

**Impact of Foreign Workforce on Labor Market Outcomes of Natives in Economic Downturn:
Evidence from the Great Recession in Spain 2007-2013**

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In this paper, using the context of Great Recession in Spain, I investigate how during an economic downturn the presence of foreign-born workforce in a location mitigates the impacts of a negative demand shock on employment and earnings of natives.

Spanish unemployment rate spiked from 8.2% to 26.0% between 2007 and 2013. Although all local areas experienced the same nationwide shocks, some experienced more severe shocks than others. Provinces with high-share and low-share of foreign workforce¹ had similar pre-trends in unemployment, participation and employment. During the crisis, provinces with high-share of foreigners saw faster increase in unemployment, a bigger drop in participation and employment rates compared to provinces with lower share. Despite being hit harder by the crisis, areas with high-share of foreigners also recovered faster. Areas with high-share of foreigners saw their unemployment rates return back to pre-recession means while unemployment rates in areas with lower share of foreigners remained above pre-recession means, showing that longer lasting effects of the shock.

This paper aims to study the underlying mechanisms of this situation. Specifically, I explore how presence of a workforce that is highly responsive to labor market shocks (Cadena and Kovak, 2016), can influence the impact of a negative demand shock on the labor market outcomes of natives. I provide the first evidence on how individual employment outcomes and earnings of natives are impacted by presence of foreign-born workforce in a location during economic downturn.

I use the spatial variation in severity of the shock and share of foreign population, along with data that minimize selection threats to study how natives adapt in short and longer-term when faced with local employment shocks.

I use administrative data for Spain (*Muestra Continua de Vidas Laborales*), a 4% non-stratified random draw of the population, that follow individuals affiliated to social security at any point in 2004-2015. The longitudinal component allows one to track individuals' employment over time regardless of whether and where in Spain they migrate, making it possible to control for both pre-crisis (2007) and post-crisis sorting on labor supply.

I adopt an empirical design that closely follows earlier work using longitudinal individual-level data to estimate long-term impacts of labor market shocks (e.g. Autor et al. 2014; Davis and Von Wachter 2011; Yagan 2017). First I assign individuals to their province in 2007, where they faced the shock. Each individual's local shock equals the percentage point change in her 2007 location's unemployment rate between 2007 and 2013. Following Yagan (2017), I create bins using age-earnings-industry interactions based on pre-crisis observables (in 2006), to finely define comparable groups of individuals. Like earlier work, the identifying assumption is selection on observables: individuals within a bin were as good as randomly assigned across local areas within groups. Exploiting cross-area differences in shock's intensity, I study the labor market outcomes of similar workers across time.

¹ I group 25 provinces with the highest foreigner share into high-foreign and the remaining ones into a low-foreign share category.

In the first part of the paper I study the impact of the crisis on the outcomes of natives, without distinguishing locations by their share of foreign-born population. I find that conditional on 2006 age-earnings-industry fixed effects, a 1-percentage-point-larger 2007-2013 local unemployment shock caused working-age individuals' cumulative employment likelihood to be 0.38 percentage points and earnings to be, compared to pre-period earnings, 1423 euro lower by 2013, relative to starting the recession elsewhere. I find stronger effects for individuals with low initial wages and tenure.

In the second part of the paper, I investigate whether the presence of foreign-born population has any implications on natives' employment and earnings. I find that presence of foreign population improves cumulative earnings of the natives while employment outcomes are not affected. I find that low-skilled and younger natives benefit more compared to those who are high-skilled or who have high attachment to the labor force.

Finally, I investigate the potential mechanisms through which presence of foreigners could be leading to such results. Specifically I look at three margins of worker adjustment between employers, industries and regions in order to understand where the adjustment frictions arise and which types of workers face larger difficulty.

References

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