Benefits of Global Diversification Using a Market-Driven Fixed Income Approach

January 18, 2012

Gerard K. O’Reilly, PhD, Head of Research and Vice President

This information is provided for registered investment advisors and institutional investors and is not intended for public use. Dimensional Fund Advisors is an investment advisor registered with the Securities and Exchange Commission.
Agenda

1. Market-Driven Solutions
2. Variable Credit
3. Variable Maturity
4. Global Bonds
Market-Driven Solutions

Market data provides information that can:
- Structure a diversified portfolio to add value.
- Verify credit ratings of reportable issuers.

Research shows a reliable relationship between today’s observable credit/term spreads and future return spreads:
- Wider (narrower) credit spreads predict larger (smaller) credit premiums.
- Wider (narrower) term spreads predict larger (smaller) term premiums.

Global bonds can be used to enhance diversification and add value.
Variability of Corporate/Government Credit Spreads

Intermediate Credit/Government Yield Spreads
January 1973–December 2010

In US dollars. Barclays Capital Intermediate Indices. Barclays Capital data provided by Barclays Bank PLC.
Considering Variable Corporate/Government Spreads

- Is an increase in credit spreads entirely due to an increase in default probabilities?
- Is there a relationship between credit spreads and future returns?

\[
E(\text{Ret}) = \text{Yield} \times (1 - \text{Default Probability}) + \text{Default Probability} \times [\text{E(Recovery Rate)} - 1]
\]

There has been a strong relationship between changes in yield spreads and changes in expected credit premiums.
What We Know about Credit Spreads

Across the investment grade universe

• Research demonstrates that the market has offered a credit premium to investors over time.

• Research demonstrates a reliable, positive relationship between current yield spreads and future returns differences (credit premiums):
  • Wider (narrower) yield spreads predict larger (smaller) credit premiums.

Information in current credit spreads can be used to vary an investor's allocation to government, upper tier, and lower tier investment grade bonds to increase their expected return and/or reduce risk.
Variability of Term Spreads

Intermediate – 1–3 Years
January 1976-December 2011

Barclays Capital US Government Bond Index Intermediate and Barclays Capital US Government/Credit Index 1-3 Years. Barclays Capital data provided by Barclays Bank PLC.
What We Know about Term Spreads
Across the investment grade universe

• Research demonstrates that the market has offered a term premium to investors over time.

• Research also demonstrates a reliable, positive relationship between current term spreads and future term premiums.

• Wider (narrower) term spreads predict larger (smaller) term premiums.

Investors can use the information in current term spreads to vary the target duration of the government and corporate bonds they hold to increase their expected return and/or reduce risk.
Global Bond Market

Different term structures around the world expand the variable maturity opportunity set

**SHORT-INTERMEDIATE SLOPES ACROSS COUNTRIES**

### TIME SERIES AVERAGES OF CROSS-SECTIONAL STATISTICS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-Sectional Mean Slope</td>
<td>0.17</td>
<td>0.20</td>
</tr>
<tr>
<td>Cross-Sectional Std. Dev.</td>
<td>0.19</td>
<td>0.15</td>
</tr>
<tr>
<td>Maximum Monthly Slope</td>
<td>0.48</td>
<td>0.53</td>
</tr>
<tr>
<td>Minimum Monthly Slope</td>
<td>-0.19</td>
<td>-0.09</td>
</tr>
</tbody>
</table>
Global Bonds

Global bonds can be used to:

1. Enhance diversification by:
   • Adding issuers to a domestic bond portfolio.
   • Providing diversification by expanding available yield curves.

2. Add value by:
   • Providing new term structures to expand variable maturity opportunities.
Conclusions

Research demonstrates a reliable relationship between current observable credit/term spreads and future return spreads.
- Wider (narrower) credit/term spreads predict larger (smaller) credit/term premiums.

Global bonds can be used to enhance diversification and add value.

Market data provides the information needed to structure a diversified portfolio to add value, reduce costs, and verify credit ratings of reportable issuers.

Dimensional’s approach delivers a diversified, value-added investment solution designed and engineered to efficiently deliver higher expected returns.