Direct	327,644	27%
	Indirect	4,836	3%		Indirect	106,319	10%		Indirect	111,155	9%
	<b>Total</b>	<b>53,152</b>	<b>38%</b>		<b>Total</b>	<b>385,647</b>	<b>36%</b>	**	<b>Total</b>	<b>438,799</b>	<b>37%</b>
<b>Urban</b>	Direct	74,412	53%	<b>Urban</b>	Direct	487,921	46%	<b>Urban</b>	Direct	562,333	47%
	Indirect	13,035	9%		Indirect	187,185	18%		Indirect	200,220	17%
	<b>Total</b>	<b>87,447</b>	<b>62%</b>		<b>Total</b>	<b>675,106</b>	<b>64%</b>	**	<b>Total</b>	<b>762,553</b>	<b>63%</b>
<b>PA</b>	Direct	122,729	87%	<b>PA</b>	Direct	767,249	72%	<b>PA</b>	Direct	889,978	74%
	Indirect	17,871	13%		Indirect	293,504	28%		Indirect	311,375	26%
	<b>Total</b>	<b>140,600</b>	<b>100%</b>		<b>Total</b>	<b>1,060,753</b>	<b>100%</b>	**	<b>Total</b>	<b>1,201,352</b>	<b>100%</b>

Source: 2014 ACS 1-year Public Use Microdata Samples (PUMS). Notes: 1. Wages in 2014 were extrapolated to 2017 based on CPI inflation forecasts. 2. Employment levels in 2014 were extrapolated to 2017 based on estimated employment growth for all of Pennsylvania's workers made by the Pennsylvania Department of Labor and Industry's Center for Workforce Information and Analysis for 2014-2024. 3. Wages for directly affected workers = \$2.96 to \$10.10. 4. Wages for indirectly affected workers = \$10.11 to \$11.53. 5. \*\* Margin of error (95% confidence level) for the total number of workers affected: Rural = 2.9%; Urban = 2.0%; PA = 1.7%.

*Change in the Number of  
Rural Pennsylvania Households below Poverty Level  
Before and After Minimum Wage Increase of \$9.00*

Number of Persons in Rural HH	Total Number of Rural HH	Number of Rural HH below Poverty Level - Before MW change	Number of Rural HH below Poverty Level - After MW change
1	26,898	4,470	3,873
2	67,291	8,369	7,089
3	55,163	6,866	6,600
4	45,028	6,957	6,701
5	22,816	3,070	2,835
6	8,819	1,633	1,633
7	1,908	199	199
8	1,003	256	256
9	510	22	22
10	274	172	172
11	713	524	524
12	0	0	0
13	396	87	87
20	28	0	0
<b>Total Number of Rural HH</b>	<b>230,847</b>	<b>32,625</b>	<b>29,991</b>
<b>% of Rural HH</b>		<b>14.1%</b>	<b>13.0%</b>

Source: 2014 ACS 1-year Public Use Microdata Samples (PUMS).

*Change in the Number of  
Urban Pennsylvania Households below Poverty Level  
Before and After Minimum Wage Increase of \$9.00*

Number of Persons in Urban HH	Total Number of Urban HH	Number of Urban HH below Poverty Level - Before MW change	Number of Urban HH below Poverty Level - After MW change
1	46,814	12,894	11,523
2	107,866	16,656	13,471
3	96,765	13,865	12,579
4	79,092	10,677	9,988
5	39,002	5,945	5,547
6	17,646	2,791	2,791
7	5,518	1,515	1,433
8	3,880	846	764
9	1,057	392	392
10	196	46	46
11	288	288	288
12	425	274	288
13	507	0	0
20	0	0	0
<b>Total Number of Urban HH</b>	<b>399,056</b>	<b>66,189</b>	<b>58,920</b>
<b>% of Urban HH</b>		<b>16.6%</b>	<b>14.8%</b>

Source: 2014 ACS 1-year Public Use Microdata Samples (PUMS).

Income

An increase in the minimum wage will cause an increase in income for all affected workers, both directly and indirectly. Income gains associated with an increase in the minimum wage for both the \$9.00 and \$10.10 options were determined by assuming that each worker will continue to work the same number of weeks and hours at the higher minimum wage in 2017.

Under the \$9.00 option, all workers earning \$9.00 or less per hour will directly benefit and those earning

*Change in the Number of  
Rural Pennsylvania Households below Poverty Level  
Before and After Minimum Wage Increase of \$10.10*

Number of Persons in Rural HH	Total Number of Rural HH	Number of Rural HH below Poverty Level - Before MW change	Number of Rural HH below Poverty Level - After MW change
1	40,659	6,023	4,372
2	98,793	9,925	7,501
3	75,726	7,927	6,990
4	59,418	7,720	6,505
5	30,654	3,685	2,638
6	11,343	2,309	2,230
7	2,267	249	249
8	1,967	256	256
9	510	22	0
10	274	172	0
11	713	524	524
13	396	87	87
20	28	0	0
<b>Total Number of Rural HH</b>	<b>322,748</b>	<b>38,899</b>	<b>31,352</b>
<b>% of Rural HH</b>		<b>12.1%</b>	<b>9.7%</b>

Source: 2014 ACS 1-year Public Use Microdata Samples (PUMS).

*Change in the Number of  
Urban Pennsylvania Households below Poverty Level  
Before and After Minimum Wage Increase of \$10.10*

Number of Persons in Urban HH	Total Number of Urban HH	Number of Urban HH below Poverty Level - Before MW change	Number of Urban HH below Poverty Level - After MW change
1	68,066	15,138	9,176
2	156,312	18,238	12,171
3	136,718	16,367	10,953
4	105,124	12,824	10,619
5	51,599	7,615	6,619
6	22,737	3,279	3,084
7	8,291	1,862	1,612
8	6,054	993	911
9	1,103	392	392
10	294	46	46
11	418	288	288
12	425	274	98
13	507	0	0
<b>Total Number of Urban HH</b>	<b>557,648</b>	<b>77,316</b>	<b>55,969</b>
<b>% of Urban HH</b>		<b>13.9%</b>	<b>10.0%</b>

Source: 2014 ACS 1-year Public Use Microdata Samples (PUMS).

\$9.01 to \$9.88 per hour will indirectly benefit when the minimum wage is increased to \$9.00 per hour. For all these workers, income would increase approximately \$778 million, with 37 percent of the increase going to rural workers and 63 percent going to urban workers. This increase represents 0.3 percent of the wage and salary income reported by the U.S. Bureau of Economic Analysis for 2014.

Under the \$10.10 option, workers earning \$10.10 or less per hour will directly benefit and those earning \$10.11 to \$11.53 per hour will indirectly benefit when the minimum wage is increased to \$10.10 per hour. For these workers, income would increase approximately \$2.25 billion, or 0.8 percent of Pennsylvania wage and

salary income in 2014, with 37 percent going to rural workers and 63 percent going to urban workers.

However, income losses would also occur when workers lose jobs as the minimum wage increases. Based on the above estimates, the income losses may range between \$27 million and \$54 million under the \$9.00 option, and between \$104 million and \$207 million under the \$10.10 option based on the range of employment elasticity estimates.

Therefore, the estimated net gain in income under the \$9.00 option ranges between \$724 million to \$751 million ( $\pm 4.3$  percent). Under the \$10.10 option, the net gain in income is estimated to range between \$2.05 billion to \$2.15 billion ( $\pm 3.6$  percent).

Minimum wage increases not only increase individual incomes but also household incomes. To calculate the number of Pennsylvania households impacted, the researchers merged the population data with income gains due to minimum wage increases and the household data. Based on these estimates, 629,903 Pennsylvania households (230,847 rural and 399,056 urban) will be impacted under the \$9.00 option. Under the \$10.10 option, 880,396 Pennsylvania households (322,748 rural and 557,648 urban) will be impacted. Most of these households will see an increase in income, but some will lose jobs.

#### Poverty

Because of income gains, a significant number of Pennsylvania households will be moved out of poverty due to minimum wage increases. Based on the study estimates, 2,634 rural households and 7,269 urban households, or a total of 9,903 Pennsylvania households, will be lifted out of poverty under the \$9.00 option. Under the \$10.10 option, 7,547 rural households and 21,347 urban households, or a total of 28,894 Pennsylvania households, will be lifted out of poverty.

The researchers converted the CBO estimate of \$8,800 for the average federal support per household in the lowest income quintile during 2012 using the CPI inflation rates to arrive at an estimate of \$9,075 for 2014 for the average federal support per household in the form of healthcare, cash assistance, tax credit programs, etc. Applying the \$9,075 estimate to the number of households lifted out of poverty suggests that the federal government will save close to \$90 million if the minimum wage is increased to \$9.00 and \$262 million if it is increased to \$10.10. Note that these estimates do not include any potential increases in tax revenues paid by workers earning higher incomes due to minimum wage increases.

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#### **Report Available**

A copy of the report, *The Impact of Minimum Wage Increases in Rural and Urban Pennsylvania*, is available at [www.rural.palegislature.us](http://www.rural.palegislature.us).