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Phasing out the GSEs

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ABSTRACT

We develop a new model of the mortgage market that emphasizes the role of the financial sector and the government. Risk tolerant savers act as intermediaries between risk averse depositors and impatient borrowers. Both borrowers and intermediaries can default. The government provides both mortgage guarantees and deposit insurance. Underpriced government mortgage guarantees lead to more and riskier mortgage originations and higher financial sector leverage. Mortgage crises occasionally turn into financial crises and government bailouts due to the fragility of the intermediaries' balance sheets. Foreclosure crises beget fiscal uncertainty, further disrupting the optimal allocation of risk in the economy. Increasing the price of the mortgage guarantee "crowds in" the private sector, reduces financial fragility, leads to fewer but safer mortgages, lowers house prices, and raises mortgage and risk-free interest rates. Due to a more robust financial sector and less fiscal uncertainty, consumption smoothing improves and foreclosure rates fall. While borrowers are nearly indifferent to a world with or without mortgage guarantees, savers are substantially better off. While aggregate welfare increases, so does wealth inequality.

1. Introduction

Government and quasi-government entities dominate mortgage finance in the U.S. Over the past five years, the government-sponsored enterprises, Fannie Mae and Freddie Mac, and the Federal Housing Administration have stood behind 80% of the newly originated mortgages.[1] Ever since the collapse of the GSEs in September of 2008 and the conservatorship which socialized housing finance, there have been many proposals to bring back private capital.[2] The main idea of these policy proposals is to dramatically reduce the size and scope of the government guarantee on standard (conforming) mortgages. Because the proposed reform would turn a largely public into a largely private housing finance market, there is both uncertainty and concern about its impact on house prices, the stable provision of mortgage credit, financial sector stability, and ultimately welfare.

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[1] Currently, of the $9.85 trillion stock of residential mortgages, 57% are Agency Mortgage-backed Securities guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae. Private-label mortgage backed securities make up less than 8% of the stock. The rest is unsecuritized first liens held by the GSEs and the banking sector (28%) and second liens (7%). Acharya et al. (2011) provide an in-depth discussion of the history of the GSEs, their growth, and collapse.

[2] The Obama Administration released a first report along these lines in February 2011. The bills proposed – but not passed – by Corker–Warner in 2013 and Johnson–Crapo in 2014 provide the most recent attempts at legislative reform.

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Understanding the economic impact of mortgage finance reform of the kind currently debated requires a general equilibrium model. Such a model must recognize the important role that residential real estate and mortgage markets have come to play in the financial system and the macro-economy of rich countries (Jorda et al., 2014). It must also recognize the large footprint of the government. This paper proposes a new general equilibrium model of the housing and mortgage markets where the interaction of the financial sector and the government plays a central role. As in the real world, mortgages in the model are long-term, prepayable, and defaultable. The government provides not only guarantees to banks' mortgage assets but also to its liabilities.[3]

In our model, the government provides mortgage default insurance at a fixed cost. The financial sector issues mortgages to borrowers and decides for how many of those mortgages to buy the government insurance. When the cost (guarantee fee or g-fee) is set to the value observed in the pre-2013 data, guaranteed mortgages dominate banks' portfolios. Underpriced mortgage guarantees induce financial sector risk taking. The guarantee lowers the risk of banks' assets and prompts banks to dial up leverage in pursuit of a higher return portfolio. The favorable regulatory capital treatment of guaranteed mortgages enables high leverage. And deposit insurance makes banks' depositors insensitive to the risk of a collapse. The model generates the observed leverage ratio of the financial sector alongside the average loan-to-value ratio of mortgage borrowers.

Underpriced guarantees also induce banks to grow the size of their mortgage portfolio and increase its riskiness: they originate more and higher debt-to-income and loan-to-value ratio mortgages. A larger and riskier mortgage portfolio produces higher mortgage foreclosure rates and larger deadweight costs of foreclosures, a first source of welfare losses for the economy. Because of the increase in mortgage credit risk they induce, underpriced guarantees increase the mortgage spread between the mortgage rate and the risk-free interest rate. In sum, the government's underpriced mortgage guarantee distorts financial sector leverage and leads to a larger financial sector and lower underwriting standards. Given banks' low net worth and high leverage, housing crises occasionally turn into financial crises, defined as bank insolvencies. Thus, the economy with underpriced mortgage guarantees generates financial sector fragility. It also displays high house price volatility.

There is an important general equilibrium effect on the risk-free interest rate. In mortgage crises, the government must make good on the mortgage insurance it sold to the financial sector. It increases government debt to pay for this outlay. Risk averse depositors absorb the additional government debt in equilibrium, forcing them to save in bad states of nature. The mortgage guarantee program shifts the risk of mortgage losses from the intermediaries to the depositors whose preferences make them less suitable to bear this risk. More generally, fluctuations in the government's financing need induce fluctuations in the depositors' consumption. This generates a strong precautionary saving's motive and a low equilibrium interest rate in the model with underpriced guarantees. The low risk-free interest rate in the low g-fee economy outweighs the high mortgage spread, so that the mortgage rate is low. Low equilibrium mortgage rates make borrowers willing to take on higher mortgage debt. House prices are inflated.

Our main policy experiment is to increase the g-fee from the low level observed until recently. Naturally, higher guarantee fees “crowd in” the private sector: they induce a shift in the composition of banks' assets from guaranteed to private mortgage bonds. With banks now bearing more of the mortgage credit risk, their portfolio risk increases. They reduce leverage (by 7.3 percentage points at a g-fee high enough to crowd out mortgage guarantees completely), increase net worth, shrink the size of their mortgage book (by 8.7%), and make mortgages that are less risky. With sufficient capital, banks are able to lend during mortgage crises. The provision of mortgage credit is as stable as in the economy with underpriced guarantees. No GSEs are needed to provide stable access to mortgage finance. Mortgage crises are less likely to turn into financial crises because of the sturdier bank balance sheets. In sum, banks are better able to perform their function of intermediating between borrowers and depositors. The lower mortgage foreclosure rates (-40%) bring more stability to borrowers' consumption. The lower quantity of mortgage insurance bought and the lower loss rates on mortgages combine to dramatically reduce fiscal uncertainty. Depositors who absorb these changes in government debt issuance achieve a less volatile consumption stream and reduce precautionary savings. The private sector equilibrium features higher risk-free interest rates ($+$ 70 basis points). The higher risk-free interest rate more than offsets the decline in the mortgage spread, due to lower mortgage defaults and a lower mortgage risk premium, so that mortgage interest rates are higher ($+$ 23 basis points) in the private sector economy. Higher mortgage rates result in lower house prices (-6.2%).

The overall effect of phasing out the GSEs is an increase in social welfare of 0.63% in consumption equivalence units. Borrower welfare increases only marginally ($+0.04\%$) while depositors ($+1.30\%$) and intermediaries ($+1.69\%$) gain substantially. Borrowers benefit from the improved risk sharing, but they lose their mortgage subsidy, face higher mortgage rates, tighter lending standards, and lower house prices. Depositors benefit from higher interest rates and less fiscal uncertainty. Thus, while abolishing the GSEs is a Pareto improvement, it increases wealth inequality.

These results are steady-state comparisons. We also compute a transition from the low to the high g-fee economy and find that borrowers suffer in the short-run from the reform. Prices adjust quickly but stocks of debt and wealth take longer

[3] In our model, the bailout guarantee to banks' liabilities is equivalent to deposit insurance. Deposit insurance stands in for any explicit and implicit government guarantees to all short-term liabilities of the levered financial sector. Indeed, the government stepped in to bail out asset-backed commercial paper, repo, and money market mutual fund markets in 2008–2009. Deposit insurance is an important feature of any financial system that the literature on mortgage finance has not considered hitherto.