

# Articles of Interest

## A Federated Investors White Paper Series

**Federated**

WORLD-CLASS INVESTMENT MANAGER®

### ALPHA STRATEGIES FOR A MULTI-SECTOR BOND PORTFOLIO

Key strategies related to alpha generation may include duration, yield curve strategy, currency, sector allocation, and security selection.

The case for expert, professional management of a bond portfolio has never been more compelling.

The modern bond market has grown exponentially, even as it has evolved in complexity. By the end of 2006, the value of the bond market (as measured by the Lehman Aggregate Bond Index) had grown to \$8.8 trillion — more than five times its size in 1980.

Meanwhile, the U.S. Treasury segment of the market has shrunk from nearly half to only one-quarter, while the more complex spread products — mortgage-backed and corporate bonds — have grown from little more than one-third to nearly two-thirds of the Lehman Brothers Aggregate Index.

This paper will outline key decisions for adding alpha to a diversified bond portfolio. Essentially, this is the strategy employed by Federated Total Return Bond Fund.

Source: *Lehman Brothers*

#### Key decision areas include:

- |   |                       |
|---|-----------------------|
| I. Duration management                              | IV. Sector allocation |
| II. Yield curve strategy                            | V. Security selection |
| III. Currency management/<br>international exposure |                       |

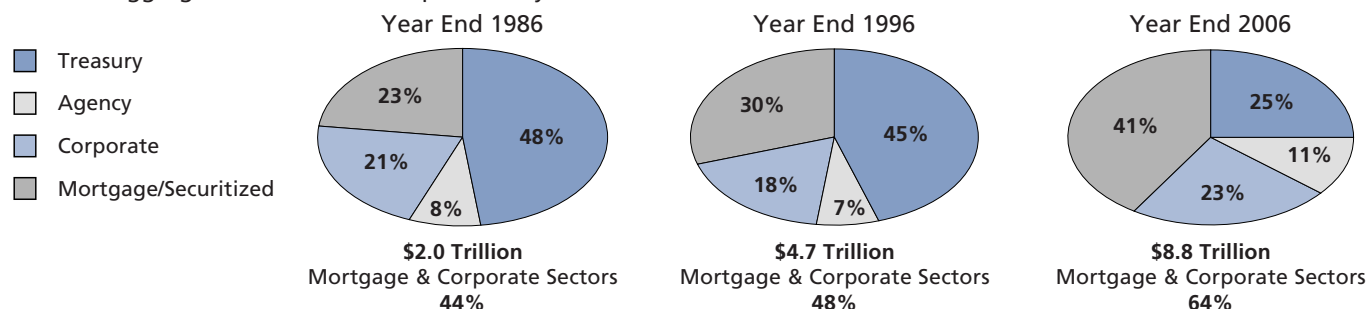
While an individual manager could conceivably make these decisions, at Federated the decisions are made by teams of professionals with relevant experience and expertise.

The backdrop for all of these decisions is the imperative to generate alpha without incurring unreasonable risk. Obviously, to pursue returns that outperform the relevant benchmark, portfolio positioning must differ from the benchmark in some or all of the five areas outlined above. On the other hand, outsize risks could result in severe relative underperformance. For this reason, it is advisable to assign to each decision group a risk budget — a pre-defined maximum variance from the benchmark that is significant enough to permit alpha generation without incurring outsize downside risk.

For instance, Federated Total Return Bond Fund uses the Lehman Brothers U.S. Aggregate Bond Index as its benchmark. That said, modern active bond management has evolved from “core” fixed income to “core-plus” fixed income approach. This means including such sectors as high yield bonds and international securities, which are not part of the index.

### Spread Products Now Represent Almost Two-Thirds of Bond Market (1986-06)

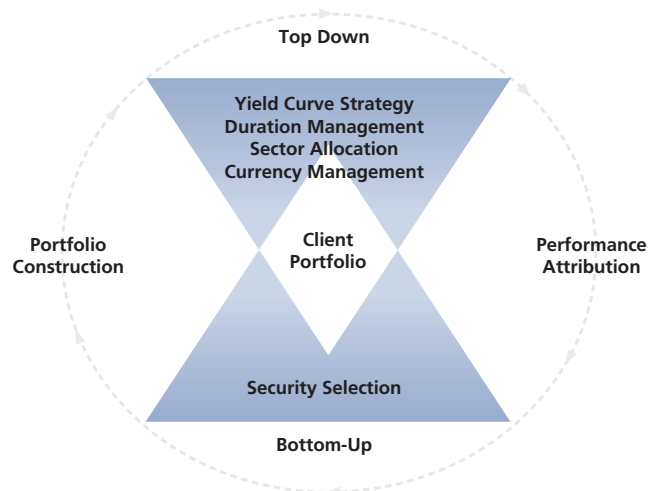
#### Lehman Aggregate Bond Index Composition by Sector



*Lehman Brothers Aggregate Bond Index is an unmanaged index composed of securities from the Lehman Brothers Government/Corporate Bond index, Mortgage-Backed Securities Index and the Asset-Backed Securities Index. Portfolio composition is subject to change.*

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## I. Duration Management



### Duration Management

- Business Cycle Analysis
- Valuation Indicators
- Global Attractiveness

Duration, as a measure of a bond portfolio's sensitivity to interest rate changes, probably is the most visible management decision. Shorter durations are preferable when inflation and interest rates are likely to rise. During such periods, bond prices are likely to fall, with shorter durations suffering the least. Conversely, in a time of declining interest rates, longer durations are more desirable.

Obviously, the art and science of a duration call is in the ability to forecast the future course of interest rates. In arriving at a conclusion, a bond manager should consider:

- **Business Cycle Analysis:** The economic cycle usually is defined as beginning with an expansion, leading to a peak. Then follows the onset of recession, which eventually troughs. Then comes recovery, leading to expansion and the onset of a new cycle. Longer duration strategies usually are preferable during periods of slowing growth and recession. Shorter durations are preferable when the economy is accelerating.
- **Value Indicators:** This is analysis of the extent to which current yields reflect where we are in the current business cycle, and the degree to which the market has accurately priced in what is expected to occur over the next six months.
- **Global Attractiveness:** In these days of a global economy, some exposure to overseas assets is desirable for diversification, of course. But overseas assets also can be important in generating alpha due to varying supply and demand (and relative yields) for U.S. fixed income assets. At any given period, some foreign economies and yields may be relatively more attractive than those of the U.S. For unhedged portfolios, of course, currency also is a factor. (See Section III.)

Federated Total Return Bond Fund allows for a variance of 20% from benchmark duration, within a **total portfolio risk budget** of 10%. This risk budget is relatively small compared to other decisions, since those other decisions are likely to have a greater impact on relative performance.

## II. Yield Curve Strategy

### Yield Curve Strategy

- Valuation Indicators
- Federal Reserve Policy
- Business Cycle

There are three basic yield curve strategies:

- Barbell, which overweights the short and long ends of the yield curve, suitable when a steep curve is expected to flatten.
- Laddering, a relatively equal/neutral positioning across the curve, appropriate when no material changes in the yield curve shape are expected.
- Bulleting, overweighting at specific points around the middle part of the yield curve, when the curve is relatively flat or inverted and is expected to steepen.

The yield curve decision/process factors to consider include:

- **Valuation Indicators:** The slope of the yield curve is rarely a straight line. It may be possible to identify specific areas of value along the curve.
- **Price/Yield Trade Off:** Analyzes the curvature in the relationship between bond prices and bond yields-whether the convexity is positive (opening upward) or negative (opening downward)-and considers the investment trade off between the two.
- **Anticipated Federal Reserve Policy:** Considers the prospects for interest rates being raised, lowered or maintained based primarily on the outlook for inflation, and secondarily on economic growth trends. Also reviewed are historical patterns of bond yields and returns during given points in the Fed cycle.

Federated Total Return Bond Fund's 15% risk budget for yield curve strategy allows considerable latitude for yield curve calls.

## III. Currency/International Exposure

### Currency/International Exposure

- U.S. current Account/Fiscal Conditions
- Interest Rate Differential
- Expectation for Growth

As investors know, when the dollar is strong, assets denominated in weaker currencies are worth fewer dollars. At such times, non-dollar exposure should be minimized. However, the opposite is true when the dollar is weak. When the dollar is weakening, greater overseas exposure can benefit American investors.

The key factors in determining a currency outlook are expectations for the U.S. balance of trade and government spending. When deficits in either or both of these areas are expected to rise, the dollar typically weakens. When they shrink on a sustained basis, the dollar grows stronger. Currency swings are notoriously volatile and unpredictable.

Other factors affecting the currency decision include the relative strength of the U.S. economy versus its major trading partners, along with the difference in bond market yields available among those markets. When the U.S. economy is growing faster and has higher relative yields, the dollar is likely to rise in value. Conversely, the dollar is likely to come under pressure when the American economy is leading the world toward an economic slowdown, and U.S. yields are falling relative to those of its trading partners.

Federated Total Return Bond Fund's currency risk budget is a relatively small and the fund owns unhedged foreign currency only when there are indications that the value of the dollar is likely to decline. Although the fund can invest up to 20% of its total assets in unhedged non - U.S. dollar securities, it will normally invest no more than 10% in such securities.

## IV. Sector Allocation

### Sector Allocation

- Historical Spread Analysis
- Volatility Analysis
- Business Cycle

For purposes of balancing risk and return, proper diversification among fixed income asset classes is critical. In terms of alpha generation, of course, the key decision is the relative sector weighting.

This table below illustrates the low level of correlation among the six bond sectors under discussion. Their correlation with the S&P 500 has been minimal over the past decade, with half of them demonstrating a negative correlation.

Key sector allocation considerations include:

- **Historical spread analysis**-The relative attractiveness of a sector based on current yield relative to Treasuries vs. typical historical yield spread.
- **Volatility analysis**-The various sectors' performance history over several market cycles in order to estimate their likely volatility relative to each other.
- **Business cycle analysis**-Each sector's appropriateness vis-à-vis the current business cycle. (See "business cycle" under duration decision.) For instance, high yield bonds tend to be most attractive during periods of economic expansion, while Treasury issues typically benefit from the "flight to quality" characteristic of recessions.

### Correlation of Bond Sectors, Lehman Aggregate, S&P 500

	AGENCY	CORP	HIGH YLD	LEH AGG	MTGE	TREAS	LIBOR	S&P 500
AGENCY	1.0000	0.8879	0.0122	0.9811	0.9121	0.9779	0.1363	(0.1854)
CORP	0.8879	1.0000	0.3618	0.9444	0.8292	0.8760	0.0359	0.0489
HIGH YLD	0.0122	0.3618	1.0000	0.1366	0.0972	(0.0187)	(0.1141)	0.5073
LEH AGG	0.9811	0.9444	0.1366	1.0000	0.9280	0.9691	0.1090	(0.1052)
MTGE	0.9121	0.8292	0.0972	0.9280	1.0000	0.8525	0.1529	(0.0886)
TREAS	0.9779	0.8760	(0.0187)	0.9691	0.8525	1.0000	0.1052	(0.2185)
LIBOR	0.1363	0.0359	(0.1141)	0.1090	0.1529	0.1052	1.0000	0.0549
S&P 500	(0.1854)	0.0489	0.5073	(0.1052)	(0.0886)	(0.2185)	0.0549	1.0000

Source: Lipper

Past performance is no guarantee of future results. This chart is for illustrative purposes only and is not representative of performance for any specific investment.

Correlation expresses the strength of relationship between distribution of returns of one data series and its benchmark. The coefficient correlation is always between +1 (perfect positive correlation) and -1 (perfect negative correlation).

## Sectors' Response to Various Market Environments

	Govt/ MBS	Corp/ ABS	High Yield	International
Expansion	U	O	O	N/A
Peak	O	U	U	N/A
Recession	O	U	U	N/A
Trough	U	M	O	N/A
Recovery	M	O	O	N/A
Rising dollar	N/A	N/A	N/A	U
Falling dollar	N/A	N/A	N/A	O

[O: tend to outperform; U: tend to underperform; M: mixed]

For each sector, Federated Total Return Bond Fund may position itself within 50% either side of the benchmark. The fund also can include exposure to non-index sectors of up to 10% per sector. Total sector variance is afforded 35% of the total portfolio risk budget.

## V. Security Selection

### Security Selection

- Analysis of individual securities
- Bottom - up
- Risk analysis

Security selection obviously requires a great deal of analytical "horsepower" and research capability. For Federated Total Return Bond Fund, this is the only decision tool employing a bottom-up strategy-examining each bond/issuer individually. Some strong sectors will always have relatively weak performers, and vice-versa.

Typical individual security analysis includes a determination of risks related to default, call, prepayment and interest rates. The Federated approach also often calls for direct discussions with management teams and onsite visits. We also consider these criteria when reviewing securities within a specific sector:

- **Corporates:** Detailed, fundamental analysis determines the best securities within specific credit quality constraints; carefully diversified by company and industry.
- **Mortgage-backed:** For this sector Federated uses sophisticated quantitative models and its in-depth knowledge of pool-specific characteristics, including the structure of the security, the effectiveness of the mortgage servicer, the borrower's credit score, and the loan-to-value ratio.
- **High Yield:** Credit concerns are paramount for this asset class. Federated performs a thorough analysis of each bond's characteristics, its company's competitive position and management expertise. To mitigate default risk, the high yield portfolio is carefully diversified by company and industry.
- **International:** Federated's risk-control parameters include analysis of credit risk, interest rate risk, security risk and currency risk.
- **U.S. Treasury/Agency:** Because these bonds are backed by the full faith and credit of the U.S. government as to the payment of principal and interest, they are considered to be the safest securities available. These securities require relatively little credit analysis.

The high security selection risk budget (30%) assigned to Federated Total Return Bond Fund indicates our view that these decisions have the potential to add considerable alpha. In fact, sector allocation and security selection together account for almost two-thirds of Federated Total Return Bond Fund's risk budget.

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## FEDERATED: A DEDICATED BOND FUND LEADER

With approximately \$22.9 billion in fixed-income assets under management comprising seven sectors of bonds, Federated enjoys a well-deserved reputation as a strong fixed income manager. Its track record in bonds spans decades and includes launching one of the first funds in several asset classes: government bonds (1969), high yield bonds (1972), tax-free municipals (1976), and high yield municipals (1996). Its fixed income management team of 26 portfolio managers averages more than 18 years of experience over numerous market cycles. Federated Total Return Bond

Fund is in its eleventh year of offering total bond market exposure using the multi-factored decision process described in this paper.

**For more complete information about Federated Total Return Bond Fund, please call your Federated representative for a prospectus. Investors should consider the fund's investment objectives, risks, charges, and expenses carefully before investing. Information about these and other important subjects is in the fund's prospectus, which should be read carefully before investing.**

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*High yield, lower-rated securities generally entail greater market, credit and liquidity risks than investment grade securities and may include higher volatility and higher risk of default.*

*Bond prices are sensitive to changes in interest rates and a rise in interest rates can cause a decline in their prices.*

*Mutual funds are subject to risks and fluctuate in value.*

*International investing involves special risks including currency risk, increased volatility of foreign securities, political risks, and differences in auditing and other financial standards.*

*Diversification does not assure a profit nor protect against a loss.*

*Past performance is no guarantee of future results. Indexes are unmanaged and actual investments cannot be made in an index.*

*The Lehman Brothers Aggregate Bond Index is an unmanaged index composed of securities from the Lehman Brothers Government/Corporate Bond Index, Mortgage-Backed Securities Index and the Asset-Backed Securities Index.*

*The Merrill Lynch Global Ex-U.S. Government Bond Index tracks the performance of the outstanding public local currency debt of the G7 Sovereign issuers excluding the U.S. It includes Canadian, French, German, Italian, Japanese and U.K. Sovereign bonds issued in their respective domestic markets and denominated in their local currencies.*

*The S&P 500 Index is an unmanaged capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.*

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*9-Month LIBOR, or London Interbank Offered Rate, is the interest rate offered by a specific group of London banks for U.S. dollar deposits with a nine-month maturity.*

*Lehman Brothers High Yield Index covers the U.S.-denominated, non-investment grade, fixed rate, taxable corporate bond market. Securities are classified as high-yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below. The index excludes Emerging markets debt. The index was created in 1986, with index history backfilled to January 1983. The U.S. High Yield Index is part of the U.S. Universal Global High-Yield Indices.*

*Lehman Brothers Mortgage-Backed Securities Index is an unmanaged index composed of all fixed securities mortgage pools by GNMA, FNMA and the FHLMC, including GNMA Graduated Payment Mortgages.*

*S&P 500 Index is an unmanaged capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.*

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