

## MEMORANDUM

To: Ginny Sawyer and DeAngelo Bowden, City of Fort Collins

From: Dan Guimond, Rachel Shindman, and Carson Bryant,  
Economic & Planning Systems

Subject: Minimum Wage Increase Literature Review;  
EPS # 213166

Date: August 22, 2022

*The Economics of Land Use*




This memorandum summarizes the major findings from EPS' review of studies on the economic impacts of U.S. cities raising the minimum wage above the federal or state level.

A substantial body of research exists on the effects of local minimum wage policies on local economies. This literature review draws from eight peer-reviewed studies published from 2007 to 2022, all examining the local impacts of local minimum wage increases. While a broader set of research exists concerning larger-scale wage increases (such as a statewide minimum wage increase), for this effort it is important to focus on the impacts of local wage changes. This report focuses on recent research that shows the impact of local minimum wage policies on five key factors: Employment, Earnings, Prices, Employee Retention, and Business Turnover.

*Economic & Planning Systems, Inc.  
730 17th Street, Suite 630  
Denver, CO 80202-3511  
303 623 3557 tel  
303 623 9049 fax*

*Denver  
Los Angeles  
Oakland  
Sacramento*


## Employment



THE RESEARCH ON LOCAL MINIMUM WAGE POLICIES SHOWS THAT INCREASING THE MINIMUM WAGE GENERALLY DOES NOT HAVE A NEGATIVE IMPACT ON EMPLOYMENT AND DOES NOT LEAD TO OVERALL JOB LOSS.

- The 2019 study *Minimum Wage Across State Borders* analyzed the impact of a higher minimum wage on employment using data from adjacent counties across a state border over a 16-year period. It determined that a higher minimum wage had practically no negative effects on employment, finding that a 10 percent increase in minimum wage was associated with a reduction in employment of less than 1 percent. Based on this estimate, the study also found that a higher minimum wage increased aggregate earnings for workers. [Arindrajit Dube, T. William Lester, and Michael Reich. 2019. "Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties." *The Review of Economics and Statistics*, 2010 92:4, 945-964.]
- A 2018 study, *The New Wave of Minimum Wage Policies*, focused on the food service industry examining the effect of higher local minimum wages in six cities – Chicago, DC, Oakland, Seattle, San Jose, and San Francisco. It found that a 10 percent increase in the minimum wage had a corresponding effect on employment ranging from a -0.3 percent decrease to a 1.1 percent increase. The study concluded that a higher minimum wage had an impact on employment that was effectively zero. [Allegretto, S., Godoey, A., Nadler, C., & Reich, M. 2018. "The New Wave of Local Minimum Wage Policies: Evidence from Six Cities." *Center on Wage and Employment Dynamics Policy Report*.]
- *The Economic Effects of a Citywide Minimum Wage* (2007) looked at the effect of increasing local minimum wage in San Francisco on restaurant employment. It found no increase in the rate of employment loss or business closures resulting from a 26 percent increase in the minimum wage. Additionally, it documented that the policy change led to increased worker pay and reduced wage inequality. [Arindrajit Dube, T. William Lester, and Michael Reich. 2007. "The Economic Effects of a Citywide Minimum Wage." *ILR Review*, 2007 60:4, 522-543]


## Earnings

A blue decorative graphic consisting of several overlapping, semi-transparent shapes that create a sense of depth and movement, located to the left of the summary text.

THE RESEARCH STUDIES REVIEWED INDICATE THAT A HIGHER MINIMUM WAGE WILL TRANSLATE TO AN INCREASE IN TOTAL NET EARNINGS. HOWEVER, THE INCREASE IN EARNINGS IS NOT EQUAL; MORE EXPERIENCED WORKERS ARE MORE LIKELY TO BENEFIT THAN LESS EXPERIENCED WORKERS.

- A 2018 study, *Minimum-Wage Increases and Individual Employment Trajectories* evaluated the impact of a higher local minimum wage in Seattle on worker earnings. A key finding of the study was that while it found no evidence that raising the minimum wage led to reduced employment, it found evidence that raising the minimum wage led to reduced hours. For earnings, this meant that the increase in wages was partially offset by a reduction in hours. Overall, the study found that the increase in minimum wage increased pretax earnings for affected workers by \$10 per week, on average. However, more experienced workers (those working more than the median number of hours over the previous two quarters) experienced nearly all of the gain in earnings with an average pay increase of \$19 per week, reflecting both higher wage increases and lesser reductions in hours, compared to less experienced workers who saw lower wage increases and relatively greater reductions in hours, leading to a pay increase of only \$1 per week. [Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2018. "Minimum-Wage Increases and Individual Employment Trajectories." *National Bureau of Economic Research, Working Paper 25182*.]
- A 2022 study by the same research team focused on the same policy changes, utilizing a different methodology but finding similar results. Looking at 'low-wage' employment at under \$19 per hour - twice the minimum wage before the increases were implemented - it found that raising the minimum wage led to no reduction in the probability of a low-wage worker being employed. Rather than reducing overall employment, employers responded to a higher minimum wage by reducing hours per worker, partly offsetting gains in wages. Overall, the study estimated that low-wage workers received an average increase in earnings of \$153 per quarter in the year following the implementation of the higher minimum wage. However, this gain accrued exclusively to more experienced workers, who saw average earnings increase by \$296 per quarter, while less experienced workers saw no increase in earnings. [Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2022. "Minimum-Wage Increases and Low-Wage Employment: Evidence from Seattle." *American Economic Journal: Economic Policy*, 14 (2): 263-314.]


## Prices



THE STUDIES REVIEWED INDICATE THAT RAISING THE LOCAL MINIMUM WAGE DOES NOT INCREASE OVERALL PRICES IN MOST SECTORS, INCLUDING GROCERY, GAS, GENERAL RETAIL, AND DRUGSTORES, BUT DOES LEAD TO INCREASED PRICES AT RESTAURANTS.

- A 2019 study examined the effect of increasing the minimum wage from \$9.47 per hour to \$13 per hour in Seattle and found an impact of less than 1 percent on prices in general retail, drugstores, gas, housing, and grocery. This study did find an impact on restaurant prices, which increased by approximately 8 percent after the higher minimum wage was implemented, although the authors are hesitant to attribute all of the increase to a higher minimum wage. [Buszkiewicz, James, Anne K. Althausen, Emmi E. Obara, Scott W. Allard, and Jennifer L. Romich. 2019. "The Impact of a City-Level Minimum Wage Policy on Supermarket Food Prices by Food Quality Metrics: A Two-Year Follow Up Study" *International Journal of Environmental Research and Public Health*, 16, no. 1: 102.]
- Another key study from 2018 analyzed the impact of a higher minimum wage on grocery prices in Seattle. This effort tracked prices on a market basket of 106 goods across six supermarket chains in Seattle at four points in time over two years during which the minimum wage increased from \$9.47/hour to \$11/hour, from \$11/hour to \$13/hour, and from \$13/hour to \$15/hour. The study found no evidence of price changes on the market basket of goods resulting from these increases in the minimum wage. In addition, there was no change in price by food group, by level of food processing, or by nutrient density. [Buszkiewicz, James, Cathy House, Anju Aggarwal, Mark Long, Adam Drewnowski, and Jennifer J. Otten. 2019. "The Impact of a City-Level Minimum Wage Policy on Supermarket Food Prices by Food Quality Metrics: A Two-Year Follow Up Study" *International Journal of Environmental Research and Public Health* 16, no. 1: 102.]
- A 2018 study looked at the effect of a higher minimum wage in San Jose on prices at restaurants by analyzing internet-based menus. It found that restaurants responded to a 25 percent increase in the minimum wage by increasing prices, on average, by 1.5 percent. The authors indicate that restaurants in San Jose used a price-pass through mechanism to absorb higher costs from a higher minimum wage, rather than by reducing employment. [Arindrajit Dube, T. William Lester, and Michael Reich. 2007. "The Economic Effects of a Citywide Minimum Wage." *ILR Review*, 2007 60:4, 522-543.]


## Employee Retention



THE STUDIES REVIEWED INDICATE A HIGHER MINIMUM WAGE LEADS TO REDUCED RATES OF EMPLOYEE TURNOVER AND GREATER EMPLOYEE RETENTION, BENEFITTING BOTH EMPLOYEES, WHO SEE INCREASED JOB STABILITY, AND BUSINESSES, WHO INCUR REDUCED COSTS ASSOCIATED WITH EMPLOYEE TURNOVER.

- A 2014 study examined the effect of a higher minimum wage on the rate of employee turnover for restaurant workers and teens using minimum wage differences between contiguous counties at state borders. It found that a 10 percent increase in the minimum wage reduced the turnover rate of restaurant workers by 2.1 percent and of teens by 2.0 percent, translating to into reduced direct and indirect costs for businesses. [Arindrajit Dube, T. William Lester, and Michael Reich. 2014. "Minimum Wage Shocks, Employment Flows and Labor Market Frictions." *Journal of Labor Economics*, 2016 34:3, 663-704.]
- A 2018 study looked at the effect of Seattle raising the minimum wage from \$9.47/hour to \$13/hour on job turnover. It concluded that this increase in minimum wage was associated with an 8 percent reduction in the employee turnover rate among the employers studied. [Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2018. "Minimum-Wage Increases and Individual Employment Trajectories." *National Bureau of Economic Research, Working Paper 25182*.]
- The 2022 study on Seattle described above primarily focused on employment and earnings, but also found that raising the minimum wage increased the likelihood of workers remaining employed at their place of employment by approximately 3 percent, indicating reduced employee turnover. [Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2022. "Minimum-Wage Increases and Low-Wage Employment: Evidence from Seattle." *American Economic Journal: Economic Policy*, 14 (2): 263-314.]

## Business Exit Rates



THE RESEARCH REVIEWED INDICATES THAT RAISING THE MINIMUM WAGE LEADS TO A MINOR INCREASE IN BUSINESS CLOSURES, ALTHOUGH THE EFFECT IS RELATIVELY SMALL.

- A 2019 study analyzed the impact of a local minimum wage increase in Seattle on business exit rates. The study found that, in the initial increase from \$9.47/hour to \$11/hour, there was no effect on business exit rates. When the minimum wage increased from \$11/hour to \$13/hour, it found that the business exit rate increased from 51/1000 to 58/1000 as a result. Specifically, the authors note that a 1.0 percent increase in business costs led to a 0.2 percent increase in the exit rate. The authors concluded that a higher minimum wage has a negative impact on businesses, but the magnitude of harm is small. [[Jardim, Ekaterina and Emma van Inwegen. 2019. "Payroll, Revenue, and Labor Demand Effects of the Minimum Wage." \*Upjohn Institute Working Paper\*, 19-298.](#)]

## Works Cited

Allegretto, S., Godoey, A., Nadler, C., & Reich, M. 2018. "The New Wave of Local Minimum Wage Policies: Evidence from Six Cities." *Center on Wage and Employment Dynamics Policy Report*.

Arindrajit Dube, T. William Lester, and Michael Reich. 2007. "The Economic Effects of a Citywide Minimum Wage." *ILR Review*, 2007 60:4, 522-543.

Arindrajit Dube, T. William Lester, and Michael Reich. 2014. "Minimum Wage Shocks, Employment Flows and Labor Market Frictions." *Journal of Labor Economics*, 2016 34:3, 663-704.

Arindrajit Dube, T. William Lester, and Michael Reich. 2019. "Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties." *The Review of Economics and Statistics*, 2010 92:4, 945-964.

Buszkiewicz, James, Cathy House, Anju Aggarwal, Mark Long, Adam Drewnowski, and Jennifer J. Otten. 2019. "The Impact of a City-Level Minimum Wage Policy on Supermarket Food Prices by Food Quality Metrics: A Two-Year Follow Up Study" *International Journal of Environmental Research and Public Health* 16, no. 1: 102.

Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2018. "Minimum-Wage Increases and Individual Employment Trajectories." *National Bureau of Economic Research*, Working Paper 25182.

Jardim, Ekaterina and Emma van Inwegen. 2019. "Payroll, Revenue, and Labor Demand Effects of the Minimum Wage." *Upjohn Institute Working Paper*, 19-298.

Jardim, Ekaterina, Mark C. Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething. 2022. "Minimum-Wage Increases and Low-Wage Employment: Evidence from Seattle." *American Economic Journal: Economic Policy*, 14 (2): 263-314.