

Essays on Housing Markets & Consumption

Aditya Aladangady

University of Michigan

Phone: (214) 477-4127

PhD Candidate, Department of Economics

906 Packard St #2

Email: adityaa@umich.edu

Web: <https://sites.google.com/site/aladangady>

Ann Arbor, MI 48104

I study the effects of monetary policy on local housing markets and the implications this has for household balance sheets, access to credit, and non-durable spending. In particular, my work demonstrates that geographic and regulatory constraints play an important role in determining the dynamic responses of local housing markets to monetary shocks. Furthermore, I demonstrate that consumption responses to monetary policy are amplified by rising house prices which strengthen homeowner balance sheets. I also provide empirical evidence that the relationship between housing and consumption is largely driven by collateral effects, suggesting large aggregate responses of consumption through this channel.

Local Housing Market Dynamics and Monetary Policy

This chapter analyzes the effects of monetary policy on housing markets and examines the heterogeneity of responses across MSA's. The paper demonstrates that geographic and regulatory constraints play an important role in determining the dynamic responses of local housing markets following monetary shocks. Using Federal Reserve forecasts of GDP, inflation, unemployment, and housing starts to identify monetary shocks, I estimate impulse responses of MSA-level permits, housing starts, completions and house prices. Estimates indicate that areas with limited flat land for construction and tighter zoning regulations display limited new construction activity but have 3-4% responses in house price over a 2-3 year horizon. In comparison, house prices in land-rich and loosely regulated areas are held in check by large amounts of new construction. This is especially pronounced in low-density, sprawled cities. I show that these results are supported by the addition of heterogeneous housing construction costs to Poterba's (1984) asset-pricing model of housing markets.

Homeowner Balance Sheet Channel of Monetary Policy (JMP)

This chapter turns the focus to the implications these results have for homeowner balance sheets and the transmission of monetary shocks to household consumption. While monetary policy acts on real consumer expenditures through a variety of channels—raising incomes, improving employment outlooks, and lowering interest rates—this chapter focuses on empirically identifying another important channel acting through homeowner balance sheets. A monetary loosening causes increases in home values, thereby strengthening homeowner balance sheets. This causes an increase in homeowner spending due to both collateral or wealth effects.

Using non-public geo-coded microdata from the Consumer Expenditures Survey, households are linked to house price histories, local land availability, and zoning laws. As shown in Chapter 1, areas with the largest geographic and regulatory barriers to new construction see 3-4% responses in real house prices following a monetary shock compared with unconstrained, elastic-supply cities which see little price change. This indicates that homeowners in highly elastic-supply housing markets with little house price appreciation are

largely unaffected by homeowner balance sheet improvements compared to homeowners in inelastic-supply cities who enjoy increased home equity. Comparing consumption responses across housing supply elasticity measures, this paper identifies an average propensity to consume out of housing of 0.06-0.09. Furthermore, homeowners in the highest quartile of debt service ratios spend \$0.16 for each \$1 of home equity, compared to small responses from households with lower debt service ratios and more liquid wealth. This suggests a strong role for collateral effects in explaining these relationships.

While other channels explain initial variation in consumption after a monetary shock, homeowner balance sheets play an important role in explaining as much as 3-4.5% consumption responses in inelastic-supply areas as house price responses peak 10-12 quarters after the shock. These results provide strong evidence for the role of housing in explaining both the transmission of monetary policy shocks and heterogeneity in consumption responses following a monetary policy intervention. The findings also provide empirical support for collateral-based “financial accelerator” models based on work by Bernanke & Gertler (1989) and Kiyotaki & Moore (1997).

Dual Role of Housing: Impacts of the Housing Bubble on Consumption Behavior

The aggregate implications of the results of the previous chapter differ dramatically depending on the relative contributions of collateral and wealth effects in driving the link between house prices and spending. Wealth effects are likely to be small in the aggregate as rising home values transfer wealth from buyers to sellers of housing. On the other hand, rising home values may strengthen balance sheets of constrained homeowners, providing collateral to mitigate agency costs and increasing spending substantially. Furthermore, unconstrained households with low marginal values of collateral have small responses to house price increases, thereby compressing the distribution of spending and reducing consumption inequality.

This chapter focuses on identifying the relative importance of wealth and collateral effects in driving the link between house prices and spending. Using geographically-coded longitudinal data from the PSID, I identify the response of homeowner consumption-savings decisions and labor force attachment to the housing bubble and collapse. I use data on expectations of moving to identify wealth effects for potential buyers or sellers of housing. Furthermore, detailed balance sheet data are used to compare responses of potentially credit constrained households with those with more liquid wealth and lower leverage.