Foreclosure Externalities: Some New Evidence

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Previous research has argued that foreclosures reduce the sale prices of nearby properties. This paper revisits this question using a new dataset that allows us to identify and locate properties at various stages of distress, from minor delinquency all the way through the foreclosure process to lender ownership and sale to a new homeowner. Additionally, a subset of the data includes information about the condition of the foreclosed properties.

In the existing literature, researchers have typically estimated some variant of the following spatial externality regression

$$\log(P_{it}) = a + b*X_{it} + c*NF_{it} + e_{it} \quad (1)$$

where P_{it} is the sale price of property i in period t, X_{it} is a vector of controls, and NF_{it} is a measure of the number of properties that experience some type of foreclosure event within a certain distance of property i in some window around period t. There are substantial differences in the types of foreclosure events, the distances, and the time windows that previous papers have focused on, but in general, researchers have found negative estimates for c, which they interpret as evidence of the existence of negative foreclosure externalities.

We estimate a spatial regression that is similar to equation (1), but with several important differences. We argue that our specification improves the identification of a true causal impact of foreclosures on prices and narrows the possible interpretations of the externality. There are three main innovations in our approach. The first is that we use multiple measures of the stock of distressed properties, whereas previous researchers have focused on a single flow. Most papers in the literature have measured the flow of properties completing the foreclosure process. This implicitly assumes that the foreclosure externality does not occur until the time of the foreclosure auction. In contrast, in our baseline specification, we include the number of properties with seriously delinquent mortgages (SDQs), which we define as properties owned by borrowers who have been delinquent 90 days or more on their mortgages for at least one year, the number of lender-owned properties, known in the industry as Real Estate Owned (REOs), and the number of properties recently sold by the lender. Furthermore, in variations of our baseline specification we also include the number of properties with mortgages that have been seriously delinquent for less than a year and properties with mortgages that are fewer than 90 days delinquent, which we refer to as minor delinquencies. Thus, we allow for the possibility that the foreclosure externality occurs well before the foreclosure is completed, when the borrower first becomes distressed.

The main reason to focus on stocks and not flows is that for many of the theories of why foreclosures might affect prices, it is the inventory that matters and not the flow. For example, many have argued that borrowers facing foreclosure have little reason to invest in their properties, which could generate negative

externalities in the neighborhood and depress nearby home values. But the approaches used in the previous literature only roughly approximate the number of nearby properties in distress at the time of the sale. As we discuss in the paper, our focus on the stock or inventory is important for policy reasons. If one interprets equation (1) causally, then flow measures can lead to erroneous inference. For example, suppose that all distressed properties exert downward pressure on prices due to investment externalities, but that equation (1) is estimated using only transitions into foreclosure. Because foreclosure transitions in a given area are highly correlated with the number of outstanding distressed properties in the same area, one would find a significant, negative correlation between the sale price of a non-distressed property and the number of surrounding properties transitioning into foreclosure. Based on such results, one might conclude that implementing a foreclosure moratorium would increase house prices. However, such a conclusion would be wrong. Delaying transitions into foreclosure does not reduce the total number of distressed properties, which is what exerts downward pressure on prices according to the true model. Indeed, over time, delaying foreclosures without stopping transitions into delinquency would increase the total number of distressed properties and thus serve to lower prices.

Consistent with such a theory, we find that properties in all stages of distress exert downward pressure on nearby home values. Estimating a variant of equation (1), we find estimates of the impact of nearby distressed properties on the sale price of non-distressed properties that are smallest in absolute value for the number of nearby minor delinquencies and largest for the number of properties with seriously delinquent mortgage borrowers that have not yet completed foreclosure proceedings. Our estimate is slightly lower in absolute value when the lender owns the property, then falls further after the sale out of REO to an arms-length buyer, and finally reaches zero approximately one year after the REO sale.

The second innovation is the manner in which we attempt to control for unobserved heterogeneity across properties. Unobserved heterogeneity is a serious issue in this context, as it is well known that foreclosures are generated by falling house prices, so any unobserved factor that causes a decrease in house prices and thus an increase in foreclosures will lead to simultaneity bias and erroneous inference. To deal with this issue, we estimate a version of equation (1) that controls for previous sales of the same property and contains a set of highly geographically disaggregated fixed effects (at the census block group level). Thus, our estimates of c in equation (1) reflect differences in price growth across properties bought and sold in the same year within the same census block group (CBG). We argue that this identification strategy is largely immune to issues of reverse causality and simultaneity bias. In addition, we show that the inclusion of highly disaggregated geographic fixed effects dramatically reduces the estimated impact of nearby distressed properties on home values, suggesting that most of the previous papers in the literature, which did not employ such fixed effects, significantly overstated the magnitude of the true foreclosure externality. Our estimates of the negative impact of a nearby distressed property on the sale price of a non-distressed property are economically small in magnitude, ranging from just under 0.5 percent to just over 1.0 percent depending on the exact regression specification, the sample period, and the assumptions made about the effect of distance.

The final major innovation in the analysis is the fact that the dataset includes information on whether a seriously delinquent property is vacant and on the condition of lender-owned properties. We find that the estimate of c in equation (1) is more negative for both vacant properties and lender-owned properties in "below average" condition, while the estimate of c for lender-owned properties in "above average" condition is actually positive.

We evaluate three possible explanations for these results: 1) unobserved relative demand shocks that drive down prices and result in increased foreclosures; 2) foreclosures generating increased relative supply and driving down prices; 3) an externality of reduced investment by distressed borrowers in the delinquency phase and financial institutions in the lender-ownership phase. Given the data and the limited theory, it is very difficult to establish anything conclusively. However, we argue that the weight of the evidence points to the third explanation. Both of the first two explanations require that there be distinct within-CBG micro-markets not generated by the externality from the foreclosures themselves. Given the small size of CBGs, this seems unlikely. In addition, the evidence from the regressions that incorporate information on the condition of foreclosed properties is inconsistent with the supply explanation: a reasonable hypothesis is that foreclosed properties in above-average condition should compete more for buyers than foreclosed properties in poor condition, implying that foreclosed properties in above-average condition would have a negative impact on price rather than a positive one.