# Minimum Wage Effects on Prices

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This project studies the effects of minimum wages on prices using a quasi-experimental design.

Employers' adjustment margins to higher minimum wages include employment levels and hours, employee turnover, price responses and business openings and closures. While we have considerable empirical evidence regarding employment, hours and employee turnover—including an influential body of research we have conducted ourselves—the empirics on price effects are scant. Recent minimum wage research has found very small to nonexistent effects on employment and hours and significant negative effects on worker turnover. However, the cost savings attributable to turnover reduction can explain at most one-fourth of the offsets to increased wage costs. In this context, increased attention to price effects is warranted. Moreover, other oft-made minimum wage arguments, such as their impact on the level of economic activity, depend heavily on the importance of price effects.

The most-cited price study, Aaronson, French and MacDonald (2008), uses restaurant data from the early 1980s to the mid1990s and finds a minimum wage price elasticity of 0.07. Combined with typical restaurant data on wage structure and the share of payroll in operating costs, this result suggests that businesses absorb higher minimum wages largely through price increases.

However, Aaronson et al.'s data covers a period with more inflation and much less state-level variation than more recently. Moreover, their data includes only a handful of prices per store and only about a dozen stores per metropolitan area. As in the older minimum wage employment studies, they do not examine whether time-varying heterogeneity in minimum wage effects biases their results.

In contrast, our research design focuses intensively on a single city. In November 2012, San Jose voters passed a citywide minimum wage ordinance that increased the city's wage floor from California's $8 minimum to $10. San Jose, the tenth largest city in the U.S., has the highest median income of any city and a highly unequal income distribution. The City of San Jose is embedded within heavily urbanized Santa Clara County; some of its borders are largely lines on a map rather than natural geographical boundaries. Our research questions address key concerns that were voiced during the campaign and in the economic literature: How much would prices increase in San Jose? Would San Jose businesses near the city border become less competitive relative to those on the other side of the border? How fast do such effects dissipate with distance from the border?

The implementation of San Jose's citywide policy provides a valuable quasi-experimental setting in which we can study how businesses actually responded to the policy. We focus on restaurants because they comprise the most intense users of low wage labor. We have taken a two- pronged approach to collect data: downloading menus directly from restaurant websites and using a software technique called 'scraping' (which extracts in digital form information from websites) to download menus from allmenus.com. To date we have approximately 1,550 menus: 1,150

from restaurant websites and 400 from using the scraping technique. We thus will have a unique dataset with which we can implement a causal identification strategy.

We initiated the first wave of data collection soon after the ballot measure passed and completed it in early January 2013, well before the policy's March 11, 2013 implementation date. In our second wave, six months later, we collected menus for the same restaurants represented in the first round. In contrast to our expectations, the digitization of the menus has been highly labor intensive. Online menus are pictures: they contain the same complex graphics and formats as printed menus. Moreover, they often run to several hundred items in a variety of food and drink categories. As a result, we have had to manually input the menu data to upload them into a usable digitized analytical database. This lengthy and costly process is still in its early stages.

This study is the first large-scale research project of its kind. We have a much larger sample of restaurants than in previous studies, with price data on every single menu item, and a much larger one-time minimum wage increase than in the previous literature. Moreover, we know the exact location of every restaurant, so that we can use distance to the border in our analysis. Our sample includes a substantial number of limited service and full service as well as restaurant chains with stores located on both sides of the city's border. We will thus be able to exploit the policy discontinuity at San Jose's city limits, compare limited-service and full-service restaurants, and compare chains with independents.