Regional Risk Sharing Through the U.S. Mortgage Market

Erik Hurst, Benjamin Keys, Amit Seru, and Joseph Vavra

Government sponsored mortgage enterprises (GSEs) securitize the bulk of all mortgages currently originated within the United States. In 2009, for example, the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) owned or guaranteed more than 70 percent of new mortgages (CBO 2010). Critics have long argued for dismantling Fannie Mae and Freddie Mac, and their push has intensified since the GSEs were placed into conservatorship by the U.S. government in 2008. Proponents, on the other hand, argue that GSEs serve parts of market that would not be served by private investors. In order to inform the public debate, it is necessary to quantify the costs and benefits of the GSEs on economic activity. In this paper, we take a first step towards this end and formally explore one of the aspects of the GSE pricing decisions. We do so by studying the extent to which GSE policies result in the redistribution of resources across U.S. regions in a state contingent manner.

To achieve our goal, the paper unfolds in three parts. In the first part of the paper we empirically establish that there is essentially no spatial variation in GSE mortgage rates, conditional on borrower observables. This holds across the recent housing boom and bust. As a corollary, we show that local economic conditions are unrelated to the mortgage rates on loans securitized by the GSEs. Specifically, using loan level data, we show that average interest rates in an MSA are uncorrelated with recent local house price growth, recent local unemployment rates, or recent local mortgage default rates. This zero result is precisely estimated. The lack of spatial variation in mortgage pricing by the GSEs is surprising given the large spatial variation in predictable default risk. Both ex-post default and ex-ante predicted default rates vary substantially, and especially so in the wake of the housing bust. Although the GSEs charge

different interest rates to borrowers who take on greater leverage or who are less creditworthy, they do not charge higher rates to borrowers in regions with declining economic conditions.

We then provide some assessment of the extent to which GSE interest rates should vary spatially over time, given the large spatial variation in risk. In particular, we show that mortgage rates in the private "prime jumbo" market, where loans are slightly larger than those made by the GSEs but comparable on many other dimensions, are strongly positively related to ex-ante predicted default probabilities across geography. Thus, while there is no regional risk-based pricing in the government-backed GSE market, the private market does set interest rates based in part on regional risk factors.

In the second part of the paper, we explore a number of explanations for why GSE mortgage rates do not vary spatially over time, and conclude that political pressure is the most reasonable explanation for the patterns we observe. The GSEs face a great deal of political scrutiny. Evidence from prior efforts of the GSEs to regionally differentiate lending standards, most recently through the "declining markets" policy of 2008, suggests that these approaches have been quickly abandoned in the face of pressure from Congress, realtors, and community groups. Other similar settings, such as the U.S. Postal Service charging the same flat rate for all first-class mail, and U.K. insurance providers pricing nationally despite the presence of regional drivers of risk (Finkelstein and Poterba 2013), can best be explained by understanding the political economy of these markets.

In the final part of the paper, we attempt to quantify the economic impact of the GSEs' constant interest rate policy on regional risk sharing. To do so, we build a structural spatial model of collateralized borrowing where households face both idiosyncratic and region-specific shocks. Individuals in the model can choose whether to own a home and whether to borrow

against their home, as well as make life-cycle saving and spending decisions. We compare two scenarios, one in which interest rates respond to the local default risk within each region, and one in which a common interest applies to all regions.

After parameterizing and calibrating the structural model based on our analysis of GSE and prime jumbo markets, we find that the GSEs' national interest rate policy has some insurance value. We estimate that households would pay $50 on average to maintain this constant interest rate policy, since it allows households to borrow more cheaply in the event of negative regional shocks. The cumulative value of this insurance is 0.06% of aggregate consumption, or roughly $6 billion.

We also use the model to estimate the magnitude of ex-post redistribution across regions when interest rates are set using a constant national rate. The difference between the top 5% and bottom 5% outcomes in terms of regional shocks leads to an ex-post redistribution of $600 across households. This amount is comparable in size to fiscal stimulus packages such as tax rebates and payroll tax holidays.

Overall, our results suggest that the magnitudes of redistribution we observe through the mortgage market operated by the GSEs during aggregate downturns are economically meaningful. Although there are a range of consequences to the housing and mortgage markets that are often attributed to the presence of Fannie Mae and Freddie Mac, our paper suggests that their common national interest rate policy may be one important and understudied dimension of their impact on household choices.