

# The Confiscation of Savings

- **The Confiscation of Savings.** Future inflation is the cost for tempering the credit crisis today. In the Monetary Policy Report to the Congress (and repeated in a *WSJ* opinion piece), Bernanke makes the case for the Fed's eventual exit strategy from "highly accommodative monetary policy" whose cost would ultimately result in inflation. But the main message was that such an exit remains far off and Treasury rates declined. The Fed will employ two tools to tighten: paying interest on reserves (which sets the minimum rate of interest as no bank would lend below this rate) and reducing the stock of reserves. The latter can be accomplished through four tools: reverse repos (lend out the securities on the Fed's balance sheet to remove cash from the system), Treasury "sterilization" (Treasury issues debt and deposits proceeds at the Fed), offer term deposits to Banks (similar to paying interest on reserves only at longer maturities) and selling a portion of long term securities in the open market. All of these approaches entail limitations and drawbacks. The largest of these lies in their potential political consequences and what those mean for the independence of monetary policy, a point directly addressed by the Chairman as "a perceived loss of monetary policy independence could raise fears about future inflation." – *Jeffrey Rosenberg* ..... (Page 4)
- **Sector Defaults Show High Degree of Autocorrelation.** Analysis of historical annual default rates going back to 1970 shows that sector default pressures exhibit high degree of autocorrelation, in other words, high sector defaults in one year are likely to be followed by further above-average defaults in the next year. Such a tendency of defaults today to correlate with default tomorrow is most visible on the sector level and is less successfully explained by market quality composition. We also found that it usually takes three to four years for a given sector to undergo a deep restructuring process. Furthermore, sectors that have gone through such a period of distress in one cycle usually avoid the epicenter of credit problems in the next one. The reverse argument is true too, however. – *Oleg Melentyev, Mike Cho* ..... (Page 5)
- **Adjusting rates to reflect economic stabilization.** Working off of a new economic outlook. Earlier this month we revised our economic outlook for 2009 and 2010. This resulted in 2009 growth being revised up to -2.1% from -2.4% while growth in 2010 is now expected to be +2.6% versus +1.8% previously. In addition to these revisions to growth, we also revised our inflation outlook to show a trough in core inflation in late 2010. Furthermore, we now expect core inflation to rise throughout 2011 and look for the Fed to begin to raise rates in 2011. The possibility of sustained disinflation/deflation is, in our opinion, significantly lower. These shifts necessitate some adjustments to our interest rate outlook for 2010. – *Drew Matus, Riccardo Barbieri, Michael Cloherty, Martin Mauro, Joseph Shatz, Neil Dutta...* (Page 8)



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- **\$1 Trillion GNMA Market in 2010?** GNMA MBS Sector Has Been Growing Rapidly. The outstanding balance of GNMA securities had increased from only \$360 billion in Q2'2006 to \$680 billion in Q2'2009. The growth of the GNMA sector over the past one year is even more impressive as the size of the GNMA market had grown by \$225 billion over this period – a 50% annual growth rate over the past year. If the current pace of growth in GNMA market were to continue, the outstanding balance of GNMA MBS could hit \$1 Trillion by the end of 2010. – *Ankur Mehta, Ohmsatya Ravi*.....(Page 9)

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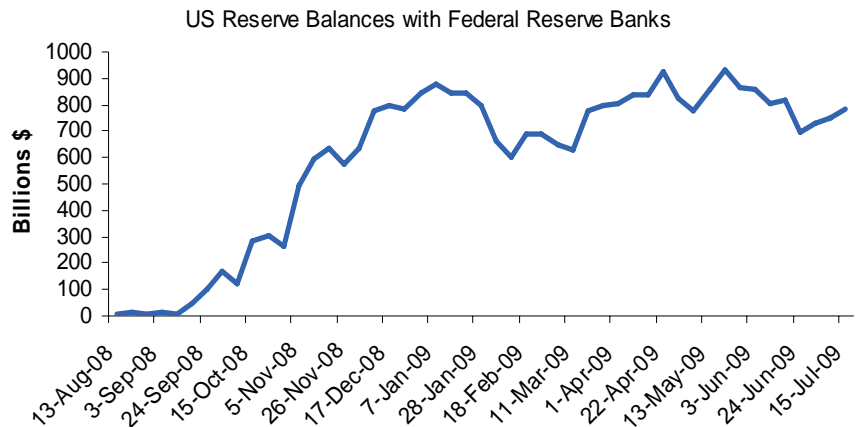
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## Research Overview – The Situation The Confiscation of Savings

Future inflation is the cost for tempering the credit crisis today. In the Monetary Policy Report to the Congress (and repeated in a *WSJ* opinion piece), Bernanke makes the case for the Fed's eventual exit strategy from "highly accommodative monetary policy" whose cost would ultimately result in inflation. But the main message was that such an exit remains far off and Treasury rates declined. The Fed will employ two tools to tighten: paying interest on reserves (which sets the minimum rate of interest as no bank would lend below this rate) and reducing the stock of reserves. The latter can be accomplished through four tools: reverse repos (lend out the securities on the Fed's balance sheet to remove cash from the system), Treasury "sterilization" (Treasury issues debt and deposits proceeds at the Fed), offer term deposits to Banks (similar to paying interest on reserves only at longer maturities) and selling a portion of long term securities in the open market. All of these approaches entail limitations and drawbacks. The largest of these lies in their potential political consequences and what those mean for the independence of monetary policy, a point directly addressed by the Chairman as "a perceived loss of monetary policy independence could raise fears about future inflation."

Figure 1: Reserve Balance Growth



Source: Federal Reserve.

We address each of the possible exit strategy tools.

First, paying interest on reserves (as well as offering term deposits to Banks) means interest rates throughout the banking system can rise, effectively tightening monetary policy without having to reduce the buildup of reserves. This solution has the main drawback (as highlighted by Mike Cloherty in the *Situation Room* last week) of effectively paying significant taxpayer dollars to the banking system to affect monetary policy.

Reverse repos function effectively to provide a source of secured lending to money market funds. From the funds perspective, these repos represent a very high quality short term investment where they provide the Fed cash (decreasing reserves or the money supply) in exchange for the Fed's collateral. By supplying the market high quality collateral from a high quality counterparty (the Fed), other market participants would need to offer higher interest rates to attract investments, effectively raising interest rates.

Michael Cloherty highlighted some of the technical difficulties with such a program last week [here](#)<sup>1</sup>.

Treasury “sterilization” through an expansion of the Special Financing Program. Again, here Treasury issues debt (bills) and deposits the cash at the Federal Reserve, which keeps the money out of the money supply (as opposed to debt used to finance the operations of the government). The Monetary Policy Report (but not the editorial) laid out the limitations of such a tool. First, the associated Treasury debt is subject to the statutory debt ceiling. The environment of rapidly expanding budget deficits then limits the size of Treasury debt issuance for sterilization purposes, subject to a willingness to expand the debt ceiling for such purposes. More importantly, reliance on Treasury to achieve monetary policy objectives impedes the Fed’s independence.

Selling a portion of the securities raises perhaps the thorniest of issues. While the preferred exit strategy would see according to the Fed \$100 to \$200 billion of reserve declines from maturities or prepayments (from mortgage securities), a higher future interest rate environment may undermine those hopes. Mortgages issued (and owned) by the Fed with 5%-5.5% interest rates may end up with much longer effective maturities in a higher mortgage interest rate environment. Selling those assets would entail the recognition of a capital loss, a loss that would be the manifestation of the subsidy cost of intervening in mortgage markets. That subsidy could ultimately become significant, and represents a taxpayer funded detour into fiscal policy for the Fed, again raising the issues of monetary policy independence.

These issues remain a concern for the longer term outlook. In the near term, the prospects of the Fed “maintaining the federal funds rate at exceptionally low levels for an extend period” weighed most on markets today. Yet, for our longer term outlook, such a policy, especially when combined with the real interest rate increasing implications of rapidly expanding government deficits, equates to a higher interest rate outlook – first from rising real rates, then through rising inflation expectations. (For our discussion on rising real interest rates, see [here](#)<sup>2</sup>.)

## Credit Strategy

### Sector Defaults Show High Degree of Autocorrelation

Analysis of historical annual default rates going back to 1970 shows that sector default pressures exhibit high degree of autocorrelation, in other words, high sector defaults in one year are likely to be followed by further above-average defaults in the next year. Such a tendency of defaults today to correlate with default tomorrow is most visible on the sector level and is less successfully explained by market quality composition. We also found that it usually takes three to four years for a given sector to undergo a deep restructuring process. Furthermore, sectors that have gone through such a period of distress in one cycle usually avoid epicenter of credit problems in the next one.

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<sup>1</sup> Please see the [June 16, 2009 Situation Room](#).

<sup>2</sup> Please see the [May 28, 2009 Situation Room](#).

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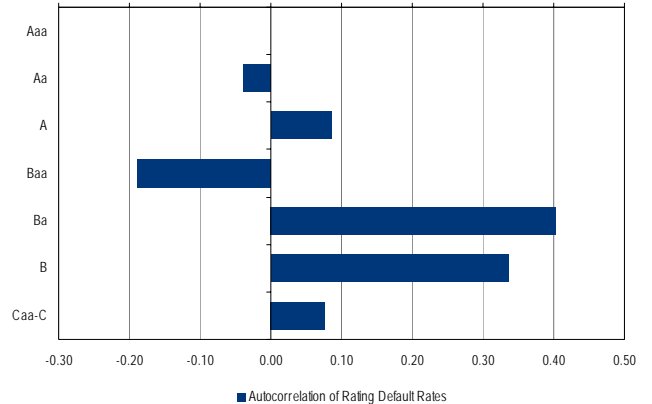
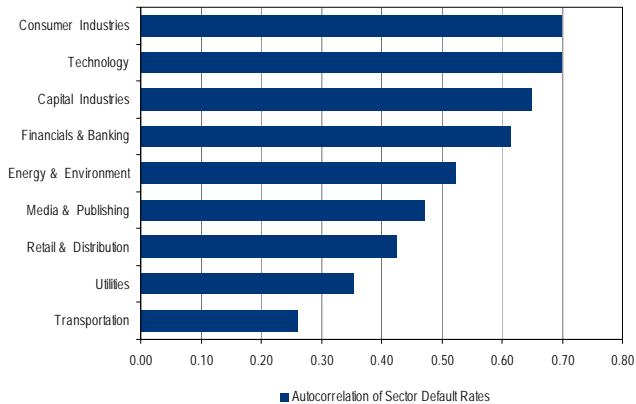
Average sector default rate has 52% correlation to its level next year, which indicates a substantial predictive power.

To perform this analysis we measured correlations of annual sector default rates going back to 1970 over next year's defaults within the same sector. In other words, we measure correlation of given sector issuer defaults in 2006 over 2007, 2007 over 2008 and so on. Results are presented in Figure 2 below, which shows a high degree of such serial correlation across all HY sectors, ranging from 25% in transportation to 70% in consumer industries and technology. Average of such autocorrelations across all sectors is 52%, which *indicates a substantial predictive power of sector defaults today over defaults tomorrow.*

In Figure 3 we also take a look at existence of similar trends in defaults by various quality components of credit markets. Here we measure correlations of rating-tier default rates in one year over defaults in a consecutive year. As the chart demonstrates, such autocorrelations appear weak and spurious in IG segments, but rise sharply in upper- and mid-quality HY. Specifically, BBs and Bs exhibit meaningful autocorrelation in defaults, ranging between 33% and 40%, but even here correlations are lower than those observed in sectors (52% average). Thus at times when an industry undergoes a deep restructuring cycle, sector attributes appear to be a more significant contributor to default expectations than ratings.

**Figure 2: Sector default rate in one year has high correlation with its level the year after**  
Correlation of sector defaults in one year over same sector defaults in next year

**Figure 3: ... this development is not captured by rating tier default rates – even the highest correlation in BBs is below average 55% correlation in sectors**  
Correlation of rating defaults in year over next year



Source: Banc of America Securities - Merrill Lynch, Moody's

Source: Banc of America Securities - Merrill Lynch, Moody's

Once an industry goes into deep restructuring mode, it usually stays there for three to four years, on average.

**Restructured cycles generally avoid pitfalls going forward**

To assess generic attributes of sectors that were at the epicenters of credit cycles in the early 1990s, early 2000s, and finally in the current cycle, we turn to Figure 4 below. The first conclusion that we draw from this data is that on average, once an industry goes into deep restructuring mode, it usually stays there for three to four years. In the table we highlight years when a given sector experienced consecutive years of above-average defaults.

A sector that goes into multi-year restructuring process usually experiences a 54% cumulative default rate over the period.

By comparison, the overall market usually loses 30% of its constituents to defaults in a typical credit cycle.

Our second conclusion is that not a single sector that experienced such a deep restructuring process has done so more than once in these three periods. In other words, once a sector undergoes such a deep cleansing, it usually emerges in a much stronger form to avoid similar pitfalls going forward. The argument works in reverse, however, in that sectors that avoided restructuring in the past become more likely to end up in one going forward.

Finally, we find that on average a sector that goes into multi-year restructuring process usually experiences a 54% cumulative default rate over the period. By comparison, the overall market usually loses 30% of its constituents to defaults in a typical credit cycle.

**Figure 4: Sectors that underwent deep restructuring processes in the past credit cycles, including candidates for such treatment in the current one**

Sector/Year	Annual Default Rates, %					Cumulative
	1988	1989	1990	1991	1992	
Broadcasting & Media	1	15	8	24		47
Retail	0		29	22	11	62
Supermarkets & Drug Stores	19	5	31	2	0	55
	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	
Food, Beverage & Tobacco	11	16	12	5	9	39
Metals & Mining	7	7	16	20	10	46
Telecommunications	3	5	24	43	11	78
Textiles & Furniture	11	9	12	13	14	60
Transportation	8	18	6	13	9	37
			34	14	10	58
<b>Average</b>						<b>54</b>
	<b>2008</b>	<b>2009</b>				
Automotive	2	38				40
Broadcasting & Media	10	29				39
Gaming, Lodging & Restaurants	15	20				35
Leisure & Entertainment	17	16				33

Source: Banc of America Securities - Merrill Lynch, Fitch

### Current batch of distressed sectors likely to experience further default pressures

Based on these observations, we can conclude that the current batch of deeply distressed sectors – automotive, media, gaming and leisure – is likely to remain under continuing default pressures going forward. At only 1 ½ years into this cycle, these sectors will likely face more pain before the survivors re-emerge with streamlined operations, strengthened balance sheets and refocused business models. In many cases, however, these improvements frequently come out on the other side of the Chapter 11 process.

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## Economics

### Adjusting rates to reflect economic stabilization

#### Working off of a new economic outlook

Earlier this month we revised our economic outlook for 2009 and 2010. This resulted in 2009 growth being revised up to -2.1% from -2.4% while growth in 2010 is now expected to be +2.6% versus +1.8% previously. In addition to these revisions to growth, we also revised our inflation outlook to show a trough in core inflation in late 2010. Furthermore, we now expect core inflation to rise throughout 2011 and look for the Fed to begin to raise rates in 2011. The possibility of sustained disinflation/deflation is, in our opinion, significantly lower. These shifts necessitate some adjustments to our interest rate outlook for 2010.

#### No Treasury rally in 2010, gradual sell off more likely

We no longer expect a decline in yields in 2010. Rather, we expect 2-year yields to rise nearly 50 basis points as investors begin to anticipate the beginning of a new tightening cycle in 2011. Further out the curve, we expect declining inflation in the face of rising growth to result in a gradual move higher in yields throughout the year. We now see 10-year yields rising by 10 basis points, to 4.20%, over the course of 2010. This stands in contrast to our previous forecast where, because we anticipated steadily falling inflation over the year and a decline in the growth rate in the second half, we had expected 10-year yields to rally by 65 basis points.

#### Mixed supply and demand outlook

Against a backdrop of an improved economic outlook, the supply demand dynamics for the Treasury market are mixed. On the supply side, we anticipate a modestly smaller budget deficit for 2010 – \$1,225 billion versus \$1,350bn previously – but have almost no clarity on what growth in the deficit may occur as a result of health care reform costs. On the demand side, we do not expect the Fed to increase its purchases of Treasury debt and anticipate less growth in domestic savings in the near term. In conjunction with continued rumbling from foreign government officials regarding US fiscal health, these factors heighten our concern about the demand outlook going forward.

#### Interest rate forecast summary

Figure 5: Rate outlook

(% EOP)	3Q08	4Q08	Q109	Q209	Q309	Q409	Q110	Q210	Q310	Q410
<i>Fed Funds</i>	2.00	0.125	0.125	0.125	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25	0.00-0.25
<i>3-Mo. T-Bill</i>	0.91	0.08	0.21	0.19	0.20	0.25	0.25	0.25	0.25	0.35
<i>3-Mo. LIBOR</i>	4.05	1.43	1.19	0.60	0.55	0.50	0.45	0.45	0.45	0.55
<i>2-Year Note</i>	1.96	0.77	0.80	1.11	1.00	1.00	1.05	1.10	1.30	1.50
<i>5-Year Note</i>	2.98	1.55	1.66	2.57	2.50	2.60	2.65	2.65	2.70	2.75
<i>10-Year Note</i>	3.83	2.21	2.67	3.54	3.85	4.10	4.10	4.15	4.15	4.20
<i>30-Year Bond</i>	4.31	2.68	3.54	4.31	4.55	4.75	4.80	4.80	4.80	4.85

Shaded regions represent Banc of America Securities-Merrill Lynch forecast.

Source: Banc of America Securities-Merrill Lynch Research

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## MBS Strategy

### \$1 Trillion GNMA Market in 2010?

#### GNMA MBS Sector Has Been Growing Rapidly

The outstanding balance of GNMA securities had increased from only \$360 billion in Q2'2006 to \$680 billion in Q2'2009. The growth of the GNMA sector over the past one year is even more impressive as the size of the GNMA market had grown by \$225 billion over this period – a 50% annual growth rate over the past year. If the current pace of growth in GNMA market were to continue, the outstanding balance of GNMA MBS could hit \$1 Trillion by the end of 2010.

#### Factors Driving the Heavy Issuance of GNMA

In this article, we present an assessment of different factors that explain the current heavy issuance of GNMA and summarize our outlook for GNMA supply going forward. The factors we discuss include the collapse of the subprime/alt-A markets, tightening in GSE underwriting standards, increase in FHA endorsements of purchase loans and the increase in FHA loan limits.

#### Summary Projections for GNMA MBS Issuance

We expect the total monthly GNMA issuance to be around \$38-\$40 billion if the 30-year mortgage rate stays close to 5% and around \$30-\$32 billion if the 30-year mortgage rate stays close to 5.5%. Correspondingly, monthly net issuance of GNMA MBS should be in the range of \$19-\$21 billion and \$17-\$19 billion corresponding to 30-year mortgage rate of 5.0% and 5.5% respectively.

Starting with the current outstanding balance of GNMA MBS of \$680 billion, it seems likely that the GNMA MBS market may grow to be a one Trillion dollar market by the end of 2010. In this scenario, GNMA would comprise about 18% of all the agency MBS market and should attract a lot more attention from different market participants. Of course, we are assuming here that the government will not change the FHA/GNMA mortgage programs significantly to alter the issuance trends in this market.

### \$1 Trillion GNMA Market in 2010?

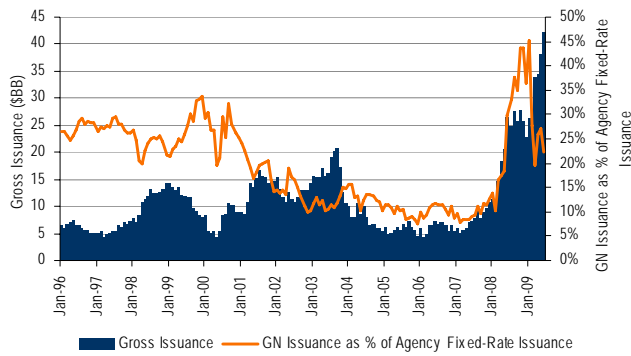
Following the collapse of the subprime and alt-A mortgage markets and the GSEs tightening their underwriting standards on newly originated conforming mortgages, the importance of GNMA sector for the overall mortgage market (through FHA mortgages) has grown fairly significantly. The outstanding balance of GNMA securities had increased from only \$360 billion in Q2'2006 to \$680 billion in Q2'2009. The growth of the GNMA sector over the past one year is even more impressive as the size of the GNMA market had grown by \$225 billion over this period – a 50% annual growth rate over the past year.

From the issuance side, the monthly GNMA MBS issuance had spiked up to \$24-\$28 billion by the end of 2008 from the \$7-\$8 billion issuance seen in 1H'07, and was contributing to 40%-45% of all agency fixed-rate MBS issuance (Figure 6). Issuance in this sector is continuing to rise in 2009 with June gross issuance spiking up to \$42 billion<sup>3</sup>. Apart from the increase in gross issuance, the increasing importance of GNMA in agency MBS market is reflected by the fact that the net issuance in the sector had surpassed the combined net issuance of Fannie and Freddie MBS every quarter over the last year (Figure 7).

<sup>3</sup> Note that even though the GNMA gross issuance has surged, GNMA issuance as a percentage of total fixed-rate agency MBS issuance had actually declined in 2009 from 45% to 25% as the surge in refinancings caused GSE MBS issuance to increase.

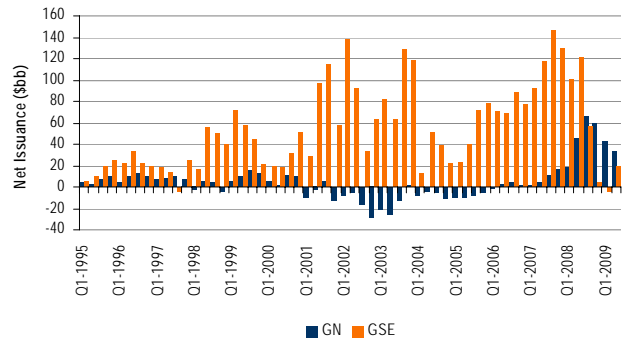
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Figure 6: Monthly Gross Issuance of GNMA MBS (\$ billion)



Source: Banc of America Securities – Merrill Lynch

Figure 7: Quarterly Net Issuance of GNMA and GSE Fixed-rate MBS (\$ billion)



Source: Banc of America Securities – Merrill Lynch

If the current pace of growth in GNMA market were to continue, the outstanding balance of GNMA MBS could hit \$1 Trillion by the end of 2010. Clearly, such a development means that the GNMA sector will receive a lot more attention from different market participants leading to further improvement in liquidity in this sector. In this article, we present an assessment of different factors that explain the current heavy issuance of GNMA and summarize our outlook for GNMA supply going forward.

### Factors Driving the Heavy Issuance of GNMA MBS

Below, we discuss a few important factors that are responsible for the recent pickup in issuance of GNMA (we focus here only on FHA mortgages as they are contributing to about 80% of all GNMA issuance at the moment).

#### Collapse of the alt-A and Subprime Markets

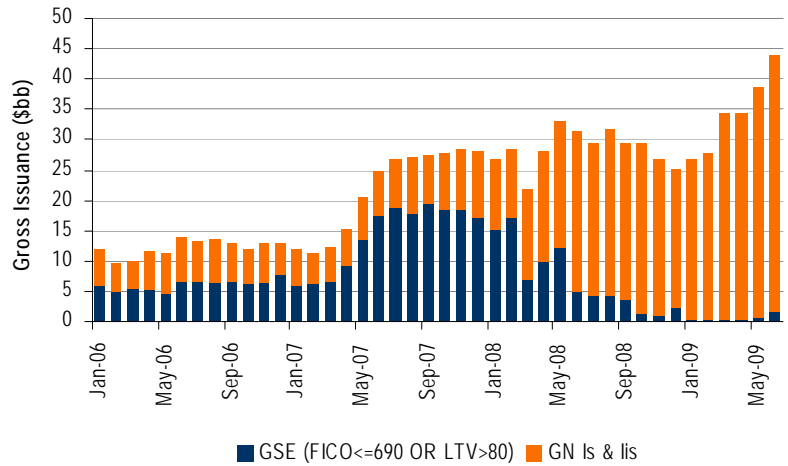
The FHA share of residential mortgage loan originations declined from 6% in 2001 to 2% in 2006 as subprime and alt-A loans gained popularity. However, as the non-agency market collapsed last year and numerous originators were bankrupt, the only option left for some lower credit borrowers was an FHA insured loan. This situation is unlikely to change any time soon.

#### Tightening in GSE Underwriting Standards

Chart 3 shows the history of securitization of leveraged mortgages (low FICO and high LTV) by the GSEs and the issuance of GNMA MBS. After aggressively guaranteeing low FICO/high LTV loans in 2007, the GSEs have tightened their underwriting standards considerably and are now only securitizing loans with very high FICOs and low LTVs (with the exception of streamline refis). In fact, recent origination data of GSE loans suggests that the average FICO of agency borrowers is about 765 and the average LTV is about 65%. This dramatic tightening in GSE underwriting standards coupled with the tightening in underwriting standards of MI companies and the collapse of the non-agency markets had lead to a surge in GNMA issuance as FHA was the only source of funding for these leveraged borrowers.

It is quite remarkable that the sum of the issuance of leveraged loans in FN/FH MBS programs and the issuance of GNMA MBS was more or less unchanged until the end of 2008. This trend was broken this year as the rally in mortgage rates lead to increased GNMA issuance due to FHA-to-FHA refinancings.

Figure 8: Securitization of Low FICO and High LTV Mortgages by the GSEs

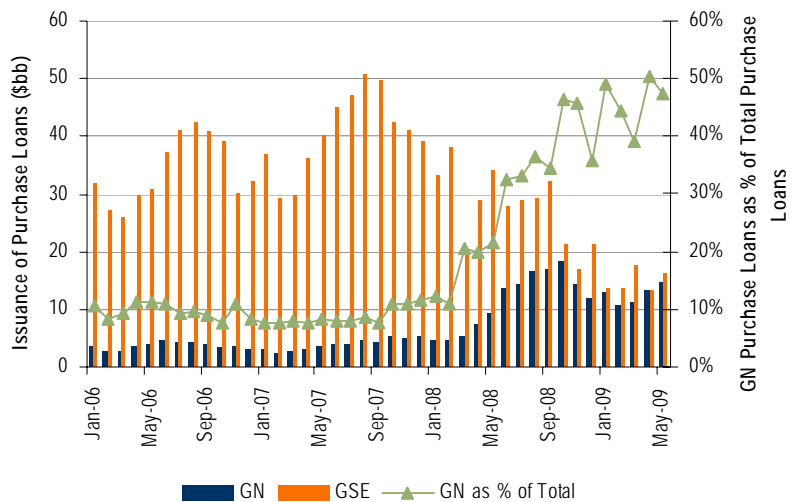


Source: Banc of America Securities - Merrill Lynch

**Increase in FHA Endorsements of Purchase Loans**

Although existing and new home sales have been declining since 2006, the volume of purchase loans being securitized through GNMA's has been growing since the middle of 2007 (Figure 9). As the GSEs tightened their underwriting standards in early 2008, more borrowers started to use FHA loans for purchasing homes. Consequently, the monthly volume of FHA loans underwritten for purchases tripled from \$5 billion in early 2008 to the current level of \$15 billion. Note that during the same time, the monthly GSE purchase loan volume had actually declined from around \$35 billion to \$15 billion. Consequently, purchase loans backing GNMA MBS comprise of about 50% of the total purchase loans being underwritten in the agency MBS market at the moment.

Figure 9: Securitization of Purchase Loans in the Agency MBS Market



Source: Banc of America Securities - Merrill Lynch

**Increase in FHA Loan Limits**

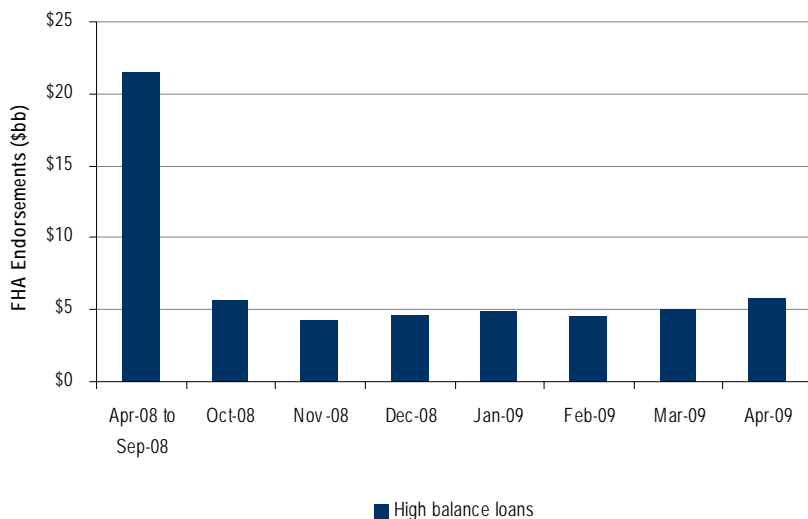
Figure 10 summarizes the current FHA loan limits along with the loan limits in 2007 and the loan limits that were implemented in 2008 as part of the stimulus package. As per the data released by the HUD (Figure 11), FHA has been endorsing about \$4-\$6 billion mortgages that became newly eligible under the expanded loan limit authorized following the stimulus package of 2008. Further, starting in January 2009, the high balance loans with loan sizes greater than \$417,000 which were previously ineligible for TBA delivery could comprise up to 10% of TBA deliverable GN I and II pools. This change had improved the effective mortgage rates for these conforming Jumbo borrowers and made conforming Jumbo loans somewhat more affordable.

**Figure 10: FHA Loan Limits**

	FHA Loan Limits			
	2007 Limits	Stimulus Package Loan Limits (2008)	Permanent Loan Limits per HERA*	Current Loan Limits**
Floor as % of Conforming limit (\$)	48% (\$200,160)	65% (\$271,050)	65% (\$271,050)	65% (\$271,050)
Local limit as % of Median Home Price	95%	125%	115%	125%
Ceiling as % of Conforming limit (\$)	87% (\$362,790)	175% (\$729,750)	150% (\$625,500)	175% (\$729,750)

Source: FHA, Banc of America Securities – Merrill Lynch  
 \* Assuming a conforming loan limit of \$417,000.  
 \*\* Current Loan Limits are the maximum of the Stimulus Package Loan Limits and the Loan Limits outlined as part of the Housing and Economic Recovery Act of 2008 (HERA)

**Figure 11: FHA Endorsements of Mortgage Loans that are Newly Eligible due to Higher Loan Size Limits**



Source: HUD, Banc of America Securities – Merrill Lynch

**Projections for GNMA Issuance in 2H'2009**

HUD's report on FHA endorsements summarized in Table 2 indicates that YTD, about 46% of approved applications were for purchases, 27% were for non-FHA to FHA refinancings and the remaining 27% were for FHA-to-FHA refinancings. That compares with around 64% of purchase endorsements, 30% non-FHA to FHA endorsements and only 6% FHA-to-FHA endorsements in the last quarter of 2008. The rally in mortgage rates gave some FHA and non-FHA borrowers an

incentive to refinance and this has led to the decline in the percentage of purchase endorsements in total FHA endorsements. Note that even though this percentage has gone down, the dollar amount of purchase FHA loans had held steady over the last few months. We will use the recent mix of FHA endorsements to come up with FHA/GNMA issuance estimates below.

Figure 12: Summary of FHA Endorsements

Type of Application	Oct-Dec'2008		Jan-Jun'2009		Oct'2008-Jun'2009	
	Number of Endorsements	% of Total Endorsements	Number of Endorsements	% of Total Endorsements	Number of Endorsements	% of Total Endorsements
Purchase	261,439	63.9%	364,075	45.8%	625,514	51.9%
FHA to FHA Refinance	25,650	6.3%	213,115	26.8%	238,765	19.8%
Non-FHA to FHA Refinance	121,955	29.8%	218,087	27.4%	340,042	28.2%
Total	409,044	100.0%	795,277	100.0%	1,204,321	100.0%

Source: FHA.

#### GNMA Issuance Due to FHA Purchase Loans

As discussed above, approximately 46% of recent FHA endorsements (or approximately \$13-\$15 billion per month of GNMA issuance) has been coming from purchase loans. There are two factors that will broadly dictate purchase volume through FHA for the remainder of the year:

- **Home Sales in 2H'2009:** As per MBA estimates, total home sales for the second half of the year are expected to be about 7% more than that in 1H'09. For our projections, we will consider that home sales will be flat to 5% higher.
- **Percentage of Purchase Loans Financed through FHA/VA:** We have seen in the previous section that the percentage of all agency purchase loans being underwritten in the GNMA market had gone up from 10% at the beginning of 2008 to the current level of 50%. We think that this percentage will increase further as the GSEs have tightened their underwriting standards for purchase borrowers significantly. There is also a growing concern that purchase deals are falling through because of lower than expected appraisals. If this trend were to continue, FHA will gain a larger market share as it allows borrowers to take out loans with LTVs as high as 97%.

Net-net, we think that the combination of flat to higher home sales in the second half of the year and an increase in the share of FHA/VA mortgages in total purchase loans will increase GNMA MBS issuance due to purchase mortgages from an average of \$13 billion in the first half of the year to \$15-\$17 billion in the second half of the year.

#### GNMA Issuance Due to non-FHA to FHA Refinancings

As discussed above, approximately 27% of FHA endorsements (or approximately \$9-\$10 billion per month of GNMA issuance) has been coming from non-FHA to FHA refinancings. This can be further subdivided into two components:

- **Alt-A/Subprime borrowers refinancing into FHA loans:** Owing to their lower FICOs and higher LTVs, the only refinancing option available to a majority of the existing alt-A/subprime borrowers is the FHA. Voluntary prepay speeds on the subprime/alt-A universe is currently running at around 5% CPR and we estimate that around 60% of these prepays can be attributed to refinancings resulting in FHA issuance of \$4-\$5 billion per month. If rates remain low, the contribution of alt-A/subprime to FHA refinancings to GNMA issuance should continue to be \$4-\$5 billion per month. However, if rates sell off, this contribution might go down to \$3-\$4 billion per month.

- **Conforming borrowers refinancing into FHA:** The decline in home values of conforming borrowers (which resulted in higher current LTVs) coupled with the tighter GSE underwriting standards seems to have forced quite a few agency borrowers to look towards FHA for refinancing their loans. We estimate that around \$5-\$6 billion of conforming borrowers are refinancing through FHA. Interestingly enough, around 30% (~\$1.5 billion per month of cashouts from conforming borrowers) of the non-FHA to FHA refinancings YTD have been cashout refinancings. Owing to the introduction of the streamline refi program by the GSEs, a majority of the conforming borrowers who were previously refinancing into FHA loans are likely to stop doing so in the second half. However, conforming borrowers who are taking cashout will most likely continue to do so through FHA. We estimate that conforming to FHA refinancings will drop to \$3-\$4 billion per month if mortgage rates remain below 5%. If rates sell off to around 5.5%, refinancings could drop to \$1.5-\$2.0 billion.

Net-net, we anticipate that the non-FHA to FHA refinancings will contribute to \$7-\$9 billion GNMA MBS issuance if the 30-year conforming mortgage stays close to 5% but this issuance volume should decline to \$4.5-\$6.5 billion if the mortgage rate stays close to 5.5%.

#### GNMA Issuance Due to FHA to FHA Refinancings

Approximately 27% of the recent FHA endorsements (or approximately \$9-10bb of GNMA issuance) has been coming from FHA to FHA refinancings. These refinancings jumped since the beginning of the year as rates rallied significantly and the presence of the streamline refi program made it relatively easier for FHA borrowers to refinance. FHA to FHA refinancings likely will strongly be driven by the level of mortgage rates. We estimate that FHA to FHA refinancings will continue to result in \$9-\$10 billion per month in GNMA issuance if rates remain below 5% but if we sell off to 5.5%, this number will most likely decline to \$4.5-\$5 billion per month.

#### Summary Projections for GNMA MBS Issuance

As discussed, we anticipate that the GNMA MBS issuance due to purchase loans being endorsed by FHA/VA will increase from an average of \$13 billion in the first half of the year to \$15-\$17 billion in the second half of the year. The non-FHA to FHA refinancings should contribute to \$7-\$9 billion GNMA MBS issuance if the 30-year conforming mortgage stays close to 5% but this issuance volume should decline to \$4.5-\$6.5 billion if the mortgage rate stays close to 5.5%. Similarly, FHA to FHA refinancings should continue to result in \$9-\$10 billion per month in GNMA issuance if mortgage rates stay close to 5% but should decline to \$4.5-\$5 billion per month if the mortgage rate stays close to 5.5%.

Net-net, we expect the total monthly GNMA issuance to be around \$38-\$40 billion if the 30-year mortgage rate stays close to 5% and around \$30-\$32 billion if the 30-year mortgage rate stays close to 5.5%. Correspondingly, monthly net issuance of GNMA MBS should be in the range of \$19-\$21 billion and \$17-\$19 billion corresponding to 30-year mortgage rate of 5.0% and 5.5% respectively.

Starting with the current outstanding balance of GNMA MBS of \$680 billion, it seems likely that the GNMA MBS market may grow to be a one Trillion dollar market by the end of 2010. In this scenario, GNMA MBS would comprise about 18% of all the agency MBS market and should attract a lot more attention from different market participants. Of course, we are assuming here that the Government will not change the FHA/GNMA mortgage programs significantly to alter the issuance trends in this market.

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Recommendation	Investor Action Points (Cash and/or CDS)	Primary Investment Return Driver
Overweight-100%	Up to 100% Overweight of investor's guidelines	Compelling spread tightening potential
Overweight-70%	Up to 70% Overweight of investor's guidelines	Carry, plus some spread tightening expected
Overweight-30%	Up to 30% Overweight of investor's guidelines	Good carry, but little spread tightening expected
Underweight-30%	Down to 30% Underweight of investor's guidelines	Unattractive carry, but spreads unlikely to widen
Underweight-70%	Down to 70% Underweight of investor's guidelines	Expected spread underperformance
Underweight-100%	Down to 100% Underweight of investor's guidelines	Material spread widening expected

*Time horizon – our recommendations have a 3 month trade horizon.*

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21 July 2009

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