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Diminishing Margins: Housing Market Declines and Family Financial Responses

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Introduction

In this paper, we study the factors related to family level mortgage distress and foreclosure in the U.S. economy, 2007–2011. The resulting downturn in housing prices and associated delinquencies on mortgages are generally considered to be the major cause of the crisis in credit markets that subsequently spilled into the other sectors of the U.S. economy. In our study, the most substantial predictor of mortgage distress and foreclosure is the family's allocation of a high share of family income going to housing payments for interest, taxes, and utilities. Higher values of housing payments to family income — HPI were more common in markets with strong appreciation during the housing boom.

Why Did Households Refinance?

We find that instead of refinancing existing mortgages at a lower interest rate to realize net worth gains, a substantial share of equity withdrawals supported personal consumption expenditures. Households also borrowed to cover cash flow requirements from home ownership induced by interest, tax and utility costs. This refinancing can be thought of as a 'speculation-based liquidity option'. That is, refinancing for a position in housing that embodies a wider set of and higher level of costs. These are costs beyond those related to normal predicted consumption, based on income and family composition. Rather, the funds support speculative financing based on expected appreciation. This appears to have played a major role in the housing market turbulence, 2001–2009. Tapping into perceived equity gains from rising home prices can clearly be risky as changes in the family balance sheet are mixing with expense flows. In short, during the boom, families and their lenders more often took on a jointly speculative position, leading to increased cash flow demands to cover housing costs — and reducing liquidity other than from future borrowing on equity gains. In effect, the borrowing collateral was often based on expected future appreciation.

Data

We explore the themes outlined above by using the data in the nationally representative Panel Study of Income Dynamics (PSID) of approximately 8,600 families and 24,000 individuals living within these families. We use a balanced panel of married families who had home mortgages, 2007–2009. PSID data includes housing and wealth holdings and basic geospatial measures. New measures include data on foreclosure and mortgage distress added in 2009–2011 and on fixed/adjustable mortgage rates added in 2007 and 2009. Our results show that specific ex ante positions in 2007 do matter for future mortgage payment problems in 2009 and subsequent foreclosure. Race and education level of head, number of people in household, year of taking the original mortgage, the rate of decrease in the markets included in the Case-Shiller home price index, the ratio of housing payments to family income, employment status in 2009, and wealth level without equity are all highly related to 2009 mortgage distress and subsequent foreclosure.

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Predictors of Mortgage Distress

We find that a higher income level of the household head and wife in calendar year 2008 is strongly predictive of less mortgage distress. On the other hand, income as of 2007 has a modest positive relationship to mortgage distress as of 2009. One conjecture is that having a good income flow in 2007 was often conducive to the families and their lenders agreeing to mortgages by 2007, which could not be easily supported in 2008 and 2009. In contrast then, the 2008 income of the husband and wife is strongly related to reduced mortgage distress. Measures of the family's net worth and liquidity indicate that those who were part of the shift to thin reserves of liquid assets were often those with payment problems as the recession set in.

For households in the cities where the Case-Shiller home index declined more than 35% from 2007 to 2009, the values of the distress index are significantly higher at the 1% level. Unemployment, income level, balance sheet measures, the household being located in a city with 35% or more home price decline predict likely payment troubles. Rapidly decreasing house prices can be a signal of poor current and anticipated labor market and income levels. This poor prospect gives households more anticipated difficulties and greater incentives to consider foreclosure on their own mortgages, a type of financial contagion. Further, a large price decrease may cause anxiety for the household, and this by itself can shape expectations about ability to pay in the next 12 months. The correlation of the mortgage distress measures and reported life satisfaction was significantly negative.

The other significant predictor of mortgage payment trouble is the HPI in 2007. A high value of HPI is an indicator of a risky cash flow position, and is an alternative to the traditional index of a 'safe mortgage', which is a loan-to-value ratio (LTV) of .80 or less. While LTV can be shaped by rapid house price appreciation, if the value of HPI is high , the ability of the household to pay the mortgage can be compromised with a deterioration of employment status or other negative financial shocks, including a decline in the market value of the home.

Adverse labor market measures for the husband as of 2007 show a positive relation to foreclosure as of 2008–2011. For the wife, however, a weak labor market connection as of 2007 is somewhat parallel to the income measures across the years 2007 and 2008. That is, a wife being unemployed, retired, disabled or keeping house (out of the labor force) as of 2007 has a negative relation to the later foreclosure outcome. This suggests that a weak labor market connection of the wife as of 2007 led families and lenders to be more cautious about mortgage commitments. Then, as of 2008–09, most negative labor market indicators for both the husband and wife are positive predictors of foreclosure. The exception is the modest positive relation between foreclosure and weeks worked of the head as of 2008, possibly a labor supply response to foreclosure risk.

Conclusion

A main reason for mortgage payment troubles of households in 2009 can be found in their prior mortgage decisions. Often expecting further price appreciation or responding to a positive family labor market and income circumstance, homeowners allocated too much of their family income to support house payments and put themselves in a risky position. The strong connection of the high cash flow service burden on housing, from debt service and other housing costs, can inform future assessments of rising risk in residential housing. Committing a high share of family income to housing, or substantial mortgage borrowing relative to current family income is an indication that the family expects a price rise to reward their current payment burden or that they simply have housing that is likely beyond their means. Continued appreciation was often not borne out in 2007–2009, nor was the income needed to support the housing commitment, and both of these may recur in the future.

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