

SYMPOSIUM

The Sociology and Geography of Mortgage Markets: Reflections on the Financial Crisis

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Introduction

Traditionally, the mortgage market has been the domain of economists. Other social scientists, most notably geographers, sociologists and political scientists, have studied it, but generally they were considered to be outside the mainstream and their work has largely been ignored by economists. There have been times when geographers and sociologists have contributed greatly to the understanding of mortgage markets. Usually this was at times of turmoil and change, as well as when exclusion in these markets was an important issue. One explanation for this may be that mainstream economics, with its obsession with equilibriums, has trouble understanding change. As the economist Thorstein Veblen observed 75 years ago: 'The question is not how things stabilize themselves in a "static state", but how they endlessly grow and change' (Veblen, 1934: 8). It is here that some forms of heterodox economics shake hands with sociology and geography. It is, to some degree, also the difference between 'clean models' and 'dirty hands' (Hirsch *et al.*, 1987): while mainstream economics prefers 'clean, abstract, and parsimonious modeling', sociology and geography:

produce empirically rich accounts of concrete and socially situated economic processes; they each emphasize the essential diversity of economic phenomena, favoring context-rich explanations in which history is taken seriously; they each attach greater significance to plausibility and explanatory power than to elegance and predictive power; and they each strive to explain, and often improve, the characteristically messy economic worlds that they encounter (Peck, 2005: 132).

This is not, as some may interpret it, a clash between quantitative and qualitative methods. Although clean models are generally very quantitative (and often have to do more with mathematics than with statistics), not all quantitative work fits the idea of clean models. Indeed, a lot of sociologists and geographers have been getting dirty hands by presenting both quantitative and qualitative research on issues like redlining and predatory lending. Many of them, in particular in the US, have also got involved with local communities and the wider national community reinvestment movement (e.g. Squires, 1992).

Among the various non-economists that have worked on mortgage markets, the work of David Harvey from the late 1970s and early 1980s is probably best known (e.g. Harvey, 1977; 1985). It forms part of a broader interest among sociologists, geographers, political scientists and urban planners in redlining and related forms of discrimination in

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mortgage markets from the 1970s onwards (e.g. Bradford and Rubinowitz, 1975; Marcuse, 1979; Shlay, 1989; Wily and Holloway, 1999; Gotham, 2002; Aalbers, 2007). (There is a lot more work by social scientists on homeownership, but only a small part of this deals primarily with mortgage markets.) Presently we are living through another episode of turmoil and change in mortgage markets, and again the work of geographers and sociologists sheds new light on what is actually happening there. In that sense, this symposium on 'The Sociology and Geography of Mortgage Markets' is part of a long tradition. The first article following this introduction, by Hernandez (2009, this issue), is most strongly embedded in this tradition, as he not only presents a historical perspective dating back to the origins of redlining (see also Jackson, 1985; Hillier, 2003; Crossney and Bartelt, 2005), but also discusses the work of David Harvey and looks at exclusion and discrimination in the mortgage market through redlining and predatory lending.

Currently, sociologists and geographers are interested in another crisis — a crisis that started in the mortgage market, but has spread to other financial markets and to other parts of the economy. This symposium will not so much focus on how this crisis has spread, but will instead look at the mortgage market itself. Changes in the mortgage market have a central place in all the articles. Some present evidence of the changes that have resulted in what is often called the subprime mortgage crisis; others are more focused on some of the structural changes in the mortgage market than on the crisis itself. The name 'subprime mortgage crisis' is misleading, not only because the problem has spread throughout and beyond the mortgage market, but also because the problems did not start with subprime mortgages. Subprime loans have been one important ingredient in the present crisis, but other ingredients go beyond subprime lending. The problem has many roots that can be discussed in many different ways. Here, I will briefly address it as a combination of a number of interrelated causes, including: (1) deregulation and re-regulation, (2) financialization and globalization, and (3) bubbles and wrong incentives. Different media and most economists have focused mostly on the latter, but one cannot explain what went wrong without paying attention to the first two, as they, together, explain the context in which bubbles could develop and how the wrong incentives were created. I do not present a full theory of the crisis here — an introduction to a symposium is not the place for this, although it is the right place to lay out the framework within which the contributors move and within which we have to look not only for the causes of the crisis, but also for the solutions to it.

Deregulation and re-regulation

Land underlies all real estate. The use of land, the desire to acquire it, and the need to regulate its transfer were among the fundamental reasons for the development of states. But land is also at the base of both power and wealth. Because land transaction administration and land surveys established the security and value of land, land not only became a secure investment, but it also became possible to borrow money based on the value of one's land. This is the basis for the formation of mortgage markets. A mortgage is 'a conveyance of an interest in real property given as security for the payment of a debt' (Dennis and Pinkowish, 2004: 386); it 'gives a lender contingent property rights over an asset of the debtor, and in the event of default the lender may activate those rights' (Carruthers, 2005: 365). Although the mortgage system has changed tremendously throughout the centuries, and continues to change, the idea of the mortgage loan is still the same as it was thousands of years ago: the state secures property rights, including land ownership and homeownership, and owners can get relatively cheap loans (i.e. low interest rates) because in case of default the lender can take possession of the property.

To cut a long story short: no state regulation, no property rights, no mortgage market. In other words, regulation is a necessary component of (semi-) capitalist societies (Polanyi, 1944). The mortgage market is the outcome of an institutionalization process

and a large part of this process is finding ways to stabilize and routinize competition, which is an inherently political process (DiMaggio and Powell, 1991; Polanyi, 1992; Fligstein, 2001). Thus, mortgage markets are not only shaped and reshaped by mortgage lenders, but also by state institutions. Immergluck (2004) speaks of 'the visible hand of government' as many of the mortgage market institutions of today were designed by government and its agencies. Mortgage loan securitization, to which I will turn soon, is essentially an invention of government and government-erected institutions like Fannie Mae and Freddie Mac. The article by Gotham (2009, this issue) and to a lesser extent those by Wyly *et al.* (2009, this issue) and Newman (2009, this issue) in this symposium show how the US mortgage market is politically constructed and reconstructed. They show how the state has been instrumental in designing and successfully implementing secondary mortgage markets and the use of securitization, but also how it has enabled subprime and predatory lending. As the articles by Wainwright (2009, this issue) and Aalbers (2009b, this issue) show, American conceptions of risk and securitization not only needed to be adapted to fit European markets, but European mortgage markets also needed to be re-regulated — and not just deregulated — to enable securitization.

The banking crisis of the late 1980s was a decisive moment that opened up the mortgage market for widespread securitization, due to the new regulatory framework laid out by state institutions, e.g. in the Financial Institutions Reform, Recovery and Enforcement Act of 1989 that indirectly forced many lenders to convert from portfolio lending to off-balance-sheet lending. Deregulation also removed the walls between the different rooms of finance, thereby enabling existing financial firms to become active in more types of financial markets and providing opportunities for new mortgage lenders. Many of these new 'non-bank lenders' had different regulators than traditional lenders and were also contained by other, i.e. weaker, regulatory frameworks, and could therefore provide riskier loans without being monitored. In addition, it is not always clear which regulator watches what, and even in cases where this is clear, there is no guarantee that regulators will actually execute their regulatory powers, sometimes due to a lack of interest and sometimes due to a lack of manpower. Some similar re-regulation took place in the UK, as described by Hamnett (1994) and Wainwright (2009). In addition, global regulation by the Basel Committee on Banking Supervision in the so-called Basel Accord I (1988), established capital requirements for banks that encouraged them to place mortgages off-balance sheet, thereby stimulating securitization. The Basel Accord II (initially published in 2004 and to be fully implemented by 2015) has repaired this flaw, but with its Anglo-American bias it now stimulates risk management techniques that could lead to an increasing use of credit scoring and risk-based pricing.

In sum, the separate mortgage market of US Fordism (Florida and Feldman, 1988) with its specialized, often regional, portfolio lenders working with an 'originate and hold' model has been transformed into a neoliberal, financialized mortgage market characterized by a wider diversity of nationally operating mortgage lenders, including different types of banks and non-banks, which — since they are working with an 'originate and distribute' model — increasingly rely on the secondary market for equity and which, in their search for yield, have expanded both lending and securitization beyond the borders of what was sensible. The expansion of the mortgage market is not so much meant to increase homeownership, but to further the neoliberal agenda of private property, firms and growing profits. Few mainstream economists had expected a crisis in the mortgage market. Some, most notably Robert Shiller, had argued that there was a housing bubble that would explode one day, but few realized the mortgage market was sick. In fact, most economists saw a blossoming market, thanks to financial liberalization. Several sociologists and geographers, but also a number of heterodox economists, had been warning about what was wrong with the mortgage market. For more than a decade some had been working on subprime and predatory lending and had suggested problems were on the rise. Defaults and foreclosures were rising year after year and, so they argued, would continue to rise due to the way the mortgage market was

organized. The crisis of 2007–8 came as no surprise to them, although it is fair to say that probably none of them had expected this crisis would threaten to bring down the entire financial system. A crisis was also no surprise for another reason: financial liberalization, whether *de jure* or *de facto*, precedes the majority of crises, as an analysis of financial crises since 1945 demonstrates (Kaminsky and Reinhart, 1999).

Globalization and financialization

Globalization and financialization are not the same thing, but you will often see them together. Financialization needs globalization, and globalization, in return, in part takes place through financialization. Financialization is a pattern of accumulation in which profit-making occurs increasingly through financial channels rather than through trade and commodity production (Arrighi, 1994; Krippner, 2005). The financialization of mortgage markets demands that not just homes but also homeowners become viewed as financially exploitable. It is exemplified by the securitization of mortgage loans, but also by the use of credit scoring and risk-based pricing (Aalbers, 2008).

The standardized mortgage loan was introduced in the US by two private, yet government-created and ‘government-sponsored’, institutions and one public institution: the Federal National Mortgage Association, known as Fannie Mae; the Federal Home Loan Mortgage Corporation, known as Freddie Mac; and the Government National Mortgage Association, known as Ginnie Mae. An elaborate discussion of these organizations is beyond the scope of this introduction (see Ross and Yinger, 2002; Stuart, 2003; Immergluck, 2004), but let me briefly mention why they require special attention: they played a pivotal role in integrating mortgage markets throughout the US into one mortgage market, and were instrumental in implementing and institutionalizing three other important changes in mortgage markets: secondary mortgage markets, credit scoring and risk-based pricing.

In a primary mortgage market, mortgages are closed between the borrower and the lender; in a secondary mortgage markets investors can buy mortgage portfolios from lenders. Fannie Mae, Freddie Mac and Ginnie Mae were created to buy or guarantee such mortgage portfolios, but are not the only investors; pension funds, for example, have an important stake in this market. Mortgage portfolios sold in the secondary mortgage market are usually classified by risk-profiles, because risk determines their selling price. Therefore, mortgage lenders classify loan applicants according to the risks that they pose to both lenders and investors. The calculation of housing costs and other financial obligations in proportion to income determines the likelihood that an applicant will be *able* to pay a mortgage, but moneylenders also attempt to assess whether they are *willing* to pay it back (Stuart, 2003; Aalbers, 2005). Credit scoring uses available information to make predictions about future payment behavior; it is a form of customer profiling (Leyshon and Thrift, 1999; Thomas, 2000).

Credit scoring is not only indispensable if lenders want to sell their mortgage portfolios in the secondary market, but it also facilitates risk-based pricing, that is, charging higher interest rates for borrowers with low scores (‘bad risks’) and charging lower interest rates for borrowers with high scores (‘good risks’): ‘As lenders become more confident about their ability to predict default, they also become more willing to issue credit, at a relatively high price, to higher-risk borrowers’ (Ross and Yinger, 2002: 23), as well as at a relatively low price, to lower-risk borrowers. The global implementation of credit scoring systems, originally developed in the US, illustrates how some of the institutions of mortgage markets have become more similar (Aalbers, 2005). The articles by Wylie *et al.* and to a lesser extent Hernandez and Aalbers go into credit scoring and risk-based pricing in more detail, while all the articles in this symposium, but in particular those by Gotham, Sassen (2009, this issue) and Wainwright, will discuss the issue of secondary mortgage markets.

The globalization of mortgage markets is not only a result of the financialization of borrowers and markets, but also of the globalization of mortgage lenders, although the latter, according to Aalbers in this symposium, is empirically less important than the first two. It is the powerful combination of financialization and globalization that has been instrumental in the way the mortgage crisis in the US has turned into a financial crisis and then a general crisis, not only in the US but across the globe. It is the state that re-regulated the mortgage market to enable growth: the US government was actively involved in making the trade in residential mortgage-backed securities (RMBSs) possible, in de-linking investment from place, and in facilitating liquidity/tradability, thereby creating opportunities for both risk-averse and high-risk investors (Gotham, 2006; Wyly *et al.*, 2006). Because securitization increasingly connects the mortgage market to the stock market, securitization embodies the financialization of the mortgage market. It increases the volatility of the mortgage market (and as the current crisis demonstrates, it also increases volatility in the wider credit market) because stock markets by their very nature are volatile markets. The restructuring of both welfare states and financial markets has resulted in a 'great risk shift' (Hacker, 2006) in which households are increasingly dependent on financial markets for their long-term security: due to the financialization of home, housing risks are increasingly financial market risks these days — and vice versa (Aalbers, 2008).

Financialization demands that tradables become more liquid. Mortgages therefore need to be standardized so they can be priced in packages in secondary mortgage markets. Until the summer of 2007, the fastest-growing part of the secondary mortgage market was the trade in subprime RMBSs. The problem is that, now the mortgage bubble has burst, RMBSs (and not just subprime RMBSs) — which in theory are supposed to be very transparent, liquid products — have become illiquid because traders have developed doubts about their value. Subprime lending and predatory lending — a subset of sub-prime lending consisting of unsuitable loans designed to exploit vulnerable and unsophisticated borrowers — are at the center of many articles in this symposium, most notably those of Newman, Hernandez and Wyly *et al.* Most predatory loans are sold to borrowers who could have applied for cheaper loans (Dymski, 2007; Immergluck, 2008; Wyly *et al.*, 2008). Residents are either offered loans that are more expensive than the risk profile of the borrower would suggest, or they are offered overpriced mortgage insurance that they often do not even need. As Wyly *et al.* (2009: 333–54) argue, 'the theory of risk-based pricing has become doctrine and ideology, used for well over a decade to blame consumers for the consequences of an abusive industry, to justify a deregulatory stance that encourages usury as "innovation", and to sustain the mirage of an "American Dream" backed by high-risk, predatory credit'. This stance frequently leads to mortgage foreclosures at the individual level and housing abandonment at the neighborhood level, as Newman's article demonstrates. But it is not just borrowers being pushed risky loans; it is also lenders allowing more risk in their organizations, as both default risk and liquidity risk have increased as a result of the restructuring of the mortgage market (Dymski, 2007; Lordon, 2007). Most predatory lending is legal, although legislators have been trying to catch up by adapting the rules of the game for a number of years (McCoy and Wyly, 2004; Squires, 2004; Immergluck, 2008).

Bubbles and wrong incentives

The media have presented the subprime crisis as one in which homeowners took out risky loans that were pushed by greedy loan brokers and lenders who did not care about the riskiness of these loans as they would be packaged and sold as RMBSs anyway. They continue to present a network of agents who have not paid enough attention to risk: not just borrowers and lenders, but also regulators, investors and rating agencies. This image of the roots of the subprime crisis is not wrong, but it is limited and limiting because

rather than looking at the roots of the crisis, it looks at what went wrong in the process. This is very important, but, only together with an idea of how deregulation, re-regulation, financialization and globalization have shaped the mortgage market, can we begin to understand how this crisis could have happened. This is why this introduction has started with a brief discussion of those matters before moving on to more common understandings of the mortgage market crisis. Only then one can understand how different agents could have made 'mistakes' and failed to see the risky ventures in which they were involved.

The root of the mortgage crisis, according to some observers, is in the housing market: the rapid increase of house prices forced people to take out bigger loans (Shiller, 2008). The housing bubble, like all bubbles, depended on a constant inflow of liquidity to sustain the rising market as well as the illusion that all participants in the market were winners (Lordon, 2007). Once the housing bubble burst, homeowners got into trouble, not just because their homes were worth less, but also because so many of them had taken out big loans with small down-payments and high interest rates. Negative equity, default and foreclosure were some of the negative results. Now, there was indeed a strong housing bubble, but this did not fuel the mortgage market to the extent that some people believe — the mortgage market, in the first place, fuelled the housing bubble. House prices increased first and foremost because mortgages allowed borrowers to buy more expensive homes, but since almost everyone could now afford a mortgage loan — and generally speaking a much bigger loan than a decade ago — the expansion of the mortgage market resulted in higher house prices forcing people to take out ever bigger loans. In that sense, the mortgage market created its own expansion. Thus, mortgage and housing markets fuelled one another, but it is crucial to understand that the driving force here is the mortgage market. As argued in the previous sections and in some of the subsequent articles, this was enabled through deregulation and re-regulation.

Where did all this money come from? We now know that an expanding mortgage market made it possible for homeowners to buy increasingly expensive houses, but where did the lenders get all this money from? The answer is, by and large, through the securitization of mortgage loans. By selling RMBSs, lenders cleaned up their balances and were able to use them to grant even bigger loans to even more homeowners. Securitization also enabled new lenders to enter the market, many of which were less closely watched by regulatory agencies. Old and new lenders alike had an interest in making loans that could be sold off and in loans that generated higher yields. This resulted in riskier loans with higher interest rates (subprime lending). Mortgage brokers were rewarded with higher fees if they would sell loans with higher interest rates (i.e. riskier loans); many of these were not loans to buy a home, but refinanced loans and second mortgages, or, in other words, loans that did *not* contribute to the spread of homeownership. The higher risk of default on these loans was taken for granted, not just because they would be sold off, but also because default presented a risk primarily to the borrower who would lose his or her home; the lender could repossess the home and sell it quite easily as house prices continued to rise.

There were enough investors who had an appetite for RMBSs, first in so-called confirming loans because their risk was low, comparable to that of state obligations. But a few years later they also showed an interest in subprime loans issued as RMBSs: in an evermore competitive search for yield 'each stage of market development replayed a dynamic of over-speculation based on competitive pressures to adopt riskier borrowers and loan products' (Ashton, 2009: 1426). Investors, in return, 'had concentrated risks by leveraging their holdings of mortgages in securitized assets, so [when the bubble burst] their losses were multiplied' (Mizen, 2008: 532). Subprime loans were considered riskier, but this was compensated by higher returns, and since the rating agencies still supplied high ratings, such RMBSs were seen as low-risk, high-return. Rating agencies saw the increased likelihood of default on such loans, but like the lenders they didn't see this as a major problem, more as an inconvenience. In addition, rating agencies get paid by the firms whose securities they have to rate. It is too easy to argue that this made the

rating agencies less critical of RMBSs. After all, they were also dependent on rating other financial products and if they gave high ratings to all of them, they would soon not be taken seriously anymore. So what did cause rating agencies to be so late in realizing the risk of these securities? First, as I suggested above, they simply did not realize the risk as they believed in rising house prices, just like homeowners, lenders and the media — like everyone essentially. Second, the rating agencies had become so heavily involved with securities that their own growth now depended on rating more and more of them. Third, over the years the most basic RMBSs were complemented by ever more complicated products that few had any understanding of, not even the rating agencies in which investors trusted. It is sometimes argued that the rating agencies cannot be blamed for this as others in the mortgage network did not understand the complexity and riskiness of these products either. But since it is the agencies' job to understand and then rate financial products, it could be argued (in an almost tautological fashion) that the rating agencies are responsible for rating high-risk products as low-risk.

These RMBSs were now traded on global markets that are localized in places like New York and London (Pryke and Lee, 1995; Sassen, 2001; Langley, 2006; Aalbers, 2009b). While in the past a mortgage bubble or a housing bubble would affect the economy through homeowners, the current bursting of these bubbles affects the economy not just through homeowners, but also through financial markets. Because lenders are now national and international in scope this crash no longer affects only some housing markets, but all housing markets throughout the US. Housing markets may still be local or regional, mortgage markets are not. Since primary mortgage markets are national, the bubble in the national mortgage market affects all local and regional housing markets, although it clearly affects housing markets with a greater bubble more than those with a smaller bubble. In addition, secondary mortgage markets are global markets, which means that a crisis of mortgage securitization implies that investors around the globe, and therefore economies around the globe, are affected (Aalbers, 2009a) — from Chinese sovereign wealth funds to Dutch pension funds and from Swiss investment banks to Norwegian municipalities. Financialization in the form of securitization, does have borders (as Wainwright demonstrates), but thanks to re-regulation it can transcend these borders. In the end, the mortgage market crisis affects the US economy on both sides of the mortgage lending chain — through homeowners and through financial markets — while it affects other economies in the world mostly through financial markets, not just because investors around the globe have invested in RMBSs, but also because the mortgage market has triggered a whole chain of events that have decreased liquidity and this affects even agents in financial markets that have never been involved in RMBSs. In this symposium we pay little attention to how the mortgage market crisis has widened into a major, global crisis, but many of the articles look at the different sources and consequences of the structural changes in the mortgage market.

Overview

This symposium opens with a article by Hernandez who, based on his study of Sacramento, California, situates contemporary patterns of subprime and predatory lending in a century of exclusionary mortgage lending. His article is followed by Newman's on subprime lending and foreclosures in Essex County (including the city of Newark), New Jersey, and Wyly *et al.*'s, which, based on an analysis of subprime and predatory lending across the US, debunks (1) the doctrine of risk-based pricing, (2) the homeownership myth, and (3) the idea of a discrimination-free mortgage market. Gotham then situates the current crisis in a series of ad hoc legal and regulatory actions taken in the 1980s and 1990s. Next, we move to Europe: Wainwright shows how US-style securitization had to be reinvented and re-regulated to fit the UK's financial market, while Aalbers argues that despite all the rhetoric of globalization, primary

mortgage markets and most mortgage lenders remain national in scope and only the market for RMBS has become globalized. These two European articles deal with the crisis less directly as European mortgage markets and homeowners, as I argued in the previous section, are primarily hit through financial markets. The global securities market also has a central place in Sassen's research note. She argues that securitization has turned housing into an electronic instrument for high-risk finance. The articles in this symposium are written by sociologists, geographers and a political scientist. Gary Dymski (2009, this issue), a heterodox economist, went through the articles and wrote an afterword. He has been one of those people who analysed the sick mortgage market years before it went down. His research agenda heavily overlaps with that of the other contributors to this symposium. For these reasons, it is fitting that he should write a closing commentary for a symposium named 'The Sociology and Geography of Mortgage Markets'.

Decades of sociological and geographical research have taught us that race and place are significant factors that impact on whether one gets a mortgage and, if so, on what terms. The structure of the mortgage market may have changed and the problem may have shifted from exclusion to 'overinclusion', but as Hernandez, Newman and Wylly *et al.* all show, both race and place are still factors in the terms on which one gets a mortgage: racial minorities and the neighborhoods inhabited by them are more likely to be targeted by subprime and predatory lenders. This has little to do with the discourse of expanding homeownership among groups traditionally excluded from homeownership and more with continuing patterns of racial discrimination. Hernandez (2009: 291–313) concludes that: 'The evidence shows that race and geography influenced capital flows in a way that cannot be explained by traditional neoclassical market forces . . . Although theoretical "supply and demand" markets are colorblind, real markets remain race minded'. The mortgage market crisis hits some people and some places harder than others (Aalbers, 2009a). Yet, the US government and its institutions invest billions of dollars in the supply side of the market, while only marginal programs like the Bush administration's 'FHA Secure' assist homeowners faced with foreclosure due to costly subprime, often unsuitable predatory, loans. What is needed is a bail-out of delinquent homeowners and not just of illiquid financial firms. The Obama administration's \$75 billion homeowners' relief plan is a step in the right direction, but it may be far too little since foreclosures for 2007–9 may add up to 8 million houses. Governments are still busy repairing a flawed system rather than replacing it by another one.

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References

- Aalbers, M.B. (2005) 'The quantified customer', or how financial institutions value risk. In P. Boelhouwer, J. Doling and M. Elsinga (eds.), *Home ownership: getting in, getting from, getting out*, Delft University Press, Delft.
- Aalbers, M.B. (2007) Place-based and race-based exclusion from mortgage loans: evidence from three cities in the Netherlands. *Journal of Urban Affairs* 29.1, 1–29.
- Aalbers, M.B. (2008) The financialization of home and the mortgage market crisis. *Competition & Change* 12.2, 148–66.
- Aalbers, M.B. (2009a) Geographies of the financial crisis. *Area* 41.1, 34–42.
- Aalbers, M.B. (2009b) The globalization and Europeanization of mortgage markets. *International Journal of Urban and Regional Research* 33.2, 389–410.
- Arrighi, G. (1994) *The long twentieth century: money, power, and the origins of our times*. Verso, London.
- Ashton, P. (2009) An appetite for yield: the anatomy of the subprime mortgage crisis. *Environment & Planning A* 41.6, 1420–41.
- Bradford, C.P. and L.S. Rubinowitz (1975) The urban–suburban

- investment–disinvestment process: consequences for older neighborhoods. *Annals of the American Academy of Political and Social Sciences* 422, 77–86.
- Carruthers, B.G. (2005) The sociology of money and credit. In N.J. Smelser and R. Swedberg (eds.), *The handbook of economic sociology*. Second edition, Princeton University Press, Princeton, NJ.
- Crossney, K.B. and D.W. Bartelt (2005) The legacy of the Home Owners' Loan Corporation. *Housing Policy Debate* 16.3/4, 547–74.
- Dennis, M.W. and T.J. Pinkowish (2004) *Residential mortgage lending: principles and practices*. Fifth edition, Thomson South-Western, Mason, OH.
- DiMaggio, P.J. and W.W. Powell (1991) Introduction. In W.W. Powell and P.J. DiMaggio (eds.), *The new institutionalism in organizational analysis*, University of Chicago Press, Chicago.
- Dymski, G.A. (2007) *From financial exploitation to global banking instability: two overlooked roots of the subprime crisis* (working paper). University of California Center Sacramento, Sacramento.
- Dymski, G.A. (2009) Afterword: mortgage markets and the urban problematic in the global transition. *International Journal of Urban and Regional Research* 33.2, 427–42.
- Fligstein, N. (2001) *The architecture of markets*. Princeton University Press, Princeton, NJ.
- Florida, R.L. and M.M.A. Feldman (1988) Housing in US Fordism: the class accord and postwar spatial organization. *International Journal of Urban and Regional Research* 12.2, 187–210.
- Gotham, K.F. (2002) *Race, real estate, and uneven development: the Kansas city experience, 1900–2000*. State University of New York Press, Albany.
- Gotham, K.F. (2006) The secondary circuit of capital reconsidered: globalization and the U.S. real estate sector. *American Journal of Sociology* 112.1, 231–75.
- Gotham, K.F. (2009) Creating liquidity out of spatial fixity: the secondary circuit of capital and the subprime mortgage crisis. *International Journal of Urban and Regional Research* 33.2, 355–71.
- Hacker, J.S. (2006) *The great risk shift: the assault on American jobs, families, health care and retirement — and how you can fight back*. Oxford University Press, New York.
- Hamnett, C. (1994) Restructuring housing finance and the housing market. In S. Corbridge, N. Thrift and R. Martin (eds.), *Money, power and space*, Blackwell, Oxford.
- Harvey, D. (1977) Government policies, financial institutions and neighbourhood change in United States cities. In M. Harloe (ed.), *Captive cities: studies in the political economy of cities and regions*, John Wiley & Sons, London.
- Harvey, D. (1985) *The urbanization of capital: studies in the history and theory of capitalist urbanization*. Blackwell, Oxford.
- Hernandez, J. (2009) Redlining revisited: mortgage lending patterns in Sacramento 1930–2004. *International Journal of Urban and Regional Research* 33.2, 291–313.
- Hillier, A. (2003) Redlining and the Home Owners' Loan Corporation. *Journal of Urban History* 29.4, 394–420.
- Hirsch, P., S. Michaels and R. Friedman (1987) 'Dirty hands' versus 'clean models': is sociology in danger of being seduced by economics? *Theory and Society* 16, 317–36.
- Immergluck, D. (2004) *Credit to the community: community reinvestment and fair lending policy in the United States*. Sharpe, Armonk, NY.
- Immergluck, D. (2008) *Re-forming mortgage markets: sound and affordable home lending in a new era*. Cornell University Press, Ithaca, NY.
- Jackson, K.T. (1985) *Crabgrass frontier: the suburbanization of the United States*. Oxford University Press, New York.
- Kaminsky, G.L. and C.M. Reinhart (1999) The twin crises: the causes of banking and balance-of-payment problems. *American Economic Review* 89.3, 473–500.
- Krippner, G. (2005) The financialization of the American economy. *Socio-Economic Review* 3, 173–208.
- Langley, P. (2006) Securitising suburbia: the transformation of Anglo-American mortgage finance. *Competition and Change* 10.3, 283–99.
- Leyshon, A. and N. Thrift (1999) Lists come alive: electronic systems of knowledge and the rise of credit-scoring in retail banking. *Economy and Society* 28.3, 434–66.

- Lordon, F. (2007) Spéculation immobilière, ralentissement économique. Quand la finance prend le monde en otage. *Le Monde Diplomatique* Septembre 7, 10–11.
- Marcuse, P. (1979) The deceptive consensus on redlining: definitions do matter. *Journal of the American Planning Association* 45.4, 549–56.
- McCoy, P.A. and E.K. Wyly (2004) Guest editors' introduction. *Housing Policy Debate* 15, 453–66.
- Mizen, P. (2008) The credit crunch of 2007–2008: a discussion of the background, market reactions, and policy responses. *Federal Reserve Bank of St. Louis Review* 90.5, 531–67.
- Newman, K. (2009) Post industrial widgets: capital flows and the production of the urban. *International Journal of Urban and Regional Research* 33.2, 314–31.
- Peck, J. (2005) Economic sociologies in space. *Economic Geography* 81.2, 129–75.
- Polanyi, K. (1944) *The great transformation: the political and economic origins of our time*. Beacon, Boston.
- Polanyi, K. (1992) The economy as instituted process. In M. Granovetter and R. Swedberg (eds.), *The sociology of economic life*, Westview, Boulder, CO.
- Pryke, M. and R. Lee (1995) Place your bets: towards an understanding of globalisation, sociofinancial engineering and competition within a financial centre. *Urban Studies* 32.2, 329–44.
- Ross, S.L. and J. Yinger (2002) *The color of credit: mortgage discrimination, research methodology, and fair-lending enforcement*. MIT Press, Cambridge, MA.
- Sassen, S. (2001) *The global city: New York, London, Tokyo*. Second edition, Princeton University Press, Princeton, NJ.
- Sassen, S. (2009) When housing becomes an electronic instrument: the global circulation of mortgages. A research note. *International Journal of Urban and Regional Research* 33.2, 411–26.
- Shiller, R.J. (2008) *The subprime solution*. Princeton University Press, Princeton, NJ.
- Shlay, A. (1989) Financing community: methods for assessing residential credit disparities, market barriers, and institutional reinvestment performance in the metropolis. *Journal of Urban Affairs* 11.3, 201–23.
- Squires, G.D. (ed.) (1992) *From redlining to reinvestment: community response to urban disinvestment*. Temple University Press, Philadelphia.
- Squires, G.D. (ed.) (2004) *Why the poor pay more. How to stop predatory lending*. Praeger, Westport.
- Stuart, G. (2003) *Discriminating risk: the U.S. mortgage lending industry in the twentieth century*. Cornell University Press, Ithaca, NY.
- Thomas, L.C. (2000) A survey of credit and behavioural scoring: forecasting financial risk of lending to consumers. *International Journal of Forecasting* 16.2, 149–72.
- Veblen, T. (1934) *Essays in our changing order*. A.M. Kelley, New York.
- Wainwright, T. (2009) Laying the foundations for a crisis: mapping the historico-geographical construction of RMBS securitization in the UK. *International Journal of Urban and Regional Research* 33.2, 372–88.
- Wyly, E.K. and S.R. Holloway (1999) 'The color of money' revisited: racial lending patterns in Atlanta's neighborhoods. *Housing Policy Debate* 10, 555–600.
- Wyly, E.K., M. Atia, H. Foxcroft, D. Hammel and K. Philips-Watts (2006) American home: predatory mortgage capital and neighbourhood spaces of race and class exploitation in the United States. *Geografiska Annaler B* 88, 105–32.
- Wyly, E.K., M. Moos, H. Foxcroft and E. Kabahizi (2008) Subprime mortgage segmentation in the American urban system. *Tijdschrift voor Economische en Sociale Geografie* 99.1, 3–23.
- Wyly, E.K., M. Moos, E. Kabahizi and D. Hammel (2009) Cartographies of race and class: Mapping the class-monopoly rents of American subprime mortgage capital. *International Journal of Urban and Regional Research* 33.2, 332–54.