

Foreclosure Spillovers within broad Neighborhoods

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During the foreclosure crisis, heavily depressed housing prices and high contemporaneous rates of foreclosure were observed in many low-income and minority neighborhoods.¹ This spatial concentration has led observers to speculate that perhaps initial foreclosures within neighborhoods have had spillover effects in the local housing market and on nearby homeowners leading to even higher foreclosure rates. In fact, many studies have documented a strong correlation between foreclosure rates and either declines in housing prices or contemporaneous rates of new foreclosures.² However, places that have more foreclosures initially are likely to have more foreclosures in the future as well even without neighborhood spillovers because households in the same neighborhood often have similar unobservables and are affected by similar economic circumstances.

In response, many recent studies have exploited high frequency data over space and time to identify the causal effect of foreclosure over very localized housing markets. The intuition behind this strategy is that thin housing markets and limited information on micro neighborhoods makes it difficult for

households to systematically sort into specific houses or residential blocks conditional on the broader neighborhood.³ As a result after controlling for the broad neighborhood, exposure at a specific date to a very nearby foreclosure (typically within between 250 feet or ½ mile) is likely close to random. These studies tend to find that foreclosures reduce housing prices and increase future foreclosures even after controlling for current housing prices, but most of the effects identified are relatively modest in magnitude and as noted earlier very limited in range.⁴

However, even modest, highly localized effects could multiply into large effects on broader neighborhoods as initial foreclosures lead to additional foreclosures nearby that have spillover effects of their own. As the crisis worsened and foreclosure rates rose, the multiplying of these spillover effects could have become very large. In this study (Huang, Nelson and Ross 2019), my coauthors and I develop an exogenous proxy for the share of households in negative equity for each broad neighborhood (census tract) and quarter during the financial crisis based on the timing of when individuals purchased their current home in

¹See for example Bayer, Ross and Ferreira (2016), Ghent, Hernández-Murillo and Owyang (2014), Chan, Gedal, Been and Haughwout (2013), Geradi and Willen (2009), Fisher, Lambie-Hanson and Willen (2010), Edminston (2009) on the concentration of foreclosures in disadvantaged neighborhoods.

²See Immergluck and Smith (2006), Leonard and Murdoch (2009), and Rogers and Winter (2009) on housing price declines, and Goodstein et al. (2001) and Bradley et al. (2015) on new foreclosures.

³See Bayer, Ross and Topa (2008).

⁴For housing price effects, see Schuetz et al. (2008), Harding et al. (2009), Campbell et al. (2011), Anenberg and Kung (2014), Hartley (2014), and Gerardi et al. (2015), and for foreclosure spillovers see Towe and Lawley (2013), Munroe and Wilse-Samson (2013), and Gupta (2016).

the run-up to the housing crisis. Neighborhoods that vary in the timing of their purchases will also vary in the rates of negative equity and the risk of foreclosure, even if neighborhood negative equity rates are only based on metropolitan area variation in prices and metropolitan area patterns of loan to value ratios.⁵ We use this variation to estimate models of initial foreclosure recordings (Notice of Trustee Sales or NOT) using housing transaction and foreclosure data in San Diego County.

This analysis generates several important empirical findings

1. The estimated spillover effects are quite large. A one standard deviation change in the share of units in negative equity is associated with an 86% increase in the likelihood of a unit purchased during our pre-crisis period entering into foreclosure in the next quarter over a base of 0.7 percentage points.
2. These effects are broad based occurring in both disadvantaged neighborhoods and neighborhoods with smaller fractions of minority residents and families in poverty.
3. Spillover effects arising from increases in the variation in the stock of past foreclosure recordings across neighborhoods can explain 67% of the increase in the variation across neighborhoods in new foreclosure recordings as the crisis worsened.
4. Finally, comparing price levels between the 3rd quarter 08 and the 2nd quarter 09 to the equivalent period for 09-10, we observe that housing prices halt their decline and recovered on average by about 2 percent. However, rates of new foreclosure recordings only fell from 1.1 to 0.8 percentage points. A potential reason for the small decline was the increase in the stock of total foreclosure recordings during the same time period. Without spillovers, my coauthors and I estimate that the rate

of new foreclosure recordings might have fallen to 0.4 percentage points, more than double the decline that actually occurred.

In summary, the accompanying working paper shows large, broad based spillover effects of foreclosures in the San Diego housing market during the housing crisis as negative equity and foreclosure rates rose. These spillover effects appear responsible for a substantial fraction of the across neighborhood heterogeneity in foreclosures that arose during the crisis, likely contributing to persistently high rates of new foreclosures even as housing prices recovered.

⁵We verify that the timing of purchases within neighborhoods appears uncorrelated with the actual terms of mortgage originations in those neighborhoods in each quarter.

References:

- Anenberg, E., Kung, E. 2014. Estimates of the size and source of price declines due to nearby foreclosures. *American Economic Review* 104(8), 2527-2551.
- Bayer, P., Ferreira, F., Ross, S.L. 2016. The Vulnerability of Minority Homeowners in the Housing Boom and Bust. *American Economic Journal: Economic Policy* 8, 1-27.
- Bayer, P., Ross, S.L., Topa, G. 2008. Place of work and place of residence: Informal hiring networks and labor market outcomes. *Journal of Political Economy* 116, 1150-1196.
- Bradley, M.G., Cutts, A.C., Liu, W. 2015. Strategic mortgage default: the effect of neighborhood factors. *Real Estate Economics* 43(2), 271-299.
- Campbell, J.Y., Giglio, S., Pathak, P. 2011. Forced sales and house prices. *American Economic Review* 101(5), 2108-2131.
- Chan S., Haughwout A., Tracy J. 2015. How Mortgage Finance Affects the Urban Landscape, In the *Handbook of Urban and Regional Economics* Vol. 5A, Eds. G. Duranton, V. Henderson and W. Strange, 987-1045, Amsterdam: North Holland.
- Edmiston K. 2009. Characteristics of High Foreclosure Neighborhoods in the Tenth District. *Economic Review* 94(2), 51-75.
- Fisher L., Lambie-Hanson L., Willen P. 2010. A Profile of the Mortgage Crisis in a Low-and-Moderate-Income Community. Boston Federal Reserve Public Policy Discussion Papers No. 10-6.
- Gerardi, K., Rosenblatt, E., Willen, P.S., Yao, V.W. 2015. Foreclosure externalities: some new evidence. *Journal of Urban Economics* 87, 42-56.
- Gerardi K., Willen P. 2009. Subprime Mortgages, Foreclosures, and Urban Neighborhoods. *The Berkeley Electronic Journal of Economic Analysis and Policy* 9 (3).
- Ghent A., Hernández-Murillo R., Owyang M. 2014. Differences in Subprime Loan Pricing across Races and Neighborhoods. *Regional Science and Urban Economics* 48, 199-215.
- Goodstein, R.M., Hanouna, P., Ramirez, C.D., Stahel, C.W. 2011, Are foreclosures contagious? FDIC Center for Financial Research Working Paper No. 2011-4.
- Gupta, A. In Press. Foreclosure contagion and the neighborhood spillover effects of mortgage defaults. *Journal of Finance*.
- Huang, W., Nelson, A., Ross, S.L. 2019. Foreclosure Spillovers within broad Neighborhoods. Working Paper.
- Harding, J.P., Rosenblatt, E., Yao, V.W. 2009. The contagion effect of foreclosed properties. *Journal of Urban Economics* 66(3), 164-178.
- Hartley, D. 2014. The impact of foreclosures on nearby housing prices: supply or dis-amenity? *Regional Science and Urban Economics* 49, 108-117.
- Immergluck, D., Smith, G. 2006. There goes the neighborhood: the effect of single-family mortgage foreclosures on property values. *Housing Policy Debate* 17(1), 57-79.
- Leonard, T., Murdoch, J. 2009. The neighborhood effects of foreclosure. *Journal of Geographical Systems* 11(4), 317-332

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