

Are minimum wage increases absorbed by small price increases?

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Overview

On November 8, 2016, voters in Arizona, Colorado, Maine and Washington enacted large increases in their states' minimum wage levels—to \$12 and higher. These states join California, New York, Oregon and eight large cities that will be increasing their minimum wages to levels at or near \$15. What are the expected effects of such minimum wage increases? Will they reduce jobs, lead to price increases, and/or reduce profits? In a [new paper](#), we take advantage of the emergence of websites such as AllMenus and GrubHub to obtain information about restaurant menu prices, and show that an overnight 25 percent increase in San Jose in 2013 led to price increases, on average, of about 1.5 percent. San Jose was thus able to substantially boost the wages of the lowest paid workers without layoffs or reducing the competitiveness of its restaurants. These results suggest that the new and higher minimum wages may primarily transfer income from most consumers to low-wage workers.

1. Introduction

An increasing number of states and cities have set minimum wages that are much higher than the federal level of \$7.25. California, New York State and Oregon recently enacted phased-in minimum wage increases to \$15 (slightly less in Oregon) by 2023. On November 8, 2016, Arizona, Colorado and Maine voted to increase their minimum wage levels to \$12 by 2020; Washington State voted a \$13.50 minimum by 2020. Many cities, including Chicago, Los Angeles, Oakland, San Francisco, Seattle and Washington, DC have enacted minimum wages of \$13 or \$15. And on November 15, 2016, the San Jose City Council approved a citywide minimum wage of \$15 by 2019. These state and local wage standards are higher than any previous minimum wages in the U.S.

Beyond the mandated pay increases for low wage workers, what are the likely economic effects of such higher minimum wages? Higher wage standards might reduce employment and hours, increase prices and/or decrease profits. (They might also increase worker productivity, reduce worker turnover and add to consumer demand.¹ However, recent research suggests that these effects are likely to be of smaller importance.²) A recent meta-analysis of minimum wage studies demonstrates that moderate minimum wage increases in the U.S. led to small or no significant losses of jobs or hours.³ It follows that the negative distributive effects of minimum wage increases depend mainly on whether consumers or business owners bear the costs through either price increases or reduction in profits.

Federal and state minimum wage increases in the period 1979-2015 directly raised pay for at most 8 percent of the pertinent workforce. In contrast, the new bolder wave of higher state and local minimum wages is expected to increase pay for 20 to 37 percent of the state and local workforces.

We examine here a local minimum wage experiment that sheds light on how these higher minimum wages might be absorbed. San Jose's minimum wage increased from \$8 to \$10 on March 11, 2013, raising pay for about 26 percent of the workforce.⁴ Although San Jose, also known as the "Capital of Silicon Valley," has the highest median household income of the 25 most populous cities in the U.S., it also has a substantial low-wage workforce and very high living costs. In a new paper, we show that the overnight 25 percent increase in San Jose did not lead to employment losses but did lead to modest price increases among restaurants.⁵ These price increases absorbed nearly all the cost increases that restaurants faced as a result of the higher wage floor.

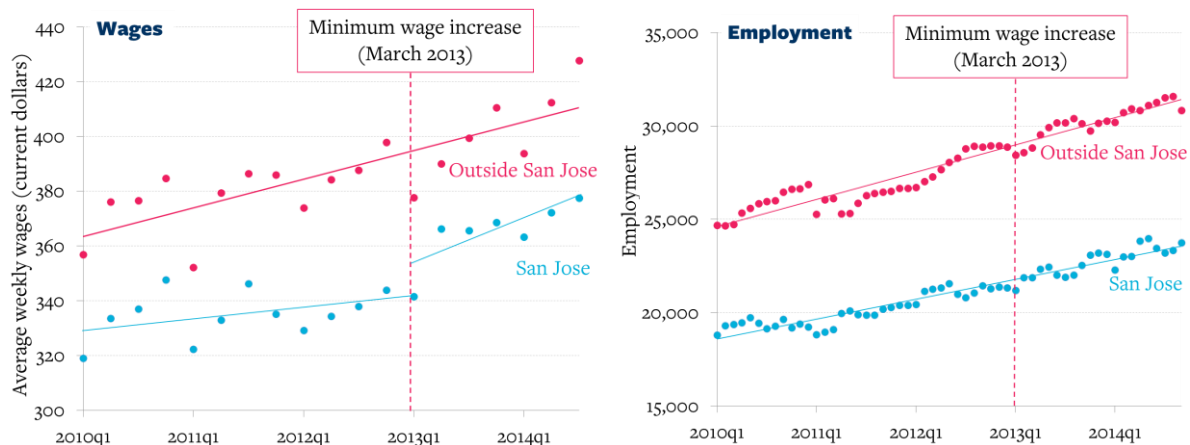
2. Effects of the 2013 minimum wage hike in San Jose

To investigate the effects of San Jose’s minimum wage increases, we conducted a before and after study that compares outcomes in the “treatment” area of San Jose with areas just outside the city that also lie within Santa Clara County—our non-treated control area. This local labor market is highly integrated and therefore well-suited for such an analysis. The economic outcomes that we analyze are wages, employment, and prices in the restaurant industry. Our data on pay and employment come from the Bureau of Labor Statistics’ Quarterly Census of Wages and Employment (QCEW).⁶

We examine restaurants because they employ more low-wage workers than any other industry, and because the share of workers who are paid low wages is higher in restaurants than in any other industry. Since restaurants are also more labor-intensive than other low wage industries, any effects on employment and prices should be greater than in any other industry.

The 25 percent minimum wage increase did raise earnings for San Jose’s restaurant workers—showing that there was a “treatment” effect. The left panel of Figure 1 shows that average weekly wages in San Jose restaurants increased, from about \$340 just before the minimum wage increase, to about \$350 right after. But there is no break in the wage series for the rest of Santa Clara County.

FIGURE 1 Wages and employment in San Jose and the rest of Santa Clara County



Source: Allegretto, Sylvia and Michael Reich (forthcoming). Quarterly Census of Employment and Wages data for full- and limited-service restaurants.

Note: The vertical dashed line denotes the March 2013 date of the minimum wage increase. The Wages graph shows an OLS fitted line for wages outside San Jose and two separated OLS fitted lines for wages in San Jose: one before the minimum wage increase and the other after the increase. The Employment graph shows OLS fitted lines for employment inside and outside San Jose from 2010q1 to 2014q3.

This boost in wages did not reduce employment, even one year later. The right panel of Figure 1 shows that restaurant employment in San Jose and in the rest of Santa Clara County evolved along parallel trends.

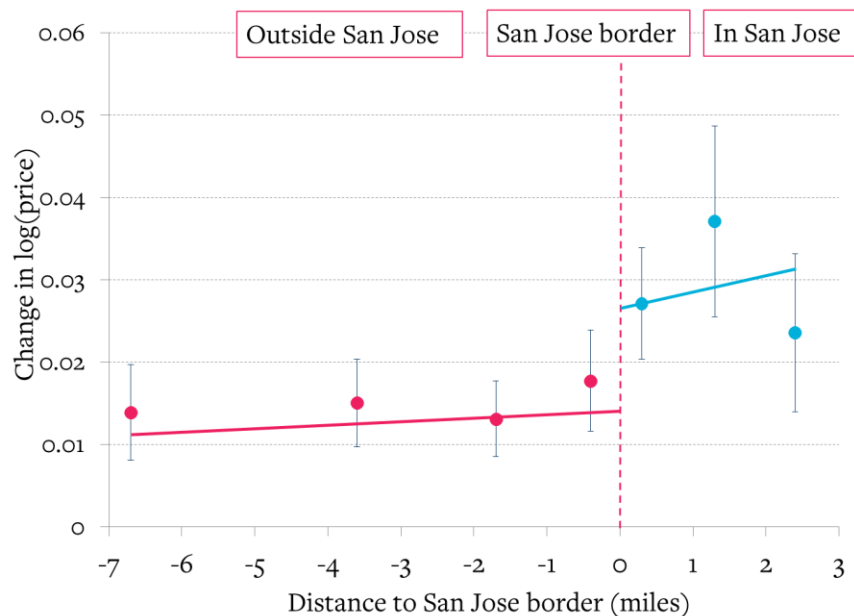
The increased pay and the lack of a discernible employment effect suggests that restaurants adjusted by increasing their prices. To address this question, we collected menus from restaurant websites—both before and after the minimum wage increase—for 884 restaurants, some inside San Jose and others nearby.⁷ We find that the 25 percent minimum wage increase led to average price increases of about 1.5 percent. In other words, a meal that cost \$10 before the minimum wage increase would cost \$10.15 afterward.

This price increase turns out to be quite similar to the higher restaurant operating costs that are attributable to the minimum wage increase. The change in operating costs is determined by the increase in payroll costs due to the minimum wage increase and by the importance of labor costs in operating costs. Previous studies have found that a 1 percent increase in the minimum wage raises restaurant wages by about 0.2 percent and that labor costs comprise about 30 percent of operating costs in restaurants. A 25 percent minimum wage increase therefore increases operating costs by $25 \times 0.2 \times 0.3 = 1.5$ percent.⁸

Our paper also examines differences in price responses among different types of restaurants. For example, we find that price increases were higher (2 percent) among limited-service (i.e., fast-food) restaurants than among full-service restaurants (1 percent). This differential response makes sense. Fast-food restaurant costs are more affected by minimum wage increases because their average pay is lower than in full-service restaurants.

Finally, we did not find any evidence that the minimum wage increase disadvantaged the competitiveness of San Jose's restaurants. As figure 2 shows, San Jose restaurants located close to the city border were able to raise their prices by amounts that were similar to increases by restaurants in the rest of the city. These results indicate that customers are not willing to travel short distances to save fifteen cents on a \$10 meal.

FIGURE 2 Relative price changes by distance to the San Jose border



Source: Allegretto, Sylvia and Michael Reich (forthcoming).

Note: The large dashed vertical line represents the San Jose City border. The negative mile markers outside San Jose represent positive miles from the San Jose border. 90 percent confidence intervals are plotted around each dot representing the change in log(price). The two lines correspond to OLS fitted lines: one is for outside San Jose, and the other for San Jose.

3. Policy implications

We draw the following conclusions from the 2013 San Jose experience:

- Although the local minimum wage increased overnight by 25 percent to \$10, it boosted wages without reducing employment.
- Firms increased their prices modestly, and in amounts similar to the actual cost increases they faced as a result of the minimum wage hike.
- These price increases did not undermine the local economy’s competitiveness relative to its neighbors.
- The higher local minimum wage effectively transferred income from consumers—who pay slightly higher prices—to a smaller group of low-wage workers, who benefit from large income gains.

San Jose recently followed other cities and states in enacting minimum wage increases: to \$15 by 2019. In a prospective study conducted for the city, Reich et al. (2016) estimate that this policy will also be mainly absorbed by modest price increases borne by consumers.⁹ Preliminary anecdotal evidence indicates that restaurant prices also increased after Oakland raised its minimum wage in April 2015—from \$9 to \$12.25. Future research will indicate whether the other upcoming state and local minimum wage increases to \$15 will also be absorbed mainly by modest price increases.

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Endnotes

¹ Reich, Michael, Claire Montialoux, Sylvia Allegretto, Ken Jacobs, Annette Bernhardt, Annette, and Sarah Thomason. 2016. “The Effects of a \$15 minimum wage by 2019 in San Jose and Santa Clara County.” *Policy Brief*, Center on Wage and Employment Dynamics, Institute for Research on Labor and Employment, University of California, Berkeley. <http://irle.berkeley.edu/the-effects-of-a-15-minimum-wage-by-2019-in-san-jose-and-santa-clara-county/>

² Dube, Arindrajit, T. William Lester and Michael Reich. 2016. “Minimum Wage Shocks, Employment Flows and Labor Market Frictions.” *Journal of Labor Economics* 34 (3): 663-704.

<http://www.journals.uchicago.edu/doi/abs/10.1086/685449>

³ Belman, Dale and Paul J. Wolfson. 2015. “15 Years of Research on U.S. Employment and the Minimum Wage.” Dartmouth University, *Tuck School of Business Working Paper No. 2750499*.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2705499##

⁴ Reich, Michael. 2012. “Increasing the Minimum Wage in San Jose: Benefits and Costs.” *Briefing Paper*, Center on Wage and Employment Dynamics, Institute for Research on Labor and Employment, University of California, Berkeley. <http://www.irle.berkeley.edu/cwed/briefs/2012-01.pdf>.

⁵ Allegretto, Sylvia and Michael Reich. Forthcoming. “Are Local Minimum Wages Absorbed by Price Increases? Estimates from Internet-based Restaurant Menus.” *ILR Review*. <http://www.irle.berkeley.edu/files/2015/Are-Local-Minimum-Wages-Absorbed-by-Price-Increases.pdf>

⁶ We use Quarterly Census of Employment and Wages (QCEW) data to compare restaurant wage and employment trends in San Jose to those in the urbanized adjoining areas of Santa Clara County. To exclude recession years, our sample begins in 2010q1 and ends in 2014q3, the most recent data available to us.

⁷ We use online data to obtain information on every menu item at 884 restaurants. Our balanced (two-wave) panel consists of 326 downloaded menu pairs from inside San Jose (treatment area) and 558 from outside of San Jose (control area). The first wave of data collection began at the end of November 2012, soon after the ballot measure was passed, and ended in early January 2013 (i.e., before the implementation date of March 11, 2013). For more information on the data collection methods and information on the representativeness of the data relative to all the restaurants in San Jose and Santa Clara County, see Online Appendix B in our paper.

⁸ This is a simplified version of the calculation in our paper, where we take into account cost savings for employers generated by employee turnover reductions. There we use a minimum wage elasticity of 0.208 (see Allegretto, Sylvia, Arindrajit Dube, Michael Reich and Ben Zipperer, forthcoming. “Credible Research Designs for Minimum Wage Studies: A Response to Neumark, Salas, and Wascher.” *ILR Review* <http://irle.berkeley.edu/credible-research-designs-for-minimum-wage-studies-a-response-to-neumark-salas-and-wascher/>), and estimated turnover savings of 15 percent of gross payroll costs (Dube, Arindrajit, Eric Freeman and Michael Reich Dube, “Employee Replacement Costs,” IRLE Working Paper 201-10, <http://irle.berkeley.edu/files/2010/Employee-Replacement-Costs.pdf> and Dube, Arindrajit, T. William Lester and Michael Reich 2016, “Minimum Wage Shocks, Employment Flows and Labor Market Frictions”). Consequently, a 25 percent minimum wage increase increases operating costs by $25 \times 0.208 \times (1 - 0.15) \times 0.3 = 1.3$ percent.

⁹ Reich, Michael, Claire Montialoux, Sylvia Allegretto, Ken Jacobs, Annette Bernhardt, Annette, and Sarah Thomason. 2016. *op. cit.*



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