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House prices, collateral, and self-employment ☆

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ABSTRACT

We show the importance of the collateral lending channel for small business employment over the past decade. Small businesses in areas with greater increases in house prices experienced stronger growth in employment than large firms in the same areas and industries. To identify the role of the collateral lending channel separately from aggregate changes in demand, we show that this effect is more pronounced in industries that need little start-up capital and in which housing collateral is more important. This increase is also present in manufacturing industries, particularly those that ship goods over long distances. In aggregate, the collateral lending channel explains 15–25% of employment variation.

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1. Introduction

The boom-and-bust cycle of house prices over the past decade has featured prominently in explanations of the low unemployment during the surge in house prices and the high unemployment that followed the real estate bust. The debate has focused on two primary explanations for the observed employment dynamics. One view is that consumers' use of their houses as "ATMs" drove demand and created employment during the surge in prices, so employment suffered when aggregate demand dropped because of household deleveraging and falling house prices (see, e.g., Mian and Sufi, 2014; New York Times, 2011). The other view is that the increase in house prices and the rise in labor demand in the construction industry masked structural mismatches in the workforce caused by job losses in the manufacturing sector (see Kocherlakota, 2010; Charles, Hurst, and Notowidigdo, 2012).

Our paper finds an alternative channel that has received much less attention but significantly affects the dynamics of employment creation over the business cycle: the impact of the collateral lending channel, especially mortgage lending, on employment in small businesses. Seminal papers by

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Bernanke and Gertler (1989) and Kiyotaki and Moore (1997) and research since theirs suggest that improvements in collateral values ease credit constraints for borrowers and can have multiplier effects on economic growth. This collateral lending channel builds on the idea that information asymmetries between banks and firms can be alleviated more easily when collateral values are high and firms, therefore, can have higher leverage (Rampini and Viswanathan, 2010) and that these problems are especially acute for small, more opaque firms (Kashyap, Stein, and Wilcox, 1993; and Gertler and Gilchrist, 1994). Yet it has been difficult to cleanly identify the causal direction of the collateral effect empirically. The challenge is that, on the one hand, increased collateral values facilitate lending but that, on the other hand, higher collateral values can be the result of improvements in economic conditions (e.g., Iacoviello, 2005).

This paper is the first to look directly at shocks to home values and consider the impact these shocks have on employment in small firms relative to large firms. To identify the causal effect of higher house prices, we instrument for the growth in prices between 2002 and 2007 using the elasticity measure developed by Saiz (2010). This measure uses exogenous geographic and regulatory constraints to housing supply to differentiate areas where an increase in housing demand translates into higher house prices and more collateral value (areas where it is hard to build—that is, in which the elasticity of the housing supply is low) or into higher volume of houses built (areas with high elasticity). By relying on exogenous restrictions on the expansion of housing volumes, we can identify the effect of high collateral values on employment in small businesses. This identification strategy is similar to Chaney, Sraer, and Thesmar (2012), who look at corporate investment decisions, and Mian and Sufi (2011), who examine increases in consumption from household leverage.

We show that, during the housing price boom of 2002–2007, areas with rising house prices (and increased leverage) experienced a significantly bigger increase in small business starts and a rise in the number of people who were employed in establishments with fewer than ten employees compared with areas that did not see an increase in house prices. The same increase in employment cannot be found for large establishments in these same areas. In fact, the effect of home prices on job creation decreases monotonically with firm size. This asymmetric effect on small versus large holds only for instrumented house prices, which suggests that the noninstrumented part of the variation (the one that captures endogenous demand) chiefly impacts employment at larger firms. This asymmetry points to the interpretation of the collateral lending channel as an important driver of employment creation particularly for small firms, as large firms have access to other forms of financing and should be less affected by the collateral channel. In fact, if large firms are also affected by the increase in real estate values, our estimates could understate the effect of the collateral channel on total employment. In further support of the collateral lending channel, we show that areas with higher house price growth are those with HELOC (home equity line of credit) financing and cash out refinancing, which makes this capital available for people to also start new businesses.

Although the result above supports the importance of the collateral channel for small business creation, two alternative hypotheses must be ruled out as explaining our results. The first hypothesis is that increases in housing prices can drive local demand for goods (Campbell and Cocco, 2007) and, consequently, employment at non-tradable industries (Mian and Sufi, 2014). To the extent that small firms could be more sensitive to changes in demand (Kashyap and Stein, 1994), the asymmetry in the results could reflect increased consumer demand instead of use of the collateral lending channel. The second alternative hypothesis results from our use of housing and zoning restrictions for obtaining identification, because we rely on cross-sectional differences between high- and low-elasticity areas. These areas could also vary in other characteristics, such as the level of economic vitality. For example, not only could areas with low housing elasticity see higher home prices when demand for housing picks up—and therefore increased available collateral—but they could also be the areas where more investment opportunities become available.

We devise a number of tests to differentiate the impact of the collateral lending channel from these alternative hypotheses. First, we verify that the results are not driven by changing industry composition. Even within industries, areas with increasing home prices saw stronger employment growth in smaller establishments than areas with stagnant prices.[1]

Second, narrowing in on the importance of collateral for business financing, we look at variation across industries in the amount of start-up capital needed to create a new firm. The minimal feasible scale of businesses differs across industries, and the availability of collateral matters more or less depending on that minimal scale. For example, some businesses, such as home health care services, can be started with small amounts of capital that could reasonably be financed through appreciation in home values. In contrast, many sectors within manufacturing, for example, require large amounts of capital and fixed investments. The capital needs in these areas are too high to be financed via individual loans against property. This strategy is similar to the approach used in Hurst and Lusardi (2004).

Our results follow exactly the predicted pattern: When we repeat our regressions disaggregated into industries with above and below median needs for start-up capital, we find that the effect of house price increases on the creation of employment in small establishments is especially strong among industries with lower capital needs. These results confirm that the collateral lending channel plays an important role in shaping employment dynamics. Borrowing against housing wealth allows people in areas with more rapid home price appreciation to start small businesses and drives the increase in employment at these small firms.

Third, we confirm that our results are not driven by the non-tradable or construction sectors. If the relation between increasing housing price and job creation in small firms were purely constrained to the non-tradable or construction sectors, one would be concerned that the results are driven

[1] A similar relation exists when we include proprietorships and unincorporated businesses in the regressions.

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