Beyond the Minsky and Polanyi Moments: An Alternative Account of the Foreclosure Crisis

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ABSTRACT

The extended period of very high foreclosure rates following the 2007-2008 financial meltdown is what makes the Great Recession distinctive compared to similar banking crises fueled by asset price booms. In this article, I employ a theoretical perspective that builds on Minsky's financial instability hypothesis and Polanyi's ideas on the adverse consequences of commodity fiction in order to understand why the 2007-2008 meltdown led to a prolonged foreclosure crisis. I argue that a theoretical approach à la Minsky and Polanyi is uniquely powerful in highlighting the mechanisms linking the 2007-2008 financial meltdown to the rise in foreclosures. Such a theoretical framework suggests that the commodification of houses as financial assets exposed ordinary mortgage loan holders to price fluctuations originating in capital markets. This exposure elevated the default risk of borrowers. I show, through a historical analysis, how the increased exposure to price fluctuations followed from the tight coupling between US housing markets and capital markets. I also demonstrate that the tight coupling between US housing markets and capital markets was a direct result of the rising preponderance of securitization in the US housing finance system.

Introduction

It has been six years since the greatest financial crisis since the Great Depression. The world economy has yet to emerge out of the slump. Few commentators question the diagnosis that the crisis originated from a financial system that has engendered systemic fragility for the past three decades. This recognition is deemed "the Minsky moment" and is now part of mainstream discourse on the financial crisis.[1] Another inescapable recognition is the substantial social cost of the financial crisis. Extending the analogy, one can call this "the Polanyi moment"—the realization that markets, when left to their own devices, are destructive to social relations and fabric. The dire consequences of the 2007-08 crisis are a testament to the power of Polanyi's insights on the perils of markets. These consequences—in particular the massive surge in foreclosures for an extended period of time—set the Great Recession apart from financial crises driven by comparable-magnitude asset price bubbles. In this article, I explain the distinct nature of the 2007-08 crisis through a theoretical framework that combines the ideas of Hyman Minsky and Karl Polanyi. I argue that the 2007-08 crisis is distinct in terms of its social consequences, because the transformation of the US housing finance system since the 1970s turned houses into financial assets whose values are determined by the vagaries of capital markets. This institutional transformation implied that households which relied on mortgage loans to finance their homes were fully exposed to the inherent instability and destructiveness of financial markets.

[1] The use of Minsky in mainstream analyses of financial crisis is prevalent today. For instance, one finds an influential economist such as Krugman (Eggertsson and Krugman 2012) publishing a mathematical model incorporating insights from Hyman Minsky's work. It is true that Paul Krugman is a controversial figure in orthodox economics. It is also true that the model in Egertsson and Krugman (2012) adulterates Minsky's insights and offers very little in deciphering financial crises. Nevertheless, Krugman borrowing from Minsky is surprising, compared to the vitriolic attacks (not to mention ridicule) Minsky faced previously. As an illustration, please see the comments on Minsky by mainstream economists in Kindleberger and Laffargue (1982).

There is no shortage of analyses on the 2007-08 crisis. In particular, there are detailed examinations of the subprime mortgage market, its place in the global financial system, and how this market became the epicenter of the greatest financial calamity since the Great Depression (Acharya and Goldstein 2013; Barth 2009; Campbell 2011; Cassidy 2009; Fligstein and Goldstein 2010, 2011; Foster and Magdoff 2009; Hellwig 2009; Rajan 2010; Tett 2009). However, most of these accounts miss out on what is unique to this crisis, especially in its center, the United States. The distinctive features of the Great Recession can be best understood by comparing it to similar banking crises fueled by asset price booms. Reinhart and Rogoff (2008, 2009) offer such a comparison between the Great Recession and the "big five" crises in advanced industrialized economies (Spain 1977, Norway 1987, Finland 1991, Sweden 1991, and Japan 1992). As Reinhart and Rogoff define them, the "big five" crises are "protracted, large-scale financial crises that are associated with major declines in economic performance for an extended period" (2008: 340). Table 1 provides a comparison between various empirical attributes of the 2007-08 crisis and other crises. It can be seen that the 2007-2008 financial crisis is comparable—in terms of output loss, fiscal costs, non-performing loans at the peak of the crisis, increase in public debt, and decline in housing prices—to the systemic banking crises in these five industrialized economies. Reinhart and Rogoff (2008) observe that the United States fits into the trajectory of an "archetypical crisis country" in almost all of the statistics used to measure the magnitude of a systemic banking crisis. In particular, the collapse in housing prices in the United States is smaller than Finland, Japan, and Norway and on the same level as Spain and Sweden. Figure 1 illustrates the trends in housing prices in the United States between 2000 and 2013.

[Table 1 Here]

[Figure 1 Here]

These similarities notwithstanding, the recent financial meltdown in the United States is distinct from the rest of the comparable financial disasters. Among all these cases of severe financial crises, Sweden offers the most illuminating contrast in this regard. After financial deregulation in the 1980s, Sweden experienced a credit expansion and an accompanying bubble in asset prices (Englund 1999). Similar to the United States, households were highly indebted and elevated loan-to-value ratios were common in the housing market (Hendershott and Turner 1994; Jaffee 1994). The asset price bubble fueled by credit expansion burst in 1991, triggering a massive banking and currency crisis (Enström 2005; Renaud 1997). In addition to the severe contraction in the economy and high unemployment rates, the Swedish housing sector was hit by a neoliberal turn (Canova 1994). The reform of the Swedish housing system in the early 1990s eliminated tax benefits to home-owners and interest subsidies on new owner-occupied buildings; it also reduced the role of municipal housing companies (Nesslein 2003; Turner and Whitehead 2002). This was a dramatic market-oriented institutional transformation because it transferred risk from the public sector to private homeowners—a reversal of the defining characteristic of the Swedish housing system in the post-war era. As a result, Swedish house prices dropped 31.7 percent during the crisis period, which mirrors the decline in the US house prices (see Table 1). In contrast to American borrowers, Swedish borrowers also faced high interest levels. Despite these simultaneous shocks to the housing sector, foreclosures and loss of home equity were at highly elevated levels only in 1994 and 1995 (Andersson and Wilhelmsson 2008; OECD 1996, 1997; Sains 1998).

By contrast, foreclosures remained at catastrophic levels for almost five years in the United States. As can be seen in Figure 2, foreclosures began picking up in the third quarter of 2006.

The sharp increase in foreclosure rates continued until the end of 2009. At its peak point (the fourth quarter of 2009), the foreclosure rate on prime and subprime loans combined was a remarkable 9.67 percent. In the subprime segment of the market, the rate of seriously delinquent and foreclosed loans was an astonishing 30.56 percent. The distress in the US housing market started easing only in 2013. As late as the second quarter of 2012, the foreclosure rate was still above 7 percent in the United States. Considering that the foreclosure rate on conventional mortgages was consistently below 1 percent until the 1990s (Elmer and Seelig 1998), it is evident that every percentage point rise in foreclosure rates translates into a serious shock to the US economy and American households. Because foreclosures remained at historic highs for such an extended period of time, the cumulative effect of these shocks on homeowners had no parallel in the post-Great Depression era (Cynnamon and Fazzari 2013).

For instance, Hurd and Rohwedder (2010: 21) show that, based on periodic surveys of the effects of the financial crisis on American households, by April 2010 "almost 40% of households have been affected either by unemployment, negative home equity, arrears on their mortgage payments, or foreclosure." Wolff, Owens, and Burak (2011: Table 5.1) estimate that 16.4 percent of US households had negative home equity in 2009. The incidence of being underwater was much higher among socially underprivileged groups, with 27.9 percent of African-American and 23.2 percent of Hispanic homeowners having negative home equity in 2009. The prolonged increase in foreclosures also led to the erasure of a quarter of household wealth between 2007 and 2009 (Bosworth 2012). In other words, the Great Recession has seriously hampered the accumulation of wealth through homeownership, a defining element of economic security in the United States.

[Figure 2 Here]

While it is certainly correct that the boom in credit to households was the immediate cause of the housing price bubble, as a large number of analyses suggest (Brunnermeier 2009; Fligstein and Goldstein 2010, 2011; Gorton 2010; Greenspan 2010; Mankiw 2010), a housing price bubble by itself cannot explain the foreclosure crisis that followed the 2007-08 financial meltdown. The comparison with similar financial crises of comparable magnitude indicates that housing price bubbles have been observed elsewhere, and some of these price bubbles collapsed more spectacularly than the one in the United States. However, these collapses in housing prices did not lead to stark increases in mortgage defaults for such a prolonged period. Furthermore, following the 2007-2008 meltdown, the experiences of various countries in Europe that feature sophisticated, highly-developed mortgage sectors stand in contrast to the pattern of defaults and foreclosures in the United States. As Lea (2010: 29) notes, "[d]espite greater house price volatility than the United States on average, the incidence of default and prevalence of negative equity in other nations remain far below that of the United States."

Thus, existing accounts of the current crisis are incomplete and insufficient. Given the severe social consequences of foreclosures, what needs to be explained is why the Great Recession in the United States is first and foremost a foreclosure crisis (Immergluck 2009). Factors such as the magnitude of the credit bubble and the level of household debt might shed light on some of the proximate causes of the foreclosure crisis. However, a deeper understanding of the origins of the foreclosure crisis lies in deciphering how homes became increasingly integrated into circuits of capital as a liquid asset.

This article is organized as follows. In the first section, I develop a theoretical framework that is inspired by Minsky's financial instability hypothesis and Polanyi's ideas on the social consequences of commodity fiction. I propose that a theoretical approach à la Minsky and

Polanyi underlines how the commodification of houses as financial assets exposes ordinary mortgage loan holders to price fluctuations. These price fluctuations, in turn, have their roots in the ups and downs of capital markets. In the second section, I offer an empirical analysis of innovations in US housing finance that resulted in the conversion of home loans into major financial assets. Here, I also examine how the integration of the US housing finance system into capital markets is the causal factor behind the remarkable surge in foreclosures following the 2007-2008 financial meltdown.

Minsky and Polanyi on the Perils of the Market Economy

The US housing system has three fundamental facets. A house in the US is simultaneously a dwelling place connected to institutions such as family, a quintessential commodity changing hands in markets, and a major asset class traded in financial markets (Gordon 2005). As a dwelling place, a house is a means of subsistence that has an important role in social reproduction. As a commodity, a house is provisioned through capitalist production relations and circulated through market exchange. As a financial asset, a house is an investment whose valuation over time depends on the dynamics of financial markets. These three facets are not necessarily harmonious. If production organized through commodity exchange is inherently unstable and chaotic, as Marx argued (Crotty 1985: 47-48; Harvey [1982] 2006: 200-203; Marx 1969: Ch. 17; Wright 1978: Ch. 3), the second facet of housing is itself a potentially destabilizing force. The third facet of housing—house as a financial asset—is, in theory, a greater source of instability because it involves credit and time.[2]

[2] Here I follow Marx's distinction between the general form of crises in capitalist economies and crises associated with credit. The following lengthy quote from the *Theories of Surplus Value* (1969: 514) offers a clear picture of the distinction: "The general possibility of crisis is given in the process of metamorphosis of capital itself, and in two ways: in so far as money functions as means of circulation, [the possibility of crisis lies in] the separation of purchase and sale; and in so far as money functions as means of payment, it has two different aspects, it acts as measure of value and as realisation of value.

The central argument in this article is that the surge in foreclosures following the 2007-2008 meltdown results from the increasing prevalence of the third facet of housing—house as financial asset and long-term investment instrument—in the institutionalization of housing in the United States. This argument combines Minsky's ideas on financial instability with the Polanyian focus on the place of economy in society. Specifically, I argue that the gradual transformation of housing finance in the United States since the early 1970s set the stage for the type of financial instability admirably analyzed by Minsky. However, the social consequences of this transformation can be understood only by employing a Polanyian perspective on how processes of commodification and market expansion jeopardize social institutions and, in particular, housing tenure in the United States.

For Minsky, equilibrium and stability are elusive conditions in markets with debt contracts (1975: 164). His financial instability hypothesis suggests that capitalist economies lead, through their own dynamics, to "the development over historical time of liability structures that cannot be validated by market-determined cash flows or asset values" (Minsky 1982: 13). According to Minsky, a stable period generates optimistic expectations. Increased confidence and positive expectations of future income streams cause economic actors to decrease margins of safety in their investment decisions. This feeds a surge in economic activity and profits, which turns into a boom as investments are financed by higher degrees of indebtedness (De Antoni 2006: 163-64). As the economic boom matures, an increasing number of financial intermediaries and firms

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These two aspects [may] become separated. … The form mentioned first is possible without the latter— that is to say, crises are possible without credit, without money functioning as a means of payment. But the second form is not possible without the first— that is to say, without the separation between purchase and sale. But in the latter case, the crisis occurs not only because the commodity is unsaleable, but because it is not saleable within a particular period of time, and the crisis arises and derives its character not only from the unsaleability of the commodity, but from the non-fulfilment of a whole series of payments which depend on the sale of this particular commodity within this particular period of time.

switch from hedge finance to speculative and Ponzi finance (Minsky [1986] 2008: 230-32; Wray and Tymoigne 2008: 10). Actors using speculative and Ponzi finance are vulnerable to macroeconomic volatility and interest rate fluctuations (Minsky 2008: 232). A boom ends when movements in short- and long-term interest rates render the liability structures of speculative and Ponzi finance unsustainable. The likelihood of a financial crisis (as opposed to a business cycle) depends on the preponderance of speculative and Ponzi finance in the economy under question (Minsky 2008: 245).[3]

While Minsky is precise in his depiction of the economic mechanisms leading to financial instability, he abstains from theorizing on the social origins of financial instability. This is unfortunate for two reasons. First, from a historical perspective, one can argue that financial crises originate in transformations in the organizational and institutional architecture of financial markets that lead to new forms of credit contracts and debt relations. An early example is the

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This is the characteristic form of money crises." See Crotty (1985) for an extended discussion on the role of money and credit in Marx's ideas on capitalist crises.

[3] A simple description of the main propositions of Minsky's approach does not do justice to the elaborate theoretical framework underlying his financial instability hypothesis. The starting point for Minsky is the investigation of how investment is financed in capitalist economies. Minsky's focus on investment derives from the premise that the fundamental dynamics of capitalist economies are determined by long-term investments (De Antoni 2006: 155; Minsky 2008: 191-93). He identifies several essential characteristics of investment that orthodox economic theories fail to analyze (1975: 64-68; 1982: 14-19). First, investment incorporates temporality, because "it is a money-now-for-money-later exchange" (Minsky 2008: 192). Second, it involves uncertainty since expectations concerning future profits shape the decisions to invest (Minsky 1975: 88-90). Third, investment is the link between the price of current production and the price of capital assets (De Antoni 2006: 157). As Kregel (1992: 87) notes, the last point—the existence of two systems of prices—is a crucial component of Minsky's theory of endogenous financial instability. The validation of debt commitments occurs through current output. However, such validation cannot be taken as an automatic mechanism when the prices of capital assets, the prices of current output, and the level of investment are jointly determined in an environment characterized by fundamental uncertainty, subjective expectations, and complex temporal connections between debt commitments and future profits. Temporality, uncertainty, and subjective expectations are the ultimate reasons why capitalist markets are not self-equilibrating systems. (It is in this sense that Keynes is the main influence over Minsky's ideas. As Robinson (1979: 173) argues, "For a world that is always in equilibrium there is no difference between the future and the past, there is no history and there is no need for Keynes.") As long as long-term investments require financing, it is erroneous to expect capitalism to be a stable system.

canal mania in England at the end of the eighteenth century, where new types of banks fueled a credit boom by financing a frenzy of canal development (Kindleberger 2000: 64). Second, such transformations are closely related to commodification and thus the penetration of markets into social life.[4] This gap is addressed by investigating the place of markets in society, a central concern for Polanyi.

Polanyi attributes the dangers of the market economy to the mechanism of self-regulation and the market's separation from "a great variety of institutions other than markets, in which man's livelihood was embedded" (1957: 245). He uses the term "commodities" in the specific sense of "objects produced for sale on the market" (Guyer 2009: 206; Polanyi [1944] 2001: 75). Not everything that is circulated through the market exchange is produced for sale, but objects become subject "to the laws of the market" once their transactions operate through the "commodity description" (Polanyi 2001: 71-77). Polanyi deems the subordination of social relations to the "organizing principle" of the market perilous to the "fabric of society" (Block 2001; Hildebrand 1946; Humphreys 1969; Polanyi 1977: 10-12, 2001: 135). His paradigmatic examples are labor, land, and money, which are subject to the price-supply-demand mechanism under the market economy despite the fact that "none of them is produced for sale" (2001: 76). This is what Polanyi (1977: 10-11) calls "the commodity fiction"—a fiction that "handed over the fate of man and nature to the play of an automaton that ran in its own grooves and was governed by its own laws."

[4] Change in financial markets is not viable without accompanying transformations in capitalism. Capitalism is a "circular process" (Sraffa 1960: 93), where social reproduction through production and consumption rests on the circulation of commodities (Marx 1976: 247). In other words, capitalism, as a mode of economic organization specific to a social structure, reproduces its constituent social relations by transforming nature, human activities, and social relations into commodities that can be circulated through market exchange. As Friedland and Alford (1991: 248) put it, "the institutional logic of capitalism is accumulation and commodification of human activity." Furthermore, accumulation and

Polanyi's historical argument is that changes in the social organization of production during the nineteenth century—combined with the commodification of land, labor, and money—led to the diffusion of the institutional logic of the market to the entire sphere of economic relations and activities (2001: 59, 280-85). Such a social transformation implies that the market operates through its own laws (Garlan 1973), unregulated by, and separated from, other social institutions ([1944] 2001: 75, 220; 1968: 238-39; 1977: 48, 124). Polanyi is cautious to add that this is a utopian project that can never exist without disruptive strains to society (Baum 1996; Block and Somers 1984; Dale 2010; Hejeebu and McCloskey 1999). A Polanyian interpretation of the instability observed in the housing sector would suggest that it is a paradigmatic example of excessive market penetration and intrusion into a fundamental aspect of social life: housing. At the heart of this interpretation lies a key aspect of Polanyi's thought: the duality of embeddedness and disembeddedness (Steiner 2009: 100), whose pendulum swings with the place of markets in society. This approach's diagnosis is that the collapse of the housing sector and its negative outcomes follow from the commodity fiction and the mechanism of the self-regulating market.

Combining Hyman Minsky's insights on financial fragility with a Polanyian focus on commodification offers a distinct perspective on the causes and consequences of the foreclosure crisis. First, following Polanyi, we should expect to find commodity fiction—applied to arenas of social life previously isolated from markets—to be at the heart of the recent financial crisis. Second, following Minsky, the transformations caused by novel uses of commodity fiction should be among the primary causes of financial fragility. Finally, in line with a Polanyian focus

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commodification of human activities are embedded in market relations, where value is measured, transformed, and allocated (Friedland and Alford 1991: 234).

on the effects of supply-demand-price mechanism, the price fluctuations caused by financial fragility should disrupt existing social relations and institutions in a significant manner.

Following this line of thought, I propose a multi-stage argument. First, I argue that securitization of mortgage loans prior to the 2007-08 meltdown amounted to commodification of houses as financial assets. Securitization achieved this by converting mortgage loans on ordinary houses into financial assets traded on capital markets. Second, I contend that commodification of houses as financial assets through securitization represented a major revolution in the US housing finance system. In other words, financial commodification under securitization stood in stark contrast to the post-Great Depression housing finance system. Third, I suggest that the housing system and capital markets were tightly coupled in a world where securitization was the dominant practice in the housing finance system. Finally, such tight coupling between the US housing system and capital markets exposed homes to the ups and downs of capital markets, which made mortgage default much more likely in the case of a financial meltdown.

Investigating this argument empirically requires examining the causes of foreclosures in the United States before and after the 2007-2008 crisis. Such an investigation can combine a historical narrative with quantitative research on the determinants of foreclosure rates in the United States. While noting the complementarity of quantitative research on foreclosures with a historical approach, in this article I focus on the temporal order of events and processes that contributed to the foreclosure crisis. I build my empirical account on the basis of a comparison between the housing system before and after the 1970s. I show that (1) various structural transformations in the US housing system resulted in the tight coupling between mortgage loans and capital markets; and (2) how this was a radical departure from the housing finance system

that emerged after the Great Depression, which was characterized by a dominant circuit of capital that was cut-off from capital markets.

How Homes Became Financial Assets

The transformation of the US housing finance since the early 1970s is a classic case of the market expanding its reach in social life. After the New Deal, the housing finance system was a major factor in ensuring the stability of housing tenure. In this period, financial markets were tamed by an institutional design "that segmented the financing of housing into specialized circuits that were cut off from the rest of the economy" (Green and Wachter 2010: 415). As such, the housing finance system was designed for the stable provisioning of house as a dwelling place. The increasing importance of capital markets in housing finance in the 1970s radically altered this relationship between the housing finance system and mortgage markets. As homes became integrated into capital markets through the securitization of mortgage loans, the organization of housing in the United States converged to a system where financial market valuation became the ultimate arbiter. In addition, by converting pooled mortgage loans into major financial assets in the American financial system, this transformation also paved the way for financial instability driven by capital markets.

Housing Finance After the Great Depression

The basic contours of the housing system in the United States took shape after the Great Depression. The reforms that ushered a new era in the organization of housing included the creation of various institutions: the Federal Home Loan Bank System under the Hoover administration (1932), the Home Owners Loan Corporation (1933),[5] the Federal Housing

[5] The Home Owners Loan Corporation (HOLC) was an important milestone in dealing with foreclosures following the Great Depression. It performed its functions until 1936 and FNMA took its place in 1938 (Green and Wachter 2005: 95).

Administration (1934), and the Federal National Mortgage Association (1938). These institutional reforms culminated in a particular form—fixed-rate, long-term, self-amortizing, low down-payment mortgage loan—being prevalent in US housing finance (Jackson 1985: 196). This commodity form in housing finance differed from the mortgage products that dominated the American markets before the Great Depression, the majority of which "featured variable interest rates, high down payments and short maturities" (Green and Wachter 2010: 93). A crucial pillar of the new mortgage product was the insurance provided by the Federal Housing Administration against defaults (Abrahams 2008: 6-7), which enabled private financial intermediaries to offer long-term loans. The Servicemens' Readjustment Act of 1944 provided further support and stimulus to FHA-insured loans by extending the scope of loans guaranteed by the Veterans Administration (Klaman 1961: 52-53; Jackson 1985: 204).

Combined with the extended mortgage guarantee program by the Veterans Administration after World War II, the fixed-rate, long-term, self-amortizing, low down-payment mortgage loan in American housing markets led to a significant increase in homeownership in the United States (Green and Wachter 2005).[6] This institutional stability was further buttressed by steady interest rates from the end of World War II until the late 1960s. In this environment, four types of financial intermediaries supplied the bulk of the funding to the housing system: savings and loan associations, commercial banks, life insurance companies, and mutual savings banks (Klaman 1961: 5). Among these four financial intermediaries, savings and loan associations took the lion's share of residential mortgage debt, and their dominant role in this market continued until the early 1980s (Lea 1996).

[6] While the government role through mortgage insurance was crucial in creating a mortgage product that supported homeownership and stability of tenure, the government's role was by no means without contradictions. For instance, the FHA insurance program involved racial profiling and excluded, by

These four financial intermediaries had different strategies in how they acquired funds and how they channeled the acquired funds to the residential mortgage market. Various regulations ensured that savings and loan associations had a local focus in their lending activities (Klaman 1961: 158-161). Their source of funds consisted of deposits, which were federally insured. These institutions could borrow at below market interest rates (Green and Wachter 2010: 432). Commercial banks too relied on deposits by the general public. Their lending practices, however, were both local and national in terms of geographical focus. While some commercial banks lent to local residential borrowers directly, other commercial banks were active in supplying short-term loans to private mortgage companies (Klaman 1961: 170-72). Life-insurance companies obtained their funds from insurance premiums and they operated in the national market. They acquired mortgages through either a system of branch offices or mortgage correspondents (Klaman 1961). Finally, mutual savings banks, like savings and loan associations, obtained their funds from small savers. However, unlike savings and loan associations, mutual savings had a presence—albeit small—in national mortgage lending as well (Klaman 1961: 149).

One can identify two circuits of capital in the post-Great Depression housing finance system. The first, and by far the most important, was predominantly local, and it involved savings and loan associations, commercial banks, and mutual savings. The second circuit was national, and it relied heavily on life insurance companies. The first circuit was, by definition, a primary mortgage market, where "debt or equity instruments are created in transactions between borrowers or sellers and initial lenders or buyers" (Klaman 1961: 196). The second circuit was a secondary mortgage market, where "previously created securities are traded between investors," but only to a limited extent. This was because many of the transactions in the national market

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design, racial minorities and low-income neighborhoods. See Gordon (2005) and Vandell (1995) for an in-depth discussion.

involved life insurance companies, which invested in residential mortgages through prior allocations and long-term commitments to mortgage originators (Klaman 1961: 198-99). Hence, it is difficult to see the second circuit as a truly open capital market.

As a result, the housing finance system in the post-Great Depression period, and especially after 1944, was a system where houses were not integrated into financial markets as frequently traded assets. Furthermore, the fixed-rate, long-term, and self-amortizing mortgage was a commodity form that increased the likelihood of housing tenure stability in a housing system oriented toward owner-occupation. The existence of long-term loans with fixed interest rates was perhaps the most important determinant of this stability, as it protected scheduled payments against market fluctuations. Combined with the separation of housing finance from capital markets, this system ensured that increases in foreclosure rates remained minimal even in periods of financial contraction and economic recession (Edmiston and Zalneraitis 2007; Elmer and Seelig 1998; Immergluck 2009).

The Housing Finance Revolution

The shift from deposit-taking institutions to capital markets occupying the primary position in housing finance began in the late 1960s (Hawtrey 2009: 56-7). The major cause of change was higher inflation, which damaged the capacity of deposit-taking institutions to collect funds in an environment where interest rates were subject to a ceiling imposed by Regulation Q. The decision to split Fannie Mae into two organizations—thus creating Ginnie Mae (the Government National Mortgage Association)—and the chartering of Freddie Mac (the Federal Home Loan Mortgage Corporation) were important steps in furthering the role played by capital markets in housing finance (Green and Wachter 2005: 97-98). The purpose of establishing these agencies was to provide liquidity in mortgage markets. The method to achieve this objective was securitization, where the three agencies would buy mortgage loans from intermediaries such as

savings and loans, with funds obtained from capital markets in return for securities backed by mortgages.

Securitization has a number of distinct features. First, and at the most fundamental level, securitization relies on "converting income streams into tradable assets" (Bryan, Rafferty, and MacWilliam 2010: 365). Second, securitization achieves the conversion of income streams into tradable asset by creating liquidity out of spatial fixity (Gotham 2006, 2009). Third, as a consequence, securitization involves the integration of homes into capital markets as financial assets. In other words, the key consequence of securitizing homes is that houses are not simply means of subsistence and use values remaining outside the capitalist commodity circulation for extended periods of time, but they are instead fully subject to the vagaries of price-supply-demand mechanism in capital markets. To be sure, housing in the American economy was commodified before the advent of securitization, including the long period of calm after the New Deal (Gordon 2005). However, as explained above, houses were cut off from capital markets until the early 1970s. This changed with securitization, which decisively pulled houses into the orbit of capital markets (Bryan et al. 2010: 365). Green and Wachter (2010) aptly call this transformation "the housing finance revolution."

Yet the full impact of securitization took a long time to materialize. The turning point in housing finance came in the late 1980s, when a great number of savings and loans became insolvent as a result of a decade-long interest rate volatility (Abrahams 2008: 10-13). The "housing finance revolution" (Green and Wachter 2010) reached its zenith with subprime lending—when the financial techniques of securitization were used to expand lending to racial minorities and low-income neighborhoods previously excluded from mortgage markets (Dymski 2010; Immergluck 2009: 84-86). The magnitude of this transformation can be examined through

Figures 3 and 4, which exhibit the growth of household debt and the explosion of securitization in residential mortgage debt between 2003 and the onset of the financial crisis.

[Figure 3 Here]
[Figure 4 Here]

Much has been written about subprime mortgage products, the securitization process, and the alphabet soup of complex financial engineering underlying the great subprime machinery.[7] The existing body of work focuses largely on the ways in which securitization contributed to the credit boom, which lay at the origin of the 2007-08 crisis. It shows that securitization enabled higher levels of leverage and ensuing credit expansion through multiple mechanisms: pooling, tranching, distributing default risks of the underlying loans, various credit enhancement techniques, and loading the risky tranches onto off-balance investment vehicles. This picture is certainly correct, but it is also incomplete. Most importantly, it misses how securitization—and the type of mortgage loans in the subprime segment of the residential mortgage market—made homeownership much more vulnerable than it was under a housing finance system that was not integrated into national and global capital markets. The argument that the expansion of credit to high-risk borrowers lay at the origin of the financial meltdown and foreclosure crisis is misleading, because it ignores how elevated levels of default risk were an endogenous product of a particular housing finance system.

Foreclosures

The final theoretical prediction of the framework outlined in this paper is that the tight coupling between the US housing system and capital markets following the housing finance

[7] For a detailed dissection of the securitization process see Barth (2009), Cassidy (2009), Coval, Jurek, and Stafford (2009), Fabozzi (2006), Fligstein and Goldstein (2010), Immergluck (2009), Tett (2009), and Thompson (1995).

revolution exposed homes to the vagaries of capital markets, which made mortgage default—hence foreclosures—much more likely in the case of a financial meltdown. In this section, by relying on the theoretical and empirical literature on mortgage default, I explain how the housing finance system in the United States amplified the impact of the 2007-08 financial crisis.

The mainstream economics literature on mortgage default is based on the idea that defaulting on a mortgage can be seen as an "option to terminate a financial contract" (Kau, Keenan, and Kim 1994: 278). Hence, this literature models the default probabilities for mortgages as determined by a number of key environmental parameters, the most important of which are the interest rate and the house value. On the one hand, an increase in the interest rate of a mortgage might lead to default as it can cause difficulties in making the monthly payments of the mortgage. From the perspective of the borrower, this is a mortgage default caused by *liquidity* constraints. On the other hand, a decrease in the house value might lead to default when the equity in the house is lower than the mortgage value, which makes continuing payments on the mortgage loan a heavier burden. As Vandell (1978: 1282) argues, "[t]he less equity a borrower has tied up in his property, the less will be his financial loss through foreclosure and the greater his financial incentive to default." Naturally, a negative equity-to-value ratio increases the likelihood of default even further, as the borrower stands to minimize losses or to gain from default (Vandell 1978). This is a mortgage default caused by *negative equity* in the house.[8]

[8] The option model of mortgage default is stylized and parsimonious. These features lead to a weakness especially in the analysis of liquidity as a determining factor of mortgage default. For instance, the option model literature suggests that negative equity is a necessary but not sufficient cause for mortgage default, because mortgagors can always refinance or sell the house in case the house has positive equity. However, such a result obtains only in the absence of transaction costs (Deng, Quigley, and Order 2000). Similarly, as the key parameters of the option model pertain to the macroeconomic environment (interest rate and house value), it cannot offer a systematic account for borrower-related factors such as job loss leading to illiquidity. However, this model is useful in conceptualizing the fundamental channels through which mortgage default arises. Furthermore, the insights offered by the option model and the broader

Following Vandell (1978), I make a distinction between factors that are related mostly to the borrower and factors that are related mostly to the characteristics of the loan. Borrower-related factors include job loss, decline in household income, and financial leverage.[9] Loan-related factors include interest rate and house value. Financial crises affect mortgage default rates through both borrower-related and loan-related factors. For instance, job loss and the ensuing decline in household income become more frequent during a financial crisis, triggering payment difficulties and increasing the mortgage default rate in the population under study. Similarly, rising interest rates during a financial crisis increase the likelihood of mortgage default. In both of these examples, the primary channel connecting the financial crisis to mortgage default is liquidity constraints. On the other hand, declining house value following a financial crisis leads to negative equity in the house. As a result, mortgage defaults are likely to surge in the event of a financial crisis leading to a sharp fall in house prices.

It can easily be seen that, if tight coupling between capital markets and housing finance were the root cause of the 2007-08 financial crisis' amplified effect on foreclosures, the negative equity channel would be the primary mechanism through which foreclosures emerged. That is because mortgage defaults arising from liquidity constraints would be observed in all economic crises, regardless of the degree of coupling between capital markets and the housing finance system. In other words, if tight coupling between capital markets and the housing finance system has a distinct effect, it should arise from exposing borrowers to fluctuations in housing prices. This is precisely what happened after the 2007-08 crisis.

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empirical literature on mortgage default can be utilized to understand how financial crises affect mortgage default.

[9] See (Elmer and Seelig 1998) for a discussion for the link between financial leverage and mortgage default.

Several empirical studies have examined the causal weight of negative equity compared to liquidity constraints following the 2007-08 financial meltdown (Elul et al. 2010; Harding, Rosenblatt, and Yao 2009; Haughwout, Peach, and Tracy 2008; Foote, Gerardi, Goette, and Willen 2008; Foote, Gerardi, and Willen 2008; Gerardi, Shapiro, and Willen 2007). These studies acknowledge the importance of liquidity constraints, but find that the negative equity channel—hence house prices—played a distinct role in amplifying the effects of the financial meltdown on American households. For instance, Gerardi et al. (2007: 1, 17), using an exceptional dataset covering "all residential home sales and mortgage originations" for a 20-year period (1987-2007) in Massachusetts, "attribute much of the dramatic rise in Massachusetts foreclosures in 2006 and 2007 to the decline in house prices that began in the summer of 2005." Similarly, Foote et al. (2008: 305), basing their arguments on the same dataset, suggest that "the wide- spread decline in housing prices is the proximate cause of the current housing crisis." Haughwout et al. (2008: 246-7) get to the heart of the issue through a careful econometric assessment of two competing explanations of foreclosures: "changes in underwriting standards" and "a sharp reversal in house price appreciation." By examining early default or serious delinquency through another very large dataset, these authors conclude that the reversal in house price appreciation is the more important determinant of juvenile delinquency.

These findings are not surprising; they can easily be explained by the greater sensitivity of the majority of mortgages to house prices in a housing finance system where subprime loans played a major role. This sensitivity itself followed from the nature of subprime mortgage loans. As Immergluck (2009: 85) remarks, a typical loan in the subprime mortgage market was a hybrid structure involving an initial period of fixed rates (typically 2-3 years) followed by adjustable rates. In these loans, the initial "teaser" period featured favorable rates, only to be followed by a

substantial increase afterwards. These products were viable options for the borrowers only if they could refinance their assets, which was contingent upon the appreciation of the value of the underlying asset during the initial 2-3 year period (Gorton 2010: 65-68). As the boom gathered strength, various other mortgage products emerged, including low- or no-document loans, loans tolerating very high debt-to-income ratios, and exotic products featuring interest-only and negative amortization payment options (Immergluck 2009: 85-88). Thus, the structure of subprime loans implied that these loans were extremely attractive for borrowers, regardless of their income. However, this condition depended on continuous house price appreciation. By design, a reversal in house price appreciation would lead—for a great number of subprime mortgage holders—to negative equity.

Both journalistic and academic accounts of the financial crisis portray subprime loans as a prime example of underwriting standards that fell to dangerously low levels before the financial meltdown (Cassidy 2009; Mian and Sufi 2008). Regardless of the merits of such portrayals, these accounts inevitably ignore the structural causes behind the boom in subprime loans. These products mushroomed because they satisfied a seemingly insatiable demand for high returns in capital markets awash in liquidity (Foster and Magdoff 2009; Roubini and Mihm 2010). As long as such demand existed, subprime loan market continued its expansion and house prices kept rising.[10] Hence, subprime borrowing was a vivid illustration of the tight coupling between capital markets and the housing finance system. This tight coupling implied that capital markets became the primary cause of the fluctuations in the housing system because securitization reached significant proportions in the US housing system.

[10] However, such an expansion is sustainable to the extent that there are first-time buyers—or existing homeowners who refinance their homes—with the purchasing power to continue purchasing mortgage loans (McCulley 2007). Clearly, there were severe limits to the expansion of the subprime market in an

Such tight coupling means that the riskiness of borrowers cannot be assessed as if it were independent of the developments in capital markets. To the contrary, in a world where housing finance and capital markets are tightly coupled, the riskiness of borrowers is endogenous to the structure of housing finance. In other words, the distinction between risky and non-risky borrowers—a distinction that establishes the basis for many analyses on the 2007-08 crisis—is misleading. It is rather the case that the riskiness of mortgage borrowers increased nationwide as tight coupling between capital markets awash in liquidity made risky borrowing choices much more rational for ordinary mortgagors.[11]

Conclusion

In this paper I explain why the Great Recession was first and foremost a foreclosure crisis; I seek to understand how the 2007-08 financial meltdown led to a surge in foreclosures that stood as a distinct aspect of the Great Recession compared to similar crises in advanced industrialized countries. In order to answer these questions, I employ a theoretical perspective that builds on Minsky's financial instability hypothesis and Polanyi's ideas on the negative consequences of commodity fiction. I argue that the adverse social consequences of the 2007-08 financial meltdown[12] can best be understood as the direct effect of the conversion of mortgage loans into major assets in capital markets. The historical account in this paper demonstrates that financial commodification is a direct result of the rising preponderance of securitization in the US housing

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economy where real income growth was far below the growth of subprime loans (Foster and Magdoff 2009).

[11] For instance, Gerardi et al. (2007) show that a good number of foreclosures originated among borrowers who financed their homes through prime loans but then ventured into sub-prime loans as house price appreciation made subprime borrowing an attractive option. Obviously, prime borrowers cannot be classified, *ex ante*, as risky borrowers. Prime borrowers became risky only through their entry into subprime borrowing, which was a rational decision for many households given the low interest levels and attractive conditions attached to subprime loans.

[12] These consequences are the massive increases in foreclosures, the destruction of homeownership, and the accompanying loss of homes as a dwelling place.

finance system. This historical transformation—a revolution in the US housing finance system—implied that the US housing system was tightly coupled with domestic and international capital markets. As highlighted by Minsky's remarkable insight on finance in capitalist economies, such a tightly coupled system exposed homes in the United States to financial instability driven by speculative and Ponzi finance. Furthermore, following Polanyi, it can be seen how such a system subjected homes to the fluctuations of the market mechanism. The greater exposure of borrowers to the vagaries of capital markets was directly at the root of the foreclosure crisis, simply because a great number of American families financed their homes through loans that stayed afloat only when financial markets were riding high.

"I bought a dozen volumes on banking and credit and investment securities, and they stood on my shelf in red and gold like new money from the mint, promising to unfold the shining secrets that only Midas and Morgan and Maecenas knew." These words belong to Nick Carraway, the narrator of *The Great Gatsby*, and they echo from the roaring twenties. They might as well belong to the 2000s, when finance became—once more—the dominant aspect of American capitalism. The increasing power of finance over social life comes at a hefty price. I argue that the foreclosure crisis is the direct consequence of housing becoming integrated into circuits of finance capital, in ways that are qualitatively different from previous periods in American history. The financial instability that originated from the subprime markets should be understood in this structural context, rather than being seen as collateral damage of a "big" financial crisis. As Minsky (1982: 36) writes, "All capitalisms are unstable, but some capitalisms are more unstable than others." The Great Recession and its social consequences are evidences to this statement.

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Tables and Figures

	Decline in Housing Prices[13]	Output Loss[14]	Fiscal Costs[15]	Peak NPLs[16]	Increase in Public Debt[17]
Finland (1991-1995)	-50.4	69.6	12.8	13	43.6
Japan (1997-2001)	-40.2	45	14	35	41.7
Norway (1991-1993)	-41.5	5.1	2.7	16.4	19.2
Spain (1977-1981)	-33.3	58.5	5.6	5.8	3.8
Sweden (1991-1995)	-31.7	32.9	3.6	13	36.2
United States (2007-2011)	-33.8	30.6	4.5	5	23.6

Table 1. The Big Five Crises and the Great Recession.
Sources: Housing prices data come from Reinhart and Rogoff (2009: Table 10.8) except the data for the United States, which are from the Federal Reserve Bank of St. Louis (Seasonally Adjusted S&P Case-Shiller 20-City Home Price Index). For the United States the peak point for housing prices is April 2006 and the trough is January 2012. All other columns are from Laeven and Valencia (2013: Table A1).

[13] Magnitude of decline (percent) in between the peak and trough of the crisis.
[14] In percent of GDP.
[15] In percent of GDP.
[16] Non-performing loans at the peak of the crisis. In percent of total loans.
[17] In percent of GDP.

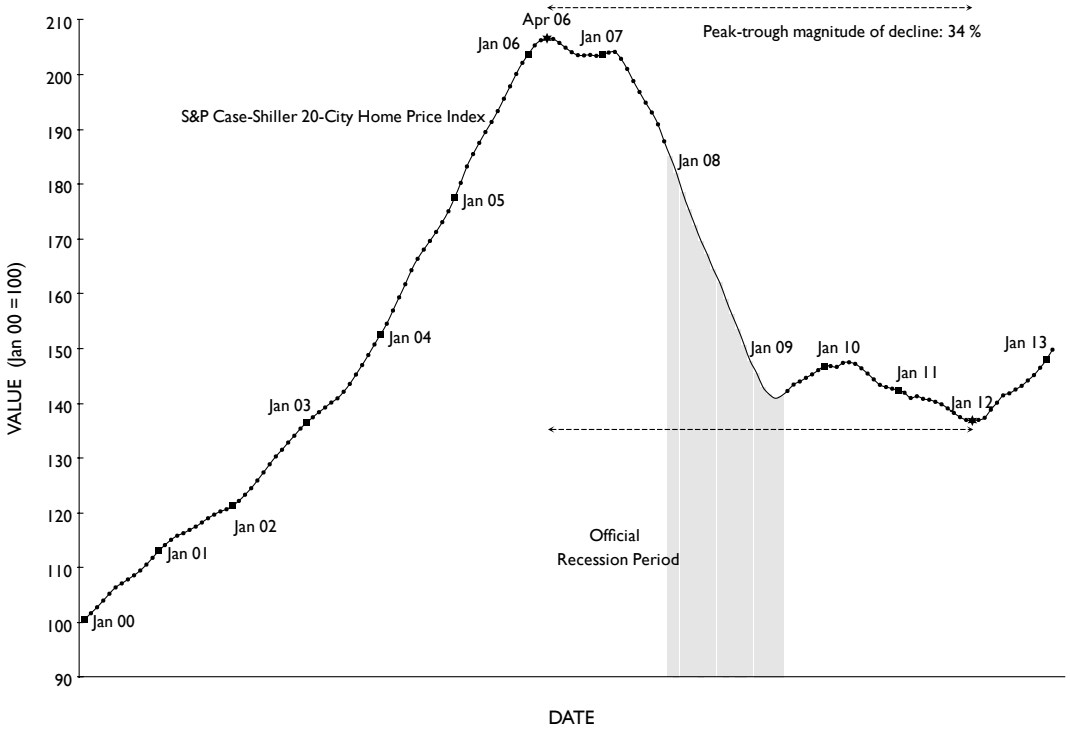

Figure 1. S&P Case-Shiller 20-City Home Price Index, January 2000 - February 2013. Source: Federal Reserve Bank of St. Louis.

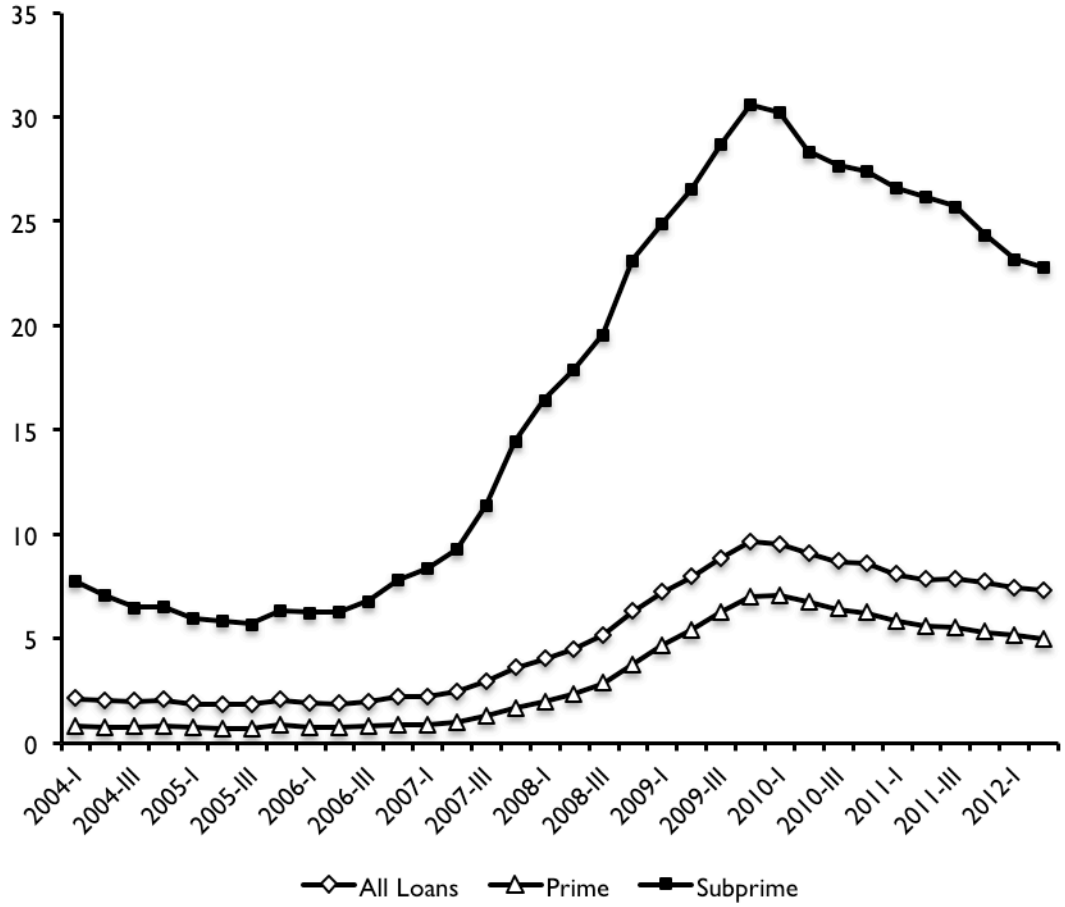

Figure 2. Mortgage foreclosure rates, 2004-2012.
Source: Mortgage Bankers Association, various National Delinquency Surveys.
Note: All figures are for seriously delinquent loans (90 days or more delinquent, or in the process of foreclosure).

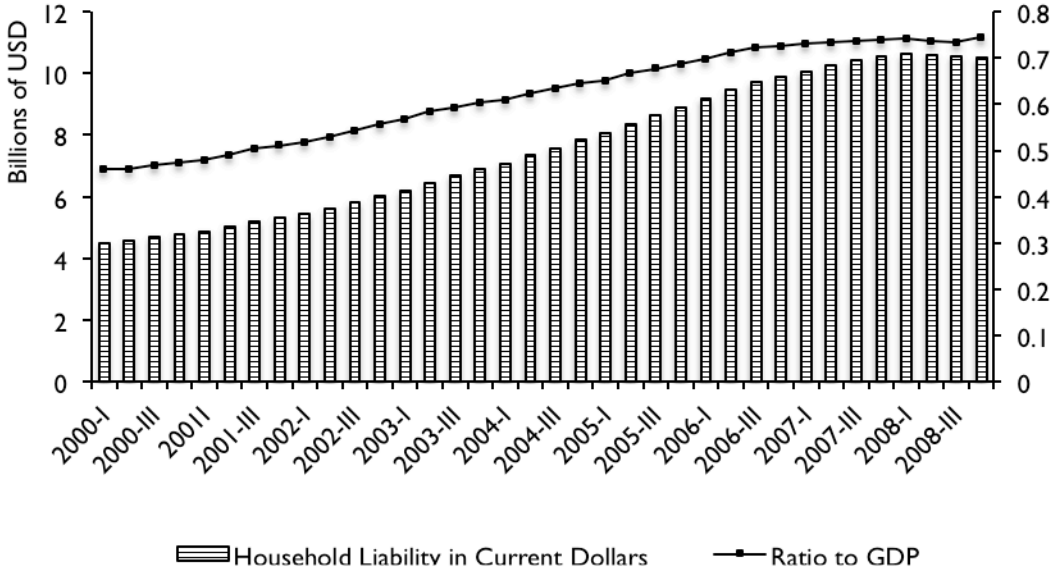

Figure 3. The Evolution of Household Debt, 2000-2008.
Source: Table L218, Flow of Funds, Federal Reserve.

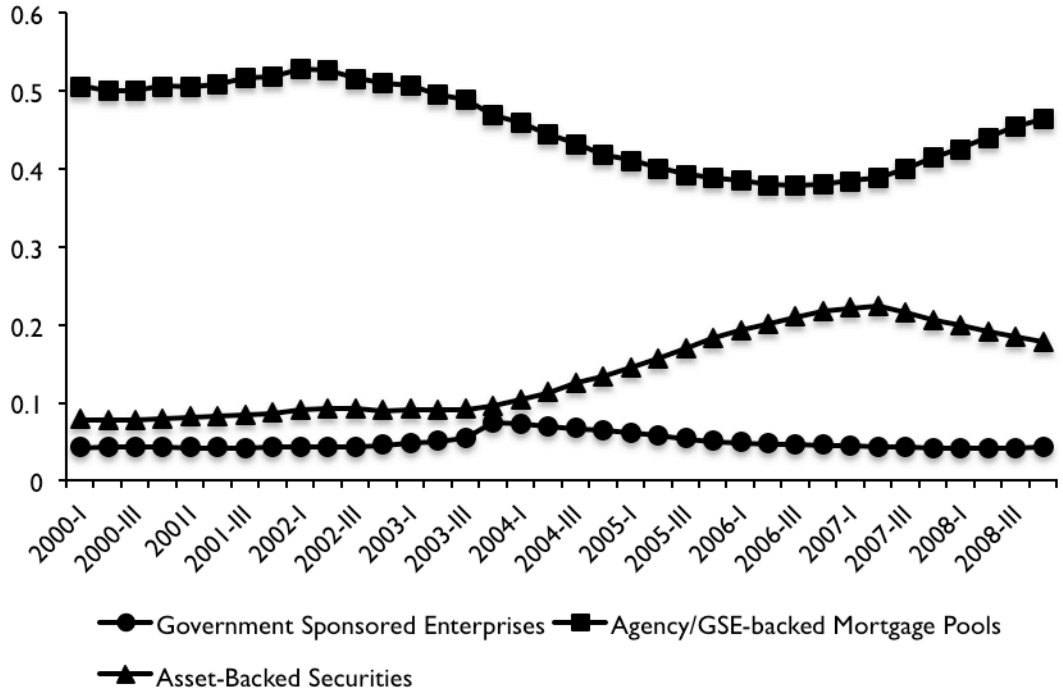

Figure 4. Home Mortgage Debt, Source of Funds (Share in Total), 2000-2008. Source: Table L218, Flow of Funds, Federal Reserve.