

Mortgage Concentration, Foreclosures and House Prices

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The recent collapse of the US housing market has been followed by a dramatic increase in mortgage defaults, which have often led to foreclosures. Empirical evidence shows that foreclosures are associated with price declines of neighboring houses (Campbell, Giglio and Pathak, 2011), either because poor maintenance of foreclosed properties affects the quality of nearby houses (Harding, Rosenblatt, Yao, 2009), or because foreclosures increase the supply of homes in illiquid markets (Anenberg and Kung, 2013). Thus, foreclosures appear to create a negative externality. For instance, foreclosures may lead to contagious defaults because they affect the social norm regarding the repayment of mortgages (Guiso, Sapienza and Zingales, 2013), or because house price declines trigger further defaults by borrowers with negative home equity (Elul, Souleles, Chomsisengphet, Glennon, and Hunt, 2010)

In this paper, we argue that the feedback loop between foreclosures and house prices is mitigated in neighborhoods where lenders hold larger shares of outstanding mortgages. The extent to which a lender is directly exposed to mortgage losses in a neighborhood affects the lenders' incentives to foreclose or renegotiate defaulting mortgages. This in turn has an effect on the dynamics of house prices and bank losses in that neighborhood. We first present a stylized model to illustrate how the incentives to foreclose are weaker for a lender that retained a large proportion of the outstanding

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mortgages in the neighborhood. Next, we use U.S. zip code level data on the concentration of outstanding mortgages, foreclosures and house prices to test the model's predictions.

In the model, defaults occur when negative income shocks make borrowers unable to honor their mortgage debt obligations. These liquidity defaults may lead to renegotiations or foreclosures depending on lenders' stakes in the local mortgage markets. When the provision of credit is dispersed, foreclosure decisions are taken in isolation, and small lenders do not internalize the pecuniary externality that their decisions have on local housing prices. In these markets, liquidity defaults cause house prices declines, and are followed by strategic defaults, as borrowers with negative equity that can afford to repay find it optimal to default.

In contrast, a lender with a large proportion of the outstanding mortgages in the neighborhood internalizes the adverse effects of liquidation decisions and has stronger incentives to renegotiate defaulting loans. More renegotiations reduce the adverse effects of negative shocks on the demand for housing leading to lower rates of house price depreciation and weakening other borrowers' incentives to strategically default. As a consequence, in neighborhoods with high outstanding mortgage concentration, even small banks that foreclose defaulting mortgages experience smaller losses.

To test the implications of this theory, we use differences in mortgage lending concentration, foreclosure rates, and house prices across U.S. zip codes during the 2004-2009 period. Zip codes are the finest geographical units for which we are able to explore price changes in a broad cross-section of areas and arguably the largest within which foreclosures may be expected to have a negative externality on house prices. Consistent with the model's predictions, following negative income shocks, house prices drop to a lower extent in areas where few lenders retained a large share of outstanding mortgages on their balance sheets. A one-standard deviation increase in the mortgage concentration index reduces the fall in house price associated with a negative income shocks by 4 percent.

The results are robust to the inclusion of standard controls for local housing, income and demographic characteristics as well as for aggregate nationwide trends. The results are also robust to the use of alternative indexes of market concentration and are not driven by the fact that counties with high concentration experienced smaller house price appreciation before the negative income shock.

Differences in ex ante competition across geographical areas are also unlikely to explain our findings: Not only we control for differences in ex ante mortgage contracts across geographical areas such as the average loan-to-value ratio, mortgage per capita and proxies for borrower creditworthiness, but our results are robust within MSAs and within counties. Since borrowers can approach lenders in larger geographical areas, ex ante competition is expected not to vary within a county or an MSA, while the negative externality due to foreclosures and the mitigating effect of mortgage concentration are expected to be stronger within a smaller geographical area such as the zip code.

To strengthen the interpretation of these findings, we test three additional implications of our theory. First, even lenders without a large share of outstanding mortgages in a zip code should have weaker incentives to foreclose in jurisdictions where foreclosure procedures entail higher transaction costs. Consequently, as is consistent with the empirical evidence we provide, the concentration of outstanding mortgages should mitigate the effects of negative income shocks on house prices to a lower extent in these jurisdictions. Second, we show that the link between house prices and mortgage market concentration goes through lenders' propensity to foreclose defaulting loans. Following a negative income shock, there are more foreclosures in zip codes with more dispersed mortgage provision, and, consistent with the findings on house prices, the effect of mortgage concentration is stronger in jurisdictions where foreclosure procedures are less costly. Third, while mortgage concentration is associated with fewer foreclosures following negative income shocks, it is not associated with lower delinquency rates. This indicates that lenders in these areas have different

incentives to solve distress ex post, but do not have better information in selecting borrowers ex ante.

Our findings have important policy implications. In taking foreclosure decisions, lenders are affected by the outstanding mortgages on their balance sheets. When income shocks limit borrowers' ability to repay, measures favoring the consolidation of impaired mortgage lenders with similar geographic exposure may increase the concentration of outstanding mortgages. Our findings suggest that these measures may reduce lenders' aggregate losses because they tend to strengthen their incentives to renegotiate defaulting loans. This in turn mitigates the effects of negative shocks on house prices. Similar effects may be achieved with the creation of bad banks that collect impaired loans at times of crises.

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