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Hafizan Hamzah
Director, Investment Management Group

Why Should Financial Institutions Manage Risk at the Portfolio Level?

As we discuss institutional investment portfolios with our clients regularly, we find that many portfolio managers spend the bulk of their time evaluating individual securities and developing an opinion on potential market movements. At ALM First, our team agrees with the commonly held view in professional asset management that market timing adds more to portfolio risk than portfolio return. This is particularly true in the high-credit quality sectors that depository institutions participate in, as security selection is typically a small contributor to portfolio returns. Rather, long-term performance is a function of duration targeting/management first, sector allocation second, and then individual security selection in a distant third.

How Can My Depository Select the Right Target Duration?

Proper portfolio management starts with getting the duration of the portfolio right. This means aligning the portfolio's duration with its benchmark, which can be an index such as the ICE BofAML 1-5 Year UST/Agency index. Another option is to benchmark the portfolio to the institution's liabilities using a liability driven investing (LDI) framework. While more common in the insurance and pension space, this methodology is very much applicable for depositories as well. One benefit of using this framework is that it helps managers keep the entire balance sheet's risk profile in line by preventing managers from adding too much or not enough duration in the investment portfolio.

Having a duration target in hand frees portfolio managers from having to form an opinion on the direction of rates and allows them to focus on other tasks, such as researching cross-sector, relative value opportunities and monitoring the risk/return profile of the portfolio relative to its benchmark. Additionally, by having a duration target set, routine reinvestment decisions become relatively simple. For instance, if the portfolio's duration drifts lower, the investor knows that she should look to add duration on the margin to push the duration back towards the target; and as a result, means that she can narrow her focus to assets with longer durations.

When Should Financial Institutions Focus on Sector Allocation?

After setting the duration target, the next step is getting the sector allocations right. At its core, this process involves adding exposure to sectors with the highest risk-adjusted spreads and shying away from those with low risk-adjusted spreads. It is also important to understand how a particular asset fits within the portfolio in order to make sure that it belongs. At the end of the day, our job as portfolio managers is to assemble assets and their risk profiles in a way that maximizes return

per unit of risk. Essentially, a portfolio can be thought of as a collection of risks. Thinking of a portfolio in this manner, rather than as a collection of bonds, can help investors focus on managing risk and avoid getting bogged down with the details of individual securities.

A common way for portfolio managers to get a handle on the different types of risks within the portfolio is to conduct a multi-dimensional risk analysis (MDRA). This analysis stresses the portfolio or asset class to a variety of macro-factor risks and illuminates how sensitive a portfolio or asset is to changes in these risk factors. A typical MDRA will stress the portfolio for a change in the level of rates, slope of the yield curve, changes in asset and/or swap spreads, level of interest rate volatility, and changes in prepayments. Exhibit 1 is an example of this type of analysis.

Exhibit 1

	Rates		Slope	
Asset	**DN 100**	**UP 100**	**Flat**	**Steep**
US Treasury	9.83%	-8.90%	8.55%	-15.34%
Agency Bullet	7.57%	-7.06%	4.61%	-9.60%
Agency Callable	6.94%	-8.94%	6.55%	-16.09%
30 Year MBS	1.23%	-3.55%	0.66%	-6.04%

	Volatility		Prepayments		Spread	
Asset	**.8x**	**1.2x**	**.8x**	**1.2x**	**DN 20**	**UP 20**
US Treasury	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Agency Bullet	0.00%	0.00%	0.00%	0.00%	1.48%	-1.46%
Agency Callable	0.28%	0.28%	0.00%	0.00%	1.88%	-1.84%
30 Year MBS	0.49%	-0.21%	0.72%	-0.48%	0.73%	-0.71%

Investors can use this analysis to ensure the construction of a well-diversified bond portfolio. By knowing which macro-factor risks the portfolio is exposed to, a portfolio manager can look to offset some of this risk by adding assets that move in the opposite direction or less than the current bonds that make up the portfolio. For instance, portfolios with higher allocations to MBS do not benefit as much in a rally due to heightened prepayments shortening the cash flows, i.e. negative convexity. With this knowledge in hand, a portfolio manager can add assets with more stable cash flows, such as fixed-rate agency CMBS, to offset the negative convexity present in MBS.

How Can a Depository Maintain a Well-Diversified Portfolio?

We often review portfolios that have several different positions in the same sector; this is not a well-diversified portfolio. While spreading an allocation amongst different positions helps to reduce the exposure to the idiosyncratic risk of any one bond, it does not reduce the portfolio's exposure to macro-factor risks. For example, a portfolio with twenty different 2-year notes has the same sensitivity to changes in the level of rates that a portfolio with one 2-year note has; both portfolios have put on a one-way trade. Using an MDRA helps prevent this.

The analysis also helps to highlight that within the high-credit quality fixed income space, where assets are fairly commoditized, individual bonds largely perform the same. This further demonstrates why investors would be better served spending time to ensure the duration of the portfolio is where it needs to be and that it is allocated to sectors with the highest risk-adjusted spreads. Duration management and sector allocation should be the priority, not combing through the details of individual bonds.

How Can Institutions Identify Sectors with the Most Value?

In order to properly ascertain which sector provides the most value at any given point in time, an investor must be able to properly value the asset class. Some investors will look at yield, but yield doesn't tell the full story. A junk bond will yield more than a Treasury and the reason is clear, one has more risk than the other. But for assets with similar credit quality, such as agency MBS, yield becomes much less informative. This is where option-adjusted spread (OAS) analysis comes into play. By looking at OAS, portfolio managers can better judge how well they are being compensated for the particular risk they are taking. An asset may have a high current yield but if it has a low or negative OAS, an investor can see that he or she is not receiving enough compensation.

At the end of the day, portfolio managers are risk managers. Our job is to assemble the pieces of an overall portfolio in a complementary manner. Managers must be able to understand and evaluate the risk present in any asset class. This allows them to properly asses value and accurately see how specific assets will contribute to the entire portfolio. To build a truly diversified portfolio, assets with different risk profiles should be added. Simply adding similar assets with different CUSIPs does not reduce exposure to macro-factor risks.