Active vs. Passive Bond Management

Marc B.M. van Heel
Executive Vice President, PIMCO Europe Ltd
Biography

Marc B.M. van Heel
Mr. van Heel is an Executive Vice President and is responsible for business development in the Netherlands and Belgium. He joined PIMCO in February 2001, previously having been associated with NIB Capital, where he headed up their relationship management and client services department. Prior to 2000, Mr. van Heel spent five years at Philips Pension Fund as head of fixed income and two years as a portfolio manager for Alrenta N.V (an Amsterdam listed international bond fund of ABN-AMRO). He has been trained as a sales manager at Mees & Hope and held similar positions at Trinkaus & Burkhardt and J.P. Morgan. Mr. van Heel has 23 years of investment experience and holds a bachelor’s degree from Hogeschool Brabant and is a CEFA (Certified European Financial Analyst).
Agenda

I. Are bond markets efficient?

II. Follow the Index: passive management

III. Beat the Index: active management
   – Drivers of return
   – How to capture alpha?
   – Risk management

IV. Why active bond management now?
I. Bond Markets are largely efficient, but:

- Display a high degree of segmentation
  - In contrast to equity markets, bond markets have a high degree of segmentation that lead to enduring sources of value in bond markets.
  - ‘Clientele effects’ also play an important role and also lead to dislocations and alpha opportunities

- Can be driven by momentum and sentiment
  - Leads to deviation of fair value
  - Off-the-runs outperformed (at least temporarily) by on-the-run bonds

- Forward curves (used for pricing derivatives) have proved to be bad predictors of future rates
  - Trading vs. implied forwards using more balanced models
  - Overpricing of downside risk can be exploited

Refer to Appendix for additional alpha, risk, opinions, outlook and strategy information.
II. Follow the index: Passive Management

- **Plus**
  - Efficient exposure to asset class
  - Passive managers charge lower fees

- **Minus**
  - Passive managers have difficulty tracking index in volatile times
  - Passive managers gravitate towards instruments that are in the index, making these instruments often more expensive than holding alternatives
  - Passive managers forgo structural opportunities, even creating opportunities for active managers.

Refer to Appendix for additional risk, opinions, outlook and strategy information.
III. Beat the index: Active Management

- **Plus**
  - Value rather than momentum driven investing
  - Capture structural inefficiencies
  - Capture tactical opportunities

- **Minus**
  - Active managers charge (slightly) higher fees
  - Active bets introduce additional risk that should be rewarded over time
  - Not all active managers are able to outperform consistently

Refer to Appendix for additional risk, opinions, outlook and strategy information.
Drivers of active bond returns over index (alpha)

- **Term Premium**
  - Investors pay up for shorter maturities, resulting in low returns in short dated bonds

- **Liquidity premium**
  - Investors prefer liquid (on-the-run) bonds, leaving small incremental returns to be picked up by investors in slightly less liquid bonds

- **Volatility Premium**
  - Investors usually overpay for price stability, selling volatility is an attractive strategy for active managers

- **Credit premium**
  - Investors are mostly restricted to holding high quality rated, inflating demand and creating opportunities for investors allowed to hold lower rated instruments

Refer to Appendix for additional alpha, risk, opinions, outlook and strategy information.
Volatility Premium

- As investors overpay for liquidity, many likewise overpay for price stability

- An active manager can benefit from “selling volatility”
  - Hold securities with embedded options (mortgages, callable/puttable bonds)
  - Sell options outright

- Strategies can target short-term and/or long-term volatility

Refer to Appendix for additional risk, opinions, outlook and strategy information.
Selling Volatility Can Deliver Structural Value

- Volatility Premium
  - Implied short-term market volatility is generally higher than actual volatility
  - Investors typically overpay for price stability
  - PIMCO may hold mortgages and employ other strategies in an attempt to capture this market inefficiency

As of December 31, 2007

SOURCE: Citigroup Yield Book
Refer to Appendix for additional risk, opinions, outlook and strategy information.
Active versus Passive Fund Management

As of May 31, 2007

Twelve-Month Cost of Passive Treasuries versus PIMCO’s Total Return Full Authority Composite

<table>
<thead>
<tr>
<th>Event</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Recession 1991</td>
<td>-0.73</td>
</tr>
<tr>
<td>Mexico Tequila Crisis 1995</td>
<td>-0.76</td>
</tr>
<tr>
<td>Asian Financial Crisis 1998</td>
<td>0.01</td>
</tr>
<tr>
<td>Russian Default/LTCM 1999</td>
<td>-1.90</td>
</tr>
<tr>
<td>U.S. Recession 2001</td>
<td>-2.29</td>
</tr>
</tbody>
</table>

Note: Dates reference event year ending. Total Return Full Authority Composite is net of fees, while the Citigroup Intermediate Treasury Index assumed no fees.

SOURCE: PIMCO
Refer to Appendix for additional performance, fees, charts, risk, composite and index information.
IV. Why active bond management now?

As of March 2008

- Volatility is back
  - Dislocated and volatile markets create opportunities going forward
  - Risk management is paramount as technicals are still bad

- Risk appetite is near all time lows
  - Government bonds overpriced as they act as safe haven
  - Forced selling offers high quality assets at bargain prices
  - Credit spreads near all time highs
  - Swaps offer attractive alternative to bonds

- Steeper curves
  - Better roll down characteristics, positive carry
  - Dislocations in curves offer value
  - Europe lagging US/UK in cycle

- Opportunities in new market segments
  - Local EMD
  - Bank Loans
  - Distressed debt (ABS, CDO)

Drivers of return are all looking much more attractive

Refer to Appendix for additional swaps, risk, opinions, outlook and strategy information.
Spreads Widen in All Credit Sectors

As of 29 February 2008

- **Asset Backed Securities Spread vs Treasuries***

- **European Corporate Spreads vs Governments***

- **Emerging Markets Global Bond Index Spread vs Treasuries***

- **US Agency MBS and 2Y Swap Spread vs Treasuries***

**SOURCE:** Lehman Brothers (Lehman Live), Bloomberg Financial Markets

* Spreads are Option Adjusted Spreads vs Treasuries/Governments. The ABS Masters Index has a AAA average quality rated by Moody’s and S&P.

US MBS only include AAA rated securities.

Refer to Appendix for additional swaps. ABS, MBS, OAS and index information.
Alpha Opportunities Abundant in 2008
As of 31 December 2007

Term Premiums
The yield curves have normalised and should continue to steepen as central banks lower rates

Liquidity Premiums
PIMCO is a liquidity provider to a constrained market, thus picking up additional yield in the primary market

Credit Premiums
The avoidance of overvalued and ambiguous risk sectors has positioned us to opportunistically add spread product

Volatility Premiums
Volatility has risen to more normal levels, making agency mortgages more attractive

SOURCE: Bloomberg Financial Markets. OAS: option adjusted spreads are vs Treasuries
• Volatility measure: 3 month into 7 year swaptions
Refer to Appendix for additional risk, opinions, outlook and strategy information.
Take Advantage of PIMCO’s Experience in Active Bond Management

- Active bond management is an attractive source of risk adjusted alpha, not just beta exposure in a balanced portfolio

- Drivers of additional returns over a (passive) benchmark are all attractively valued, making a potential long term outperformance likely for an experienced manager like PIMCO

- Risk management, as part of a proven investment philosophy and process is paramount

- Sized matters, as well as organizational scope and structure. Opportunities arise 24 hours a day on many parts of the globe

- There is no substitute for judgment in investing

Refer to Appendix for additional performance, alpha, risk and beta information.
Performance and Fees

**Past performance is not a guarantee or a reliable indicator of future results.** The performance figures shown do not reflect the deduction of investment advisory fees (described in Part II of PIMCO's Form ADV) in the case of both separate investment accounts and mutual funds; but they do reflect commissions, other expenses (except custody), and reinvestment of earnings. Such fees that a client may incur in the management of their investment advisory account may reduce the client’s return. For example, over a five-year period, annual advisory fees of 0.425% would reduce compounding at 10% annually from 61.05% before fees to 57.96% after fees.

Opinions
Opinions are subject to change without notice

Risk
Each sector of the bond market entails risk. Municipals may realize gains and may incur a tax liability from time to time. The guarantee on Treasuries, TIPS and Government Bonds is to the timely repayment of principal and interest, shares of a portfolio that invest in them are not guaranteed. Mortgage-backed securities are subject to prepayment risk and may be sensitive to changes in prevailing interest rates, when they rise the value generally declines. With corporate bonds there is no assurance that issuers will meet their obligations. An investment in high-yield securities generally involves greater risk to principal than an investment in higher-rated bonds. Investing in non-U.S. securities may entail risk as a result of non-U.S. economic and political developments, which may be enhanced when investing in emerging markets.

Alpha
Alpha represents a portfolio's risk-adjusted performance (the difference between a portfolio's actual returns and the expected performance, given the portfolio's level of risk as measured by beta). It is possible that during any timeframe, the alpha of a portfolio can be positive while the actual total return performance of the portfolio is negative.

Beta
Beta is a measure of price sensitivity to market movements. The beta of the market is 1.00 by definition.

Charts
Performance results for certain charts and graphs may be limited by date ranges specified on those charts and graphs; different time periods may produce different results.

Outlook and Strategy
Statements concerning financial market trends are based on current market conditions, which will fluctuate. There is no guarantee that these investment strategies will work under all market conditions, and each investor should evaluate their ability to invest for the long-term, especially during periods of downturn in the market. Outlook and strategies are subject to change without notice.
Appendix

Swaps
Swaps are a type of derivative in which a privately negotiated agreement between two parties takes place to exchange or swap investment cash flows or assets at specified intervals in the future. There is no central exchange or market for swap transactions and therefore they are less liquid than exchange-traded instruments.

OAS
The Option Adjusted Spread (OAS) measures the spread over a variety of possible interest rate paths. A security's OAS is the average return an investor will earn over Treasury returns, taking all possible future interest rate scenarios into account.

MBS and ABS
The value of some mortgage- or asset-backed securities may be particularly sensitive to changes in prevailing interest rates. Early repayment of principal on some mortgage-related securities may expose a portfolio to a lower rate of return upon reinvestment of principal. When interest rates rise, the value of a mortgage-related securities generally will decline; however, when the interest rates decline, the value of mortgage-related securities with prepayment features may not increase as much as other Fixed Income Securities. The rate of prepayments on underlying mortgages will affect the price and volatility of a mortgage-related security, and may shorten or extend the effective maturity of the security beyond what was anticipated at the time of purchase. If unanticipated rates of prepayment on underlying mortgages increase the effective maturity of a mortgage-related security, the volatility of the security can be expected to increase. The value of such securities may fluctuate in response to the market's perception of the creditworthiness of the issuers. Additionally, there is no assurance that private guarantors or insurers will meet their obligations.

Index Descriptions
Citigroup Intermediate Treasury Index is an unmanaged Index composed of all US Treasury notes and bonds with remaining maturities of at least one year and outstanding principal of at least $25 million that are included in the Citigroup Bond US Treasury Index. Securities in the US Treasury Index are weighted by market value, that is the price per bond or note multiplied by the number of bonds or notes outstanding.

The JPMorgan EMBI Global Index is an index that tracks total returns for United States Dollar denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities, Brady Bonds, loans, Eurobonds and local market instruments. This index only tracks the particular region or country.

It is not possible to invest directly in an unmanaged index.
<table>
<thead>
<tr>
<th>Year</th>
<th>Composite Return(%) Before Fees</th>
<th>Composite Return(%) After Fees</th>
<th>Benchmark(^a) Return(%)</th>
<th>Composite Dispersion(^b) Before Fees</th>
<th>Composite Dispersion(^b) After Fees</th>
<th>Number of Portfolios</th>
<th>Total Assets ($ millions)</th>
<th>Percentage of Firm Assets</th>
<th>Total PIMCO AUM ($millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>10.09</td>
<td>9.70</td>
<td>8.69</td>
<td>0.71</td>
<td>0.71</td>
<td>93</td>
<td>50,053</td>
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<td>157,963</td>
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<tr>
<td>1999</td>
<td>-0.07</td>
<td>-0.44</td>
<td>-0.82</td>
<td>0.64</td>
<td>0.65</td>
<td>107</td>
<td>58,163</td>
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<td>185,996</td>
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<td>2000</td>
<td>12.36</td>
<td>11.95</td>
<td>11.63</td>
<td>0.83</td>
<td>0.85</td>
<td>129</td>
<td>75,693</td>
<td>35</td>
<td>215,722</td>
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<tr>
<td>2001</td>
<td>9.73</td>
<td>9.30</td>
<td>8.44</td>
<td>0.69</td>
<td>0.70</td>
<td>147</td>
<td>91,189</td>
<td>38</td>
<td>241,289</td>
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<tr>
<td>2002</td>
<td>10.22</td>
<td>9.77</td>
<td>10.26</td>
<td>1.56</td>
<td>1.54</td>
<td>168</td>
<td>116,395</td>
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<td>2003</td>
<td>6.30</td>
<td>5.86</td>
<td>4.10</td>
<td>1.08</td>
<td>1.14</td>
<td>183</td>
<td>129,916</td>
<td>33</td>
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<td>2004</td>
<td>5.65</td>
<td>5.21</td>
<td>4.34</td>
<td>0.48</td>
<td>0.53</td>
<td>198</td>
<td>143,191</td>
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<td>466,267</td>
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<tr>
<td>2005</td>
<td>3.31</td>
<td>2.89</td>
<td>2.43</td>
<td>0.31</td>
<td>0.36</td>
<td>213</td>
<td>167,016</td>
<td>30</td>
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<tr>
<td>2006</td>
<td>4.60</td>
<td>4.17</td>
<td>4.33</td>
<td>0.39</td>
<td>0.43</td>
<td>225</td>
<td>187,639</td>
<td>30</td>
<td>625,870</td>
</tr>
<tr>
<td>2007</td>
<td>9.34</td>
<td>8.88</td>
<td>6.97</td>
<td>0.82</td>
<td>0.83</td>
<td>225</td>
<td>214,040</td>
<td>30</td>
<td>707,242</td>
</tr>
</tbody>
</table>

\(^a\) Lehman Brothers Aggregate Bond Index
\(^b\) Standard deviation of annual returns for all portfolios in the composite for the full year

PIMCO has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS\(^\text{®}\)).

Pacific Investment Management Company LLC ("PIMCO"), a Delaware limited liability company and majority-owned subsidiary of Allianz Global Investors of America L.P. ("AGI LP"), is a registered investment advisor. Established in 1971, PIMCO provides investment management and advisory services to institutional and retail mutual funds and to separate accounts of institutional clients. For composite reporting, PIMCO includes the accounts of PIMCO Asia PTE Ltd., PIMCO Australia Pty Ltd., PIMCO Europe Limited and PIMCO Japan Ltd. (the PIMCO Global Offices) which are also subsidiaries of AGI LP and are managed by PIMCO under agreement with AGI LP.

The composite includes all discretionary fee-paying USD-based Total Return accounts that meet the Core Plus Full Authority criteria. Beginning 1/1/93, accounts must allow Futures (long & short), Options (long & short), Non-$ investments (Maximum allocation >=20%), High Yield (maximum allocation >=10%) and Emerging Markets to meet the Full Authority criteria.

This Composite was created in November 2002. There are no non-fee paying accounts within the Composite. Balanced portfolio segments are not included in the composite.

Performance figures are expressed in U.S. dollars. Returns are presented gross of investment management fees unless indicated otherwise. Trade date accounting has been used for all periods. Additional information regarding policies for calculating and reporting returns is available upon request.

Fixed Income derivatives are frequently used in a non-leveraged manner as substitutes for physical securities. Futures, options, and swaps (in accounts that allow) may be used to gain, hedge or restructure exposure to interest rates, volatility, spreads, foreign bond markets and currencies within the parameters allowed by individual portfolio guidelines.

A complete list and description of all the firm’s composites is available upon request.

Past performance is no guarantee of future results.

**Total Return Separate Account Fee Schedule**

<table>
<thead>
<tr>
<th>Total PIMCO AUM ($millions)</th>
<th>Fee Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st $25 Million</td>
<td>0.500%</td>
</tr>
<tr>
<td>Next $25 Million</td>
<td>0.375%</td>
</tr>
<tr>
<td>Thereafter</td>
<td>0.250%</td>
</tr>
</tbody>
</table>