

The B.E. Journal of Economic Analysis & Policy

Symposium

Volume 9, Issue 3

2009

Article 1

THE MORTGAGE MELTDOWN, THE ECONOMY,
AND PUBLIC POLICY

The Mortgage Meltdown, the Economy, and Public Policy

Stuart A. Gabriel John M. Quigley[†]
Larry A. Rosenthal[‡]

*University of California, Los Angeles, stuart.gabriel@anderson.ucla.edu

[†]University of California, Berkeley, quigley@econ.berkeley.edu

[‡]University of California, Berkeley, lar@berkeley.edu

Recommendation

Stuart A. Gabriel, John M. Quigley, and Larry A. Rosenthal (2009) "The Mortgage Meltdown, the Economy, and Public Policy," *The B.E. Journal of Economic Analysis & Policy*: Vol. 9: Iss. 3 (Symposium), Article 1.

INTRODUCTION

This special volume of the *BE Journal of Economic Analysis and Policy* (*BEJEAP*) presents the revised and edited papers originally presented at a joint Berkeley-UCLA symposium, “The Mortgage Meltdown, The Economy, and Public Policy,” convened on the Berkeley campus in late October 2008. The symposium was designed to address the collision of two cataclysmic forces: the precipitous fall in house prices and the ensuing, unprecedented shortage of capital available for mortgages and other lending.

The symposium was planned in early 2008. Widespread declines in both U.S. house prices and the values of securities backed by housing assets had been reported. Worse, the meltdown had spread to other sectors of the domestic and global economy. During 2007, national house prices as estimated by the Office of Federal Housing Enterprise Oversight recorded the first annual decline since the series was initiated in 1975. Other house price indexes, including the S&P/Case-Shiller Home Price series, declined further, and the 2007 price declines in several metropolitan markets were already serious (e.g., Miami, Las Vegas, Phoenix, and Southern California). Single-family housing starts declined by almost 42 percent during 2007, even as non-prime mortgages began to evidence sharp deterioration in performance. By the end of 2007, failure rates on subprime mortgages had reached 20 percent. Similarly, mortgage foreclosures in the U.S. increased markedly during 2007, reaching about 2.5 million on an annual basis by the end of the year.

The sharp rise in delinquencies, defaults and foreclosures resulted in massive upward adjustments in the cost of default insurance on subprime-backed mortgage-backed securities (MBS). Indeed, interest rate spreads to Treasuries on subprime ABX indices increased from about 250 basis points in early 2007 to over 30 percentage points by the end of the year. Even in the wake of this marked deterioration in the performance of housing and mortgages, the proportion of high loan-to-value (LTV) originations continued to climb in 2007. Indeed, the share of loans originated with LTVs in excess of 97 percent reached almost 20 percent in 2007, up sharply from a mere fraction of that amount a decade earlier.

Under these conditions, the economy began to slow markedly, and more widespread contagion beset the broader capital markets. It was subsequently established by the NBER Business Cycle Dating Committee that the current recession began in January 2008.

By the time of the Berkeley-UCLA symposium in October 2008, the housing and mortgage markets were in free fall. The symposium was held just six weeks after the government-sponsored enterprises Fannie Mae and Freddie Mac (GSEs) had been placed into conservatorship. The week before the conference, it was reported that average house prices in the twenty largest U.S. metropolitan

areas had declined by 22 percent in the previous year. Exclusive of conventional, conforming mortgages, the secondary and related derivative mortgage securitization markets were essentially frozen. The unemployment rate nationally had risen sharply, reaching 6.6 percent in October 2008 and eclipsing the seven-percent level by year's end.

At the symposium six invited papers, analyzing various aspects of the predicament, were presented and discussed. These works fell into three general areas. Two papers focused on disruptions in mortgage markets and the potential future role of monetary policy aligned more closely to price movements of housing and durable goods (by Robert Shiller of Yale University and Edward Leamer of UCLA). Two papers addressed demographic and other features of mortgage foreclosures (one by Chris Mayer and Glenn Hubbard of Columbia University and another by Kristopher Gerardi of the Federal Reserve Bank of Atlanta and Paul Willen of the Federal Reserve Bank of Boston). The remaining two papers analyzed regulatory adjustments for mortgage markets, the advent of new mortgage and liquidity products, and the regulation of the GSEs (one paper by Diana Hancock and Wayne Passmore, of the Board of Governors of the Federal Reserve System, and the other by Dwight Jaffee of Berkeley). In addition, two keynote presentations, by Ben Bernanke, Federal Reserve Board Chairman, and Janet Yellen, President of the Federal Reserve Bank of San Francisco, provided perspective on the antecedents to the meltdown and on potential policy initiatives.

In this introduction, we survey the original papers and the discussion of these papers, as well as the presentations by Chairman Bernanke and President Yellen. The conference papers themselves and the comments of discussants follow.

The economic and financial crisis has worsened significantly in the months following the symposium and today represents the most serious challenge to global economic stability since the depression of the 1930s. The far-reaching economic and social consequences of the housing crisis require nothing less than the wholesale evaluation and redesign of housing policy, regulation, and the finance systems. Ideas developed in this symposium volume make some contribution toward that effort.

THE VIEW FROM THE FED: JANET YELLEN AND BEN BERNANKE

In her opening remarks for the symposium, Janet Yellen identified an “adverse feedback loop” allowing the meltdown in housing to spread throughout the economy. As housing construction slowed, demand for construction labor and other factors of production contracted. The decline in house prices reduced household wealth and related consumption spending, and it resulted in sharply

constrained capital availability. Further, real contagion was observed across sectors in the credit markets, as the lack of available credit began affecting households and firms far removed from housing. The credit crunch reduced economic activity and led to a sharp rise in unemployment. Indeed, if not for tightened underwriting and sharp reductions in mortgage capital availability, precipitous declines in home prices might otherwise have spurred some increase in homebuying activity. Instead, backlogged inventories of homes on the market and falling prices contributed further to the ongoing, downward spiral in housing and the economy.

Yellen described the wave of subprime foreclosures as one key domino in the chain. The riskiness of lower-grade borrower pools and lax underwriting standards have already received due attention from commentators. But as she reported, research by the Fed and others indicates that rapid declines in home prices best explain the variation in mortgage delinquency rates across regions and phases of the business cycle. More generally, the various precursors to the meltdown event may depend more on substantial losses in asset value and household wealth than on worrisome financing tools or diminishing credit-worthiness among borrowers. Yellen suggested as much in noting how default and foreclosure rates have risen, not just in the subprime housing market but in the alt-A and adjustable-rate prime markets as well.

Difficulties on the banking side were only compounded by excessive leverage, highly complex and opaque derivative securities lacking clearly priceable risk features, and capital reserves sometimes insufficient to satisfy volatile cash demands of customers. Acknowledging that the global economic slowdown may reduce the risk of inflation for the time being, Yellen advised that policymakers consider, among other steps, pursuing government investments in financial institutions to increase bank safety and soundness. She also advocated exhorting voluntary participation by lenders in efforts to initiate mortgage-loan modifications with borrowers at risk of default.

In his paper, Federal Reserve Chairman Ben Bernanke directed attention toward mortgage securitization and the future role of the GSEs. He noted first the key tradeoff. Simple mortgage transactions, where the lender holds the instrument in portfolio and services the loan until it is paid in full, lack the risk-spreading and liquidity of a fully securitized, originate-to-distribute financial system. But without clear operating standards and regulation preventing lax underwriting and credit review, mortgage securitization can disconnect mortgage credit from the real property securing it, particularly as asset-backed securities grow overly complex.

Chairman Bernanke described the ways in which the original, quasi-public progenitors of the securitization system – Fannie Mae and Freddie Mac – ultimately failed to establish a real estate finance system capable of self-

correction in the face of sudden price deterioration. He identified three key features of successful securitization schemes: (1) willing investors, drawn from fluid exchange markets having adequately stringent credit underwriting; (2) savvy risk management by custodians of mortgage-loan pools, especially where risks may be correlated within and between such pools; and (3) relatively transparent asset valuation systems. Failures of Fannie and Freddie on these and other criteria led to their being placed into government conservatorship in September 2008.

Chairman Bernanke suggested that recent experience may mean securitization systems cannot sustain themselves without a reliable government backstop guaranteeing their solvency. Given the inherent conflicts between the private shareholders of the GSEs and the public-interest missions of the firms, he suggested alternative approaches to structure that backstop. These alternatives include: (1) full privatization of the GSEs and establishment of a public insurer partially underwriting their portfolio-based risk; (2) elimination of the GSEs in favor of a system of “covered bonds,” secured by high-quality pools of mortgages and other assets; and (3) reorganizing GSE operations as a kind of public utility, arguably eliminating the conflicts-of-interest that have prevailed in these federally-chartered private corporations. The first two options require, at a minimum, that the investment vehicles provide returns to investors in the marketplace sufficient to generate an adequate pool of capital. The public utility model, by contrast, calls for durable and reliable underwriting and pricing systems ensuring operation serving all consumers and protected against capture by industry stakeholders.

Chairman Bernanke suggested a reasonable restructuring of the GSEs might involve an entirely public corporate form, without private shareholders. Such reorganization could expand the GSEs to include housing market functions currently performed by the Federal Housing Administration and Ginnie Mae. Regardless which route GSE redesign eventually takes, policymakers should provide for flexible participation by private mortgage lenders and mortgage insurers in government-sourced transactions, along the lines of the current Federal Home Loan Bank system.

THE IMPLOSION IN MORTGAGE MARKETS

Robert Shiller characterizes the 2006-2008 mortgage meltdown as a combination of falling asset prices, excessive psychological reaction to the burst bubble, and new mortgage vehicles not designed for sudden changes in value and perception. He argues the time is ripe for institutional innovation similar to that undertaken in the founding of the Federal Reserve a century ago and the Depression-era regulation of the banking sector and the securities markets. Shiller’s general suggestions for altering market institutions are described in his recent book

(Shiller, 2008). His contribution in this volume focuses on proposals for restructuring mortgage finance, increasing the role of futures markets, and revising the bankruptcy law.

Shiller traces the psychology of the financial crisis to the dot-com boom, bust and recovery in the stock market, and unprecedented inflation in real estate prices which followed. He argues that a widespread shift in household and consumer self-perceptions, including a far-reaching extension of the “investor-mindset” among homebuyers, fundamentally changed how market institutions behaved. This allowed forms of opportunism and rent-seeking to overwhelm disciplined market function. Excessive risk tolerances reflected heretofore unseen levels of “self-delusion,” in which market actors and regulators alike imagined asset prices had become permanently immune to any substantial downward adjustment. These conditions afflicted mortgage lending, MBS investment, and GSE operations; the reach of the speculative bubble was vast and terribly destructive. Cooler heads never quite prevailed.

Shiller sounds a cautionary tone regarding piecemeal interventions in the banking system and in troubled mortgage markets. He points to the banking deregulation and bailouts of the early 1980s, meant to remedy the effects of inflation on home loans and construction finance. Many commentators now argue that this very deregulation led inexorably to the savings-and-loan crisis.

Against this backdrop of well-intentioned but poorly conceived policy, Shiller proposes a combination of market-based and regulatory innovations to address current challenges and guard against similar events in the future. The key target for reform is disciplining the kinds of systemic risk external to the decisionmaking of individuals. Shiller envisions greater reliance on innovative futures markets, forging third-party transactions to reduce counterparty risk, with a neutral market-making actor having mandated margins sufficient to ensure all contracts clear. Such a mechanism may have helped bound the operations of the credit-default swap market. Indeed, Congress will surely impose tighter regulation upon that market in the future.

Another strategy Shiller endorses is creating new forms of futures contracts, having the street-level appeal of stock-market investments but incorporating dampeners on systemic risk. Shiller envisions thick markets in such contracts, inducing the flow of capital to vehicles having self-regulatory features and cultivating resiliency in the market. Experiments with similar contracts based on exchange commodities like oil have shown some early promise. But further design adjustments are necessary before they can be implemented.

Shiller also proposes revising the bankruptcy law. Too much discussion in that arena is devoted, he suggests, to the tug-of-war between creditor and debtor groups, and the narrow arbitration of claims against bankruptcy petitioners. Not enough attention is given to the system’s potential for regulating and cushioning

macroeconomic risk of the type manifest in the current crisis. Possible innovations include “circuit breaker” delays in finalizing bankruptcy settlements during turbulent market settings. With coordination from the regulatory sector, institutional bankruptcies might also make use of new and more flexible debt instruments. Key thresholds in pending proceedings could be phased and triggered according to economic indicators prescribed by statute.

Finally, Shiller asks that we rethink some of the fundamental premises underlying mortgage finance. Substantial cushioning against market downturns might be found in diversifying the typical borrower’s risk, perhaps by combining stakes in individual residences with ones in regional property portfolios. Also, Shiller speculates about mortgage workout rules. Under current law, workouts are difficult to administer at any considerable scale. Standard lending arrangements could come to include a more flexible set of options, beyond the binary choice between full payment and default. Indeed, contract designs incorporating such features are gaining attention given the explosive growth in mortgage failures.

Shiller’s idea for “continuous workout mortgages” would build new flexibility into the original loan. Adaptive features would allow systematic and ongoing revision of loan terms. Shiller suggests a continuous readjustment of the mortgage balance owed, to reflect economic conditions, household budgetary realities, and minimal equity-growth allowances. How such instruments might best address aggregate effects of strategic repayment and other kinds of moral hazard remains to be seen. But lessons can be drawn from previous experience with mortgage-repayment insurance and experimentation with price-level-adjusted mortgages.

Shiller contends that continuous work-out mortgages have systematic advantages over various sector-based bailout strategies and, indeed, could ultimately reduce the need for them.

MONETARY POLICY

Ed Leamer argues the housing sector should figure more prominently in assessing and managing the business cycle. Specifically, he suggests that monetary policy interventions be undertaken earlier in the business cycle; optimally, they should be triggered by changes in sectoral production indicators, not just price movements. Such a policy shift would have the Federal Reserve more closely monitoring cyclical turning points in housing and consumer durable goods.

In his review of long-term arcs in the U.S. economy, including data from all post-World War II recessions, Leamer points out how monetary policy may have paid insufficient attention to softening asset prices. Signals of impending cyclical fluctuations may emerge, not only from the housing and durable-goods

sectors, but also in inventory and equipment. In housing starts Leamer finds the most reliable signals.

Leamer contends that monetary practice should deemphasize inflation and instead focus upon stabilization of the real business cycle. In so doing, countercyclical changes in interest rates should be undertaken more preemptively than in the past. Leamer suggests that regulating monetary flows in this fashion may provide policymakers added room to make downward interest-rate adjustments when production in housing and durables is at its peak, facilitating a soft landing later on.

Leamer argues that, had housing starts been utilized as a key trigger for early interventions (along with durables, inventories and factory equipment), we may have succeeded in avoiding the worst consequences of post-World War II downturns. However, he readily acknowledges that precise measurement of sectoral changes remains problematic, and this could certainly complicate the implementation of the program he suggests. Notwithstanding these issues, Leamer's analysis provides fresh insights as the Federal Reserve revisits its overall approach toward monetary policy in the wake of the current crisis.

Two discussants provide perspective on the Shiller and Leamer papers. First, Brad DeLong argues that it is difficult to draw the kinds of systematic conclusions posited by Leamer, given how idiosyncratic the business cycle has become over time. DeLong welcomes Leamer's analysis for heuristic purposes but places most of the blame for the current crisis on Wall Street. While downplaying suggestions that inappropriate monetary policy strongly contributed to the meltdown, DeLong nonetheless concurs with Leamer that the anti-inflation preoccupation of Fed policy itself tolerated (or perhaps even fostered) unhealthy risks that price bubbles would subsequently develop.

James Wilcox places the arguments of Shiller and Leamer in a somewhat broader context, advancing policy proposals of his own. He cites multiple causes of the mortgage crisis, in which low interest rates, contractual irregularities, errors in underwriting and regulatory defects created unsustainable levels of mortgage credit growth. He also faults the securitization system itself, which has made mortgage workouts virtually impossible to administer at sufficient volumes to head off the worst of the meltdown.

In that connection, Wilcox argues that bundles of Shiller's continuous workout mortgages or similar instruments might be quite difficult to package into tranches and sell in the secondary markets. Their efficiency advantages for borrowers and servicers would need to be evaluated relative to the improved capital access and other benefits traditionally associated with securitization.

Moreover, Wilcox points out that in certain market settings, differentials between income and housing-price growth could make conditions for borrowers with continuous workout mortgages even less attractive than those occasioned by traditional mortgage instruments—perhaps drastically so.

Wilcox analyzes Leamer's proposed housing-based benchmarks for determining monetary policy. Wilcox finds that residential-investment levels generally predict movements in the GDP-gap (measuring excess capacity in the economy). However, this specification does not provide systematic advantage over models instead relying upon the Index of Leading Indicators (ILI). The comparison is sustained over varying timeframes, suggesting the usefulness of broader forecasting tools such as the ILI. Wilcox emphasizes, as Leamer himself acknowledges, that policymaking grounded in single-sector indicators can be problematical.

Finally, Wilcox proposes two additional strategies to address the financial crisis. First, a public authority might purchase all shares of the most underperforming MBS issuances, thereby unifying control and stakes in these troubled assets. This "decuritization" of fragmented interests in affected pools of mortgages could certainly decrease the transactions costs of winding down the pools and facilitate loan modifications benefiting distressed homeowners as well. Second, in response to the generalized collapse in credit markets, Wilcox suggests that agencies like the Fed and the GSEs buy two units of debt for every single unit of the same kind of debt they sell. Low trading volumes driven by inferior pricing data is a continuing impediment slowing market recovery. Wilcox argues that expanding public roles in this fashion would eliminate a major transactional roadblock to restored capital-market function, as increased exchange volumes would better reveal asset prices to private buyers and sellers.

It is possible the kinds of intervention Wilcox imagines could indeed help stabilize markets. In the wake of such transactions, market actors might once again come to view derivative asset-values as being estimated accurately enough to keep risk within reasonable tolerances. Credit volumes could thereby improve, so as to provide some liquidity to the faltering economy. Wilcox acknowledges that the participating agencies would—through losses they initially incur—effectively provide additional market subsidies, and these could be substantial. But if such measures help in restoring a reasonable level of liquidity to credit markets, he argues, those losses would more than pay for themselves in the long run.

HOUSE PRICES AND INTEREST RATES

To Chris Mayer and Glenn Hubbard, the U.S. mortgage debacle must be analyzed in the broader setting of global real estate markets. Viewed from that perspective,

these authors contend it is hard to place all blame on securitization lapses, regulatory failures and other elements within U.S. markets alone. The unprecedented explosion in U.S. house prices during the early 2000s closely tracked house price increases occurring in many other developed economies, far outpacing price growth in other sectors. In many countries, accommodating monetary policy and benign interest rates facilitated the flow of capital toward housing.

Like Glaeser et al. (2008), Mayer and Hubbard distinguish among market regions more and less susceptible to price bubbles by reflecting upon supply elasticity and localized transactions-cost burdens. Mayer and Hubbard depict recent experience in terms of homeowners' user-cost of capital, and their findings suggest interest rate fluctuations are, not surprisingly, crucial to housing demand. In their study, fluctuations in user costs figure importantly in an explanation of house price/rent ratios across a sample of metropolitan U.S. markets. The authors note, however, that there is still excess volatility in the house price/rent ratio that may be due to national factors such as the expansion of subprime credit.

Mayer and Hubbard conclude by considering a set of policy prescriptions to address rapidly declining house prices and elevated interest rate spreads on new mortgages. They call upon the federal government to reduce effective interest rates on new mortgages via subsidy and cushion underwriting losses on lenders' balance sheets. This would leave taxpayers with an ownership share in distressed mortgage pools and thereby help lenders to achieve improved capital and liquidity positions. Note that in the context of the ongoing economic contraction, new Federal Reserve credit facilities have embarked on a type of "quantitative easing," purchasing large quantities of conforming MBS. Those purchases should have the direct effect of reducing effective interest rates on GSE conforming mortgages, consistent with the call of these authors and others for government intervention effecting substantially lower rates on new mortgages.

FORECLOSURES AND NEIGHBORHOODS

Kristopher Gerardi and Paul Willen examine the urban and spatial effects of the housing and mortgage downturn. Utilizing data published under the Home Mortgage Disclosure Act and recent home-purchase transactions data from deed registries in Massachusetts, they verify that subprime mortgage lending leading to default and foreclosure was significantly concentrated in inner-city neighborhoods and among minority populations, particularly those having low equity stakes in their homes. Whatever salutary impacts this lending may originally have had on homeownership rates in those places and among those communities, the benefits attributable to an increased minority-share of purchases were short-lived and

ultimately counterproductive. This was the case not only because of the high incidence of foreclosures but because of voluntary sales as well.

Gerardi and Willen compare the Massachusetts meltdown with a prior foreclosure cycle in the late 1980s and early 1990s. In the wake of widespread subprime lending more recently, the incidence of foreclosure is much more sensitive to small declines in house values. However, it may be argued that the relatively high incidence of subprime lending tends to minimize moral-hazard risk, namely, the chance that government assistance in loan modifications and workouts will end up largely in the hands of those owners least in need.

In his comments on the Mayer-Hubbard and Gerardi-Willen papers, Alexei Tchyisty compares two distinct equilibria: one where mortgage spreads are high because high prices appear unsustainable, the other where these spreads hover near historical norms. Public inducements to restore prices to levels consistent with fundamentals run the risk of over- or undershooting the mark, suggesting that government intervention should proceed slowly from as informed an analytic basis as possible. Even if subprime lending generated only ephemeral gains in minority homeownership, Tchyisty argues, findings like that of Gerardi and Willen leave open the question whether the activity was ultimately welfare-enhancing to targeted underserved populations.

On policy interventions, Mark Garmaise poses key questions about timing. Tinkering with mortgage rates, and bailing out distressed borrowers, lenders, and investors, require sensitively timed actions. Garmaise argues it is quite difficult for government agencies to know whether updated perceptions of opportunities are attributable to more informed assessments or are based instead on unreasonable risk aversion. If the user-cost model relied upon by Mayer and Hubbard indicates persistently high price-rent ratios, government should postpone write-down programs pending further, deeper price corrections downward.

Garmaise questions whether neighborhood externalities justify bailing out homeowners and lenders. He ponders whether those subsidy dollars should instead be directed toward low-income renters. And he points out—in contrast to aid prescriptions by Gerardi and Willen—that urban neighborhoods featuring the highest risk of default during a down economy may be the least appropriate (and least efficacious) places to attempt default reduction at taxpayer expense. If vacant properties truly generate negative spillovers, Garmaise believes a program of eviction controls and owner fines should be considered instead, along with expedited disposition in the bankruptcy courts.

Walter Torous questions the tight user-cost linkage Mayer and Hubbard posit between falling interest rates and increasing housing prices. Torous cautions

that their findings appear to vary substantially from other recent work based on dynamic user-cost models. He further argues that the relationship between interest rates and the housing price/rent ratio may not be straightforward, given the potential effects of interest rate changes on both house prices and rents (see, e.g., Campbell and Shiller, 1988). In the subprime segment of the market, Torous reminds us that a great many transactions were cash-out refinancings rather than first-time entries to homeownership. He urges that the relative wealth (and human capital) positions of affected households be borne in mind. Not all subprime refinances were predatory, and much of the consumption that was facilitated had “consumption smoothing” benefits which should be taken into account.

MORTGAGE INNOVATIONS

Following on themes raised by Chairman Bernanke and Robert Shiller, Diana Hancock and Wayne Passmore further advance the case for innovations in mortgage finance. The introduction of new mortgage designs might help accomplish key goals: reducing deadweight loss associated with excessive foreclosures, improving housing affordability, and boosting the supply of low-cost mortgage finance where it is most needed. Their paper elucidates the potential role of covered bonds, particularly in connection with establishing a public bond insurance authority. Beyond covered bonds, however, Hancock and Passmore present two innovative mortgage designs that build in predetermined loan-modification procedures.

One proposal is the “buy your own mortgage” (BYOM) concept. BYOM would provide a contractual option for the buyer to pay off a mortgage with the proceeds from a home sale, even if the payoff amount falls short of the mortgage’s par value. Accordingly, the option would be in the money even for owners who were “underwater” at the time of home sale. Providing borrowers a way of buying themselves out of a lopsided financial situation might reduce default rates and related external effects on neighboring property values. Having the option established *ex ante* and making it transparent to the markets might provide a measure of financial stabilization, compared to the rampant investor uncertainty arguably driving the current crisis.

Hancock and Passmore note that, in places like Denmark, the BYOM option is something borrowers can simply purchase at the time the mortgage is negotiated. As would be anticipated, the extent of borrower leverage influences prices on what are essentially mortgage put options, allowing the borrower to offer in prepayment the proceeds of a market sale falling short of the mortgage’s par-value. Such short sales regularly occur in the American setting, of course, but only with the mortgagee’s blessing.

BYOM might particularly benefit lower-income borrowers suffering mortgage lock-in effects. One can imagine that the device also could help mitigate some of the mortgage termination uncertainties recently evidenced in the U.S. market. Hancock and Passmore point out that significant price decreases may threaten lender liquidity in the face of a “run” on BYOM options. Thus, pricing the BYOM mortgage put option correctly can be difficult. Another important hurdle is ensuring that the option can be priced when mortgages are placed into segregated pools for sale in secondary markets.

Hancock and Passmore also advocate another contract-based innovation, variable maturity mortgages (VMMs). Arguably best utilized as a specialty product for lower-income homebuyers, VMM contracts maintain a constant monthly payment with a variable amortization period regularly adjusted in response to interest-rate fluctuations. The VMM device thus addresses the risk of “payment shock” due to resets in variable mortgage interest rates.

VMMs may offer market stabilization benefits similar to BYOMs. However, questions undoubtedly arise as to the risk-based pricing and securitization of variable maturity contracts. Other key design questions are associated with likely constraints on contract durations. Depending upon the formulas used to recalibrate maturity, limitations would probably be placed upon the maximum amortization period allowable. Discontinuities like this will affect the response of borrowers, lenders, and MBS investors.

Hancock and Passmore also conjecture on the likely economic effects were a covered bond system to be implemented in the U.S. Popular as a source of mortgage finance in Europe, the development of such a system in the U.S. could complement the originate-to-distribute securitization model. In theory, covered bonds would attract higher volume, lower-risk investment pools through their appealing recourse and insurance features. Issuers would maintain required reserves bearing full exposure for repayment (beyond the limits imposed on asset-backed loss claimants). Hancock and Passmore emphasize management flexibility as a particular advantage; the asset pool in the cover-bond can be actively managed by the issuer, allowing substitution of under- and over-performing collateral of the tranche. Note, however, that covered bonds require the issuer to hold the risk of mortgages retained in portfolio. Also, high risk-based capital requirements associated with retained mortgages may reduce the appeal of this liquidity vehicle to financial institutions.

Hancock and Passmore conclude with a strong case for expanding government-backed mortgage insurance systems. Whether undertaken by FDIC or some other entity, these authors argue such insurance would best be supplied explicitly and might well cover all debt and equity issuances of the GSEs, the Federal Home Loan Banks, and authorized covered-bond underwriters in the private sector. The insurance would be charged as a conventional risk-based

premium, maintained in segregated reserves. Explicit efforts should be made to obtain reinsurance guarantees easing payment obligations after calamitous “tail” events. The key advantages Hancock and Passmore identify in expanding mortgage debt-and-equity insurance systems include: making the terms of implicit guarantees explicit in the marketplace; introducing loss-spreading efficiencies, assuming large numbers of mortgage pools ultimately participate; spurring renewed liquidity provision and mortgage lending among private financial institutions; and smoothing asset and risk differences in large MBS pools covered by public guarantees.

WHITHER THE INVESTMENT BANKS AND THE GSEs?

Framing the mortgage meltdown in historical terms, Dwight Jaffee’s paper focuses upon the cyclical dynamic between financial crises and regulatory innovation. Prior crisis-response policy formations have included such notable institutions as the federal deposit and mortgage insurance systems, and of course the Federal Reserve System itself. Crises force consideration of redesign, and Jaffee is guardedly optimistic regarding current opportunities for improved regulatory oversight.

The interplay between regulation and behavior is hardly static. Government’s response to financial crisis may induce reaction among private agents that is neither predictable nor understandable. Regulating financial institutions at the highest levels, Jaffee argues, is more important in the long run than tinkering with transaction-level details, such as securitization processes and rating-agency operations.

Jaffee distinguishes between the riskiest investments large financial institutions pursue and the “financial infrastructure” functions they perform as market-makers. He contends that financial infrastructure functions must be isolated from risky portfolio investments. Federally financed rescues for the GSEs, Bear Sterns, and AIG were warranted, Jaffee argues, because failures of their infrastructure functions would pose dire consequences for the global financial system—due in large part to their role as counterparties in over-the-counter derivatives markets.

“Too big to fail” might best be a judgment about the importance of such infrastructure functions, not one based in the first instance upon the magnitude of risk to shareholders. Safeguarding market operation against the failure of same-firm investment divisions is Jaffee’s key prescription. One strategy would be to license key functions only within “monoline” settings, i.e., ones where the operator may conduct only that one line of business. Diversified holding companies would either be denied acquisition of infrastructure components

altogether, or their ownership and operation of them would be much more stringently regulated.

However, regulators have sometimes found this kind of demarcation in ownership difficult to accomplish and sustain. Indeed, some argue that legislation liberalizing investment-bank operating restrictions in the late 1990s sowed the seeds of recent failures. Jaffee acknowledges there may be some considerable cost in imposing monoline requirements on divisions of existing multifaceted financial companies. Requirements for sole ownership, as opposed to minimum reserves required on the infrastructure side, may need to be applied flexibly, or these tactics may need to be utilized in combination.

In the public arena, Jaffee prefers that a middle-income mortgage agency taking on the roles of the GSEs in the secondary markets similarly honor monoline principles. He believes the infrastructure aspects of those operations might be best undertaken in the way that Federal Housing Administration and Ginnie Mae have long conducted their business. In this model, the retained portfolios of Fannie and Freddie could be spun off to become mortgage real estate investment trust (REIT) vehicles, owned in their entirety by private investors. This would effectively put an end to the GSEs as we have known them.

Responding to Hancock and Passmore, Richard Green is wary that devices like BYOM and VMM may allow borrowers to game the system. They could do so by strategically gauging expenditures on home improvement and timing decisions to sell and move. Indexing these borrower-determined options to real prices poses its own difficulties. Additionally, government insurance of mortgage debt and MBS is unlikely to function any better in response to severe decreases in home value than the GSEs have in the very recent past. The institutional shortcomings manifest in GSE design will have to be confronted if new forms of government insurance are to be implemented.

On Jaffee's monoline concept, Green considers it an open question whether the profitability of infrastructure operations as stand-alone businesses can be sustained in the long run. He is more enthusiastic toward possibly transforming the GSEs into public monoline insurers covering only lower-income homebuyers. Green emphasizes the continuing satisfactory performance of the GSEs' multifamily investment programs. This gives him confidence that GSE operations can be maintained in some similar form in the future.

Lawrence White places these issues in the context of housing policy more generally. He reminds us that broad-based subsidies to homeownership may have contributed to overconsumption of housing. Irregular patterns of demand may be operating somewhat independently of cyclical fluctuations in interest rates.

White is predisposed toward the introduction of the BYOM and VMM options. But he suggests that government-sponsored price indexes of new mortgage designs may not help secondary markets adjust to crises more readily than they have in the recent past. On covered bonds, White sees potential conflicts with other depository insurance in circumstances where the loan positions in diversified portfolios might become quite complex, and risk would be hard to price.

Likewise, White finds it difficult to envision how a new and expanded public insurance system for mortgage debt and equity (as opposed to the subsidy-based side of government activities) would provide incentives for markedly different patterns of activity and risk-taking among private investors. He also argues that the benefits of dividing private investment and infrastructure functions of large firms are greatly diluted if heightened safety-and-soundness requirements become an inevitability in the process of re-regulation. Efficiencies of scale and scope available in consolidating these functions should not be discounted, White suggests, in terms of the benefits they generate for shareholders and consumers.

CONCLUSION

In the period since preparation and presentation of the Berkeley-UCLA symposium papers collected in this special *BEJEAP* volume on the mortgage meltdown, the American economy and its housing market have continued their steady decline. At times it has seemed the trouble is only accelerating. Consumer confidence indicators continued to reach new all-time lows. Credit supplies reposed in a languid state of shortage. By January 2009, housing starts had fallen 16.8 percent, and existing home sales remained sluggish. February 2009 marked the sixth consecutive month new orders for manufactured durable goods had fallen, and unemployment approached 8 percent nationally. In March, the Dow Jones Industrial Average fell below the 7,000 point level for the first time in more than a decade. U.S. gross domestic product was shrinking at an annual rate of 6.2 percent.

The new Administration in Washington called for a broad set of measures to provide fiscal stimulus for the economy. The final version of the American Recovery and Reinvestment Act of 2009 was signed into law on February 17, 2009. The Act provided for a total of \$787 billion in new spending to combat the deepening recession. It was anticipated that the infusion of government assistance would stimulate investment and provide security for 3.5 million jobs in the economy.

The next day, the Administration introduced its three-part, \$275 billion plan for easing conditions in the housing market. \$75 billion would be devoted toward helping homeowners remain in their homes and the balance would help

shore up the GSEs. The proposal would create separate programs benefiting those still current on their payments and those nearing default and foreclosure. Aid promoting mortgage modifications and refinancings would reach both homeowners and participating lenders and servicers. Further detail on these proposals was announced on March 4, 2009, and their provisions continue to evolve.

Adoption of the stimulus package supplemented and reinforced extensive stimulus efforts by the Federal Reserve. In early 2009, a new package of innovative monetary interventions was announced, including the creation of Federal Reserve credit facilities intended to purchase large quantities of conforming residential MBS. These purchases should have the direct effect of enhancing credit availability and reducing related liquidity premiums in mortgage pricing.

In part, these proposals make specific some of the very policies advocated in the papers assembled here. In particular, the Administration's proposals for Fannie Mae and Freddie Mac are consistent with arguments put forward by Diana Hancock and Wayne Passmore, and also those of Dwight Jaffee. The proposals for interest rate reductions and for a more liberal refinance policy are consistent with the analysis offered by Chris Mayer and Glenn Hubbard. Further, the creation of new Federal Reserve credit facilities specifically targeting housing and related housing debt embody the spirit of the Leamer proposal. Other Obama proposals on bankruptcy reform are consistent with the positions advocated by Robert Shiller in this volume.

Much work remains to fashion the current proposals into legislation, secure their passage into law, and implement them to help unlock the frozen housing and credit markets. But, as the papers in this volume make clear, the short-term initiatives under discussion in the Spring of 2009 are but a small part of more fundamental reforms necessary in the system of American housing finance. The papers and commentary in this volume will be even more useful in the debate over these long-term reforms.

REFERENCES

- John Campbell and Robert Shiller (1988) "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *Review of Financial Studies* 1 (3), pp. 195-228.
- Glaeser, Edward L., Joseph E. Gyourko and Albert Saiz (2008) "Housing Supply and Housing Bubbles" *Journal of Urban Economics* 64 (2), pp. 198-217.
- Shiller, Robert (2008) *The Subprime Solution: How Today's Global Financial Crisis Happened, and What to Do about It*, Princeton: Princeton University Press.