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Management

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A Straightforward Approach to Fixed
Income Impact Investing



RBC GAM Fundamental Series

Executive Summary

Through impact investing, institutional investors can pursue competitive investment returns while also making social and environmental impacts. The field of impact investing is rich with creativity and enthusiasm. However, it can be daunting for investors to sort through the host of impacts and the corresponding range of investment instruments.¹

This paper discusses one straightforward approach to adding an impact dimension to the kinds of U.S. fixed income portfolios that most institutional investors already have while incorporating lower levels of expected volatility and stabler cash flow characteristics. To implement this approach, investors can make three portfolio changes:

- Replace generic agency mortgage-backed securities (MBS) with impact agency MBS
- Replace Treasuries and agencies with impact agency commercial mortgage-backed securities (CMBS)
- Replace investment-grade corporates with impact taxable municipals

These impact security types have the following traits:

- Liquid markets
- High credit quality
- Lengthy track records
- Scalability for any portfolio size
- Availability without restrictive entry and exit conditions

This approach offers investors new to the impact arena an opportunity to try it out with familiar security types. It offers experienced impact investors another way to incorporate impact into their portfolios, perhaps in portfolios that are not commonly associated with impact-related objectives.

The portfolio also has a range of security types that can be used to support several impacts including:

- Affordable rental housing
- Affordable homeownership
- Health care facilities in underserved areas
- Supportive care facilities for the disabled
- Eldercare

- Public/charter schools, overall and in disadvantaged urban and rural areas
- Access to higher education
- Economic and job development
- Community development activities in areas of particular interest to the investor
- Brownfield development, i.e., cleaning up polluted areas for new construction

¹In J.P. Morgan's survey of impact investors, instruments included private debt, private equity, public debt, equity-like debt, real assets, public equity and deposit/cash equivalents. "Spotlight on the Market: The Impact Investor Survey", J.P. Morgan, 5/2/14, p. 24.

Introduction

Impact investing has gained a great deal of attention as a way for investors to pursue investment returns while making an array of social and environmental impacts.² While this changing field can be inspiring and exciting, it can seem too abstract and complicated for an institutional investor to implement in a portfolio. We explain one view of impact investing and one practical approach to applying it to a U.S. fixed income portfolio.³

In the financial crisis of 2008-2009, the investment portfolios of most institutions lost substantial market value due to high levels of market volatility. For many foundations, making grants and paying staff became a challenge. Some foundations began to think about their investment portfolios as more than simply a funding source for their missions. Instead, a portfolio could include securities that, like grants, could help a foundation advance its mission.

All institutional investors can see their portfolios in that light. Like foundations, other institutional investors adhere to values articulated in their mission statements. Endowments, nonprofit organizations, insurance entities, public entities, family offices and corporations can align their portfolios with their values and use their portfolios to seek competitive investment returns and mission-aligned benefits. Impact investors often discuss these tandem investment results as the double bottom line.

As one example of applying a mission-aligned perspective, a nonprofit organization dedicated to reducing poverty and supporting disadvantaged individuals could include portfolio securities supporting affordable housing efforts.

The securities would be part of the organization's fixed income allocation and would be competitive with other investments typical in a fixed income allocation in terms of performance, liquidity and credit quality. The securities would also help the organization advance its mission.

A pension plan of a public retirement system could use a similar approach. The system may value:

- Local economic growth, which enhances the tax base supporting the system
- Access to affordable housing for employees and pensioners
- Revitalization of specific neighborhoods within the system's community

To support these values, the system's investment adviser could partner with organizations that are building multifamily properties in the community. The system could invest in pools of mortgages of local homebuyers within the income range of its employees and pensioners. The system would seek double-bottom-line returns by populating a portfolio with securities designed to produce a competitive investment return and social impacts aligned with the system's values.

Corporations can similarly look at their portfolios as a way to express their mission statements. For example, a health care company can use screens to exclude investments in tobacco companies and other companies that are seen as detrimental to health. While these kinds of screens are common, they are negative—investors try to make an impact in terms of what their portfolios exclude.

If an investor is creative and opportunistic, there is not necessarily a trade-off between investment performance and mission-aligned impacts.

Another approach is to use investments in a positive way to produce a measurable impact aligned with an organization's values. The company could make high quality fixed income investments that support the construction and renovation of:

- Schools
- Green buildings
- Hospitals
- Other supportive care facilities

Financial theory maintains that limiting the size of an investment opportunity set requires a sacrifice in returns. However, if an investor is creative and opportunistic, there is not necessarily a trade-off between investment performance and mission-aligned impacts. In addition, some impact security types provide stability in times of financial duress and have less volatility and advantageous convexity characteristics relative to their non-impact counterparts.

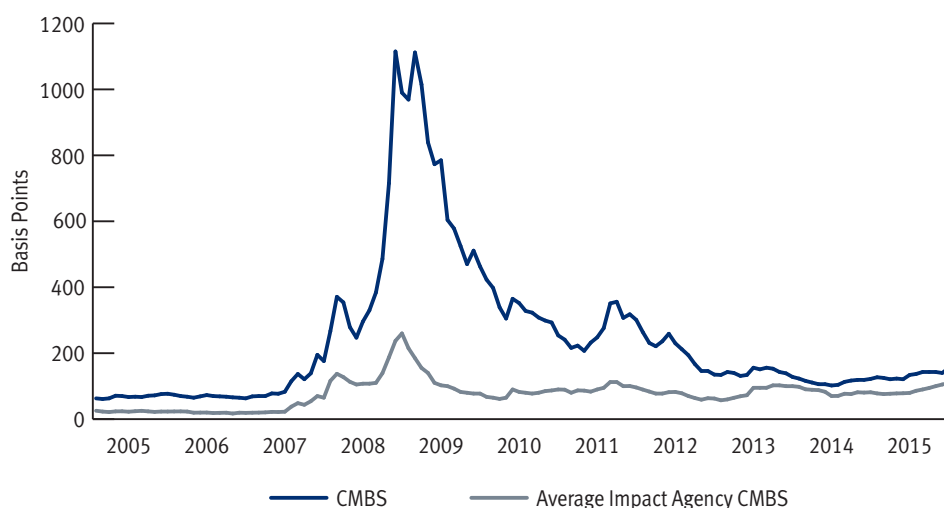
²A few examples include affordable housing, agriculture, community development, education and energy efficiency. <http://www.thegiin.org/cgi-bin/iowa/resources/browse/sector/index.html#4, 5/13/14>.

³Within various approaches to incorporating objectives beyond investment objectives into an investment process, impact investing is distinguished by seeking mission-aligned benefits that are tangible and quantifiable. Impact investors seek to make a positive mission-aligned change through their investments. In contrast, socially responsible investing (SRI) seeks to avoid investments that would detract from an investor's mission. Impact investing is also distinct from environmental, social and governance (ESG) strategies, whose tactics include using certain ESG-related criteria in fundamental research to improve investment performance and/or to promote an investor's mission.

For example, as shown in Exhibit 1, impact agency CMBS have a track record of performance that is competitive and substantially less volatile than CMBS.

There are a number of straightforward ways institutional investors can transform their portfolios from generic non-impact investments to impact investments. Each of the changes discussed in this approach could be implemented individually or in combination with any of the other changes. This approach uses the Barclays U.S. Aggregate Bond Index (the Aggregate) to illustrate these changes. This index provides a sound reference point, since it is longstanding, well known and widely used.⁴

Exhibit 1
Stability of Impact Agency CMBS Option-Adjusted Spreads Relative to CMBS



Sources: Bank of America Merrill Lynch and J.P. Morgan
As of 12.31.15

A Straightforward Implementation of Impact Investing

A portfolio benchmarked to the Aggregate could be altered to include various impact-related investments. Investors could apply these changes to other U.S. fixed income portfolios as well since the adjustments pertain to widely used fixed income sectors including:

- U.S. Treasuries
- Agency debt
- Corporate bonds
- Agency MBS
- CMBS
- Asset-backed securities (ABS)

This approach not only has mission-aligned benefits, but concrete investment advantages relative to a non-impact fixed income portfolio in terms of transparency and strong performance during periods of financial stress. In addition, the security types in the recommended approach have high credit ratings. In a survey taken early in 2014, impact investors stated

that the greatest challenge to the growth of impact investing was the “shortage of high quality investment opportunities with track record.”⁵ In contrast to other impact investments, the security types explored here have high quality and long histories.

In the survey, impact investors cited “difficulty exiting investments” as the third greatest challenge to the growth of impact investing.⁶ Unlike many impact investments, most of the impact security types discussed in this paper have liquid markets; all of the security types are available in investment vehicles without restrictive entrance and exit conditions. Impact investments are available across a spectrum, with illiquid, unique, private transactions at one end and highly liquid, highly transparent, publicly traded, high credit quality transactions at the other. The impact security types discussed in this approach belong at the latter end.

A portfolio benchmarked to the Aggregate could be altered to include various impact-related investments.

⁴In the eVestment core and core plus universes, \$2.02 trillion were managed in 347 products using the Aggregate as the preferred benchmark as of 12/31/15.

⁵“Spotlight on the Market: The Impact Investor Survey”, J.P. Morgan, 5/2/14, pages 16-17.

⁶Ibid.

Replace Generic Agency MBS with Impact Agency MBS

Agency MBS comprise approximately one-third of the Aggregate. Shifting from standard agency MBS to customized impact agency MBS can be a straightforward way for many institutional investors to incorporate impact investments into their portfolios.

Impact agency MBS may align with investors who want to support:

- Low and moderate income (LMI) families
- Access to affordable housing
- Homeownership in communities identified by the investor

Agency MBS are pools of single-family mortgages that meet the strict underwriting guidelines of the government sponsored entities (GSEs), which comply with affordable housing goals established by the Federal Housing Finance Agency and the Government National Mortgage Association (GNMA).

An investment manager can customize agency MBS and thereby choose to work with lenders who are committed to non-predatory lending practices. If an investor's mission has geographic and/or economic parameters, those can also be applied to customized pools. Furthermore, customized agency MBS pools are a way for impact investors to demonstrate to the market that they believe providing capital to LMI borrowers is important, safe and profitable.

Agency MBS are backed by the full faith and credit of the U.S. government.⁷ The agency MBS market is highly liquid and has significant average trading volumes that can rival the liquidity of U.S. Treasuries.⁸ In times of stress, the liquidity of the MBS market has rivaled U.S. Treasury and agency debt.

Agency MBS earn higher yields than U.S. Treasuries because they involve prepayment risk, i.e., homeowners may refinance or sell their homes and thereby prepay their mortgages.

In times of stress, the liquidity of the MBS market has rivaled U.S. Treasury and agency debt.

Due to prepayment risk, agency MBS involve uncertain cash flow. However, impact agency MBS have lower prepayment risk than their non-impact counterparts because high-income homebuyers tend to refinance and sell their homes more often than LMI homebuyers. The pools of mortgages to LMI homebuyers have favorable prepayment characteristics which are reflected in the form of either increased call or extension protection. These characteristics give impact agency MBS a convexity advantage.⁹

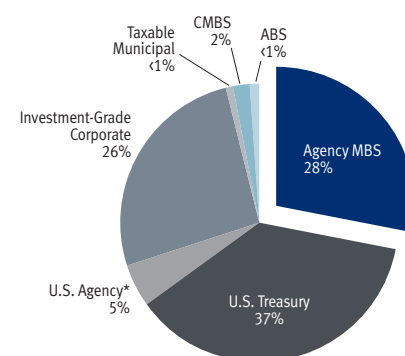
Impact agency MBS tend to have lower loan balances than non-impact agency MBS and therefore resemble 30-year single family low loan balance MBS which have demonstrated:

- More efficiency in earning yield than other mortgage-related securities in most time periods
- Competitive efficiency in earning yield relative to other sectors in the Aggregate
- More resilience than U.S. corporate bonds and CMBS in shock scenarios, with notably smaller 3-month spread widening and related losses

For details regarding the current spreads in the marketplace, please refer to the appendix.

Due to the advantageous investment characteristics of impact agency MBS, an institutional investor could benefit from shifting a portfolio's entire allocation from standard agency MBS to impact agency MBS.

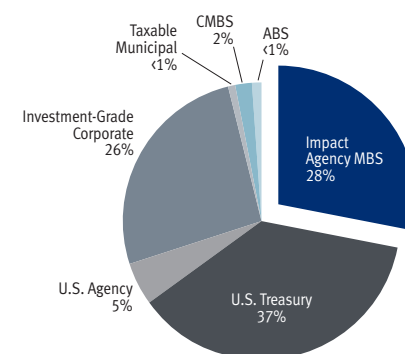
Exhibit 2
Aggregate



Source: Barclays
As of 12.31.15

*This part of the Aggregate also includes non-U.S. sovereign, supra and agency debt.

Sample Portfolio with
Impact Agency MBS



Source: RBC GAM-US
As of 12.31.15

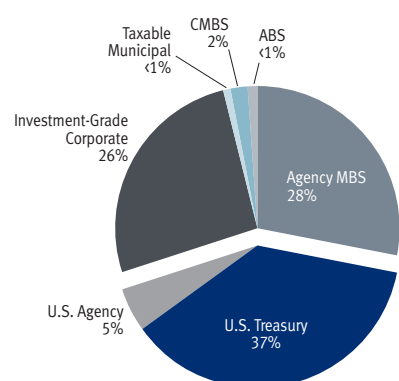
⁷GNMA pools are explicitly backed by the full faith and credit of the U.S. government. Since the GSEs are in conservatorship, their MBS are, in effect, backed by the full faith and credit of the U.S. government.

⁸The outstanding volume of agency MBS markets exceeded \$6 trillion as of 12/31/15. "US Mortgage-Related.xls," Securities Industry and Financial Markets Association.

⁹Convexity measures the change in a bond's duration as interest rates change.

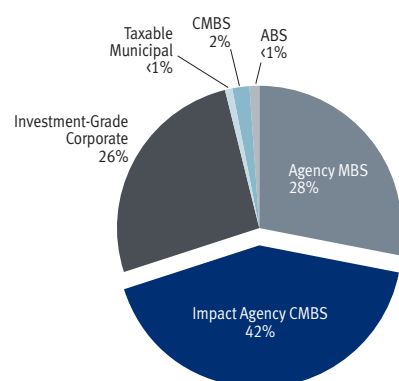
Replace Treasuries and Agencies with Impact Agency CMBS

Exhibit 3
Aggregate



Source: Barclays
As of 12.31.15

Sample Portfolio with
Impact Agency CMBS



Source: RBC GAM-US
As of 12.31.15

U.S. Treasury securities comprise more than one-third of the Aggregate, while other government-related debt securities including agency-backed debt comprise about 5%. Treasuries and agencies are the lowest earning security types in the Aggregate because of their straightforward, simple structures and very high credit quality. Treasuries have been used as a virtually riskless asset to which all other fixed income prices are benchmarked and have outperformed other securities in times of financial stress. Institutional investors can add an impact-related dimension to a portfolio by shifting the allocation from U.S. Treasury and agency debt to impact agency CMBS.

This change can support the following missions:

- Affordable rental housing for LMI families
- Availability of health care facilities in underserved areas
- Supportive care facilities for the disabled
- Well-being of the elderly
- Well-being of areas specified by the investor

Mission-aligned agency CMBS can primarily be found in securities from the following programs:

- Federal National Mortgage Agency's Delegated Underwriting and Servicing (FNMA DUS)
- GNMA project loans

The FNMA DUS program allows approved lenders to underwrite, close and sell FNMA-guaranteed loans on multifamily properties. One of the objectives of the program is to preserve affordable and subsidized housing for LMI families.¹⁰ The program has stringent underwriting standards.

For investors, FNMA DUS bonds offer a number of attractive characteristics including:

- Full credit backing of the agency
- Good liquidity
- Stable cash flows¹¹
- Strong call protection¹²
- Attractive convexity profile¹³

GNMA project loans are administered by the Federal Housing Administration and are therefore backed by the full faith and credit of the U.S. government. The project loan program aims to provide affordable housing and build strong communities through the development and renovation of apartment buildings and health care facilities. Investors who are proactive and knowledgeable about a community can have an edge finding GNMA project loans that align with their missions.

Investment banks aggregate GNMA loans through a real estate mortgage investment conduit (REMIC), which provides investors the flexibility to choose the cash flow profile that fits their needs. An investment manager can work with an investment bank to select loans aligned with an investor's mission in terms of the type and location of the projects. These investments may also provide credits toward compliance with the Community Reinvestment Act (CRA) for investors who are subject to this law. Even for investors who do not need CRA credits to meet a requirement, the credits demonstrate the achievement of a tangible impact and thereby contribute to quantifying the double bottom line.

Compared to Treasuries and agency debt securities, agency CMBS require more expertise from an investment manager. They earn a higher yield because they have more complex structures and less liquidity. They also have fewer market participants.

In terms of efficiently earning yield, impact agency CMBS have been competitive with other fixed income security types in the Aggregate. In addition, in shock scenarios, impact agency CMBS had smaller losses than CMBS or U.S. corporate bonds. Details are provided in the appendix.

By replacing Treasury and agency debt with impact agency CMBS, investors maintain a high-quality bias along with introducing impact benefits to their portfolios.

¹⁰The program offers long-term financing and refinancing options for multifamily properties with rent and income restrictions.

¹¹The cash flows of FNMA DUS bonds are designed to be more certain than single family agency MBS. FNMA DUS bonds have a cash flow profile similar to the profile of corporate bonds.

¹²The standard structure for FNMA DUS bonds includes 9½ years of call protection and a 10-year maturity.

¹³The convexity profile of FNMA DUS bonds includes stable and predictable cash flows that are competitive with the profile of comparable generic security types.

Replace Investment-Grade Corporates with Impact Taxable Municipals

Investment-grade corporate bonds comprise approximately one-fourth of the Aggregate. Instead of these bonds, investors can select taxable municipals aligned with missions that support:

- Affordable housing
- Access to higher education
- Public schools, overall and in disadvantaged urban and rural areas
- Economic and job development
- Brownfield development
- Eldercare

Two very common types of impact bonds are traded in the taxable municipal market:

- Mortgage revenue bonds (MRBs) for single-family owner-occupied homes
- Multifamily housing bonds (MHBs)

These bonds are sold by Housing Finance Agencies (HFAs), which were established to help state and local governments meet the affordable housing needs of residents. HFAs have crafted hundreds of programs, including homeownership, rental and all types of special needs housing.¹⁴

HFAs use the proceeds from MRBs to finance low-cost mortgages for lower income first-time homebuyers. In strong and weak economies, MRBs have been a constant, reliable source of flexible, affordable mortgages for lower income first-time homebuyers, anchoring the first-time homebuyer market. MHBs support the construction of apartments at rents affordable to lower income families.¹⁵

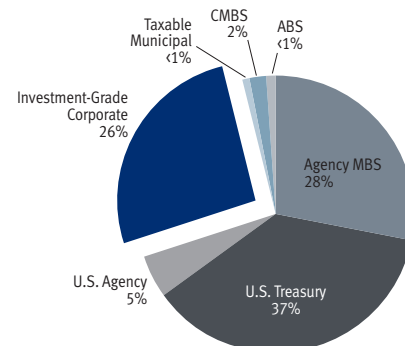
HFAs have traditionally applied rigorous underwriting to both types of bonds. The combination of historically low default rates, government guarantees and low investor demand presents opportunities for investors seeking a market rate of return and a positive social impact.

AA-rated municipals have higher credit ratings than the corporate component of the Aggregate, and experience less spread volatility in times of distress.

Due to the limited supply and liquidity of taxable municipals, shifting a portfolio allocation from corporates to impact taxable municipals may require considerable time depending on the size of the allocation. While the shift is in process, an investor can use impact agency CMBS for the rest of the allocation. Compared to investment-grade corporate bonds, taxable municipals have a more constrained supply; only 8% of new municipal issuance is in the form of taxable municipals. The taxable municipal market is less liquid than investment-grade corporate bonds, U.S. Treasuries, U.S. agencies, MBS and CMBS, but is more liquid than many other impact security types. Taxable municipals also require specialized research. Consequently, the yields of impact taxable municipals are competitive with investment-grade corporate yields.

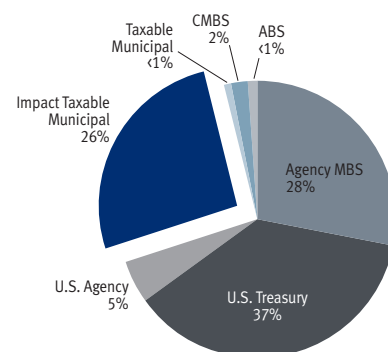
AA-rated municipals have higher credit ratings than the corporate component of the Aggregate, and experience less spread volatility in times of distress, as shown in the appendix. The largest spread widening of AA-rated municipals was approximately 280 basis points less than corporates; the loss related to that period was more than 1,500 basis points less than corporates.

Exhibit 4
Aggregate



Source: Barclays
As of 12.31.15

Sample Portfolio with
Impact Taxable Municipals



Source: RBC GAM-US
As of 12.31.15

¹⁴In 2009-2012, most of the HFA lending programs were supported by direct purchase of almost \$15 billion in newly issued HFA bonds by the U.S. Treasury under a special new issue bond program which expired at the end of 2012. The expiration of this program has created new opportunities for impact investors to earn a market rate of return while filling the void.

¹⁵MRBs have made first-time homeownership possible for over 2.6 million lower income families, approximately 100,000 every year. MHBs have provided financing to produce nearly 1 million apartments affordable to lower income families.

Replace Generic CMBS, ABS and Taxable Municipals with Impact Securities

The remaining security types in the Aggregate account for less than 4% of the index. Generic CMBS comprise 2% of the Aggregate and could be replaced with impact taxable municipals or impact agency CMBS to align a portfolio with a variety of missions. The credit quality of generic CMBS ranges from AAA to BBB. Generic CMBS obtain their credit support through the loan and security structure rather than the backing of a U.S. agency or the U.S. government. In most cases, the perceived higher credit quality of impact agency CMBS leads to lower spreads than those in the generic CMBS market.¹⁶

Generic taxable municipals comprise less than 1% of the Aggregate due to the Aggregate's requirements for issue size. The taxable municipals in the Aggregate tend to be long dated and not necessarily representative of the overall taxable municipal market. Impact taxable municipals can be a very practical replacement in a portfolio's allocation to non-impact taxable municipals. Less than 1% of the Aggregate consists of ABS. Most of these are backed by AAA-rated credit card and auto receivables. While this part of the Aggregate is small, shifting a portfolio's allocation to securities backed by loans of the U.S.

Small Business Administration (SBA) is a powerful way to support job creation. An investment manager can work with investment banks to create securities backed by SBA loans made to businesses aligned with investors' missions. SBA loans are a way to support businesses in underserved communities by creating jobs and increasing the availability of goods and services. SBA loans are backed by the full faith and credit of the U.S. government. They tend to be floating rate in structure and therefore have a very short duration.

Conclusion

Impact investments vary widely in terms of liquidity, transparency, quality and familiarity. The impact security types in the approach discussed here can compete with the Aggregate's generic security types in terms of:

- Investment performance
- Transparency
- Liquidity
- Predictability of cash flows
- Quality

These impact security types are well known and longstanding. For investors new to the impact space, these security types are a familiar way to test the impact space without engaging in the restrictive entrance and exit conditions surrounding some other types of impact investments. Some institutional investors have implemented all of the changes

discussed above to create all-impact U.S. fixed income portfolios. Other investors may be more comfortable implementing changes in a more limited way.

Investors can customize the portfolio's sector allocation for their own risk, return and impact preferences. Investors can benefit from working with investment managers with expertise in customizing loan pools and identifying impact investments.

Further, impact fixed income securities add the dimension of a second bottom line to an investor's portfolio: they involve securities with a range of social impacts that can align with each institutional investor's mission.

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¹⁶The CMBS component of the Aggregate changed as of 6/30/14, when agency CMBS became eligible for inclusion. However, the agency CMBS included in the index are generic in nature and not impact-based.

Appendix

Selected U.S. Fixed Income Sectors as of 12/31/15	Average Spread Per Unit of Spread Volatility (%)*				Shock Scenarios (%)**	
	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>	<u>2008</u>	<u>Largest 3-Month Widening Since 1/1/06</u>	<u>Loss from Largest 3-Month Widening Since 1/1/06</u>
Agency MBS (30-Year Federal Home Loan Mortgage Corp. & FNMA)	2.58	2.47	1.61	5.82	0.81	-2.7
As Proxy for Impact Agency MBS: 30-Year Single Family Low Loan Balance MBS***	2.83	2.29	1.75	4.93	1.02	-3.7
CMBS	8.39	2.61	1.13	1.65	7.31	-26.3
Impact Agency CMBS - FNMA DUS	4.43	3.91	1.57	1.97	1.60	-12.0
Impact Agency CMBS - GNMA Project Loans	5.79	4.87	2.26	3.52	1.00	-5.0
Investment-Grade Corporate Bonds	7.51	4.45	1.77	2.42	3.03	-17.1
AA-Rated Municipals	0.53	0.97	1.09	2.06	0.24	-1.6

*Average spread per unit of spread volatility measures efficiency, computed as the average spread over the period divided by the spread change volatility. It seeks to estimate the yield earned per unit of volatility, similar to a signal to noise or Sharpe ratio.

**The shock scenarios represent the worst three-month spread widening events for each security type since 1/1/06. The losses shown estimate the component of total return solely associated with the spread widening effect and do not include other effects, such as yield earned.

***30-year single family low loan balance MBS are used here to represent impact agency MBS, which tend to have lower loan balances than non-impact agency MBS.

Sources: J.P. Morgan, Bank of America Merrill Lynch and RBC GAM-US



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