

The Economics of the New York State Minimum Wage

Frederick Floss

Buffalo State University

Abstract

New York State phased in a \$15-per-hour minimum wage beginning in 2016, on different schedules for New York City, Long Island and Westchester County, and the rest of the state, while Pennsylvania's minimum wage remained at the federal \$7.25. Competitive labor market theory predicts that a binding minimum wage reduces employment, whereas monopsony theory predicts that a moderate minimum wage can raise both wages and employment. This paper asks which model better describes New York using a staggered difference-in-differences design (Callaway & Sant'Anna, 2021) with Pennsylvania as the never-treated comparison group. The analysis uses county-level Quarterly Census of Employment and Wages data for 129 counties from 2011 to 2025, with independent checks using Current Population Survey microdata and Occupational Employment and Wage Statistics data. The minimum wage increases raised wages, particularly in hospitality, while estimated effects on total employment were not statistically significant. The one significant hospitality employment estimate, about 121 jobs per county in the rest of the state, is economically very small. A border-county comparison and distributional evidence point to the same conclusion: wages in New York rose in real terms while wages in Pennsylvania stagnated, without a major decline in employment. These findings are more consistent with the monopsony model.

Keywords: minimum wage, difference-in-differences, monopsony, employment, New York

The Economics of the New York State Minimum Wage

New York State passed the \$15-per-hour minimum wage requirement as part of the 2016–17 state budget. New York City, Long Island, and Westchester County were carved out from the rest of the state, and increases started sooner. Tipped workers were also treated differently from other workers, and private contractors are not covered at all.

The minimum wage was phased in and then allowed to adjust for inflation. Tables 1 through 3 give the exact details of the yearly changes in the minimum wage for each region.

Table 1

New York City Minimum Wage Schedule by Worker Category

Category	2016	2017	2018	2019+
Minimum Wage	\$10.50–\$11.00	\$12.00–\$13.00	\$13.50–\$15.00	\$15.00
Tipped Food Service	\$7.50	\$8.65	\$10.00	\$10.00
Tipped Service (non-food)	\$9.20	\$11.10	\$12.50	\$12.50

Note. Amounts are dollars per hour, listed by the year each increase took effect. Data from New York State Department of Labor (n.d.).

Table 2

Long Island and Westchester Minimum Wage Schedule by Worker Category

Category	2016	2017	2018	2019	2020	2021+
Minimum Wage	\$10.00	\$11.00	\$12.00	\$13.00	\$14.00	\$15.00
Tipped Food Service	\$7.50	\$8.65	\$10.00	\$10.00	\$10.00	\$10.00
Tipped Service (non-food)	\$9.20	\$11.10	\$12.50	\$12.50	\$12.50	\$12.50

Note. Amounts are dollars per hour, listed by the year each increase took effect. Data from New York State Department of Labor (n.d.).

Table 3

Rest of State Minimum Wage Schedule by Worker Category

Category	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Minimum Wage	\$9.70	\$10.40	\$11.10	\$11.80	\$12.50	\$13.20	\$13.20	\$14.20	\$15.00	\$15.50	\$16.00
Tipped Food Service	\$7.50	\$8.65	\$9.45	\$9.45	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Tipped Service (non-food)	\$9.20	\$11.10	\$11.80	\$11.80	\$12.50	Elim.	—	—	—	—	—

Note. Amounts are dollars per hour, listed by the year each increase took effect. Data from New York State Department of Labor (n.d.). No increase took effect in 2022; the next took effect January 1, 2023. Elim. = the tip credit for tipped service (non-food) workers was eliminated beginning in 2021, so no separate tipped wage applies thereafter (—).

The New York State Department of Labor (n.d.) enforces the law and provides up-to-date information.

New York began its minimum wage in 1960 at \$1.00 per hour. It was then adjusted over time, reaching \$9.00 per hour in 2015. This was not considered a livable wage, and a national movement to raise the \$7.25-per-hour federal minimum, called the “Fight for \$15,” started in 2012. At that time, New York’s minimum wage was higher than the federal minimum but not yet at \$15.

The federal minimum wage was established under the Fair Labor Standards Act (FLSA) of 1938 at \$0.25 per hour and currently stands at \$7.25 per hour, where it has remained since July 24, 2009. Currently, 30 states have minimum wages above the federal minimum, with New York near the highest but not the highest.

This leads to the question: What is the impact of the increase in New York’s minimum wage? Did it raise average wages for all workers or only for low-income workers? Did it reduce employment overall or in low-wage industries? In other words, did it make those at the bottom of the income distribution better off, or were they hurt? This is a complex question, and there is a diverse set of opinions. It is also a political question, one in which partisans fight for their side.

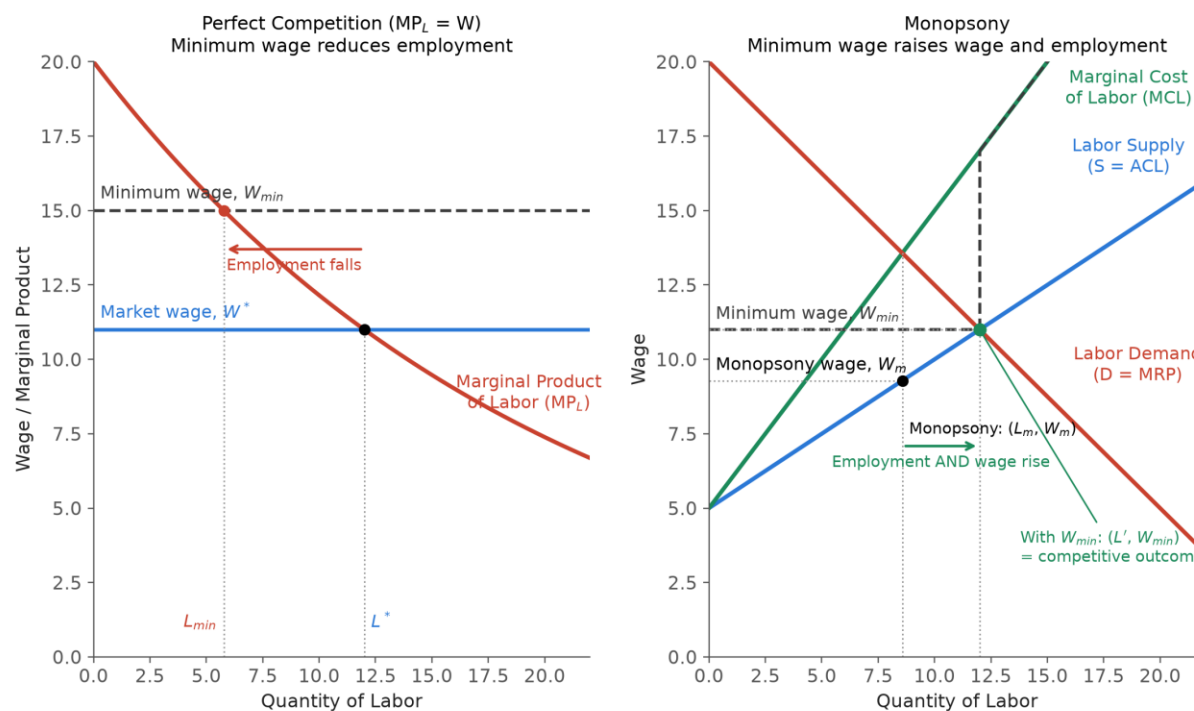
Economic Theory

There are two competing theories of how the labor market works. The first, proposed by Stigler (1946), is based on a model of perfect competition. In this model, the economy is at its optimum when each worker is paid his or her marginal product (the value of the work the worker does). Raising the minimum wage above this level creates winners and losers and moves society away from the social optimum. It does this because some workers will lose their jobs so that

others can receive a higher wage. For this model to hold, a number of strong assumptions are needed. The most important is that owners have no monopoly power to set wages.

The second, proposed initially by Robinson (1933) in *The Economics of Imperfect Competition*, is the model of imperfect competition. In her model, owners do have some control over wages, and businesses extract monopoly profits from workers. Here society is not at its optimum, and the minimum wage can raise both wages and employment at the same time. Business owners now receive lower profits, but workers all gain.

Figure 1 shows both models side by side. On the left-hand side, under perfect competition, the wage line is flat (owners have no control). The red line measures marginal product (the value of the next worker to profits), which declines as more workers are added. As the wage line moves from the solid line to the dashed line, wages rise and employment falls.

Figure 1*Perfect Competition and Monopsony Models of the Labor Market*

Note. The left panel shows a firm in a perfectly competitive labor market, which takes the market wage as given and hires labor until the marginal product of labor (MP_L) equals the wage. The right panel shows a monopsonist, for which the marginal cost of labor (MCL) lies above the labor supply curve. W^* = market wage; W_{min} = minimum wage; L^* and L_{min} = employment before and after the minimum wage.

The right-hand side gives the monopsony model, in which owners pay a lower wage (the black dot) instead of the wage at which workers are paid the value of their work (where the red and blue lines cross). Raising the minimum wage gives owners an incentive to increase employment to maximize profits, and both wages and employment increase.

These two models give opposite policy advice. The competitive model implies that a minimum wage hurts the low-income workers who lose their jobs while helping those who remain and receive a higher wage. The monopsony model recommends the minimum wage and suggests that low-income workers as a group will be better off, with more jobs and higher wages.

The empirical question, then, is which of these models represents New York State at the present time?

Empirical Literature

The existing literature is also divided into two empirical camps, offering competing evidence for the These rival economic theories.

Card and Krueger (1994) examined employment at fast-food restaurants in New Jersey when the minimum wage changed. Their conclusion is as follows:

Contrary to the central prediction of a textbook model of the minimum wage, but consistent with a growing number of studies based on cross-sectional-time series comparisons of affected and unaffected markets or employers, we find no evidence that the rise in New Jersey's minimum wage reduced employment at fast food restaurants in the state. (Card & Krueger, 1994, p. 772)

Neumark and Wascher (1994), in contrast, found support for the competitive model and rejected the monopsony result of Card and Krueger (1994). In their reply to critics, they stated the following:

In the October 1992 issue of this journal (Neumark and Wascher 1992), we presented findings supporting the earlier consensus that minimum wages reduce employment for teenagers and young adults, with elasticities in the range -0.1 to -0.2. In addition, we found that subminimum wages moderate these disemployment effects. Although our results on minimum wage effects generally conformed with the results of earlier research, they contrasted with some recent studies that found little or no effect of minimum wages on employment, or even positive effects. In their comment, Card, Katz, and Krueger (hereafter CKK) challenge our results. (Neumark & Wascher, 1994, p. 497)

The criticisms on both sides are technical in nature, and the methods they use are somewhat different from each other. They also look at different cohorts of workers, so it is not surprising that they get different results. This allows both sides of the political argument to point to research and statistics in support of their point of view.

There have also been improvements in the empirical methods since these authors published their papers. Callaway and Sant'Anna (2021) provided an improved difference-in-differences model that also allows for staggered starting times, as when a minimum wage is phased in. Difference-in-differences (DiD) is the standard method for examining the implications of a change in the minimum wage. One compares wages and employment between two groups, one that raises the minimum wage and one that does not. (In other fields, such as medical research, these groups are usually called the treatment group and the control group.) There are a number of ways to do this and to control for other variables, but it is essentially the change in employment over some time periods, compared with the change in the group that did not make the change. The appendix provides a primer on DiD for those who are interested.

The New York State Case

New York State changed its minimum wage over time, starting in 2016, while Pennsylvania has not changed its minimum. This gives a natural experiment in which the two states' trends in employment and wages can be tracked over time to see whether there is an impact.

Given the phased-in nature of New York's minimum wage, the Callaway and Sant'Anna (2021) staggered difference-in-differences model is most appropriate. Data are available from the Bureau of Labor Statistics and the Census Bureau. It is important to validate any results by testing different data sets to see whether the results are consistent.

Data

The core data, from the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (U.S. Bureau of Labor Statistics, n.d.-c), are county-level private-sector employment, establishment counts, total wages, and average weekly wage for all 62 New York counties and 67 Pennsylvania counties from 2011 to 2025 (129 counties and roughly 1,935 county-year observations). These data are used in a number of ways. First, they are used to look at the impact on the state as a whole. Second, they are used with New York City and Philadelphia removed to look at only upstate counties. Third, they are used to compare paired border counties. They are also the source for the distributions of wages and of employment by industry shown later in the paper.

The second data set is from the Current Population Survey (CPS) as compiled by IPUMS (Flood et al., 2025). It includes every New York and Pennsylvania respondent from 2011 to 2022 (179 monthly CPS samples), with variables including state, county, employment status, class of worker, hourly wage, weekly earnings, hours worked, and the person weight. Respondents were assigned to a county and the same statistical models were run. However, the IPUMS earnings variables (hourly wage and weekly earnings) were available only through 2022, so the CPS wage analysis covers 2011 to 2022. Because the Remainder-of-NY cohort was not treated until 2024, it could not be estimated with the CPS data. The estimates of the share of jobs paying less than \$15 per hour use the CPS Merged Outgoing Rotation Group files from the National Bureau of Economic Research (n.d.).

The last data set is the BLS Occupational Employment and Wage Statistics (OEWS; U.S. Bureau of Labor Statistics, n.d.-b), which, together with the CPS data, was used to estimate the share of jobs paying less than \$15 per hour in 2015 and 2025.

Method

The results were obtained using the staggered difference-in-differences estimator of Callaway and Sant’Anna (2021), implemented in Stata (StataCorp, 2025) with the csdid package (Rios-Avila et al., 2025). Because New York’s three regions were treated at different dates, a standard two-way fixed-effects regression would be biased by already-treated units serving as comparisons for later-treated ones. Callaway and Sant’Anna propose a way to adjust the data so as to have a clean, never-treated baseline. The model is a regression model and is run with and without covariates (population, percentage of college graduates, and median household income, measured at the 2011 baseline from the American Community Survey; U.S. Census Bureau, n.d.).

Results

Tables 4 through 7 report $ATT(g)$, the average treatment effect on the treated (New York) for each cohort (region), aggregated across its post-treatment periods. The estimates come from the doubly robust Callaway and Sant’Anna (2021) estimator and are compared with the control group, Pennsylvania, which was never treated. $GAverage$ is the employment-weighted average across all treated cohorts. Stars indicate statistical significance (see the table notes).

Table 4*Estimated Effects of the Minimum Wage on Total Private Employment (Level)*

Cohort	ATT	SE
<i>No covariates</i>		
GAverage (pooled)	1,797.48	1,783.00
NYC (2019)	1,700.22	21,527.80
Long Island and Westchester (2022)	31,993.84***	3,360.80
Remainder of NY State (2024)	128.91	399.08
<i>With covariates</i>		
GAverage (pooled)	492.37	1,820.05
NYC (2019)	6,263.27	22,830.90
Long Island and Westchester (2022)	-9,188.32	6,219.14
Remainder of NY State (2024)	495.85	272.90

Note. ATT = average treatment effect on the treated, estimated with the doubly robust Callaway and Sant'Anna (2021) estimator; the comparison group is Pennsylvania (never treated). Treatment years are in parentheses. GAverage = employment-weighted average across all treated cohorts. SE = standard error from a wild bootstrap (1,000 replications). Covariates are median household income, population, and percentage of adults with a bachelor's degree or higher (2011 baseline). * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5*Estimated Effects of the Minimum Wage on Average Weekly Wage (Dollars)*

Cohort	ATT	SE
<i>No covariates</i>		
GAverage (pooled)	20.71**	7.37
NYC (2019)	112.44	78.08
Long Island and Westchester (2022)	-6.90	9.64
Remainder of NY State (2024)	13.76**	4.22
<i>With covariates</i>		
GAverage (pooled)	8.09	6.96
NYC (2019)	7.54	70.64
Long Island and Westchester (2022)	-13.49	14.61
Remainder of NY State (2024)	9.34*	4.61

Note. ATT = average treatment effect on the treated, estimated with the doubly robust Callaway and Sant'Anna (2021) estimator; the comparison group is Pennsylvania (never treated). Treatment years are in parentheses. GAverage = employment-weighted average across all treated cohorts. SE = standard error from a wild bootstrap (1,000 replications). Covariates are median household income, population, and percentage of adults with a bachelor's degree or higher (2011 baseline). * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6*Estimated Effects of the Minimum Wage on Hospitality Employment (Level)*

Cohort	ATT	SE
<i>No covariates</i>		
GAverage (pooled)	-630.76	678.21
NYC (2019)	-9,865.82	8,387.11
Long Island and Westchester (2022)	4,611.23***	732.10
Remainder of NY State (2024)	-66.89	42.33
<i>With covariates</i>		
GAverage (pooled)	-627.71	692.92
NYC (2019)	-4,024.41	8,550.32
Long Island and Westchester (2022)	-4,079.97***	1,102.21
Remainder of NY State (2024)	-121.41*	50.64

Note. ATT = average treatment effect on the treated, estimated with the doubly robust Callaway and Sant'Anna (2021) estimator; the comparison group is Pennsylvania (never treated). Treatment years are in parentheses. GAverage = employment-weighted average across all treated cohorts. SE = standard error from a wild bootstrap (1,000 replications). Covariates are median household income, population, and percentage of adults with a bachelor's degree or higher (2011 baseline). The negative New York City estimates largely reflect the COVID-19 pandemic: New York City hospitality employment fell about 42% between 2019 and 2020, compared with about 25% in Pennsylvania. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7*Estimated Effects of the Minimum Wage on Hospitality Average Weekly Wage (Dollars)*

Cohort	ATT	SE
<i>No covariates</i>		
GAverage (pooled)	30.13***	7.13
NYC (2019)	63.45***	12.13
Long Island and Westchester (2022)	26.35***	5.85
Remainder of NY State (2024)	27.25***	7.63
<i>With covariates</i>		
GAverage (pooled)	22.40**	7.46
NYC (2019)	7.10	11.94
Long Island and Westchester (2022)	-39.99	24.00
Remainder of NY State (2024)	27.28**	8.64

Note. ATT = average treatment effect on the treated, estimated with the doubly robust Callaway and Sant'Anna (2021) estimator; the comparison group is Pennsylvania (never treated). Treatment years are in parentheses. GAverage = employment-weighted average across all treated cohorts. SE = standard error from a wild bootstrap (1,000 replications). Covariates are median household income, population, and percentage of adults with a bachelor's degree or higher (2011 baseline). * $p < .05$. ** $p < .01$. *** $p < .001$.

Summarizing the results from the four tables, the increases in the minimum wage raised wages, and the increases are statistically significant, while employment increased but not at a

significant level for all employees. Looking at just low-wage workers, represented by the hospitality industry, shows the same results with two caveats. First, the estimates for Long Island and Westchester, which comprise only three counties, reverse sign when covariates are added, which may be caused by the small sample size (hospitality employment goes from +4,611 without covariates to -4,080 with covariates, both statistically significant). Second, the rest-of-state hospitality employment estimate is negative and statistically significant (-121 jobs per county) in the covariate-adjusted specification. Although statistically significant, this effect is economically very small and close to zero, and it is negative only in 2024. The New York City hospitality estimates are also negative (-9,866 without covariates and -4,024 with covariates) but are not statistically significant, and they largely reflect the COVID-19 pandemic rather than the minimum wage: New York City hospitality employment fell about 42% between 2019 and 2020, compared with about 25% in Pennsylvania, and by 2025 it had returned to roughly the same level relative to 2018 as Pennsylvania.

To test the strength of these results, the analysis compares only border counties in New York and Pennsylvania. This restricts the Remainder-of-NY cohort to the 10 New York counties that physically border Pennsylvania (Chautauqua, Cattaraugus, Allegany, Steuben, Chemung, Tioga, Broome, Delaware, Sullivan, and Orange) and restricts the control group to only the 9 Pennsylvania counties on the other side of that line (Erie, Warren, McKean, Potter, Tioga, Bradford, Susquehanna, Wayne, and Pike) rather than all 67 Pennsylvania counties. This is a cleaner geographic comparison than the full-state comparison, because the counties have similar rural and small-metro economies and are directly adjacent to each other, but it comes at the cost of a much smaller sample (19 counties and 285 observations). Tables 8 and 9 report the results.

Table 8*Border-County Estimates of the Effect of the Minimum Wage on Hospitality Employment (Level)*

Specification	ATT	SE
No covariates	-22.57	31.29
With covariates	-8.52	26.07

Note. ATT = average treatment effect on the treated, for the 10 New York border counties compared with the 9 Pennsylvania border counties (control group, never treated). SE = standard error from a wild bootstrap (1,000 replications). Covariates are median household income, population, and percentage of adults with a bachelor's degree or higher (2011 baseline). No estimate is statistically significant at $p < .05$.

Table 9*Border-County Estimates of the Effect of the Minimum Wage on Hospitality Average Weekly**Wage (Dollars)*

Specification	ATT	SE
No covariates	0.08	5.54
With covariates	-4.05	5.08

Note. ATT = average treatment effect on the treated, for the 10 New York border counties compared with the 9 Pennsylvania border counties (control group, never treated). SE = standard error from a wild bootstrap (1,000 replications). Covariates are median household income, population, and percentage of adults with a bachelor's degree or higher (2011 baseline). No estimate is statistically significant at $p < .05$.

Looking only at the border counties, neither hospitality employment nor hospitality wages are statistically different from zero. This should not be unexpected, since workers can travel across county lines to find work and the counties share the same employment areas. Together, this reinforces the overall results above of only a small employment effect.

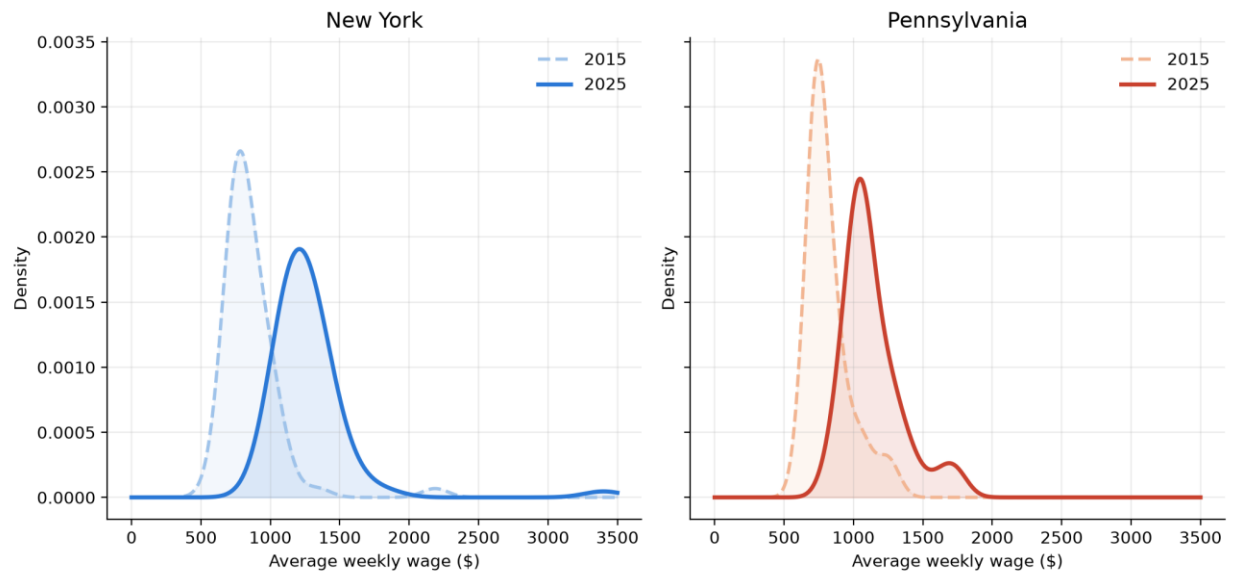
Distribution of Wages

Wages for both New York and Pennsylvania have changed over time. Figure 2 shows the distribution of county average weekly wages for both states using BLS data. The distribution is shown for 2015, the year before the minimum wage change, and for 2025. In both states, the distribution shifted to the right.

Figure 2

Distribution of County Average Weekly Wages in New York and Pennsylvania, 2015 and 2025

(Nominal Dollars)



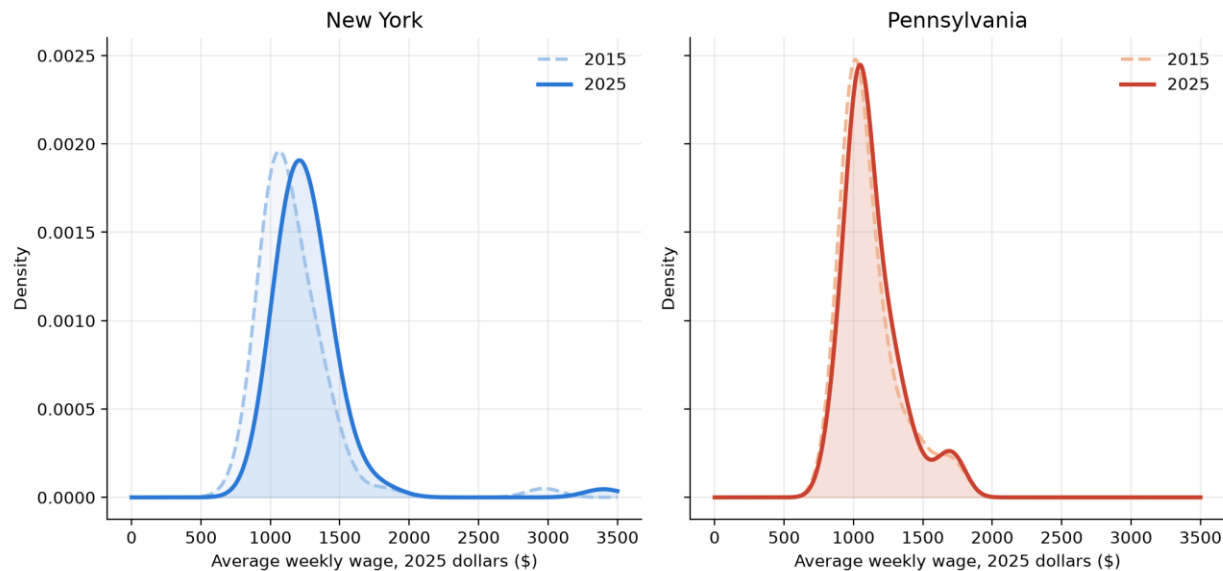
Note. Kernel density estimates across 62 New York counties and 67 Pennsylvania counties. Data from U.S. Bureau of Labor Statistics (n.d.-c).

Figure 2 does not consider inflation. Figure 3 adjusts for inflation using the BLS Consumer Price Index (U.S. Bureau of Labor Statistics, n.d.-a) and expresses 2015 wages in constant 2025 dollars.

Figure 3

Distribution of County Average Weekly Wages in New York and Pennsylvania, 2015 and 2025

(Constant 2025 Dollars)



Note. Kernel density estimates across 62 New York counties and 67 Pennsylvania counties. 2015 wages are expressed in constant 2025 dollars using the Consumer Price Index (U.S. Bureau of Labor Statistics, n.d.-a). Data from U.S. Bureau of Labor Statistics (n.d.-c).

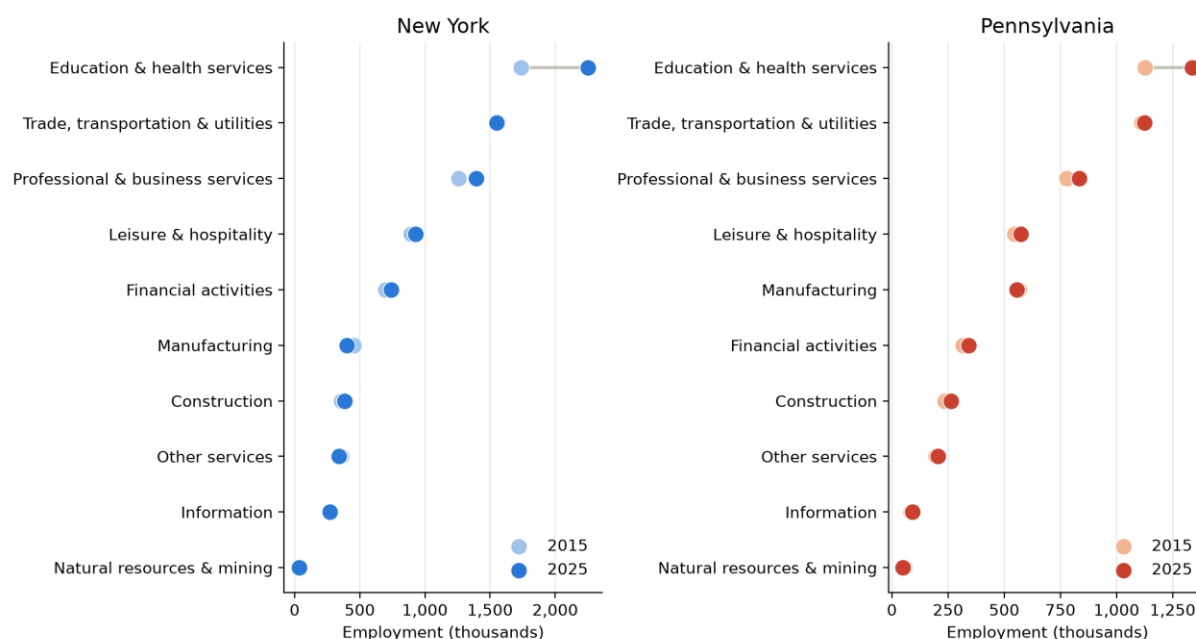
Figure 3 makes clear that workers in New York, in general, saw a real increase in their wages, while wages in Pennsylvania were stagnant. This supports the DiD results of a small but significant increase in wages in New York.

Distribution of Employment by Industry

Like most other states, both New York and Pennsylvania grew fastest in education and health services, which was the largest gain in absolute terms for both New York (+513,000 jobs) and Pennsylvania (+211,000 jobs). Figure 4 shows employment by industry in 2015 and 2025.

Figure 4

Private-Sector Employment by Industry in New York and Pennsylvania, 2015 and 2025



Note. Industries are the 10 BLS supersectors, ranked within each state by 2025 employment. Data from U.S. Bureau of Labor Statistics (n.d.-c).

In most industries, employment was stagnant or grew only modestly. Manufacturing is an area where employment in New York declined faster than in Pennsylvania, with New York declining by 11.3% compared with 1.8% in Pennsylvania.

Total employment and hospitality employment, looking only at the border counties (Table 10), are consistent with the other results above, with New York doing somewhat better than Pennsylvania after the minimum wage increases were enacted.

Table 10*Private-Sector Employment in New York and Pennsylvania Border Counties, 2015 and 2025*

Measure	Region	2015	2025	Change (%)
Total private employment	NY border (n = 10)	444,405	452,272	+1.8
	PA border (n = 9)	232,727	222,479	-4.4
Hospitality employment	NY border (n = 10)	35,968	38,823	+7.9
	PA border (n = 9)	20,701	20,638	-0.3

Note. NY border = the 10 New York counties bordering Pennsylvania; PA border = the 9 Pennsylvania counties bordering New York. Data from U.S. Bureau of Labor Statistics (n.d. -c).

Share of Jobs Paying Below \$15 per Hour

The wage distributions above describe averages across counties. To see how many workers were actually affected, two worker-level data sets were used to estimate the share of jobs paying less than \$15 per hour: the CPS microdata (private wage and salary workers, for 2015 and 2024) and the OEWS (all ownership types, for 2014 and 2025). Because \$15 buys much less in 2025 than it did a decade earlier, a fixed nominal threshold overstates progress. Table 11 therefore reports the share below both \$15 and its inflation-adjusted equivalent, which is what \$15 in the base year is worth in 2025 dollars (\$20.37 for the CPS and \$20.40 for the OEWS).

Table 11*Share of Private Jobs Paying Less Than \$15 per Hour, Base Year and Latest Year*

Threshold	State	Base year (%)	Latest year (%)	Change (pp)
<i>CPS: private wage and salary workers (2015 and 2024)</i>				
Fixed \$15 (nominal)	NY	39.8	9.0	−30.8
	PA	42.3	12.2	−30.1
Real \$15 (2025 dollars)	NY	39.8	35.5	−4.3
	PA	42.3	37.9	−4.4
<i>OEWS: all ownership types (2014 and 2025)</i>				
Fixed \$15 (nominal)	NY	41.4	7.1	−34.3
	PA	46.3	17.9	−28.4
Real \$15 (2025 dollars)	NY	41.4	28.9	−12.5
	PA	46.3	38.4	−7.9

Note. pp = percentage points. CPS estimates use the National Bureau of Economic Research (n.d.) Merged Outgoing Rotation Group files; full-year 2025 CPS microdata were not yet available, so the latest year is 2024 and the real threshold (\$15 in 2015 restated in 2025 dollars using the Consumer Price Index; U.S. Bureau of Labor Statistics, n.d.-a) is applied to 2024 wages. OEWS estimates (U.S. Bureau of Labor Statistics, n.d.-b) interpolate each occupation's wage percentiles and include government employment.

In the base year, about 40% of New York's private jobs and 42% of Pennsylvania's paid less than \$15 per hour in the CPS data (41% and 46% in the OEWS data). Measured against a fixed nominal \$15, the share fell sharply in both states, but most of that decline reflects inflation, since nominal wages rose in both. After adjusting for inflation, the share of jobs paying less than the base-year equivalent of \$15 fell by about 4 percentage points in each state in the CPS data, and by 12.5 points in New York compared with 7.9 points in Pennsylvania in the OEWS data. The two sources therefore agree that low-wage jobs became less common in both states, but only the OEWS shows a clearly larger decline in New York. That larger decline may partly reflect New York's large public sector, which the OEWS includes and which tends to pay well above \$20 per hour, so it should be interpreted with caution.

Conclusions

The takeaway from New York State's minimum wage increases, which started in 2016, is that they raised wages while having little or no impact on employment. The Callaway and

Sant'Anna estimates show a significant hospitality wage gain of about \$30 per week pooled (about \$22 with covariates) and about \$27 per week for the rest of the state in both specifications. Descriptive data agree: New York's hospitality wages grew 15.3% in real terms compared with 11.8% in Pennsylvania statewide. In the counties along the New York–Pennsylvania line, the gap was much wider, at 26.7% versus 9.5%. Pennsylvania's county wage distribution barely moved in real terms from 2015 to 2025, while New York's shifted to the right, corroborating the other results.

Employment showed little or no impact from the increases in the minimum wage. There was no significant change for the state as a whole, and New York border counties added jobs (+1.8%) while Pennsylvania border counties lost jobs (−4.4%) over the decade. For hospitality, employment shows a small negative impact of about −121 jobs per county in the rest of New York, which is statistically significant only in the covariate-adjusted specification.

The results suggest that New York's minimum wage policy has had a positive impact on wages in general, and on the wages of low-income workers in particular, without a major decline in employment. This lends support to the monopsony model of Robinson (1933) and suggests that the perfectly competitive model is not the most appropriate. The caveat is that this finding is specific to the time period studied, although the results were robust to different specifications and data sets.

Further, in 2015 about 40% of New York's private jobs and 42% of Pennsylvania's private jobs paid less than \$15 per hour. After adjusting for inflation, the share of jobs paying less than the base-year equivalent of \$15 fell in both states, by about 4 percentage points in each state in the CPS data and by 12.5 points in New York compared with 7.9 points in Pennsylvania in the OEWS data (Table 11). The larger decline in New York in the OEWS data is consistent

with the policy benefiting low-income workers, although the CPS data show similar declines in both states.

New York's policy can be viewed as a success, some of which may be attributed to the phased-in implementation built into the program. It gave employers time to adjust to the wage increases and gave certainty to their costs. The policy calls for future minimum wages to be adjusted for inflation, which again gives employers some certainty. Given this certainty, there should be little impact on employment going forward from changes in the minimum wage. But with additional years of data and structural changes in the economy, these results should be monitored.

References

- Callaway, B., & Sant’Anna, P. H. C. (2021). Difference-in-differences with multiple time periods. *Journal of Econometrics*, 225(2), 200–230.
<https://doi.org/10.1016/j.jeconom.2020.12.001>
- Card, D., & Krueger, A. B. (1994). Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania. *American Economic Review*, 84(4), 772–793.
- Flood, S., King, M., Rodgers, R., Ruggles, S., Warren, J. R., Backman, D., Breton, E., Cooper, G., Rivera Drew, J. A., Richards, S., & Van Riper, D. (2025). *IPUMS CPS: Version 13.0* [Data set]. IPUMS. <https://doi.org/10.18128/D030.V13.0>
- National Bureau of Economic Research. (n.d.). *CPS merged outgoing rotation groups* [Data set]. <https://data.nber.org/morg/annual/>
- Neumark, D., & Wascher, W. (1994). Employment effects of minimum and subminimum wages: Reply to Card, Katz, and Krueger. *Industrial and Labor Relations Review*, 47(3), 497–512. <https://doi.org/10.1177/001979399404700309>
- New York State Department of Labor. (n.d.). *Minimum wage*. Retrieved September 24, 2026, from <https://dol.ny.gov/minimum-wage>
- Rios-Avila, F., Sant’Anna, P. H. C., & Callaway, B. (2025). *CSDID: Stata module for the estimation of difference-in-difference models with multiple time periods* [Computer software]. Boston College Department of Economics.
<https://ideas.repec.org/c/boc/bocode/s458976.html>
- Robinson, J. (1933). *The economics of imperfect competition*. Macmillan.
- StataCorp. (2025). *Stata statistical software: Release 19* [Computer software]. StataCorp LLC.

Stigler, G. J. (1946). The economics of minimum wage legislation. *The American Economic Review*, 36(3), 358–365.

U.S. Bureau of Labor Statistics. (n.d.-a). *Consumer price index* [Data set]. U.S. Department of Labor. <https://www.bls.gov/cpi/>

U.S. Bureau of Labor Statistics. (n.d.-b). *Occupational employment and wage statistics* [Data set]. U.S. Department of Labor. <https://www.bls.gov/oes/>

U.S. Bureau of Labor Statistics. (n.d.-c). *Quarterly census of employment and wages* [Data set]. U.S. Department of Labor. <https://www.bls.gov/cew/>

U.S. Census Bureau. (n.d.). *American Community Survey* [Data set]. <https://www.census.gov/programs-surveys/acs>

Appendix

Difference-in-Differences Methodology

Simple Difference-in-Differences

Each county has two potential outcomes in the after period: $Y(1)$, the outcome with the policy, and $Y(0)$, the outcome without it. The treatment effect of interest is the average difference for treated counties (the average treatment effect on the treated, ATT):

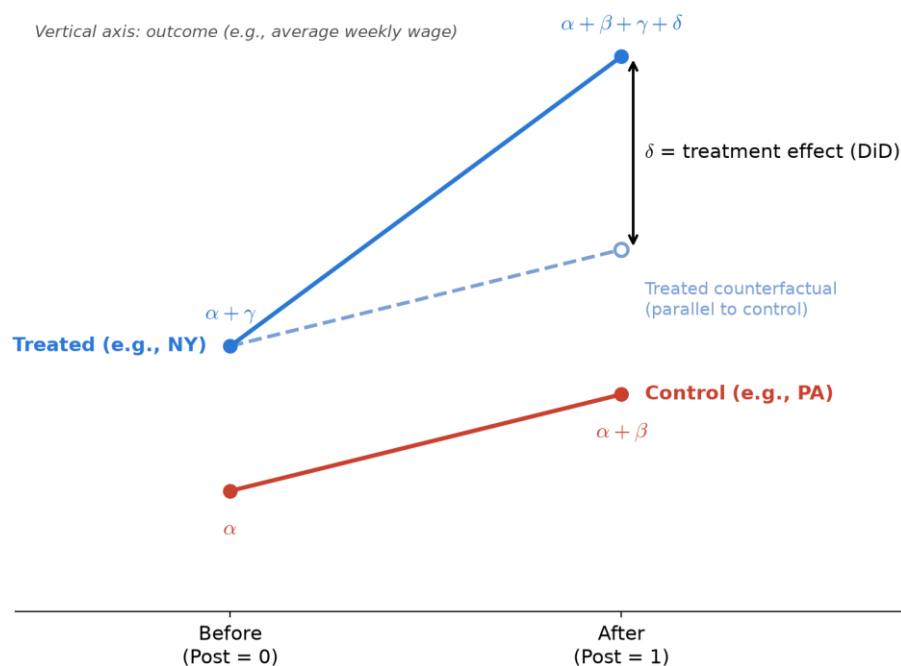
$$ATT = E[Y_{i1}(1) - Y_{i1}(0) | \text{Treat}_i = 1]$$

Only one of the two terms is ever observed for a treated county: after the policy, $Y(1)$ is seen but $Y(0)$ never is. The DiD design recovers the missing term under the assumption of parallel trends. In other words, in the absence of the policy, the untreated group would have followed the same trend as the treated group, which allows the two groups to be compared.

Figure A1 shows the trend assumption and the ATT effect. Under parallel trends, the treatment effect equals the change over time for the treated group minus the change over time for the comparison group, a difference of two differences:

$$\hat{\delta}_{\text{DiD}} = (\bar{Y}_{T,1} - \bar{Y}_{T,0}) - (\bar{Y}_{C,1} - \bar{Y}_{C,0})$$

where the bars are group averages, T denotes the treated group, C denotes the comparison group, and the second subscript is the period (0 = before, 1 = after).

Figure A1*The Simple Difference-in-Differences Design*

Note. Illustrative values. The dashed line shows where the treated group would have been had it followed the comparison group's trend; the gap between it and the treated group's actual outcome is the treatment effect, δ .

This can be rewritten in regression form, which allows additional variables (such as county population and median income) to be included:

$$Y_{it} = \alpha + \beta \text{Post}_t + \gamma \text{Treat}_i + \delta (\text{Treat}_i \times \text{Post}_t) + \varepsilon_{it}$$

where the coefficient on the interaction term, δ , is the DiD estimate of the treatment effect:

$$\text{ATT} = \delta_{\text{DiD}}$$

This is the basis for the results reported in this paper, adjusted for different regions and start times.

Staggered Difference-in-Differences

Minimum wage studies traditionally use difference-in-differences methods to evaluate policy effects. A staggered DiD model is more appropriate for New York because the state phased in its minimum wage policy across regions and years.

New York's minimum wage did not rise on a single date. New York City reached \$15 per hour in 2019, Long Island and Westchester in 2022, and the rest of the state in 2024. Pennsylvania's minimum wage never changed. A single two-way fixed-effects regression run across all counties and all years would implicitly use already-treated counties (for example, New York City after 2019) as part of the comparison group for counties treated later (for example, the Remainder of New York in 2024). Because New York City's own wages were already responding to its own treatment, this contaminates the comparison and can bias the estimated effect, in some cases giving it the wrong sign. This is the problem that staggered-adoption difference-in-differences methods, including that of Callaway and Sant'Anna (2021), are built to avoid.

The staggered model is built from employment or wage data and is repeated many times: the average effect of treatment on a specific cohort (group) g , measured at a specific calendar time t , relative to what that cohort's outcome would have been without treatment. The comparison is between the treated group at a certain time and the groups that have not yet been treated.

Because different groups are treated at different times, their effects must be aggregated into a single statistic. This is what the Callaway and Sant'Anna (2021) method proposes. They aggregate in three ways: by cohort (one number per treatment group), by event time (an event-

study profile), and overall (one pooled headline number). All of these are simple weighted averages of the same underlying grid of estimates, and they give the results reported above.