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Resurrection of RMBS

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Five years after its collapse, there are signs of life in the market for private residential mortgage-backed securities. Investor interest is rising, the federal government is reducing its role in mortgage finance, and regulators will soon clarify issues vital to the market. Private RMBS issuance is set to restart. A revitalized private RMBS market is essential to providing the mortgage credit necessary to revive U.S. housing and fuel the recovery.

Back From the Dead

The private RMBS market was at the heart of the financial panic and the Great Recession that followed. The market financed egregious mortgage lending to homebuyers who had low credit scores, put little or nothing down, and in many cases lied about jobs, incomes, or intentions to flip the property for a quick buck. The private RMBS market was the financial pump that inflated the housing bubble.

From 2004 to 2006, an astounding \$3 trillion in private RMBS were issued (see Chart 1). At the height of the frenzy in early 2006, about half of all new mortgages were taken by households with credit scores below the national average of 700; almost one-fourth had scores below 620. The market peaked in spring 2007, with more than 11.5 million mortgage loans backing private RMBS, accounting for more than one-fifth of total mortgage debt outstanding.

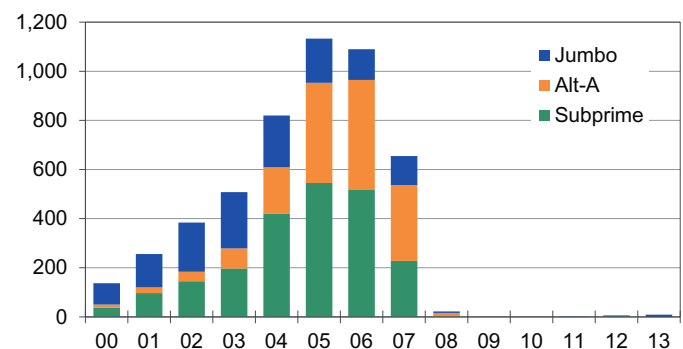
The old banking adage that "if it is growing like a weed, it is probably a weed," held true, and rapidly eroding credit quality caused the market to collapse. When credit problems were at their worst in 2009, mortgage payments were late on almost half of the loans backing RMBS, and almost one-

third of the loans were more than 90 days delinquent or in foreclosure. Of the nearly 15 million loans that were originated and put into mortgage-backed securities from 2004 to 2006, more than 4 million have defaulted, and this story is still unfolding.

Investors in private RMBS were crushed, losing \$450 billion, or 20%, of the debt outstanding in 2007 (see Table 1). Deeply scarred, they simply abandoned the RMBS market. Effectively no subprime, alternative-A or jumbo mortgage securities have been issued in five years. The private RMBS market is a shadow of its former self, with only 5 million loans backing private RMBS, accounting for less than one-tenth of all outstanding mortgage debt.

The Private RMBS Market Is Dormant

Private-label RMBS issuance, \$ bil, annualized



Source: Moody's Analytics

Table 1: Residential Mortgage Loan Realized Losses

\$ bil

	2006	2007	2008	2009	2010	2011	2012	Total 2006-2012	Debt outstanding yr-end 2007	Losses as a % of debt
Total	17.1	38.5	136.5	216.1	190.0	161.8	159.9	919.9	11,207	8.2
Government backed	7.1	7.7	17.9	31.8	51.4	46.3	44.2	206.4		
Fannie Mae & Freddie Mac	0.8	1.8	10.3	21.3	37.3	31.4	26.0	128.9	4,820	3.7
Fannie Mae	0.6	1.3	6.5	13.4	23.1	18.3	14.4	77.6		
Freddie Mac	0.2	0.5	3.8	7.9	14.2	13.1	11.6	51.3		
Federal Housing Administration	6.3	5.9	7.6	10.5	14.1	14.9	18.2	77.5	449	17.3
Privately backed	10.0	30.8	118.6	184.3	138.6	115.5	115.7	713.5		
Mortgage insurers	1.5	6.9	10.8	9.6	6.6	6.0	6.0	47.4		
Depository institutions	2.7	7.3	35.0	54.9	48.2	35.3	33.3	216.7	3,729	5.8
Private-label mortgage securities	5.8	16.6	72.8	119.8	83.8	74.2	76.4	449.4	2,209	20.3
Subprime	5.6	15.5	55.9	71.6	39.0	34.7	35.5	257.8		
Alt-A	0.2	0.9	11.3	28.0	24.0	20.5	20.1	105.0		
Option ARMs	0.0	0.2	5.2	17.9	17.4	14.8	16.5	71.9		
Jumbo	0.0	0.0	0.4	2.3	3.4	4.1	4.3	14.6		
Securitized HELOC	0.2	1.5	5.1	5.1	3.4	2.1	1.6	18.9		

Sources: Fannie Mae, Freddie Mac, HUD, FDIC, Federal Reserve, Moody's Analytics

But just as the market has been given up for dead, signs of life have reappeared. Several small private RMBS deals have recently been concluded. To be sure, the mortgage loans backing these securities are the cream of the crop, made to high-income households with very high credit scores who purchased their properties with large down payments. And with the U.S. housing market clearly on the upswing, odds are low that even junior investors will lose money on these securities. But encouragingly, more private RMBS issuance is planned in coming months, and investment bankers are suddenly devoting more energy to arranging even more aggressive deals.

Pristine credit conditions

Prospects that the private RMBS market will soon revive are supported by a rapidly improving housing market and better mortgage credit conditions. House prices

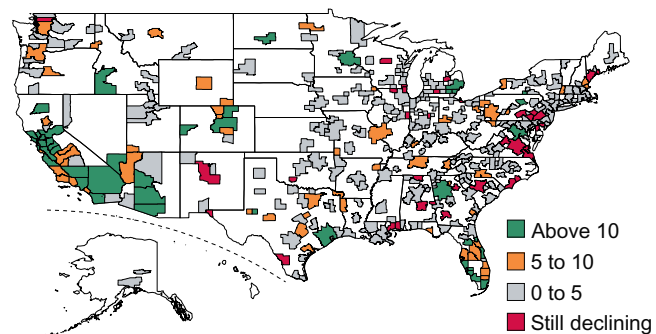
are rising across much of the nation, and although a large number of mortgage loans are still stuck in foreclosure or headed there, credit conditions will be pristine once these are resolved.

Nationally, house prices have risen almost 10% from the bottom reached in early 2012.¹ Prices are still down almost 25% from their 2006 peak, but the recent turnaround has been stunning. Prices are up most in the previously beaten-down coastal metropolitan areas of California and Florida, and in the Mountain West (see Chart 2). This reflects a dramatic decline in the share of home sales

involving foreclosures or short sales, which typically sell at big discounts below comparable properties. In areas such as Orlando and Phoenix, as many as three-quarters of all home purchases were distress sales a few years ago; closer to a third are distress sales now.

House Prices Are Rising Almost Everywhere

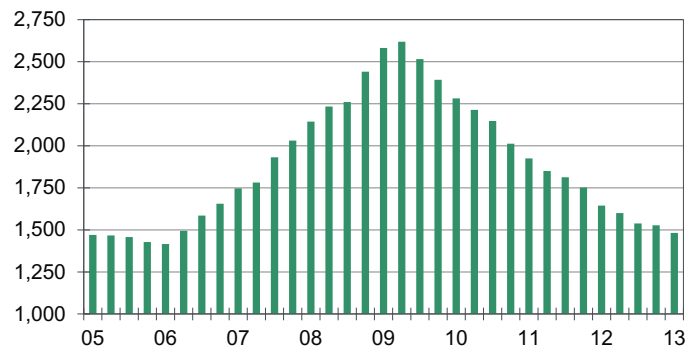
Case-Shiller® Home Price Index, % change trough to 13Q1



Sources: CoreLogic, Moody's Analytics

Mortgage Credit Quality Is Improving

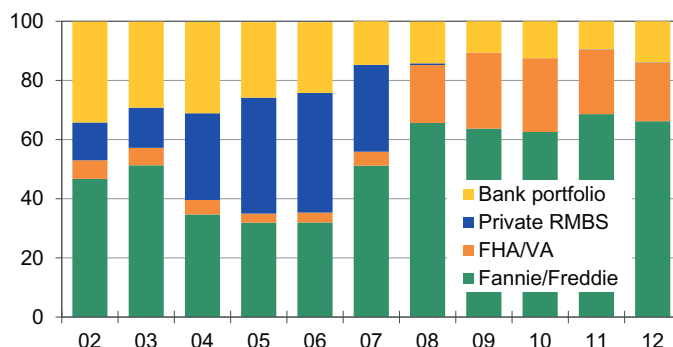
30- to 90-day delinquent first mortgage loans, ths



Sources: Equifax, Moody's Analytics

Who Is Making Mortgage Loans

% of residential mortgage originations



Source: Moody's Analytics

Investor demand for distressed property has bordered on voracious, limiting the price discounts on these distress sales. Both institutional and mom-and-pop investors have been purchasing foreclosed properties, fixing them up and renting them. Rents have been strong enough and house prices low enough to make the financial arithmetic work. These buyers are not the flippers of the housing bubble, but longer-term investors with a horizon of several years; many are making all-cash purchases.

Even with the recent pickup in house prices, housing remains affordable, consistent with household incomes and rents in most of the country. Even as investors' appetite wanes, demand from first-time and trade-up buyers should fill the void as mortgage rates remain low and incomes rise over at least the next several years. There are some caveats: The housing crash may have changed attitudes about homeownership, and younger households carrying large student loans will have greater difficulty making down payments than earlier generations did. But this will not be enough to short-circuit the housing recovery.²

The number of mortgage loans in or likely headed for foreclosure is still disconcertingly large at 2.7 million. However, fears have faded that these properties would come onto the housing market all at once, undermining prices. Mortgage servicers are working through these distressed properties slowly—in part because of increased regulatory scrutiny and tight-

ened legal requirements, but also because they do not wish to weaken prices. It is also unclear how many of these homes remain economically viable after so long in the foreclosure pipeline.

Rising house prices are lifting more homeowners back above water. The housing crash left some 16.5 million homeowners—a third of all those with mortgages—owing more on their homes than they were worth. That number is falling fast, with closer to 10 million still in negative equity positions.³

Rising house prices, lower unemployment, and tightened underwriting standards have greatly improved mortgage credit conditions. The number of mortgage loans 30 days delinquent is as low as it has ever been in the historical data, and 60-day delinquencies are close to a record low (see Chart 3). Even 90-day delinquencies are down substantially. Once the current foreclosure pipeline is emptied, mortgage credit conditions will look as good as they ever have.

Investors are responding. Stock prices have surged for companies that have anything to do with housing and mortgages. Even the formerly beaten-down private mortgage insurance industry has been able to raise billions of dollars in new equity at favorable share prices this spring. Record low interest rates have left investors hungry for yield, causing many to see the private RMBS market as a way to participate in the housing and mortgage revival.

Government pulls back

The federal government's effort to pull back from the mortgage market is also making room for a private RMBS revival. Since private RMBS collapsed and the government seized full control of Fannie Mae and Freddie Mac in 2008, Washington has backed most new mortgage loans. Fannie and Freddie guarantee approximately 65% of new loan originations, with the Federal Housing Administration and Veterans Administration backing an additional 20%. The only private lending comes from the nation's largest banks, which are holding the remaining 15% of current originations on their balance sheets (see Chart 4).

The FHA has moved aggressively to reduce its role in the mortgage market. During the downturn, the agency filled a void, accounting for more than one-third of originations during the depths of the crisis. Unsurprisingly, a disproportionately large number of loans made during this turbulent period have developed credit problems, depleting the FHA's mortgage insurance fund. The FHA has responded by significantly raising its insurance premiums and tightening its underwriting standards.

FHA's upfront mortgage insurance premium has risen to 175 basis points, with an annual premium of 135 basis points. Homebuyers who put down less than 10% of a property's sale price will have to pay the annual fee for the life of the loan. Previously, the fee disappeared if the home's value appreciated enough to bring the loan-to-value ratio below 78%. The new rule means that

Table 2: Freddie Mac Loans by Score and LTV

% of loans, 2012

FICO score:	Loan-to-value ratio					All
	<60	60-70	70-75	75-80	>80	
>740	15	12	10	19	18	74
720-740	1	1	2	2	3	9
700-720	1	1	1	3	2	8
680-700	1	1	0	1	2	5
<680	1	1	0	0	2	4

Sources: Freddie Mac, Moody's Analytics

an average borrower who remains in a home for five years will pay insurance premiums equal to a sizable 8.5% of the mortgage. Jumbo FHA loans require a down payment of at least 5%, compared with 3.5% for other FHA loans. All these changes mean FHA loans will no longer make financial sense for most borrowers with scores above 680.⁴

Fannie Mae and Freddie Mac have also aggressively raised the cost of borrowing from them by raising the fees they charge borrowers for the guarantee they provide to investors in the securities backed by borrowers' loans. The average size of guarantee fees—known as g-fees—has increased from around 20 basis points during the Great Recession to above 50 basis points for the typical conforming borrower, and further increases are possible.

Congress and the administration have increased g-fees to help pay for fiscal stimulus. Ten basis points of Fannie's and Freddie's current g-fee are being used to offset tax revenue that was lost when payroll taxes were lowered in 2011 and 2012. Although the former payroll tax rates were restored at the start of this year, the higher g-fees will remain in place into the next decade. Policymakers are not expected to raise g-fees again to help finance other government spending not related to housing, but it cannot be ruled out.

It would not take much of an increase in g-fees to significantly change the arithmetic in the mortgage market. At the government-sponsored enterprises' current g-fees, the cost of issuing private RMBS is competitive only for securities backed by very high-quality loans with LTVs of below

70% and credit scores of more than 740. This includes no more than 15% of the purchase mortgage loans currently being bought by the GSEs. But if the g-fees were increased by only an additional 20 basis points, then private RMBS would be competitive to fund mortgage loans up to an 80% LTV and down to a 700 credit score. This would include two-thirds of the GSE's current lending (see Table 2).

Fannie and Freddie have also begun to dabble in risk-sharing with private mortgage lenders. Although these arrangements are still in their infancy, they involve the two mortgage finance agencies offloading more of their risk to private mortgage insurers, and to the capital markets through various mechanisms such as credit-linked notes, credit-default swaps, and even private RMBS. These efforts probably will not grow to a meaningful scale soon, but they highlight the intent of regulators and policymakers to reduce the government's footprint in the nation's housing market.

They also suggest the direction in which housing finance reform is headed.⁵ Though broad reform seems far off, given widely divergent opinions, there is consensus that the government should reduce its role in the housing market. This means more participation by private capital, including the private RMBS market.⁶

Bloated bank balance sheets

Mortgage problems at the nation's large banks also favor a restart of the private RMBS market. The cascade of large-bank failures during the Great Recession forced massive consolidation in the mortgage

lending industry. A handful of the nation's largest banks now originate and service the bulk of mortgage loans. Banks have sold many of these loans to Fannie Mae, Freddie Mac and the FHA, but have kept a sizable number, and are reluctant to take on much more because of seemingly endless regulatory and legal problems created by their past mortgage lending.

Banks have reached various settlements with regulators, the Department of Justice, and state attorneys general, promising to provide tens of billions of dollars in relief through loan modifications to homeowners wronged by the foreclosure process. Whenever it looks like the issues are settled, new ones arise. The banks' costs go well beyond the dollars involved, as their reputations have taken a beating in the process.

Banks are also worried about put-back risk with Fannie and Freddie and rescission risk with private mortgage insurance companies. Banks that sell mortgage loans to the two GSEs vouch for the information and appraisals used to judge their creditworthiness. If that information later proves to be false, Fannie and Freddie can make the lenders buy the loans back. Private mortgage insurers, who insure Fannie and Freddie loans that involve down payments of less than 20%, can also rescind their insurance policies if they find the loan information is false. Not surprisingly, put-backs and rescissions soared in recent years, resulting in significant litigation and adding to the banks' costs. Recent progress in clarifying the process has lessened the risks of put-backs and rescissions, but banks remain wary.⁷

The big banks are also grappling with implications of the new Basel III international capital standards for their mortgage businesses. Although global banking regulators are still negotiating the standards, as currently structured, Basel III will make it expensive for banks to retain the value of servicing mortgage loans on their books. Under Basel III, such mortgage servicing rights can effectively equal no more than 10% of the banks' Tier 1 capital. This cap is especially hard to gauge since MSR values fluctuate significantly with changing interest rates. Many big banks have been selling their MSRs

Table 3: Basel III Capital Treatment of Residential Mortgage Loans*Risk weighting*

Loan-to-value ratio	Category 1	Category 2
<60	35	100
60-80	50	100
80-90	75	150
>90	100	200

Note: Category 1 loans are broadly in line with QM, Category 2 loans are non-QM.

Source: Moody's Analytics

to smaller, specialty mortgage servicers in anticipation of Basel III.

Basel III will also require banks to hold more capital against all but the highest-quality first mortgage loans they own. This includes all loans with more than an 80% loan-to-value ratio (see Table 3). This is a significant incentive to securitize the loans and not to hold them on their balance sheets.⁸

Regulatory clarity

Vital to the revival of the private RMBS market is regulatory clarity. There has been some progress: Earlier this year, the Consumer Financial Protection Bureau issued a legal definition for "qualifying mortgages" giving their lenders protection from lawsuits. If a loan has certain features, charges less than 3% in points and fees, and leaves the borrower with a debt-to-income ratio of less than 43%, it will be difficult for the borrower to sue on grounds that the lender should have known the loan was unaffordable. QM protection is likely to be so important to lenders and investors that soon few non-QM loans will be made.⁹

The legal certainty of QM is necessary for private RMBS to revive, but not sufficient. In the same vein but arguably even more important is the qualifying residential mortgage rule. This risk-retention, or "skin-in-the-game," rule was part of the Dodd-Frank regulatory reform law. The law requires that issuers of a mortgage security hold at least 5% of the risk or equity in that security, unless it is backed by loans that meet the QRM requirements. Until those requirements are spelled out, the private RMBS market will

remain dormant. Fortunately, it appears that the Federal Reserve will provide a QRM definition by the end of the year.

Yet even a workable QRM ruling cannot ensure that the private RMBS market will operate efficiently and safely. Forcing security issuers to eat some of their own cooking likely will not make them cook up better-quality securities, especially when times are good. Bear Stearns, Lehman Brothers and Merrill Lynch choked to death

on their own mortgages in the financial crisis.

Moreover, issuers will use financial engineering to avoid holding even a 5% stake in their securities; if regulators try to short-circuit this with complex regulations such as the premium-capture rule, the cost of securitizing mortgages will rise significantly. Given all this, the Fed's best choice would be to make the QRM and QM definitions identical. This would streamline implementation of the rule and quickly jump-start private RMBS issuance. Regulators could always change the rule if the quality of private RMBS loans appears to be eroding significantly.

Though less likely this year or next, private RMBS would receive a meaningful lift if policymakers rolled back conforming limits on Fannie Mae, Freddie Mac and FHA loans. The loan limits were increased during the financial crisis to allow the government lenders to step in when private lenders stopped extending credit. The maximum loan limit in the nation's highest-priced housing markets is \$625,000. Prior to the crisis, the loan limit was \$417,000. Although less than 10% of Fannie and Freddie lending falls into the so-called jumbo conforming category, this amounts to almost \$100 billion in loan originations in a normal year—a substantial sum for the private RMBS market.

Clarity would also be helpful around the ratings process for structured finance deals, including private RMBS. The amendment to the Dodd-Frank regulatory reform legislation sponsored by Minnesota Sen. Al Franken requires the Securities and Exchange Commission—the rating agencies' regulator—to

address the ostensible conflict created by having private RMBS issuers pay rating agencies to rate their securities. Some worry that issuers will shop among the agencies to find the most lenient ratings. Until these problems are resolved, investors could remain wary of ratings and thus reluctant to invest in private RMBS.

Fixing the plumbing

Regulators may take a number of steps to fix and fortify the plumbing in the private RMBS market and increase its attraction to investors. Most likely is demanding greater disclosure of loan-level information in RMBS. This would allow for better modeling and credit-risk management, so that investors, regulators and rating agencies could see how the mortgages in the securities will perform. Fannie and Freddie have recently moved the mortgage market in this direction by releasing monthly loan-level information dating back to before the housing bubble.

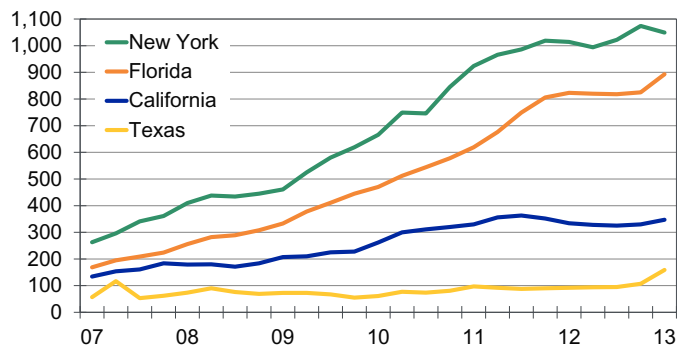
Consensus is growing in support of a national electronic registry of mortgage liens and servicing relationships. The current Mortgage Electronic Registration System, popularly known as MERS, has fallen well short, providing inadequate information and even botching the transfers of titles. MERS should be revamped or replaced. The new electronic registry should provide deal documents and information regarding servicing performance and fees.

It would also be helpful if the muddled relationship between first- and second-lien holders was clearly defined. Many first mortgage loans that went bad during the recession also had second liens. Homeowners used these second liens to avoid private mortgage insurance to turn the equity in their homes into cash. When times got tough, second liens made it difficult to modify first liens, as the owners of the seconds had to approve any changes, and often refused unless they received compensation.

A new inter-creditor regime for mortgages should be established to change this. First-lien investors should be able to veto second liens that would push loan-to-value ratios above sustainable levels. Losses in

Lengthening Foreclosure Time Lines

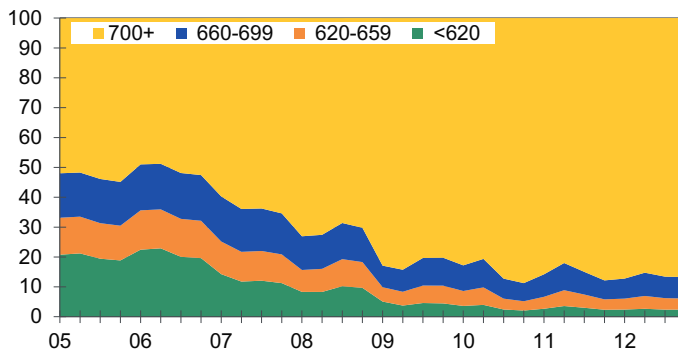
Days in foreclosure



Sources: RealtyTrac, Moody's Analytics

Mortgage Lending Standards Remain Tight

% of originations by vintage by credit score



Sources: Equifax, Moody's Analytics

mortgage pools backing private RMBS should be allocated so that first-lien holders are paid first and maintain control over the loan modification and foreclosure process. Second-lien holders should not be permitted to service first liens they originate, a rule that would also serve to promote competition in the servicing business.

Another way to fix the private RMBS plumbing would be to address deficiencies in pooling and servicing agreements. These agreements determine how mortgage loans are packaged into securities and what happens if borrowers stop paying. Rules should be established to eliminate conflicts of interest and to ensure servicers invest adequately in the systems and staffing required to manage troubled mortgages. Policies and procedures for loan-servicing and restructuring should be uniform.

A less likely but helpful reform would be a national, nonjudicial foreclosure process. Foreclosure is currently governed by state laws, which vary considerably. Approximately half the states have nonjudicial foreclosure processes, while the other half send foreclosures through the courts. During the housing crash, this discrepancy severely complicated loan modification efforts by both the federal government and by national mortgage companies. The process lengthened in judicial states as the volume of foreclosures surged, stretching beyond 800 days on average in Florida, and beyond 1,000 days in New York (see Chart 5). The lengthy process significantly increased the cost of foreclosure to all parties.

Opening the credit spigot

A well-functioning private RMBS market is necessary to make mortgage credit more widely available in the U.S. And more ample mortgage credit is necessary to propel a continued housing recovery. The availability of mortgage credit has not been a serious impediment to the recovery, as much of the increase in housing demand has come from investors buying properties with cash. But credit will quickly become a problem once investor demand wanes and the housing market relies more on first-time and trade-up homebuyers who require loans to purchase homes.

Mortgage credit is not nearly as tight as it was during the recession or in the early years of the recovery, but it remains tight by historical standards. Among first mortgage loans originated in the first quarter of 2013, nearly 90% went to borrowers with credit scores above 700, the national average. Only about 5% went to subprime borrowers with scores below 660 (see Chart 6). At the peak of the housing bubble, closer to half of all loans went to borrowers with scores above 700; more than a third went to borrowers with subprime scores. Underwriting

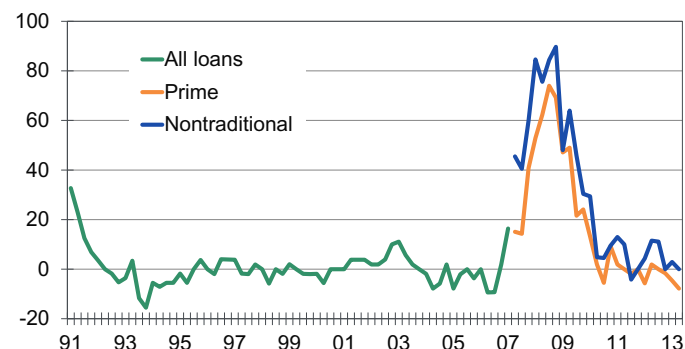
standards were clearly too easy during the bubble, but they are clearly too tight now.

Tight credit conditions are also evident in recently released Fannie and Freddie mortgage loan data. Since the GSEs were put into conservatorship in late 2008, fewer than 10% of their loans went to borrowers with credit scores below 700. The ratio was similar whether loan-to-value ratios were high or low. Fannie and Freddie have completely sworn off loans with LTVs above 95%. Prior to the housing bubble, when underwriting conditions were presumably closer to normal, closer to 40% of borrowers had scores below 700. A meaningful number had loan-to-value ratios of 95%.

The Federal Reserve's Senior Loan Officer Survey tells a similar story. Lenders stopped tightening underwriting standards for residential mortgage lending a few years ago, but they have yet to meaningfully ease up (see Chart 7).¹⁰

Bank Lenders Tighten

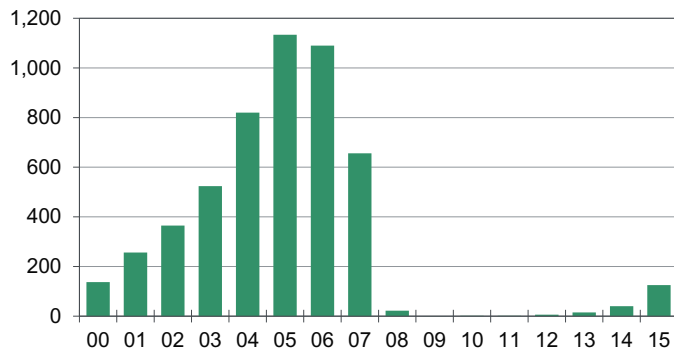
Net % tightening standards for residential mortgage loans



Sources: Federal Reserve, Moody's Analytics

Resurrection of RMBS

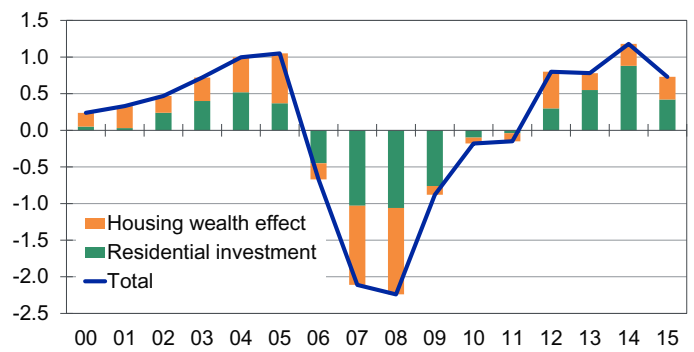
Private-label RMBS issuance, \$ bil, annualized



Source: Moody's Analytics

Housing Swings From Headwind to Tailwind

Contribution to real GDP growth, %



Source: Moody's Analytics

Sizing private RMBS

A private RMBS market that contributed appropriately to the flow of mortgage credit would account for 10% to 15% of mortgage originations. This would sufficiently fill the void left by an increasingly constrained Fannie and Freddie, whose share of the market is expected to fall below 50%. The FHA's share would retreat to no more than 10%, while banks would fund the remaining 25% to 30% on their own balance sheets.

In an economy operating at full employment and growing at potential, originations should be near \$900 billion a year: \$800 billion in purchase loan originations and \$100 billion in refinancings. This level assumes fixed mortgage rates stay from 6% to 6.5%, equal to the sum of 10-year Treasury yields of 4.5% to 5% and a mortgage rate spread over Treasuries close to its historical average of 150 basis points. Mortgage rates, which have recently risen to 4.25%, are expected to top 6% by fall 2015.

Trend purchase loan volume of \$800 billion is determined by the product of trend home sales, the percent of those sales that are financed with a loan, average house prices, and the average loan-to-value ratio.

Moody's Analytics estimates trend annual home sales at 6.75 million units, including 6 million existing homes and 750,000 new homes.¹¹ For context, total home sales currently run closer to 5.5 million units per year. Sales are still well below trend because of stubbornly high

unemployment, tight mortgage credit, a large number of homeowners with negative equity, and weak household formation, which is caused by a range of factors, including the tough economy. These problems are expected to abate and home sales should pick up. The average house price nationwide is near \$220,000. In more normal times, approximately three-fourths of home purchases are financed and the average loan-to-value ratio is about 75%.

Trend refinancing loan volume of \$100 billion is low by historical standards because many homeowners have refinanced in recent years to lock in extraordinarily low mortgage rates. The average coupon of existing mortgage loans has fallen below 5%; thus, most homeowners would not seek to refinance when mortgage rates rise above 6%. Yet there are still millions of homeowners who have not been able to refinance for various reasons, but could profitably do so in the future even at the higher rates. Cash-out refinancing, which disappeared in the housing crash, is also expected to make a modest return, adding to volume.

With trend mortgage origination volume of \$900 billion, and the private RMBS market expected to provide funding for 10% to 15% of originations, private RMBS issuance should be \$90 billion to \$135 billion per year. It will take a few years for issuance to ramp up, given the issues that need to be ironed out. Private RMBS issuance is expected to slowly but steadily increase from \$15 billion this year to \$40 billion in

2014, \$90 billion in 2015, and \$125 billion in 2016 (see Chart 8).¹² This is nowhere near the pre-crash volumes that topped \$1 trillion annually, but it constitutes a rebirth nonetheless.

Counting on housing

The housing recovery depends on the revival of the private RMBS market, and the recovery depends on housing. Housing has gone from a major weight on the economy to an important source of growth. During the Great Recession, housing's free fall subtracted more than 2 percentage points from real GDP growth, and the weakness of the subsequent recovery was due in significant part to the drag from housing (see Chart 9).¹³

Housing has traditionally led the economy out of recessions and been a vital source of growth early in recoveries. It failed to do so in the most recent business cycle, but this changed last year as housing construction rebounded and house prices rose strongly. Housing will add nearly 0.75 of a percentage point to real GDP growth this year and, if everything sticks roughly to script, closer to 1 percentage point next year. Homebuilding is ramping up, and the positive wealth effect from higher house prices is supporting consumer spending.¹⁴ Housing has finally taken on its traditional role as an engine of recovery. Optimism that the economy will soon kick into a higher gear depends vitally on a stronger housing market, which in turn depends on the resurrection of the private RMBS market.

Notes:

- 1 The strength of house price growth in the past 18 months varies considerably depending on the house price series. The preponderance of the house price series suggests an approximately 10% gain since the bottom in house prices at the start of 2012.
- 2 A potential immediate threat to the anticipated housing recovery is the recent surge in long-term interest rates. Thirty-year fixed mortgage rates have risen from a record low of 3.3% at the end of last year to more than 4% more recently. A slow, steady increase in mortgage rates with an improving job market is anticipated. But if mortgage rates rise too much, too quickly, then the housing recovery will not be as strong as expected.
- 3 Of the 10 million underwater homeowners, almost one-half are under water by less than 10% and should be able to get above water over the next two years.
- 4 The FHA is also tightening up on lending to very low-quality borrowers. Those with credit scores below 620 and a debt-to-income ratio of more than 43% must go through a more cumbersome manual underwriting process to show compensating factors that make their loans less risky.
- 5 A plan for reforming the housing finance system that is consistent with a number of recent proposals is presented in "A Pragmatic Reform of the Housing Finance System," Seidman, Swagel, Wartell and Zandi, Moody's Analytics, Milken Institute and Urban Institute white paper, June 19, 2013. <http://www.economy.com/mark-zandi/documents/2013-06-19-A-Pragmatic-Plan-for-Housing-Finance-Reform.pdf>
- 6 Housing finance reform could also create hybrid mortgage securities—securities backed by a catastrophic government guarantee, but with a substantial amount of private capital in a loss position ahead of the government. This has been proposed in recent legislation to reform the housing finance system by Senators Corker and Warner.
- 7 New put-back rules call for a 36-month sunset. That is, Fannie and Freddie are not able to put-back a loan to a lender if there is a problem after 36 months. Lenders would prefer 18 to 24 months, arguing that if a claim occurs after that time frame it was not due to their underwriting error. Lenders also believe that there needs to be greater clarity around what constitutes "manufacturing defects," the steps and process during the production of the loan.
- 8 Loans guaranteed by the FHA/Ginnie Mae have a 0% risk weight, and those guaranteed by Fannie and Freddie have a 20% risk weight. Securities backed by FHA, Fannie and Freddie loans also benefit from the liquidity buffer that banks are supposed to hold under Basel III. It is thus likely that banks will be most likely to hold only the highest-quality loans on their balance sheet, and make few loans with an LTV of more than 80%.
- 9 More on QM can be found in "The Skinny on Skin in the Game," Zandi and DeRitis, Moody's Analytics white paper, March 11, 2011. http://www.economy.com/mark-zandi/documents/QRM_030911.pdf, "Reworking Risk Retention," Zandi and DeRitis, Moody's Analytics white paper, June, 20, 2011. <http://www.economy.com/mark-zandi/documents/Reworking-Risk-Retention-062011.pdf?src=MZ>, and "A Clarification on Risk Retention," Zandi and DeRitis, Moody's Analytics white paper, September 20, 2011. <http://www.economy.com/mark-zandi/documents/2011-09-21-Zandi-A-Clarification-on-Risk.pdf>
- 10 The Federal Reserve asks senior loan officers at commercial banks how their residential mortgage lending standards have changed since they responded to the survey a quarter ago. Even though banks are no longer tightening their standards, given their aggressive tightening during the recession, underwriting standards remain very tight. The Fed began asking senior loan officers to comment on both their prime and nontraditional lending beginning in 2007.
- 11 Trend home sales are determined based on an error-correction model that includes a number of explanatory variables, including household formation growth, mobility rates, and the age and ethnic distribution of the population.
- 12 There is a wide range of uncertainty around these estimates given that they are so dependent on a wide range of regulatory and legal decisions.
- 13 This estimate is derived based on simulations of the Moody's Analytics macroeconomic model of the U.S. economy.
- 14 In most times, the housing wealth effect is estimated to be approximately 8 cents. That is, every \$1 increase in homeowners' equity results in an 8-cent increase in consumer spending over the following 18 to 24 months. The housing wealth effect is estimated to be closer to 4 cents currently since homeowners are likely wary of the staying power of the recent house price gains, and it is much more difficult to tap the equity in their homes through home equity borrowing and cash-out refinancings.

About the Author

Mark Zandi

Mark M. Zandi is chief economist of Moody's Analytics, where he directs economic research. Moody's Analytics, a subsidiary of Moody's Corp., is a leading provider of economic research, data and analytical tools. Dr. Zandi is a cofounder of Economy.com, which Moody's purchased in 2005.

Dr. Zandi's broad research interests encompass macroeconomics, financial markets and public policy. His recent research has focused on mortgage finance reform and the determinants of mortgage foreclosure and personal bankruptcy. He has analyzed the economic impact of various tax and government spending policies and assessed the appropriate monetary policy response to bubbles in asset markets.

A trusted adviser to policymakers and an influential source of economic analysis for businesses, journalists and the public, Dr. Zandi frequently testifies before Congress on topics including the economic outlook, the nation's daunting fiscal challenges, the merits of fiscal stimulus, financial regulatory reform, and foreclosure mitigation.

Dr. Zandi conducts regular briefings on the economy for corporate boards, trade associations and policymakers at all levels. He is on the board of directors of MGIC, the nation's largest private mortgage insurance company, and The Reinvestment Fund, a large CDFI that makes investments in disadvantaged neighborhoods. He is often quoted in national and global publications and interviewed by major news media outlets, and is a frequent guest on CNBC, NPR, Meet the Press, CNN, and various other national networks and news programs.

Dr. Zandi is the author of *Paying the Price: Ending the Great Recession and Beginning a New American Century*, which provides an assessment of the monetary and fiscal policy response to the Great Recession. His other book, *Financial Shock: A 360° Look at the Subprime Mortgage Implosion*, and *How to Avoid the Next Financial Crisis*, is described by the New York Times as the "clearest guide" to the financial crisis.

Dr. Zandi earned his B.S. from the Wharton School at the University of Pennsylvania and his PhD at the University of Pennsylvania. He lives with his wife and three children in the suburbs of Philadelphia.

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