

A Letter From

Jerome Lienhard
Senior Vice President, Global Debt Funding

Dear Freddie Mac Investor:

As we enter the second quarter of 2003, the market for GSE callable debt stands at an unprecedented stage of development. New issues routinely reach \$2 to \$3 billion in size, providing a consistent level of liquidity across structures. Fully syndicated offerings occur every two to three weeks, bringing a new level of dealer market making. Major issuers now include callable debt in buyback programs. The Bond Market Association recently introduced Trading Practice Recommendations for notes with a European call. The convergence of these factors results in a new level of liquidity for callable debt. More liquidity brings increased demand, a positive for Freddie Mac and our callable debt investors.

Freddie Mac began developing liquidity in callable debt last year with the advent of multi-billion dollar, European call, global notes offered through a dealer syndicate. We've issued nearly \$30 billion through this channel, in which the structure and timing are driven by investor demand. In maturities ranging from three to ten years, our average issue size has reached \$2.5 billion. As with our Reference Notes® Securities, nearly one-third of these syndicated callable notes are purchased by investors in Asia and Europe. We've been extremely pleased with the results of this effort, which have brought us nearly 200 new investors.

Recently, Freddie Mac announced two additional developments in the market for callable notes. First, capitalizing on the success of our syndicated callable securities and our €Reference Notes® Securities, Freddie Mac recently executed a syndicated callable note denominated in Euros. The €500 million three-year note, callable one time in

six months, was very well received. We expect to continue to look for such opportunities to develop the callable market in Euros. Second, we announced the addition of callable debt to our Periodic Repurchase Operations. Periodic Repurchase Operations now include Reference Notes® Securities, €Reference Notes® Securities, and callable medium-term notes. The addition of callable debt further strengthens our asset/liability management capabilities, heightens the level of liquidity in the product, and should benefit the security performance of targeted issues.

Callable debt has been and will continue to be a critical part of Freddie Mac's funding program. We are pleased with the state of this market, and still see opportunities for further development. We will continue to offer products and structures in the callable market that are attractive to global investors, striving to equally serve our investors' needs and Freddie Mac's funding needs. The following article, written by Nancy Vanden Houten of Stone & McCarthy Research Associates, highlights some of the recent developments in the agency callable debt market. I hope you find it interesting. ■

Jerome Lienhard

This Issue

The Callable Agency Debt Market:
Structural Developments Improve Liquidity

by Nancy Vanden Houten
Government Agency and Policy Analyst,
Stone & McCarthy Research Associates



Market Talk

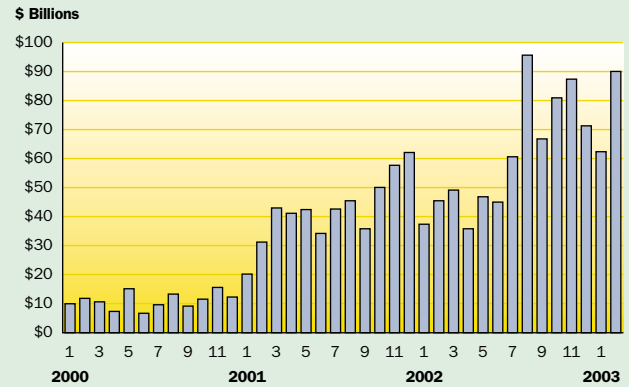
The Callable Agency Debt Market: Structural Developments Improve Liquidity

Nancy Vanden Houten

Government Agency and Policy Analyst,
Stone & McCarthy Research Associates

Issuance of callable debt by government-sponsored enterprises (GSEs) has set new records over the last two years. Issuance of callable debt by Freddie Mac, the Federal Home Loan Banks, Fannie Mae, and the Federal Farm Credit Banks topped \$500 billion in 2001 and totaled more than \$720 billion last year. The surge in callable debt issuance has been necessary, in part, to replace the record volume of debt that the GSEs have called over the last two years. Callable debt sales barely equaled called debt in 2001, although callable debt sales net of calls jumped sharply in 2002. Callable debt issuance has remained strong in early 2003 as the economy has remained weak and interest rates have remained low.

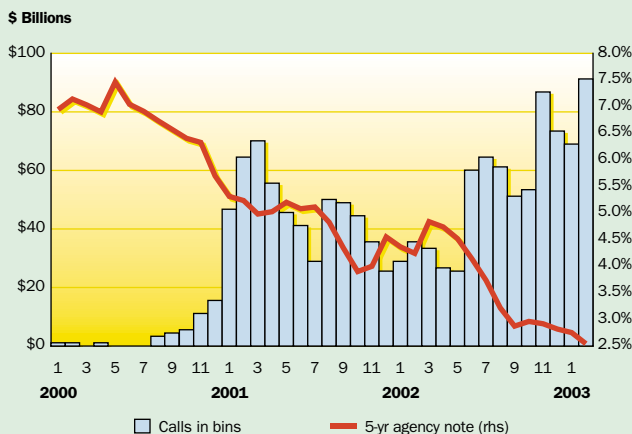
GSE Callable Debt Issuance



Sources: FHLMC, FNMA, FHLBS, FFCC, SMRA

Over the last three years, Freddie Mac has accounted for more than 25% of gross callable GSE debt issuance, and more than 35% of issuance net of calls, according to Stone & McCarthy's data for the four GSEs cited above. Freddie Mac's net issuance of callable debt was especially strong in 2002; outstanding callable debt increased by nearly \$100 billion to \$218.4 billion last year.

Monthly Volume of Agency Calls



Sources: FHLMC, FNMA, FHLBS, FFCC, SMRA

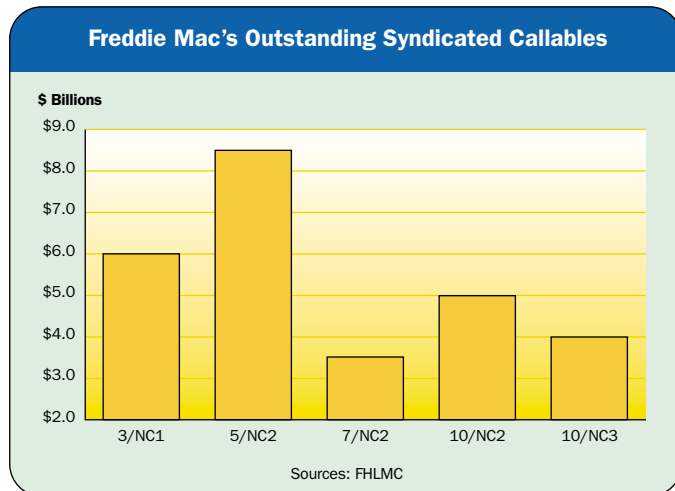
GSE Callable Debt

Year	Gross Issuance (\$ Billions)	Called Debt (\$ Billions)
2000	133.9	39.5
2001	505.7	500.4
2002	722.2	539.6
	1361.8	1079.5

Sources: FHLMC, FNMA, FHLBS, FFCC, SMRA

Historically, most of Freddie Mac's callable debt issuance has taken the form of relatively small medium-term notes (MTNs). In 2002, more than 80% of Freddie Mac's callable issuance was through the sale of MTNs that averaged less than \$300 million each in size. About a quarter of Freddie Mac's callable debt issuance in 2002 was in response to investor or dealer inquiry.

Over the last year or so, however, Freddie Mac has increased its sales of large callable securities through its syndicated callable note program. Freddie Mac is selling these issues in response to dealer and investor demand for larger, more liquid callable securities. Since the start of 2002, Freddie Mac has issued \$29.0 billion in syndicated callable notes. Thirteen issues have been priced, with an average size, after reopenings, of \$2.23 billion. All of the issues priced to date have European, or one-time, call options. Securities with European call options are becoming popular with dealers and investors because they are easier to evaluate than issues with continuous, American call options, or multiple, Bermudan call options.



The composition of Freddie Mac's callable debt issuance reflects some broader trends. The callable agency debt market is effectively evolving into two distinct markets. One market is made up of the relatively small callable MTNs. These securities are attractive to buy and hold investors, who are willing to sacrifice some liquidity for the corresponding increase in yield. The secondary market for these small-sized MTNs is fairly illiquid.

The second market is comprised of larger issues like Freddie Mac's syndicated callables. The secondary market for these securities is more

liquid than the market for smaller MTNs, but the consensus among dealers has been that a lack of standards for trading these securities has slowed the development of a more liquid secondary market. Last year, The Bond Market Association (BMA) formed the Callable Agency Securities Task Force to determine whether steps could be taken to improve liquidity and price transparency in the secondary market for large callable agency securities. In January, the task force released recommended guidelines for trading large callable agency securities.

The development of a more liquid secondary market for large callable agency debt through more uniform trading practices should expand the investor base for these securities.

Historically, there have been no agreed upon conventions for evaluating or trading callable agency debt. Market participants evaluate callable securities in a variety of ways. Some investors may look at callable securities in terms of a nominal spread to Treasuries or interest rate swaps, while others will evaluate callable securities based on option-adjusted spreads (OAS). Investors who focus on OAS may use different volatility assumptions and different yield curves to calculate OAS.

The BMA task force is not recommending that investors adopt a uniform approach for valuing callable debt. Different valuation methods may be appropriate for different investors—or the same investor at different times—depending on their investment strategies. What the BMA is recommending is a set of standards for quoting the prices of large callable agency securities in secondary market transactions. The BMA's recommendations essentially offer a way for market participants who are trading large callable agency securities to speak the same language.

The BMA guidelines apply only to securities that meet the definition of a “European Callable Security” (ECS). To qualify as an ECS, a security must be coupon-bearing and must be \$1.0 billion or larger in size. The issue must be callable only once at par, and must be callable

Issuing callable debt is one way that Freddie Mac hedges the prepayment risk associated with its retained mortgage portfolio.

on a coupon payment date. Finally, the security must have a call notification date that is no more than 10 business days prior to the call date, and the notification date cannot have passed.

Freddie Mac’s syndicated callable notes have the characteristics of an ECS as defined by the BMA.

The BMA may eventually extend the applicability of these guidelines to securities with American or Bermudan call options, but initially they will apply only to securities with European or one-time call options. According to the BMA, most of the interdealer-broker market trading in agency callable securities is concentrated in the large European callables. Also, it was easier for the BMA task force to agree upon a model for pricing securities with European call options, since they are easier to value than securities with continuous or multiple call options.

The BMA is recommending that market participants quote large agency callables in terms of an option-adjusted spread (OAS), and the guidelines call for calculating OAS according to a formula developed by members of the agency task force, the “BMA ECS Formula.” The BMA formula relies on explicit inputs for a yield curve and volatility.

The BMA formula uses a constant maturity par yield curve for the issuer whose callable securities are being evaluated. The yield curve is derived from secondary market prices for the

issuer’s on-the-run non-callable securities. Using a constant maturity yield curve corrects for the change in yields that occurs when securities age or “roll down” the yield curve. The impact of the roll is most pronounced when the yield curve is unusually steep or when it is inverted. For Freddie Mac, the yield curve on Bloomberg that would be used to calculate OAS using the BMA formula is based on prices for its on the run Reference Bills® Securities, Reference Notes® Securities and Reference Bonds® Securities. This curve can be found on Bloomberg by typing: IYC1 I267<GO>.

The BMA formula uses the swaptions market to derive a volatility assumption since swaptions are actively traded and because the European call option embedded in a large callable agency note is similar to a LIBOR-based swaption. The value of the ECS’s call option can be approximated using the prevailing price of the most closely matched swaption. For example, Freddie Mac recently priced a 5-year/NC2 syndicated callable note. The appropriate swaption volatility for this issue based on the BMA formula, would be the 2 into 3-year swaption volatility. The BMA ECS formula makes an adjustment to volatility for

What is skew?

Skew is the observed phenomenon whereby in-the-money and out-of-the money options trade with a different implied volatility than an at-the-money option.

Readers looking for a detailed discussion of the guidelines and the BMA ECS Formula are encouraged to refer to the materials published by the BMA (see www.bondmarkets.com and select *Market Practices*). Market participants can calculate OAS for Freddie Mac’s syndicated callable notes by using the AOAS function on Bloomberg. The function on Bloomberg is in a test phase, and has not been formally released.

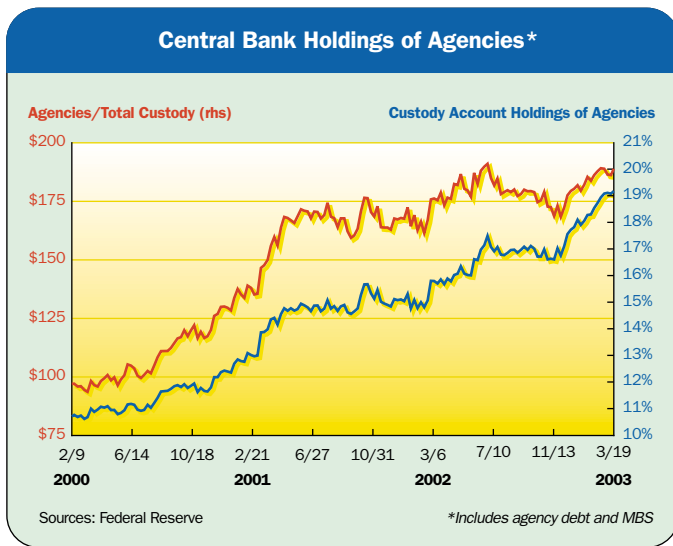
skew. The formula uses skew-adjusted volatility because in-the-money and out-of-the-money options trade with very different volatilities than at-the-money options.

The development of a more liquid secondary market for large callable agency debt through more uniform trading practices should expand the investor base for these securities. A more liquid market for large agency callables should appeal to foreign-based investors, including foreign central banks. In 2002, foreign central banks purchased 15% of Freddie Mac's syndicated callable notes. More generally, foreign central bank demand for agency securities continues to be strong. The Fed's custody account holdings of agency securities for foreign central banks have grown steadily since the Fed began reporting these data three years ago. We think the increase in central bank holdings of these securities is due in large part to growth in liquid bullet debt programs like Freddie Mac's Reference Notes® Securities program.

both have negative convexity because of their embedded call options. Some investors, however, may prefer the reduced uncertainty associated with holding a security with a one-time call option to an MBS, where the prepayment risk is more difficult to assess.

A more liquid secondary market for large callable agency securities will also benefit Freddie Mac as an issuer. At the margin, issuance costs should be reduced, since investors will accept lower yields on securities for which there is a more liquid secondary market. A more developed market for large callable securities would give Freddie Mac more options (no pun intended) for managing interest rate risk. Issuing callable debt is one way that Freddie Mac hedges the prepayment risk associated with its retained mortgage portfolio. Freddie Mac can likely use large callable issues to hedge interest rate risk more effectively than some of the smaller callable structures that are sold in response to specific investor inquiries.

Freddie Mac also hedges prepayment risk with derivatives including interest rate swaps and swaptions. At times, using derivatives to manage interest rate risk can be more attractive than issuing callable debt since the terms of a swaps or swaptions contract can be more closely tailored to match the duration of Freddie Mac's mortgage assets. At the same time, Freddie Mac must also manage the counterparty risk associated with derivatives contracts, which is not a factor when issuing callable debt. Freddie Mac will continue to rely on a mix of callable debt and derivatives to manage interest rate risk, but we think a more developed market for large callable issues gives Freddie Mac more tools for managing that risk.



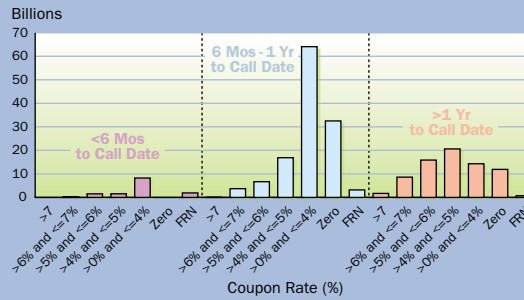
Callable agency securities are viewed by some investors as an alternative to mortgage-backed securities (MBS), and a more liquid market should attract even more traditional MBS investors. Callable agency securities and MBS

Data Bank

Discount Notes and Reference Bills[®] Issued as of March 31, 2003

Maturity	1st Qtr 2003 Par Amount Issued (\$ Billions)
<1 Month (ex. Overights)	28.08
1-<2 Months	26.07
2-<3 Months	8.21
3-<6 Months	67.19
6 Months - 1 YR	28.78
TOTAL	\$158.33

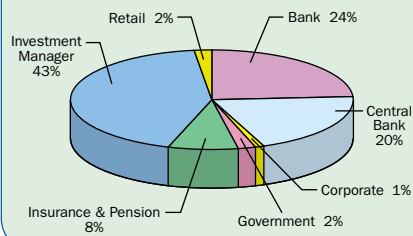
Callable MTNs Outstanding as of March 31, 2003



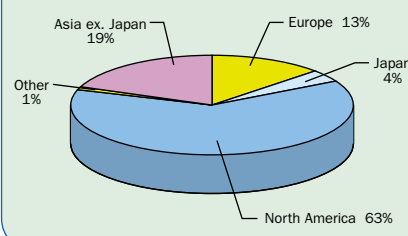
Maturity	Callable MTN O/S (\$ Billions)
1-<=3 YRS	56.7
>3-<=5 YRS	49.4
>5-<=10 YRS	40.5
>10 YRS	67.9
TOTAL	\$214.4

through March 31, 2003

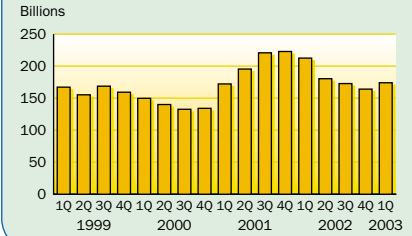
Reference Notes[®] Issuance Investor Distribution (ex. auctions)



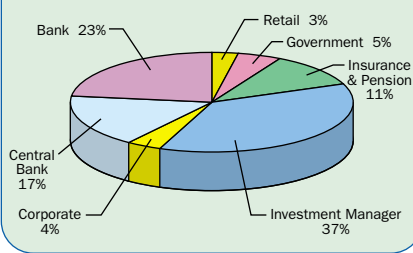
Reference Notes[®] Issuance Geographic Distribution (ex. auctions)



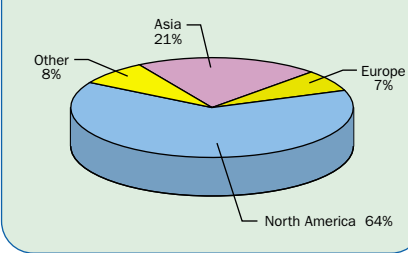
Discount Notes and Reference Bills[®] Outstanding as of March 31, 2003



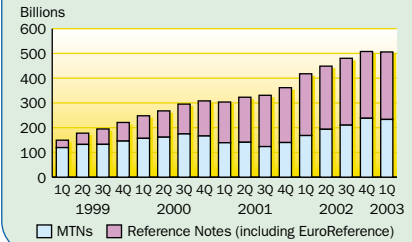
Syndicated Callable Issuance Investor Distribution



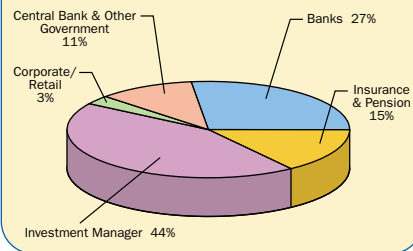
Syndicated Callable Issuance Geographic Distribution



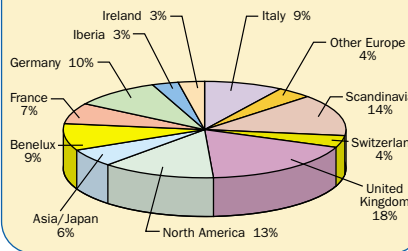
MTNs and Reference Notes[®] Outstanding as of March 31, 2003



€Reference Notes[®] Issuance Investor Distribution



€Reference Notes[®] Geographic Distribution



€Reference Notes[®] Outstanding as of March 31, 2003

Structure	Coupon Rate	Date Contractual Maturity	ISIN	Amount Outstanding (Euros in blns)
3-Year	4.500	3/15/04	XS0125902451	7.00
3-Year	4.625	5/15/05	XS0146883581	5.00
5-Year	5.250	1/15/06	XS0121336266	4.75
5-Year	4.625	2/15/07	XS0142391209	4.27
5-Year	3.500	2/15/08	XS0161387468	4.00
10-Year	5.750	9/15/10	XS0117858323	4.87
10-Year	5.125	1/15/12	XS0136341814	4.00
10-Year	4.750	1/15/13	XS0154444870	5.00

For More Information

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