

Fixed Income  
Mortgage Research

# Mortgage Market Review

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## Week in Review

November 29, 1990

Despite the slowdown in market activity this week due to the Thanksgiving holiday, the yield curve flattened slightly, and Treasury and MBS prices declined. Prices in all MBS sectors closed down, with 30-year discount prices deteriorating the most, dropping an average of 0/09. In contrast to the past few weeks, when conventional price performance differed from that of GNMA, concerns regarding the credit quality of FNMA and FHLMC and the vanishing CMO bid have diminished, bringing 30-year MBS prices more in line.

Cash flow yield spreads on 30-year MBSs tightened by about 6 bp on premiums and by roughly 1 bp on conventional discounts, while GNMA discount spreads widened by 1 to 2 bp. OASs on premiums closed tighter by approximately 4 bp and widened by about 2 bp on discounts. The 15-year sector provided no surprises as

prices dropped by about 0/06. Cash flow yield spreads and OASs on 15-year mortgages tightened similarly by about 3 bp across the sector.

CMO issuance picked up modestly this week as two new issues were priced. Collateralized by FHLMC Gold 9.5s, both issues were \$300 million each. CMO spreads were unchanged over the last two weeks, indicating that there is steady demand for the new issues.

In the ARMs market, COFI ARMs remain cheap relative to 1-year CMT ARMs. During the week, COFI underperformed the 2-year Treasury by 4 bp, a spread widening that is likely due to year-end and hedge selling. Our COFI projection for October is 8.07%, which represents about a 2 bp decline from the prior month.

## Hedging Costs Can Drive MBS Relative Value

In this report, we document a strong relationship between MBS relative value and the cost of term hedging for financial institutions. We find that option-adjusted spreads for MBSs parallel the costs of hedging. This relationship exists because the marginal cost of term hedging also influences the decisions of depository institutions to sell or securitize MBS assets, thereby influencing MBS supply and the demand for hedging contracts. Our conclusion is that investors should simultaneously analyze trends in credit market costs as well as trends in MBS relative value when timing MBS investments.

### Hedging Costs and MBS Value

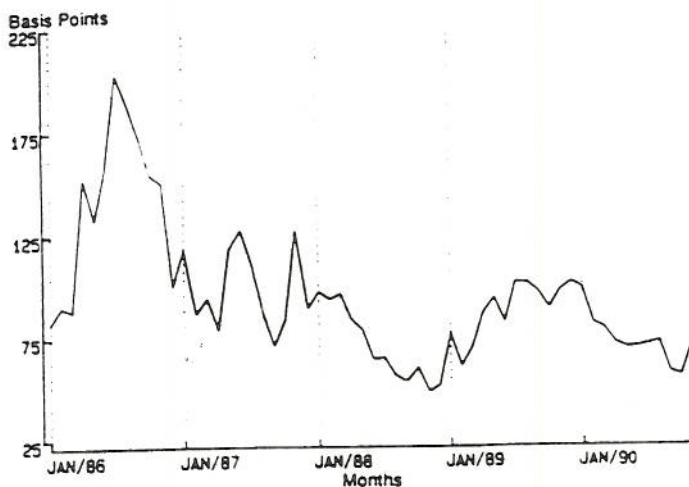
In order to finance MBSs, depository institutions access numerous credit markets that allow them to borrow short-term funds at levels close to LIBOR; examples include the Fed Funds market, the MBS Dollar Roll market, the MBS Reverse Repurchase market and the Commercial Paper market. Interest rate swaps are used

to synthetically extend liability duration in order to reduce interest rate risk. The true marginal cost of long-term funds is, therefore, a combination of the short-term funds spread to LIBOR and the swap rate. Here, we assume that the benchmark marginal costs of short funds for depository institutions is LIBOR. The swap spread (between the swap rate and Treasuries) can then serve as a proxy for the marginal relative cost of duration-matched funds.

The relationship between the cost of hedging and MBS relative value can be observed by comparing current coupon FNMA OASs with duration-matched interest rate swap spreads. Exhibits 1 and 2 show a high correlation: OASs are high when the costs of hedging are high and decline in tandem with declines in the costs of hedging. This is also evident in Exhibit 3, which more closely examines the relationship in 1990. The decisions by depository institutions to hold and fund MBS securities keep these markets in equilibrium.

Exhibit 1

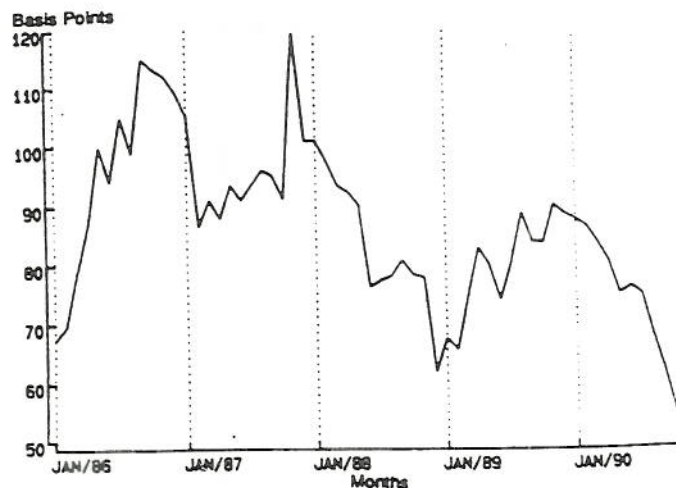
### FNMA Current Coupon MBS OAS



Source: Morgan Stanley

Exhibit 2

### MBS Duration-Matched Pay-Fixed Swap Spread



Source: Morgan Stanley

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**Portfolio Decisions—The Equilibrating Force**

As the relative costs and benefits of owning mortgage assets change, financial institutions must decide whether to buy or sell these assets. This decision is made by comparing the expected return of marginal assets—new mortgage originations—with the marginal cost of duration-matched funding. If the costs of financing are higher than the asset return, the institution will sell these assets, primarily in the form of securities. It might also sell existing unhedged securities rather than hedge them, also adding to supply. Conversely, relatively cheaper funding can induce financial institutions to leverage their balance sheets by borrowing and adding MBSs to their portfolios. This can result in a tightening of the supply of MBSs in the market.

The decisions made by depository institutions linking the credit markets and the mortgage markets can be seen in MBS supply. Increases in MBS supply tend to cheapen MBSs, thereby widening OASs. The simultaneously reduced demand for term funds also cheapens rates in the credit markets through contractions in demand for short money and swap contracts. As MBSs and term financing

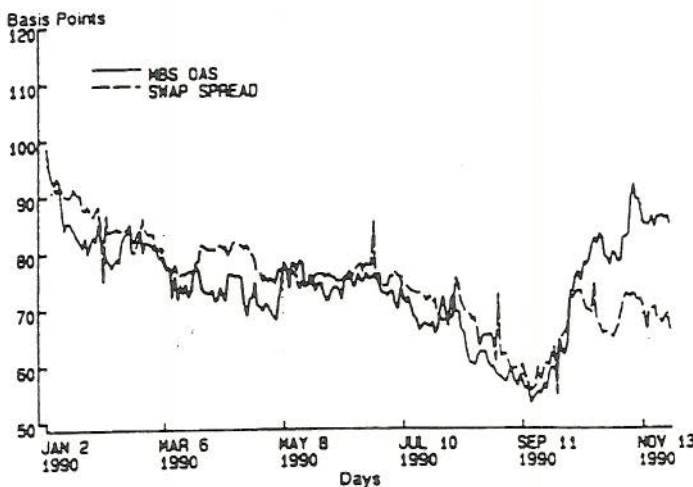
cheapen, demand for the products of both markets tend to pick up. As depository institutions re-leverage their balance sheets, the trends in supply, OASs and swap spreads reverse until an equilibrium is reached. In an information-efficient market, these relationships would be continuously evaluated and we would expect graphs of OASs, hedging costs and MBS supply to be highly correlated.

Exhibit 4 shows total monthly agency fixed rate pass-through securitization since 1986. This is not a perfect substitute for MBS supply; it omits some flows that can affect the market. However, it can be used as a proxy for the supply of MBSs because it represents a significant portion of net MBS flow.

Exhibits 1, 2 and 4 again indicate strong correlations between MBS relative value, financing costs and supply. Exhibits 5 and 6 show the difference between the financing-cost and asset-return spreads, which is a measure of expected hedged return. The stable nature of the hedged spread demonstrates the tendency of these markets to achieve equilibrium.

Exhibit 3

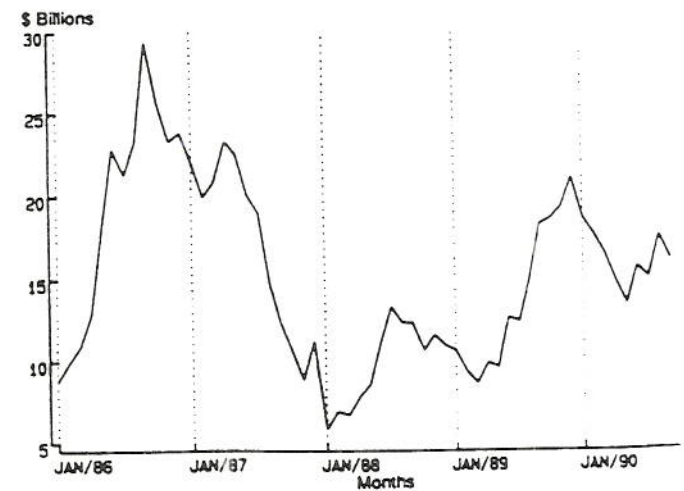
**FNMA Current Coupon MBS OAS versus Duration-Matched Pay-Fixed Swap Spread**



Source: Morgan Stanley

Exhibit 4

**Total Fixed Rate Agency MBS Securitization**

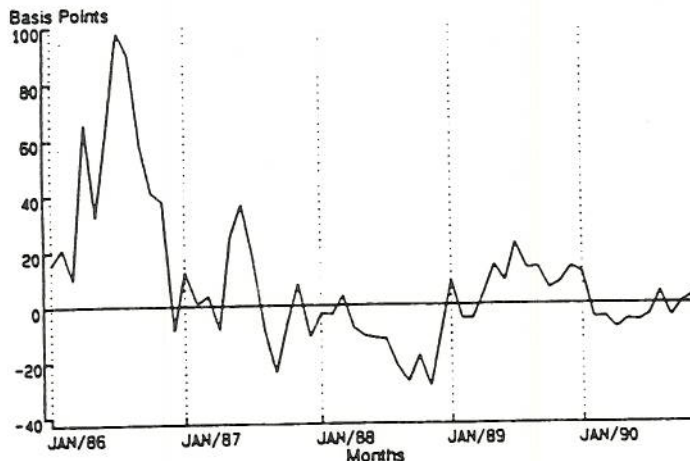


Source: Morgan Stanley

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Exhibit 5

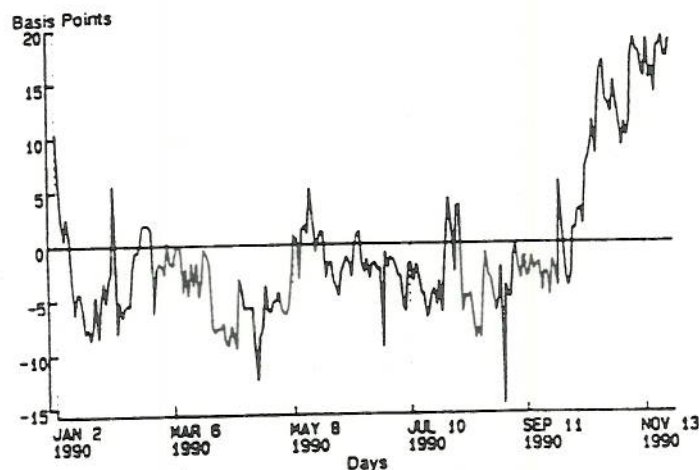
**FNMA Current Coupon MBS OAS versus Duration-Matched Pay-Fixed Swap Spread Hedged Spread**



Source: Morgan Stanley

Exhibit 6

**FNMA Current Coupon MBS OAS versus Duration-Matched Pay-Fixed Swap Spread Hedged Spread**



Source: Morgan Stanley

**Current Environment**

A closer look at Exhibit 6 suggests an emerging state of disequilibrium, since expected hedged returns from MBS investments are currently positive. Normally, financial institutions would be expected to re-leverage their balance sheets and drive away this arbitrage. However, such expectations might be premature given the current regulatory environment.

The fragile financial condition of many depository institutions is causing widespread balance-sheet shrinkage, through asset sales, in order to meet regulatory capital requirements for 1991. The new capital regulations are also forcing depository institutions to reestimate their marginal costs of funding at higher levels by fully accounting for the high cost of equity capital. This raises their hurdle rate for MBS investments and creates a substantial risk of greater MBS supply. Further mortgage and hedged spread widening might occur if the marginal cost profiles of depository institutions have permanently changed. In this case, new nondepository institutions may enter the marketplace to take advantage of the hedged spreads available and replace banks and thrifts as major holders of mortgages.

**Conclusion**

In this report, we noted that there is a strong relationship between MBS value and the costs of funding these assets. MBS supply, by altering asset value, can affect demand in both the MBS and funding market stabilizing this relationship. We noted that the relationship is currently in a state of disequilibrium which might be nontransient and might require the intervention of nondepository institutions to resolve. MBS investors should heed these trends determining MBS value when timing their investments.

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