CAPTURING EXTRA RETURNS

CENTRAL BANKS SHOULD LOOK AGAIN AT THE MBS SECTOR AND INCLUDE THEM IN THEIR WIDER RESERVES PORTFOLIOS, SAYS **JOHN NUGÉE** OF STATE STREET GLOBAL ADVISORS.

In the low interest rate environment where a flight to credit quality has also depressed yields on government securities, central banks, historically the most conservative of investors, are looking at investment alternatives. Are there lessons to be learned for treasurers and pension fund trustees?

As managers of large pools of national assets, central banks have traditionally conducted their reserves management in a risk-averse way. Reserves have largely been held in government bonds. These are low-yielding but offer security and liquidity, both qualities highly prized by central banks.

The trade-off between security and liquidity on the one hand, and return on the other, was one that was widely understood and accepted by central banks.

Recent developments have caused central bankers to review this trade-off. In 1999-2000, most G10 governments sharply reduced their issuance of government bonds, reducing their liquidity and driving swap spreads (the premium on government bonds compared with bank debt) to very high levels. In relative terms, it became much more expensive to hold government bonds compared with alternative debt instruments.

Latterly, as the world economy slowed down, particularly after the events of September 2001, yields across all fixed income markets have been reduced to very low levels, reducing the absolute return on government bond portfolios as well. Although central bank reserves managers have traditionally managed their reserves to benchmarks, and have not focused on absolute returns, for those central banks which look to the income from their reserves to meet expenses or contracted payments to their governments, this has been an unwelcome development.

These two complementary moves – to lower absolute return from fixed income portfolios overall, and within that to lower relative return from holding treasuries, as opposed to other fixed income instruments – have encouraged many central banks to reassess their investment policies.

With a greater realisation of the cost of their current investment style, many are looking to expand their activities to include some higher-yielding instruments. This article considers some of the options open to central banks.

RETURNS ENHANCEMENT WITHIN A TREASURY PORTFOLIO. For most central banks, the core of their reserves portfolio has been in US dollars and has been invested in Treasuries. Traditionally, such assets were held in short duration securities, and for many central banks, the first diversification away from this core was to lengthen their duration. This hopefully adds return to the portfolio, albeit at the cost of greater risk. Crucially, however, it retains the security of US government credit and in most cases the high liquidity that central banks prize.

In absolute terms, the returns on a portfolio of short Treasuries have been below that of all alternative fixed income investments over almost all periods in the past 20 years. Lengthening duration has therefore brought higher returns to central bank reserves managers, though some of this has arisen from the long bull run in fixed income bonds since the high yields of 20 years ago. But, as noted above, longer duration portfolios also carry more risk and their returns are more volatile. So it is more useful to consider adjusted return measures, such as Sharpe ratios and duration-adjusted return.

Figure 1 shows the duration-adjusted returns versus risk for various maturity segments of the Treasury market. It confirms that increased

FIGURE 1
DURATION-ADJUSTED RETURN COMPARISON.

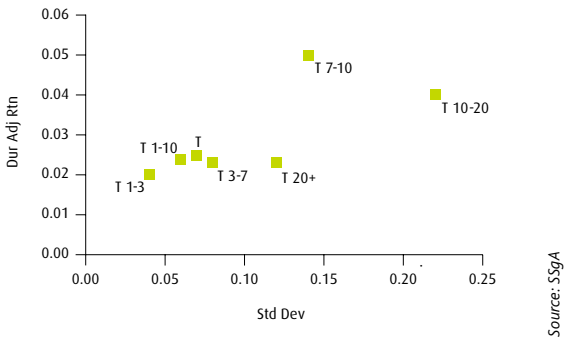


FIGURE 2
US TREASURY SHARPE RATIO.

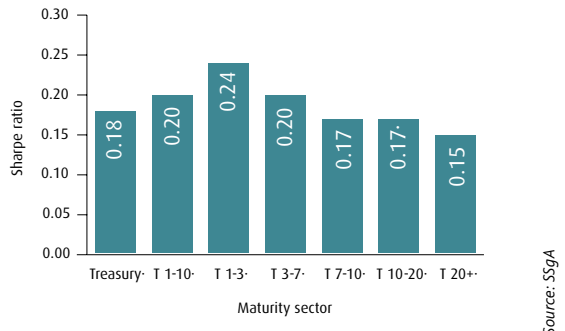


TABLE 1
COMPARISON OF MBS AND TREASURY YIELDS AND RETURNS.

	Yields to maturity (%)			MBS duration-adjusted returns (%)
	MBS Index	Treasury Index	Yield pick-up	
1990	9.40	8.02	1.38	
1991	7.88	6.61	1.27	
1992	7.46	6.18	1.28	
1993	6.51	5.24	1.27	
1994	8.67	7.72	0.95	
1995	6.89	5.71	1.18	0.23
1996	6.96	5.93	1.03	1.06
1997	6.81	5.94	0.87	1.23
1998	6.28	4.92	1.36	(0.28)
1999	7.33	6.29	1.04	1.95
2000	7.09	5.75	1.34	(0.02)
2001	5.55	4.27	1.28	0.75
		Averages:	1.19	0.70

Source: SSgA

maturity is rewarded by an increase in return. As already noted, many central banks in the 1990s took advantage of this by extending the maturity of their Treasury portfolios.

However, increasing maturity beyond 10 years does not appear to give an adequate increase in return, given the risk (note that the chart point for 10 to 20-year Treasuries is both below that for seven to 10 years, implying lower yields, and to the right of it, implying higher volatility). This is contrary to the hope that increased risk should be rewarded by increased return.

Figure 2 shows the risk-return characteristics of the various maturity segments of the US Treasury market by looking at their Sharpe ratios. This comparison enables us to assess whether specific maturities have more attractive characteristics. The chart demonstrates that risk-adjusted return also decreases as we extend to longer maturities.

The conclusion is that, in moving their portfolios of US Treasuries longer over the last decade, central banks have successfully generated a small amount of extra return. But both charts also suggest that further extensions of duration from the current one to 10-year portfolios that many central banks hold will not enhance either duration-adjusted returns or Sharpe ratios further. Therefore, to enhance returns from here, central banks must consider alternative investment options.

MOVING BEYOND TREASURIES. There are a number of ways in which an investor can augment a portfolio of Treasuries to increase return. Two that have been considered by central banks are liquidity (investments in less liquid paper) and credit (investments in paper from issuers of a lower credit standing).

Many central banks trade liquidity for return. Nearly all utilise time deposits, despite the fact they are not ideal investments for reserves portfolios – they are not liquid, they are not marketable, and they entail bank credit risk. In the 1970s and early 1980s, time deposits were popular because of the dearth of alternatives. Since then, the fact that time deposits continue to have a place is largely justified by the higher returns they generate.

Other investments that trade liquidity for return include off-the-run government bonds, eurobonds issued by sovereign issuers, and bonds issued by issuers such as the US federal agencies and the multilateral banks, such as the World Bank and European Investment Bank. All of these are core investments for most central banks, and this led naturally to an investigation of the wider credit and corporate bond markets.

In considering what assets can be added to the core Treasury portfolio to enhance risk-return characteristics, we again focus on duration-adjusted return measures to provide meaningful comparison between asset classes.

Figure 3 shows duration-adjusted returns for a variety of asset classes. It shows investors have not historically been compensated for taking long-dated corporate bond risk (plot point 'Corp 10+' for long-dated corporate bonds on the far right), because the extra risk in moving from short- to long-dated corporate bonds has not been adequately compensated for in history by increased yields. This suggests corporate bond yield curves are generally not steep enough.

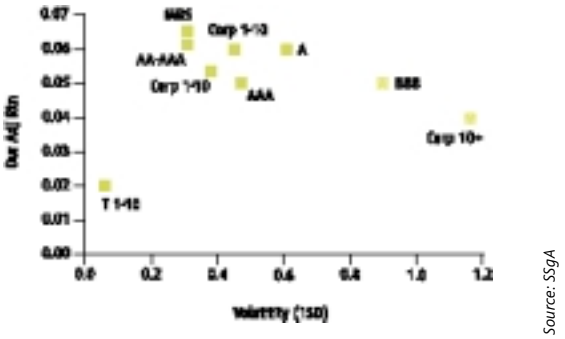
Second, the chart suggests that credit in general is not a good way to add value: BBB-rated bonds have not given an adequate risk-adjusted return over AAA-rated bonds.

Lastly, the chart suggests one asset class which does offer considerable potential to add risk-adjusted return is mortgage-backed securities (MBS). Despite its attractiveness, however, this important sector of the US dollar fixed income market – now larger in absolute size than the Treasury market – has hitherto been under-utilised by central banks.

MORTGAGE-BACKED SECURITIES. As already stated, the MBS sector is now larger than the Treasury market, and it is now the largest asset class within the Lehman Aggregate Index, having grown from 29% of the Index 10 years ago to 35% at end December 2001. By comparison, US Treasuries now only represent 22% of the Index, versus 45% at the end of 1991.

One of the features of MBS, and of prime importance to central banks, is their security. Agency MBS securities, whether explicitly guaranteed by the Treasury (as is the case of securities issued by the

FIGURE 3
DURATION ADJUSTED RISK-RETURN PROFILE.



Source: SSgA

'MBS HOLDERS HAVE OVER TIME TENDED TO ENJOY HIGHER RETURNS THAN HOLDERS OF TREASURIES – THE EXTRA YIELD MORE THAN COMPENSATES FOR THE RISK OF PREPAYMENTS AND THE EXTRA VOLATILITY IN TOTAL RETURNS'

UK Government National Mortgage Association (GNMA), known as Ginnie Maes) or not, are generally considered by investors and rating agencies alike to be of the highest credit quality, mainly because they are secured on residential real estate, and usually with a considerable degree of over-collateralisation. As a result, they are considered to be of higher credit quality than AAA-rated corporate bonds – and even, by some commentators, than Treasuries themselves.

A second attractive feature of MBS for central banks is the liquidity of the sector. There is a liquid secondary market with typical bid/ask spreads of 1/2 of 1/32nd of a point. In fact, many market participants would argue that the US MBS market trades with better liquidity (in terms of the bid/ask spread and the size of typical trades) than the Treasury market. This is especially noticeable during illiquid periods of trading, such as the Autumn of 1998 during the height of the Russian debt/US hedge fund crisis and following the events of September 2001, when trading in MBS was less disrupted than trading in other markets, not excluding Treasuries themselves.

As both an indication of the liquidity of GNMA MBS, and a further boost to this liquidity, the Federal Reserve agreed in 2001 to consider GNMAs as eligible securities in their open market operations. The minutes of the FOMC's 19 March 2001 meeting stated: "With regard to the two proposed alternatives for broadening the system's options for open market operations, the members instructed the staff to give a higher priority to further examination of outright purchases of GNMA MBS ... the market for GNMA MBS was well-developed and the securities were guaranteed by the full faith and credit of the US government."

Finally, the MBS market is well-endowed with benchmark indices, such as the Lehman Brothers MBS Fixed Rate Index, which was introduced in 1986 and has been backdated to January 1976. Similar indices are also constructed by Merrill Lynch and Salomon Smith Barney. These public indices make managing portfolios against a recognised benchmark very much easier, and make the MBS sector suitable for benchmark-oriented reserves managers.

HISTORICAL PERFORMANCE OF MBS VERSUS TREASURIES. MBSs typically trade at a yield spread to Treasuries, owing to the complexity and uncertainty of their cashflows. Whereas credit risk of the investors' cashflows is not an issue, as discussed before, MBS also carry prepayment risk, and this uncertainty causes investors to demand a yield advantage over Treasuries, typically ranging from 100bp to 200bp, depending on the volatility and level of interest rates.

Notwithstanding this prepayment risk, MBS holders have over time tended to enjoy higher returns than holders of Treasuries – in other words, the extra yield more than compensates for the risk of prepayments and the extra volatility in total returns. *Table 1* shows that since 1990, during what was generally a period of declining interest rates accompanied by significant volatility and year-to-year rate swings, the MBS Index has averaged a yield pick-up of +119bp over the Treasury Index, and since 1995 investments in MBS have enjoyed duration-adjusted returns over Treasuries of +70bp, beating the Treasury Index a majority of the time.

RESPONDING TO A LOW INTEREST RATE ENVIRONMENT. Like other fixed income investors, central banks have responded to the current very low interest rates by searching for extra return. This search for return has taken them outside the traditional sectors for reserve assets, and increasingly central banks are considering wider investments, in particular both longer duration bonds and credit portfolios. MBS remain a sector that has so far been under-utilised by central banks. With their attractive combination of excellent security, high liquidity and good yield relative to Treasuries, it may be worthwhile for central bank reserves managers to reconsider the sector and include them in their wider reserves portfolios. It will also be interesting to see to what extent these trends extend to investment by pensions funds and corporate treasurers.

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