

# Viewpoint

INVESTMENT CONCEPTS WHITE PAPER

## THE CASE FOR INVESTING IN FIXED INCOME

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### A LOOK AT MYTHS, MISCONCEPTIONS, AND REALITIES



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### INTRODUCTION

How well do investors understand bonds? Certainly many investors realize that bonds potentially can offer regular income and stability of principal. They may know that bonds are generally considered an essential element in a diversified portfolio — whatever the goal and time horizon. Some investors may understand that bond prices typically move in the opposite direction from interest rates.

Yet for every well-known truth about bonds, there seems to be a myth that has yet to be dispelled. This paper seeks to address that, by examining how bonds have behaved relative to equities and cash, and by discussing a variety of functions that bond investments can perform in an investment portfolio.

One myth is that bonds significantly underperform stocks. Another is that bond risks are too high for their long-term returns. Some investors consider bonds too hard to understand, while others believe them non-essential to their portfolios. There are also investors who believe it is easy to predict the direction of the bond market.

It is true that individual bonds come in a bewildering variety, and that their behavior can seem baffling. Yet by looking at long-term market returns from a number of angles, it's possible to spot some general characteristics of bonds: steady returns from income; moderate price risk; capital gains that can offset equity losses; and higher reinvestment opportunities in down markets. These properties give investors the potential to improve the risk/return characteristics of their portfolios.

The paper also examines the futility of trying to time the bond market's ups and downs. It shows instead that, although sticking with an asset allocation can't ensure a profit or guarantee against a loss, it may be the best way to reap the benefits of the bond market's long-term performance, which historically has been solid.

It is important to note that the conclusions of this paper rely on broad bond market returns, which can only be achieved by owning a large, diversified portfolio. For most people, that may be best achieved by owning mutual funds.

## Part I

# HOW BONDS CAN HELP REDUCE PORTFOLIO RISK

Investment-grade bonds generally do not offer large capital gain potential, as do stocks and real estate. Instead, investment grade bonds have historically produced steady, modest returns, mostly by generating a regular stream of income for their holders. So why should an investor consider including these bonds in his/her portfolio?

Perhaps the most compelling reason is that they are an extremely effective diversifier. Bonds mitigate risk introduced by other

portfolio asset classes because they respond to market forces differently than do these other assets. In other words, bonds tend to “zig” when other portfolio elements “zag,” and this reduces overall portfolio volatility.

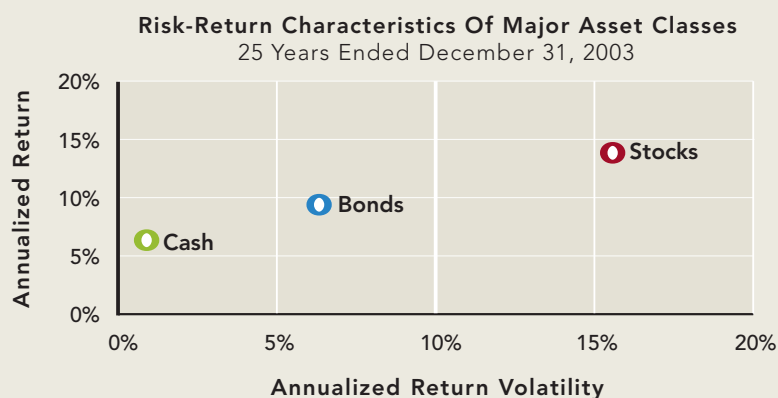
This section takes a closer look at the risk and return characteristics of bonds in relation to those of other major asset classes, and explains why these characteristics help make bonds such an important component of a well-balanced portfolio.

## MODERATE RETURN FOR MODERATE RISK

In general, investors expect to be compensated with extra return for assuming additional risk. As a result, asset classes that generate higher returns have tended to display higher volatility over long periods of time.

On one end of the asset-class risk/return spectrum is cash, which exhibits relatively low returns with almost no risk. On the opposite extreme of the spectrum is stocks, which offer high potential returns but also tend to be highly volatile. Investment-grade bonds lie in between cash and equities on the risk/return spectrum, offering moderate returns for moderate risk, as shown in **Exhibit 1**.<sup>1</sup>

**Exhibit 1 Bonds Lie Between Cash And Stocks On The Risk/Return Spectrum**



Cash represented by 30-Day Treasury Bills, bonds represented by the Lehman Brothers® Aggregate Bond Index, and stocks represented by the S&P 500® Index. Please see the Glossary for index definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

Sources: Ibbotson Associates, Lehman Brothers, Standard & Poor's.

<sup>1</sup> This paper represents an asset's risk in several ways. In general, a risk indicator should account for the likelihood and magnitude of a loss in asset value that might be realized over a given horizon. One way to measure risk is to look at the largest losses produced by the asset class over a long historical period. Another is to examine the variation of historical returns about their average value. This latter risk metric, captured statistically by the standard deviation, is known as return volatility. Please see the Glossary for a complete definition of standard deviation.

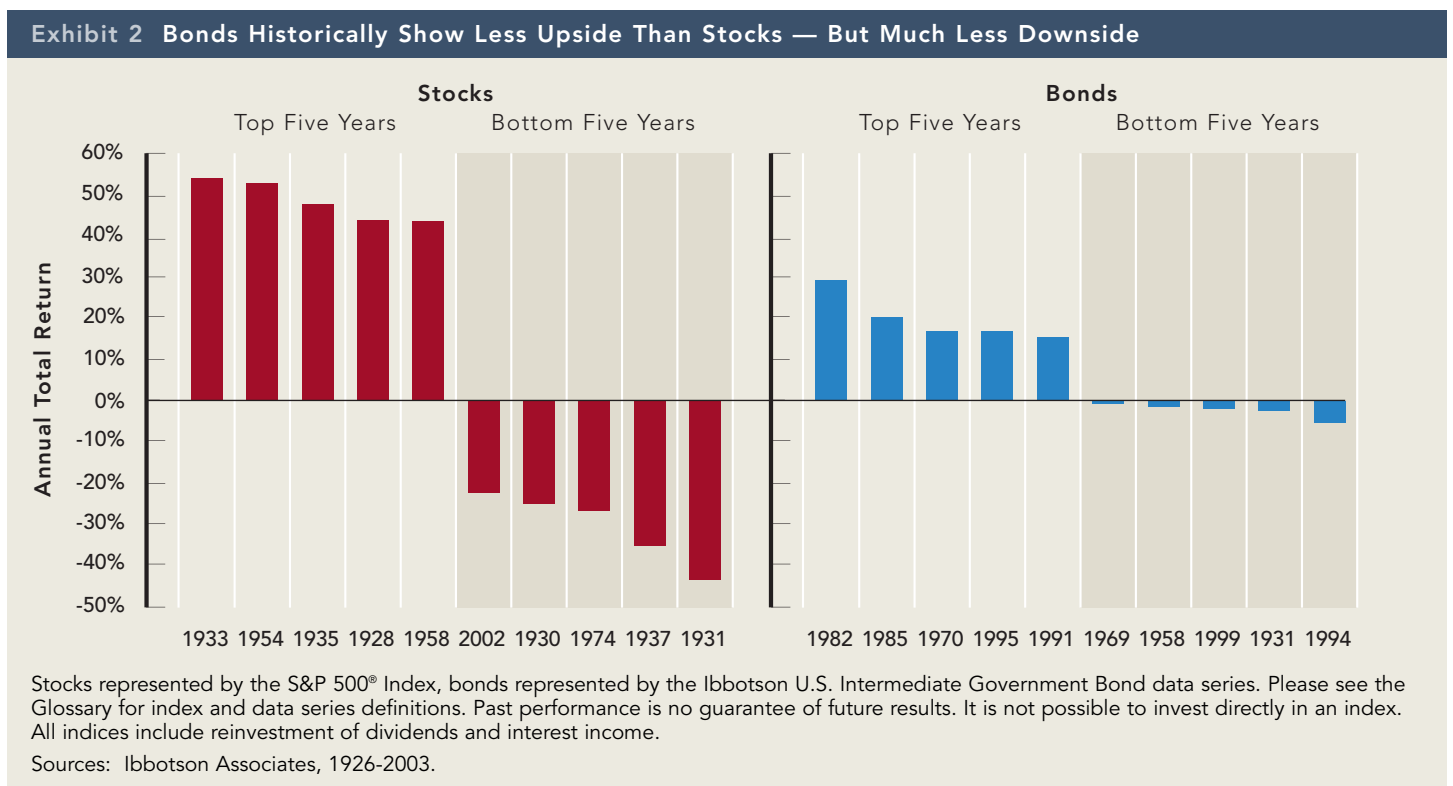
*Historically, one reason bonds have been effective for portfolio diversification is their tendency to move in different directions than other asset classes.*



**Exhibit 2** provides an illustration of the contrast in risk/return characteristics between bonds and stocks. The chart shows the five best and worst calendar-year returns for bonds and for stocks from 1926 through 2003. Stocks generated much higher returns during their best years, with all five periods showing gains of more than 40%. However, stocks also posted much steeper losses, falling at least 20% in each of the worst years.

**Bonds, on the other hand, displayed a much narrower range of returns in their best and worst years. Although the highest bond returns**

**were substantially less than the highest stock returns, they were still far above average equity return levels, ranging from 15% to nearly 30%. Remarkably, however, the worst annual decline for bonds since 1926 was only about 5%. This greater asymmetry in returns displayed by bonds is because bonds historically have generated a steady stream of income, which tends to offset any price depreciation they suffer.** Although bonds generally present less short-term risk and volatility than stocks, bonds do entail interest rate risk (as interest rates rise, bond prices usually fall and



## Understanding Asset Classes

In order to simplify discussions of portfolio diversification and risk/return analysis, this paper limits the range of investments under consideration to three main types, referred to generically as stocks, bonds, and cash. These represent the primary forms of risk/return exposure that most investors are likely to gain by purchasing shares of mutual funds.

In general, the term “stocks” refers specifically to U.S. dollar-denominated common stocks. The Standard & Poor’s 500 Index (S&P® 500), which is an

unmanaged capitalization-weighted index of 500 publicly traded large capitalization stocks, is a benchmark against which the performance of stocks or stock mutual funds can be measured.

The term “bonds” generally refers to the U.S. dollar-denominated, investment-grade, fixed-rate bond market. The Lehman Brothers® Aggregate Bond Index, an unmanaged index that includes government and high-quality corporate securities, agency mortgage pass-through securities, asset-backed securities, and

commercial mortgage-backed securities, is a benchmark against which the performance of bonds or bond mutual funds can be measured.

The term “cash” refers to short-dated financial instruments of very high quality that return an amount close to the risk-free short-term interest rate. Examples of cash are instruments that could be found in a money market mutual fund, such as Treasury Bills and commercial paper.

vice versa) and the risk of default, or the risk that an issuer will be unable to make income or principal payments. Additionally, bonds and short-term investments entail greater inflation risk — the risk that the return of an investment will not keep up with increases in the prices of goods and services — than stocks.

## LOW CORRELATION WITH OTHER ASSET CLASSES

The concept of asset correlation — a measure of the relationship between the returns of different asset classes — is important to understanding portfolio diversification. Whenever two asset classes respond similarly to a broad range of market conditions, they are said to have high correlation to one another. On the other hand, asset classes that are influenced by different market factors and that move in different cycles will typically have low correlation.

When the assets included in a portfolio have low correlation, their varied price fluctuations tend to partially cancel each other, which in turn reduces overall volatility. Bonds have had low correlations with almost all major asset classes, including stocks, over the past 25 years, meaning bond returns are often moving in the opposite direction of stock returns. This low correlation indicates that adding bonds to a portfolio has the potential to both diversify equity exposure and significantly lower portfolio risk. As always, diversification does not ensure a profit or guarantee against loss.

**Exhibit 3** provides an historical example of how correlations work in practice. The chart shows the 23 calendar years since 1926 in which the stock market produced negative returns. In 21 out of those 23 years, bonds generated positive returns. Investors who owned bonds along with stocks during these years would have experienced better returns in their overall portfolios than investors who owned only stocks.

In effect, the low correlation between stocks and bonds helped reduce a portfolio's volatility and provided a cushion when stocks declined. However, it is important to keep in mind that past performance does not guarantee future results.

This counterbalancing effect of bonds makes intuitive sense for the years shown in Exhibit 3. During these years, the economic cycle was generally either in recession or turning downward from a recent peak. As a result, most of these years had the usual hallmarks of economic contraction, including lower consumer spending, layoffs, weaker corporate profits, and poor stock returns.

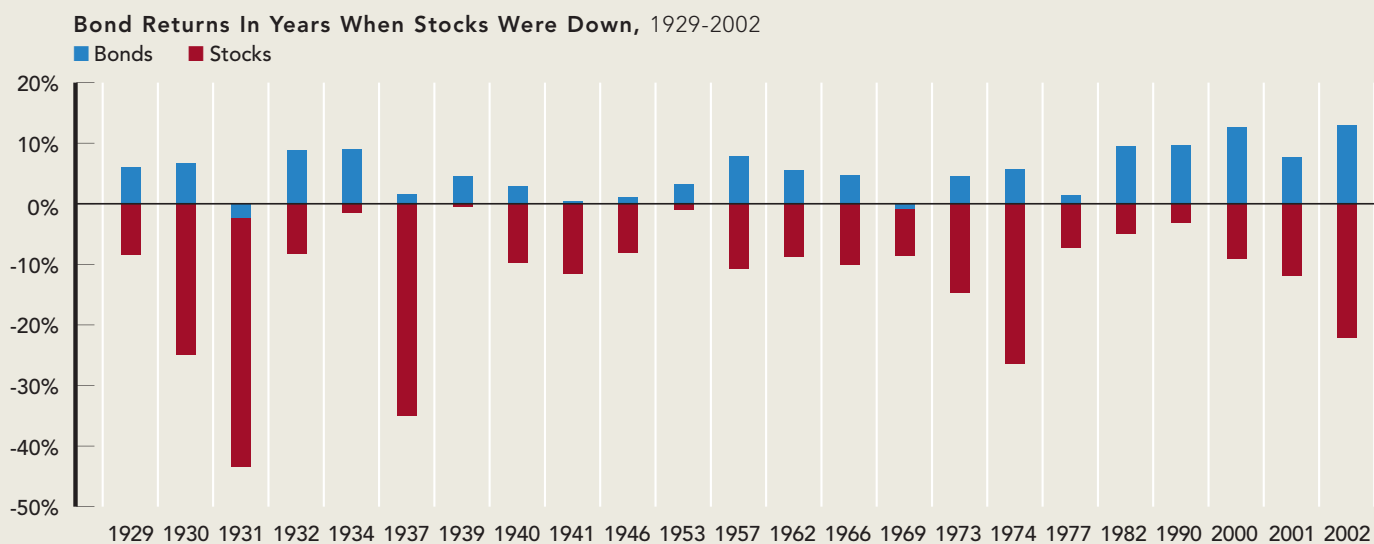
Thus, these were ideal times to be holding bonds. First, they generated significant capital gains as interest rates fell, effectively hedging stocks. And second, they continued to produce a steady stream of income for their holders, providing a cushion in case of job loss.

## BETTER THAN CASH FOR EQUITY DIVERSIFICATION

Some investors who allocate a significant proportion of their portfolio to stocks keep the rest of their assets primarily in cash. However, in most cases, the risk-adjusted performance of equity/cash portfolios would improve with the addition of bonds. In general, bonds can be a more appropriate vehicle for diversifying an equity portfolio over the long-term.

Exhibit 4 illustrates the historical risk-return characteristics of portfolios with different combinations of assets. The straight dotted line represents portfolios with varying amounts of stocks and cash. The curved blue line is the frontier delineating portfolio combinations of stocks and bonds. For all combinations that resulted in volatility above 6%, the stock/bond portfolios offered higher returns than the stock/cash portfolios at any level of risk.

**Exhibit 3 Bonds Have Typically Generated Positive Returns When Stocks Decline**



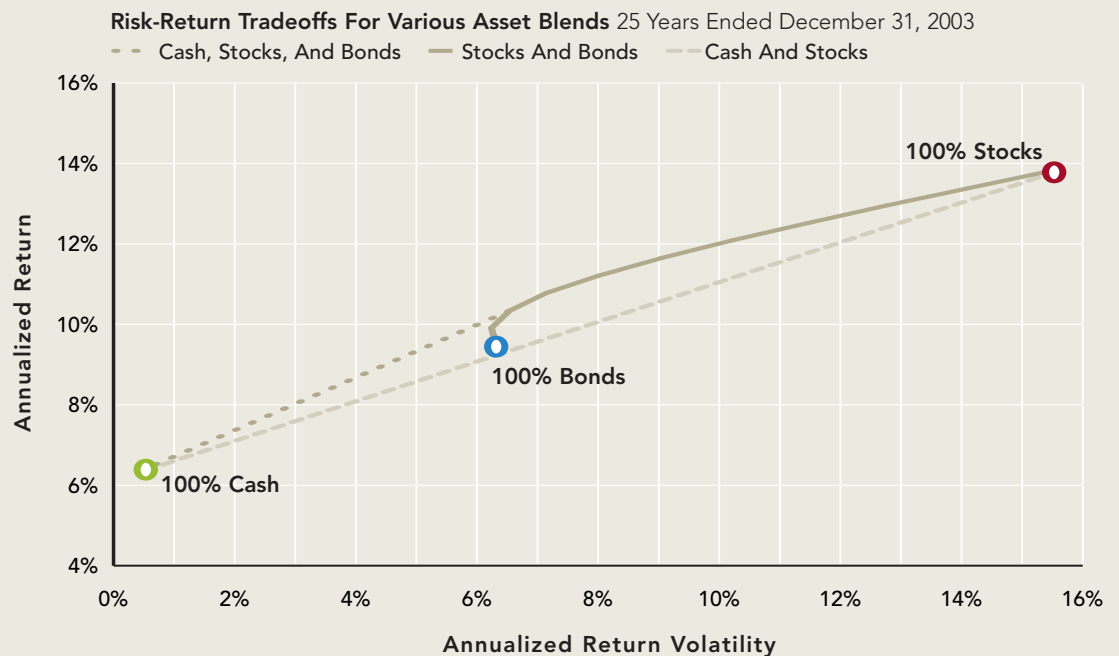
Stocks represented by the S&P 500® Index and bonds represented by the Ibbotson U.S. Intermediate Government Bond data series. Please see the Glossary for index and data series definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

Sources: Ibbotson Associates, 1926-2003.

For example, look at the solid line in Exhibit 4. For an investor who was willing to accept 8% volatility, the corresponding stock/cash portfolio would have earned a return of 10.0%, while the stock/bond portfolio would have returned 11.2%. **In general, for investors willing to accept a certain level of risk, adding bonds to a stock portfolio may generate better portfolio performance than adding cash.** Investors with a lower tolerance for risk may desire to hold some cash in their portfolio. The lowest volatility portfolio is 100% cash, which essentially has no risk. However, for any portfolio that also includes stocks, the best performance will be achieved by including bonds.

This is illustrated by the dotted line in Exhibit 4, which provides the risk-return characteristics for a portfolio that includes stocks, bonds and cash. For example, according to the chart, if an investor is willing to accept 4% volatility, the return for the corresponding portfolio that includes bonds is higher than the return that accrues to the portfolio made up exclusively of stocks and cash. **In short, investors attempting to diversify their stock portfolios may want to consider adding bonds. Investors with low tolerance for risk may also want to hold cash. Regardless of the individual level of risk tolerance, however, an allocation to bonds has the potential to improve the return characteristics of the portfolio.**

**Exhibit 4 Adding Bonds Has Historically Improved Returns For Any Risk Level**



Cash represented by 30-Day Treasury Bills, bonds represented by the Lehman Brothers® Aggregate Bond Index, stocks represented by the S&P 500® Index. Please see the Glossary for index definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

Sources: Ibbotson Associates, Lehman Brothers, Standard & Poors.

## CONCENTRATED STOCK HOLDINGS CALL FOR A LARGER BOND ALLOCATION

Company retirement plans sometimes include contributions of company stock to employee 401(k) retirement accounts. According to one report, employer stock accounted for 17% of the average 401(k) account.<sup>1</sup> Such a large allocation to a single stock can potentially increase portfolio risk if not properly diversified by other holdings within the portfolio. In many cases, plan participants may wish to consider selling unrestricted shares of company stock in order to reduce the risk of over-concentration.

**Bonds can be particularly effective in reducing portfolio risk in cases where an investor holds a significant portion of his/her portfolio in a single company stock, and is not able to reduce this position by selling a portion of the holding.** The three hypothetical portfolio examples shown in **Exhibit 5** demonstrate this concept. Portfolio 1 contains no company stock, but it has an allocation of 70% in stocks and 30% in bonds, and it meets the investor's volatility tolerance of 11%.<sup>2</sup>

Portfolio 2, which represents a typical 401(k) account, has a 17% allocation to a single company stock. Overall, the asset mix is the same (70% stocks and 30% bonds), but the overall volatility has now risen to 13% because of the concentrated holding, making the portfolio no longer appropriate for the individual's risk tolerance.

Portfolio 3 also has a 17% allocation to a single company stock, but it has a different overall asset mix than Portfolio 2. In particular, the proportion of bond holdings has been increased to 37% in order to maintain the same overall level of volatility as the original portfolio (11%).

### Exhibit 5 Maintaining A Given Risk Level Takes More Bonds When Single-Company Stock Is Increased

#### Historical Example For An Investor With A Constant Risk Tolerance

	Portfolio 1	Portfolio 2	Portfolio 3
<b>Overall portfolio mix</b> (stocks/bonds)	70/30	70/30	63/37
<b>Percent of single company stock in the portfolio</b>	0	17	17
<b>Portfolio volatility</b> (standard deviation %)	11	13	11

Stock components of portfolio represented by the S&P 500® Index, bond components represented by the Lehman Brothers® Aggregate Bond Index. Stock and bond risk and return attributes were derived from monthly total return data from 1979 to 2003 and were used to measure standard deviation. Individual company stock is based on a hypothetical company and is assumed to have beta equal to 1.0 and systematic return variance equal to 25% of overall return variance. Please see the Glossary for index definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

Sources: Lehman Brothers, Standard & Poor's, Fidelity Investments.

In many cases, the single stock concentration is a lot more than the average 17%. It is not uncommon to see concentrated holdings in the range from 25% to 30%, or even higher. These situations may call for an even greater shift of assets out of stocks and into bonds.

This hypothetical example illustrates that if an investor receives a significant amount of company stock, he/she cannot maintain the same level of portfolio risk by attempting to diversify simply by adding other stocks. The investor might want to consider allocating a higher overall proportion of the portfolio to bonds in order to avoid increasing portfolio risk. In addition, because poor operational performance by the company may cause both a decline in the stock price and a drop in the employee's wages and job security, the risk of holding company stock may be much higher than what is measured exclusively by the investment portfolio.

<sup>1</sup> "Building Futures: Plan Options and Participant Choices in Workplace Savings," Fidelity Institutional Retirement Services Co. Data as of 12/31/02.

<sup>2</sup> Volatility tolerances are for example only; investors should choose the level of portfolio volatility with which they are comfortable.



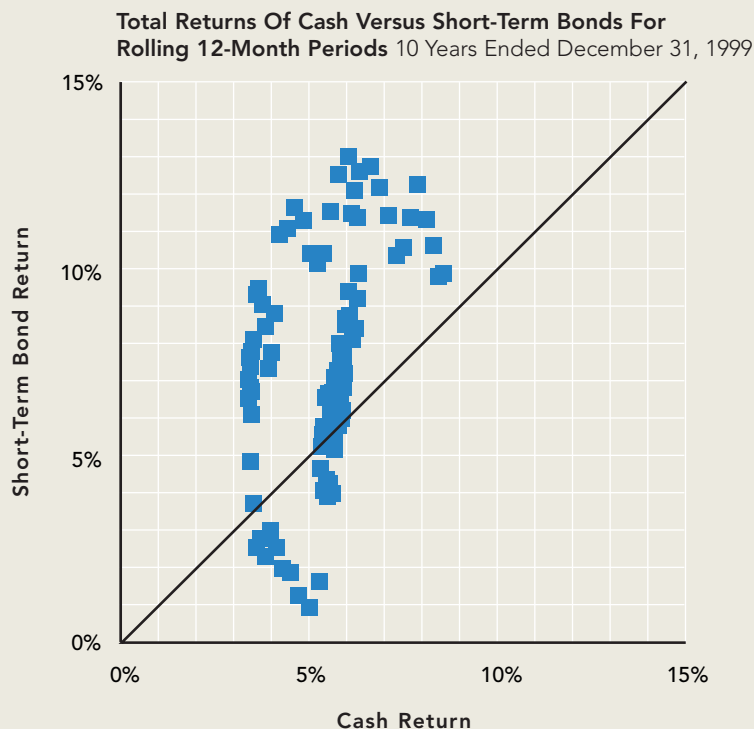
## Part 2

# WHY BONDS HAVE HISTORICALLY BEATEN CASH AS LIQUIDITY RESERVES

In addition to playing an important role in portfolio risk reduction, bonds also can be used to boost the potential earning power of an investor's liquidity reserves. Liquidity reserves are the assets an investor puts aside to handle known near-term outlays and to handle unforeseen events that could create a need for extra cash.

For most investors, this pool of liquidity reserves resides in a money market fund, and, therefore, consists of cash-like investments. This section suggests that investors should consider a fully diversified portfolio of short-term bonds — with its attractive relative return and low absolute risk — in addition to cash when building this important part of their portfolios.

**Exhibit 6 Short-Term Bonds Have Often Produced Higher Total Returns Than Cash**



Cash represented by 3-month LIBOR, short-term bonds represented by the Lehman Brothers® 1-3 Year Credit Index. Please see the Glossary for index definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

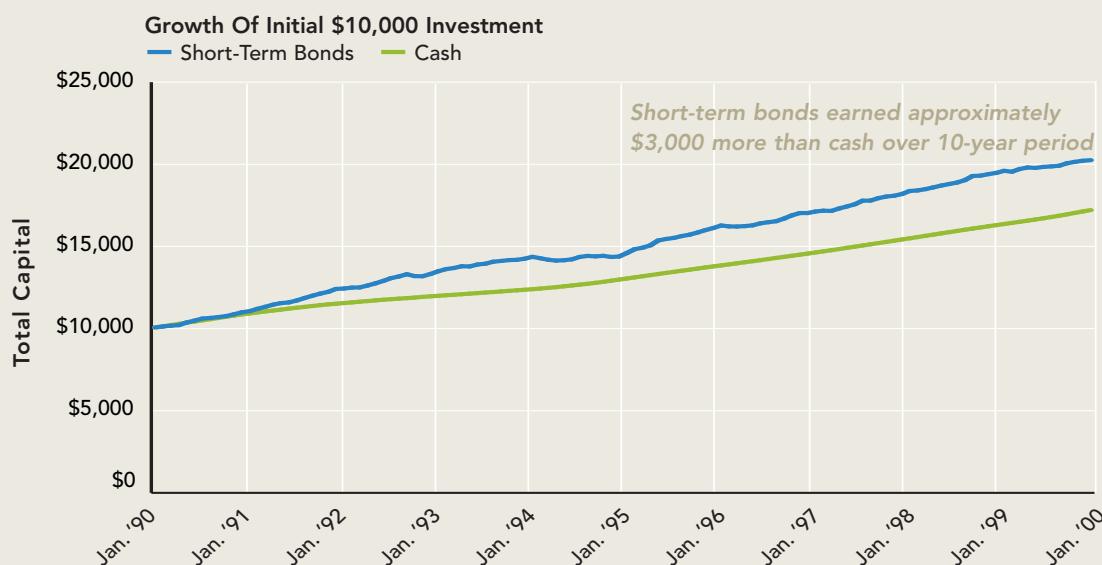
Sources: Bloomberg, Lehman Brothers.

**Exhibit 6** demonstrates that short-term bonds (represented by the Lehman Brothers® 1-3 Year Credit Index) generally earned higher returns than cash (represented by the 3-month London InterBank Offered Rate, or LIBOR) during the 10-year period spanning the 1990s (see Glossary for index definitions). The dots in the chart represent the relative returns of short-term bonds versus cash for various 12-month holding periods. All dots above the diagonal line depict periods in which the short-term bond return was larger than the return from cash. The majority of the dots are above the line, demonstrating the dominance of short-term bond returns over one-year holding periods.

**It is important to note that short-term bonds are riskier than cash, but that the absolute level of risk is still modest.** Clearly, if interest rates rise dramatically in a very short period, bonds can lose value, and it is possible to earn a higher return with cash. This scenario occurred during the extreme rising-rate environment of 1994, as shown by the dots clustered near the bottom of the scatter plot in Exhibit 6.

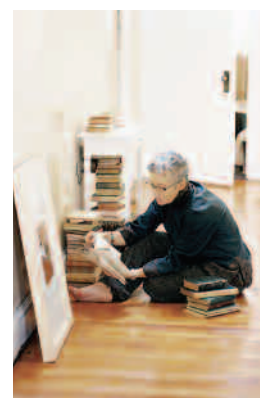


## Exhibit 7 The Impact Of Short-Term Bond Holdings Can Increase Over Time



Cash represented by 3-month LIBOR, short-term bonds represented by the Lehman Brothers® 1-3 Year Credit Index. Please see the Glossary for index definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

Sources: Bloomberg, Lehman Brothers.



*Even during times of rising interest rates, short-term bonds have the potential to outperform cash instruments.*

The lowest dot represents the 12-month period ending in December 1994, during which the 2-year Treasury yield increased from about 4.0% to more than 7.5%. This dramatic rise caused so much price depreciation in these short-term bonds that they underperformed cash by more than 4%. However, even in this extreme interest-rate environment, short-term bonds still had a positive total return.

For the 10-year period from 1990 to 1999, short-term bonds returned an average of 7.3% a year — approximately 170 basis points more than cash, which returned approximately 5.6% a year.<sup>1</sup>

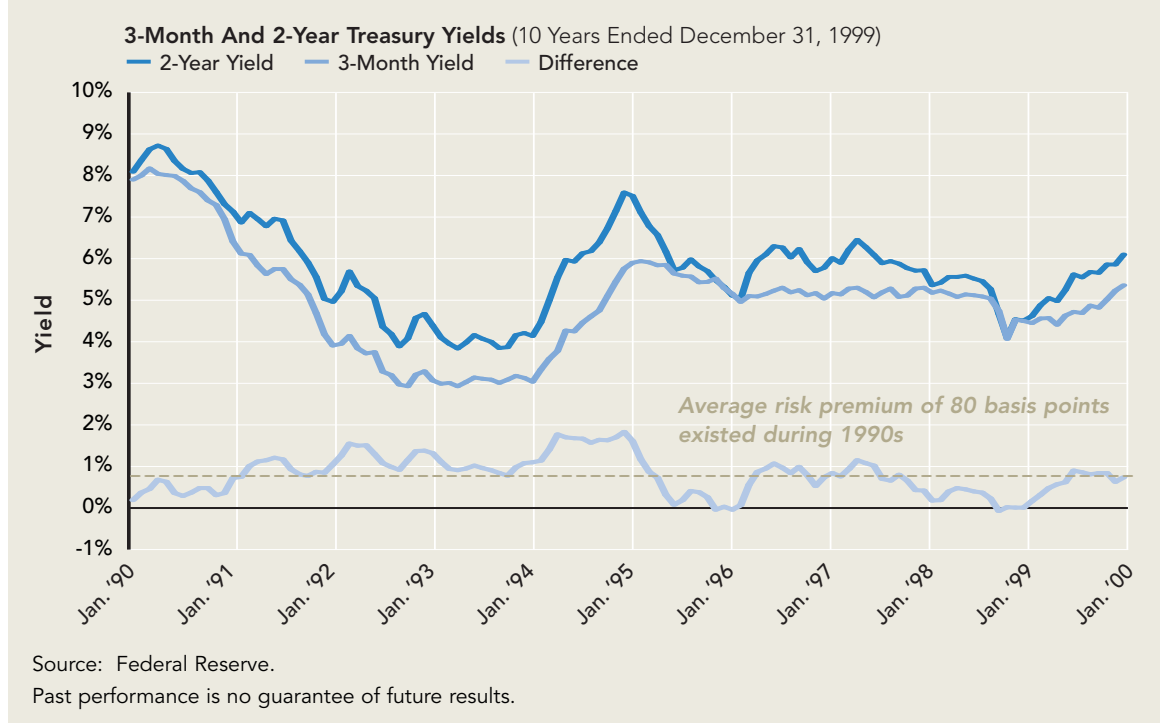
**Exhibit 7** shows how much difference the outperformance of bonds over cash can make over time.

As this chart shows, if \$10,000 were invested in short-term bonds at the beginning of the 10-year period, it would have been worth approximately \$20,000 by the end. However, the same amount invested in cash would have grown to just over \$17,000 during the same period.

**Why have short-term bonds historically returned more than cash? Yield premiums on short-term bonds provided a cushion to investors for taking on the added risk of a rise in interest rates. Depending on the size of the cushion, short-term bonds could suffer price depreciation from a rise in interest rates and still return more than cash.**

<sup>1</sup> Short-term bonds represented by the Lehman Brothers® 1-3 Year Credit Index. Cash represented by 3-month LIBOR. Please see the Glossary for index definitions. Sources: Bloomberg, Lehman Brothers. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income. Returns are based on an index, are for illustrative purposes only, and are not intended to represent actual or future performance of any investment option.

### Exhibit 8 Yield Premiums On Short-Term Bonds May Cushion The Effect Of Rising Rates



**Exhibit 8** shows how the size of the yield premium between short-term bonds and cash fluctuated between 1990 and 2000. On average, this yield premium was approximately 80 basis points, suggesting that interest rates would need to rise substantially before short-term bonds returned less than cash over the course of a year. During the entire 10-year period, rising interest rates

caused cash to outperform short-term bonds only about 20% of the time. In other words, 80% of the time investors were rewarded for holding short-term bonds instead of cash over a one-year period. The high historical likelihood of larger returns indicates the relatively modest increase in risk of holding a fully diversified portfolio of short-term bonds as a substitute for cash.

## Understanding The Yield Curve

A way to look at bonds vs. cash is through the yield curve, a graphical depiction of the range of interest rates offered in the bond market corresponding to different bond maturities. The Treasury yield curve is widely used as a benchmark in the bond market because the instruments underlying it are obligations of the United States government, and are therefore considered free of default risk. The chart below shows several examples of the Treasury yield curve, constructed from yields of Treasury bills, notes, and bonds.

In a typical interest rate environment, the yield curve tends to be upward sloping, as it was on April 27, 2001. This upward-sloping curve shape means that yields on longer maturities are greater than yields on shorter maturities. For example, on this date, the 4.3% yield on the two-year Treasury note was approximately 40 basis points higher than the yield on the 3-month Treasury bill (3.9%).

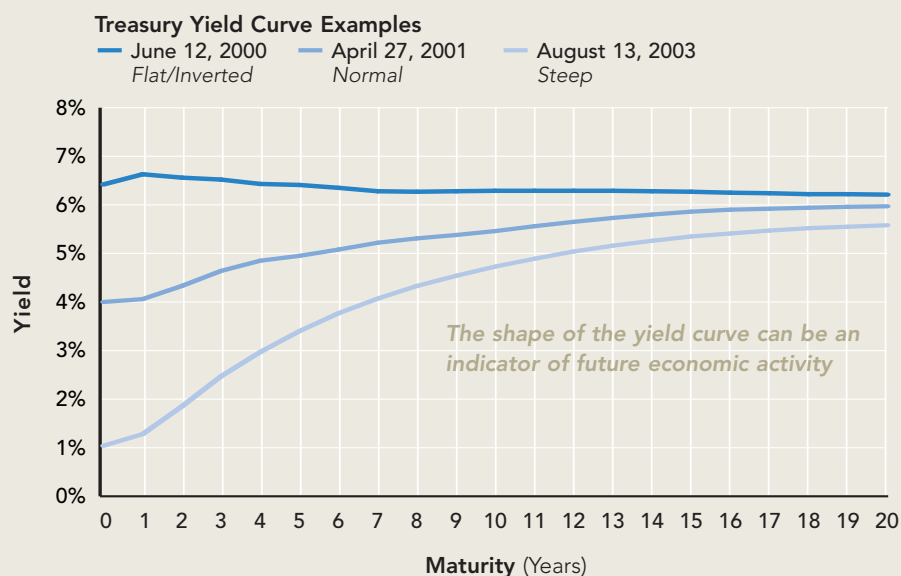
In general, the shape of the yield curve is determined by the market's uncertainty about the path that will be followed by future short-term interest rates, as well as by the expectations participants have about this future path. Because there is usually greater uncertainty about market conditions farther into the future, investors require an additional increment of yield — a "risk premium" — to hold longer-maturity bonds. This built-in premium gives the curve its upward slope, which in turn allows bonds with longer maturities to outperform shorter-term bonds over long periods of time.

In addition, there is an "expectation" component of interest rates, which reflects the market consensus about their future direction. This component can change dramatically as market conditions vary over time, and its manifestation in the yield curve can actually serve as a strong indicator of future economic activity. A steep yield curve can signal investors' beliefs that rapid economic growth is on the horizon. Since rapid growth is often accompanied by rising interest rates and higher inflation, investors demand even greater incremental yield for buying longer-maturity bonds.

During periods of above-normal growth, the Federal Reserve often raises the short-term interest rate, putting upward pressure on short-maturity bond yields. When the growth cycle has run its course, yields on long-maturity bonds typically begin to fall, as investors expect inflation to slow. The combination of these forces can cause the entire yield curve to flatten.

In cases where the market expects interest rates to fall in the future, as often happens during a recession, the yield curve can become downward-sloping or "inverted." Such a curve can signal further economic slowdown and even lower levels of inflation.

Some investors believe that a flat or inverted curve means that cash should be preferred over bonds, since cash is then generating at least as much yield as bonds and represents less risk. Unfortunately, this cash-heavy strategy is rarely rewarded over time: Flat yield curves have a tendency to fall and steepen; they are short-lived because they mark a transition between economic cycles. As a result, investment-grade short-term bond portfolios historically have tended to outperform cash: the cash return is not durable and it falls, while the bond return is augmented by capital gains as yields decline.



Source: Treasury yield data provided by Kestrel, brand of Ausdoc Group, Ltd. (a subsidiary of ABN AMRO Capital Ltd.).

## Part 3

# WHY MARKET TIMING IS AS DIFFICULT WITH BONDS AS WITH STOCKS

## BOND MARKET DIRECTION IS VERY HARD TO PREDICT

As with all financial markets, the future direction of bond markets is uncertain. The primary determinant of the direction of bond prices is the future direction of interest rates. However, there are many interest rates, and interest rates themselves are affected by a variety of market forces, all of which are constantly changing.

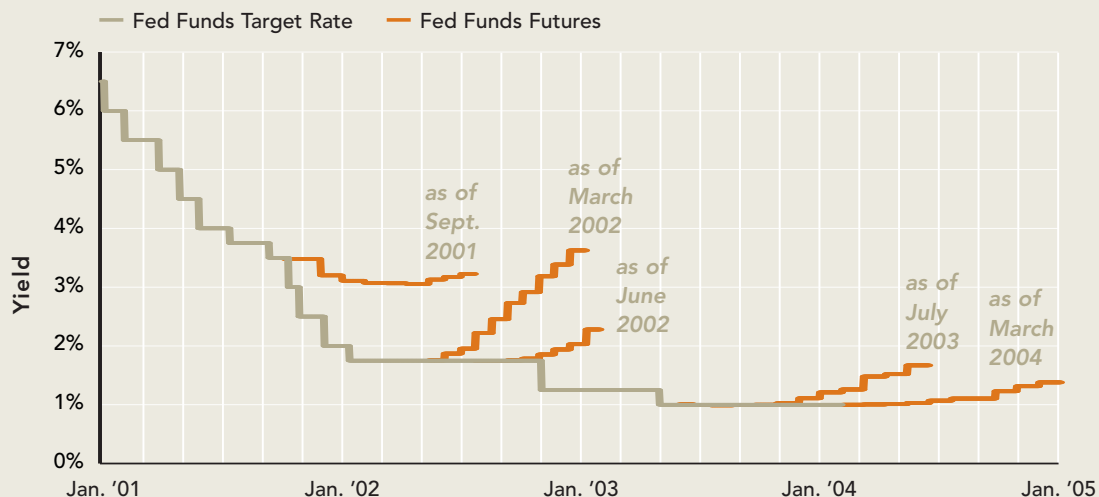
The predictions for interest rate movements of some investment professionals can be discerned from the interest rate derivatives markets. For instance, the Federal Funds futures market provides a composite view of the consensus

prediction for future action by the Federal Reserve Board Open Market Committee to change the level of the short-term (Federal Funds) rate.

As evidenced by **Exhibit 9**, however, the consensus view can be incorrect. For instance, in March 2002, Fed Funds futures predicted interest rates would rise to 3.5% by the end of 2002. Instead, they fell to 1.25%. **Throughout 2002 and 2003, the futures markets consistently indicated expectations of rising short-term interest rates that never materialized.**

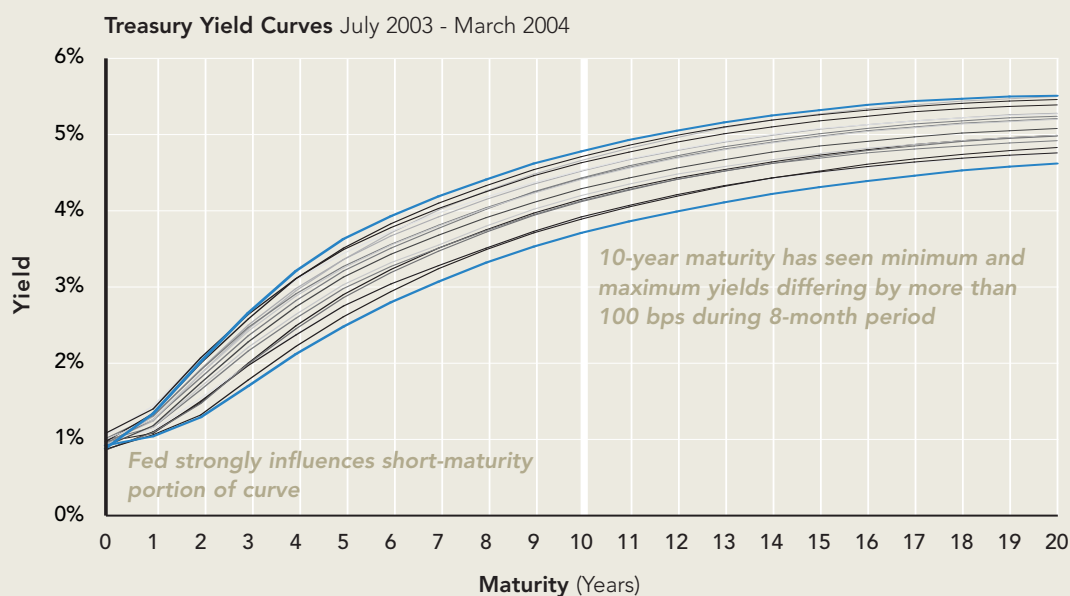
Not only is it difficult to predict changes in a single interest rate, different sectors of the bond market are affected by different interest rates.

**Exhibit 9 Market Consensus On Future Interest Rate Movements Is Often Wrong**



Source: Bloomberg and Lehman Brothers.

## Exhibit 10 Most Interest Rates Are Not Directly Controlled By The Fed



Source: Treasury yield data provided by Kestrel, brand of Ausdoc Group, Ltd. (a subsidiary of ABN AMRO Capital Ltd.).

The Federal Reserve controls only very short-term interest rates; other rates fluctuate every day and sometimes move in different directions. This makes the task of predicting interest rates even more complicated.

An example is the eight-month period of interest rate activity from July 2003 to March 2004 represented in **Exhibit 10**. While the short-term interest rates that the Fed most directly influences essentially did not change during the period, longer maturity yields fluctuated continuously. The yield on the 10-year Treasury bond, for instance, was as low as 3.7% and as high as 4.8% during the period.

## MAINTAINING A DISCIPLINED INVESTMENT APPROACH

Despite the evidence that even experts such as traders in the futures markets and professional economists have a poor record of predicting interest rates, many investors attempt to time the bond market by moving money in and out of bonds according to their expectations of short-term interest rate changes. Unfortunately, the record for bond investors suggests that poorly timed trades have had a negative impact on portfolio returns.

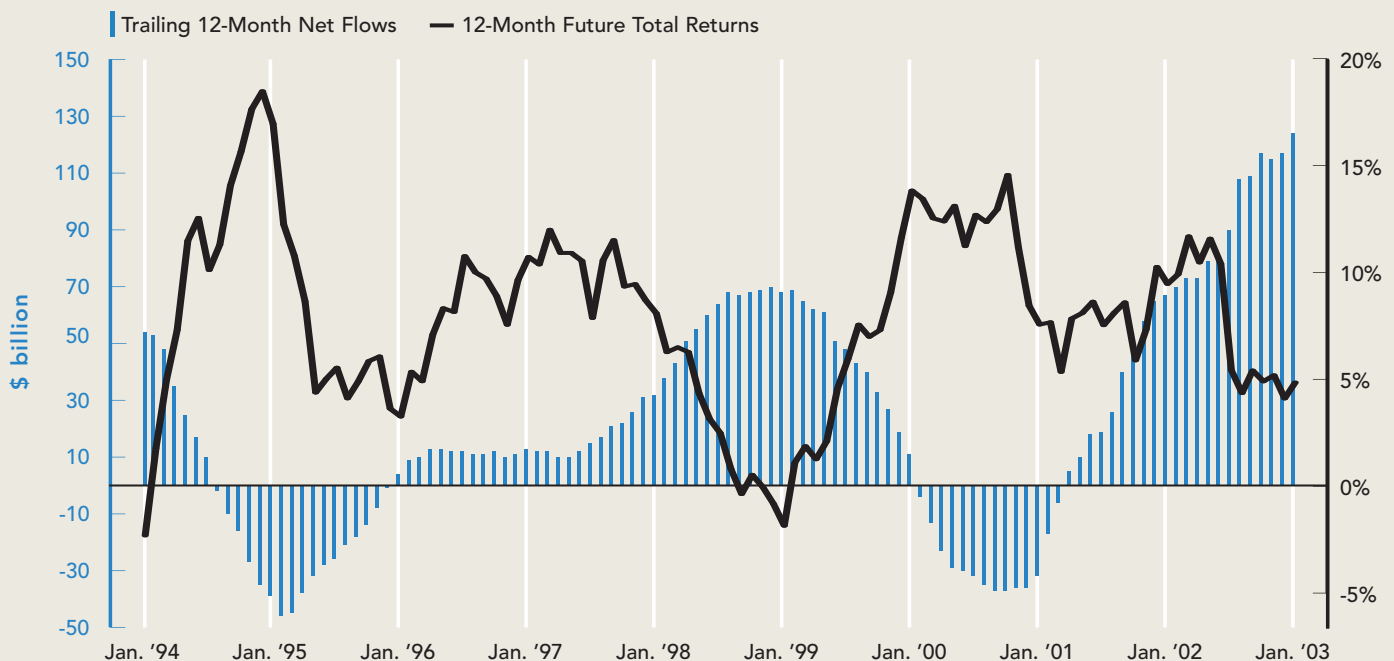
Bond mutual fund investors in aggregate have a clear record of buying and selling at the wrong time. **Exhibit 11** shows the sales of bond mutual funds versus the returns of the bond market. For

any given point in time, the chart shows how much money moved into bond funds over the previous year and the one-year return that was realized by those investments over the ensuing year. In general, the sales and returns tended to move in opposite directions. **This suggests investors purchased more bond funds at times when bond returns were about to become smaller, and sold bond funds at times when bond returns were about to become larger. The net effect of these market-timing trades was to reduce the realized return of investor portfolios to well below the market.**

In general, it is unwise to time the bond market. While it sounds quite possible to do so successfully in principle, in practice it is every bit as difficult and unrewarding as timing the stock market. Investors would be better served by establishing a fixed-income allocation based on long-term financial goals and sticking to the plan.

In light of the difficulties of market timing, we suggest the following: Investors who believe strongly that the bond market is going to rise or fall significantly, and want to trade in their portfolios in anticipation, should make only small, incremental changes, remaining within 5% to 10% of the long-term fixed-income allocation. This provides some scope to make changes, but keeps the long term allocation generally intact.

**Exhibit 11 Investors Often Miss Opportunities When Trying To Time The Bond Market**



Bond returns represented by the total return of the Lehman Brothers® Aggregate Bond Index. Please see the Glossary for index definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income.

Sources: Strategic Insight and Lehman Brothers.

## Part 4

# WHY BONDS SHOULD BE HELD ACROSS ECONOMIC CYCLES

It should now be clear that an asset allocation strategy based on predicting the future direction of interest rates may be flawed because forecasting interest rates is so difficult to do, even with a modest degree of accuracy. Market timers usually do it poorly, inadvertently reducing their long-term bond returns instead of increasing them. But there are other reasons that bonds should be held for the longer term.

For one, although many investors know that bond prices generally move in the opposite direction of interest rates, a rise in interest rates does not necessarily lead to negative bond returns. Although rising rates do cause bond prices to decline, bonds can continue to provide a steady stream of income irrespective of the direction of rates, and this income serves to offset the negative price impact from rising rates. Moreover, this income can be reinvested at increasingly higher rates, creating the potential for larger returns in the future.

For another, while it is true that bonds do not perform their best when rates rise, stocks also tend to have below-average performance when rates rise. **In fact, the difference between stock and bond returns actually narrows when interest rates increase, and yet stocks continue to be much more volatile than bonds in such environments.**

A comparison of stock and bond performance in various interest rate environments is instructive, as is evidence that bond returns historically have almost always been positive over sufficiently long holding periods, i.e., three years or greater. (Returns are based on an index for illustrative purposes only; past performance may not indicate future results.)

*Given the historical record, investors may do better to consider their time horizon rather than their views about future interest rates when setting an allocation between stocks and bonds.*





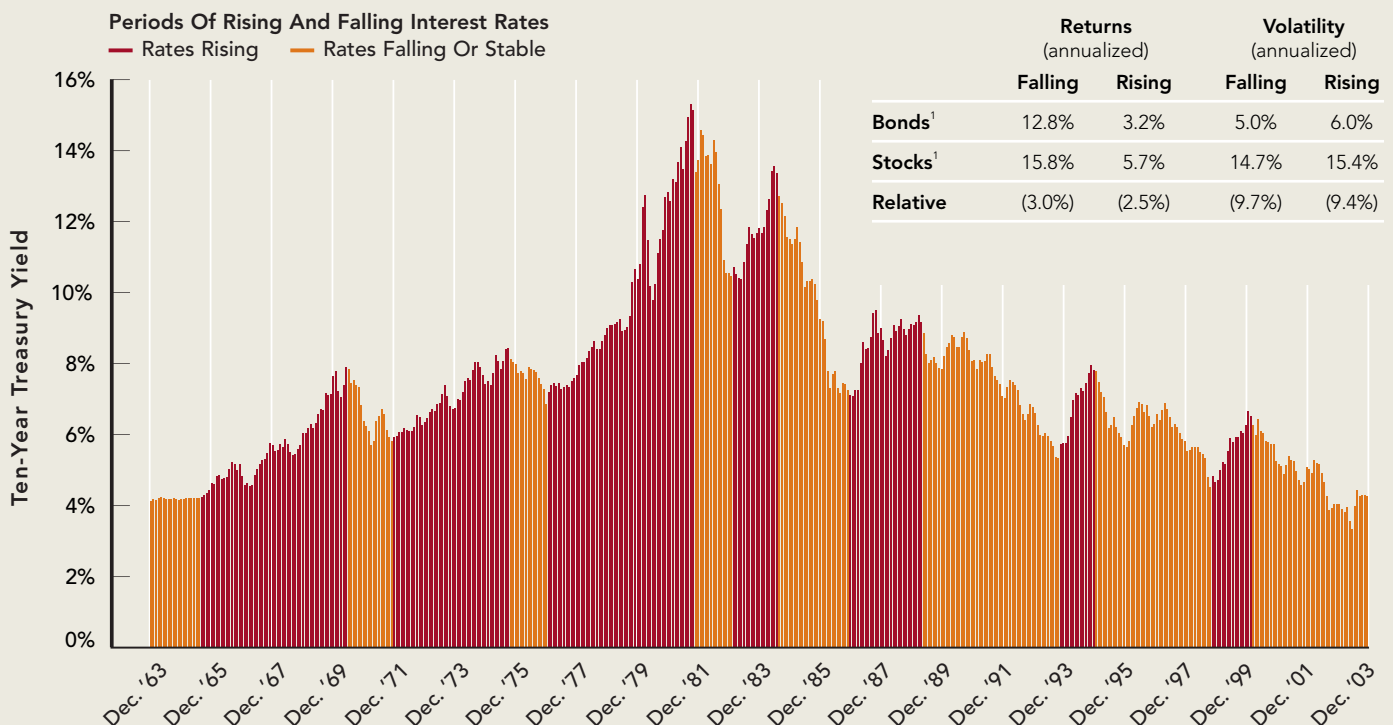
## RISING RATES HURT BONDS — BUT ALSO STOCKS

As we can see from the bar chart in **Exhibit 12**, over the past 40 years there were many periods of generally rising interest rates interleaved with periods in which interest rates fell or remained generally stable. The table above the chart shows the performance of bonds and stocks in these different interest rate environments. Not surprisingly, bond returns were significantly lower during periods of rising interest rates than during periods of flat or falling rates. However, stock returns were also considerably lower in rising rate periods than in periods of falling interest rates.

As a result, the gap between stock and bond returns actually narrowed during periods of rising interest rates. Stocks returned 3.0% more than bonds on an annualized basis during periods of falling interest rates, but posted returns of only 2.5% more during periods of rising interest rates.

Perhaps most importantly, annualized bond returns were positive (approximately 3.2%) over all rising-rate periods collectively. In rising interest rate environments, the volatility of returns for stocks and for bonds was also higher. However, in either rising or falling rate environments, bond volatility remained far below the volatility of stock returns.

**Exhibit 12 Interest Rates Have Seen Many Up/Down Cycles Since 1963**



Note: Periods of rising and falling rates were constructed by segmenting the 10-year Treasury yield time series using successive prominent peaks and valleys (i.e., local maxima and minima separated in yield by more than 100 basis points). A rising-rate (falling-rate) interval begins at a valley (peak), ends at a peak (valley), and lasts for more than 12 months. Source: Federal Reserve

<sup>1</sup> Bonds represented by a composite of the Ibbotson U.S. Intermediate Government Bond data series from 1963-1976 and the Lehman Brothers Aggregate Bond Index from 1976-2003. Stocks represented by the S&P 500 Index. Please see the Glossary for index and data series definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income. Sources: Ibbotson Associates, Lehman Brothers, Dec 1963 through Dec 2003.

## BONDS HAVE RARELY LOST MONEY OVER A THREE-YEAR OR LONGER TIME PERIOD

Even though there have been many periods of rising interest rates, bond investors with at least a three-year time horizon have almost always earned positive returns. This is possible if the bond's coupon income more than offsets its price depreciation.

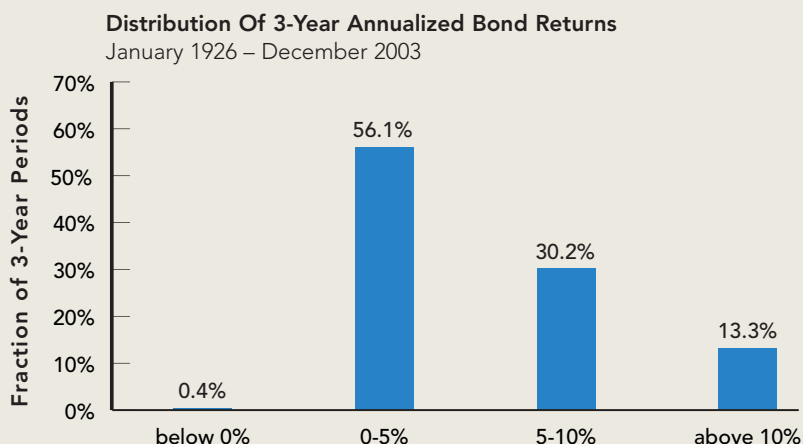
The fact is that there have been several multi-year periods of rising rates when bonds not only generated positive returns, they also outperformed stocks significantly, and did so with much lower volatility. For example, for the period from October 1972 to October 1975, during which the 10-year Treasury yield rose from 6.5% to about 8.5%, the annualized return of bonds<sup>1</sup> was 5.0% (with 4.7% volatility) whereas the annualized return of stocks<sup>2</sup> was -5.2% (with 19.8% volatility).

This is a good example of a rising-rate environment in which investors had the opportunity to reinvest bond income at progressively higher yields. This boosted their overall income return and made it possible to capture larger capital gains in the future, when rates would fall once again. (Returns are based on an index for illustrative purposes only; past performance may not indicate future results.)

**Exhibit 13** demonstrates how rarely an investor holding bonds for any three-year period would have lost money. Since 1926, less than 1% of the three-year holding periods resulted in negative returns for bonds. An investor with a three-year time horizon would have had a more than 99% chance of earning positive returns on bonds by investing at any point in the past 77 years.

The stock market is a different story. An investor who held only stocks over a three-year period would have ended up with a loss nearly 16% of the time. Some of these three-year periods of loss occurred when rates were rising, and some occurred when rates were falling. As a result, when deciding on allocations to bonds and stocks, investors may want to place greater importance on their time horizon than on their view about the future direction of interest rates.

### Exhibit 13 Bonds Have Rarely Lost Money Over 3-Year Periods



Bonds represented by the Ibbotson U.S. Intermediate Government Bond data series. Please see the Glossary for index and data series definitions. Past performance is no guarantee of future results. It is not possible to invest directly in an index. All indices include reinvestment of dividends and interest income. Analysis looked at rolling monthly 3-year annualized total returns since 1926, for a total of 900 observations, four of which were negative for bonds and 141 of which were negative for stocks. Sources: Ibbotson Associates.

<sup>1</sup> As measured by the Ibbotson U.S. Intermediate Government Bond data series. Please see the Glossary for data series definitions.

<sup>2</sup> As measured by the S&P 500® Index. Please see the Glossary for index definitions.

## Conclusion

# THE CASE FOR INVESTING IN BONDS

This paper has presented a broad array of market data to help investors better understand the bond market. It has demonstrated not only how bonds behave relative to other asset classes, but also how investors tend to interact with the bond market in different situations.

Investors should now recognize that the returns of a well-diversified bond portfolio can be good relative to its risks. Moreover, the risks are not very large in an absolute sense, mainly because of the income that bonds provide. Income accounts for a high proportion of a bond portfolio's return over time, and can act as a cushion to offset price depreciation.

Investors also should now understand that bonds often rise when stocks fall, especially in an economic downturn. As a result, a bond portfolio's price return tends to be strong in a weakening economy, providing a counterbalance to declining stocks. A bond portfolio's steady income stream also acts as a cushion during these times. In short, bonds can be an effective hedge against bad economic times.

And while it is true that rising interest rates cause bond prices to fall, it also is true that falling bond prices signal an opportunity to reinvest bond income at higher rates. Therefore, by participating in the bond market when returns seem lower than average, investors actually can create potential for high returns in the future, when rates fall once again.

In light of these realities, investors may want to consider that:

- Bonds can potentially improve a portfolio's risk-adjusted returns
- Short-term bonds may be a useful alternative to holding cash
- An allocation to fixed income should be based on long-term goals and objectives, not a near-term outlook on the direction of interest rate movements
- Unlike equity investors, bond investors with medium-term holding periods have rarely suffered losses

Finally, individual investors often find it difficult to navigate the bond market in order to realize the benefits discussed in this paper. Mutual funds can provide a convenient and efficient way for investors to achieve their fixed-income exposure. The funds are diversified across issuer, coupon, maturity and, depending upon the type, sector.

But whether an investment is individual or through a mutual fund, perhaps the biggest challenge that investors face is overcoming the urge to make tactical portfolio changes in response to short-term market volatility and punditry, for all too often these turn out to be ill-timed. Over time, investors who stick with a diversified asset allocation based on long-term goals and objectives have usually had the most success.

***Past performance is no guarantee of future results.***

*Diversification and asset allocation do not ensure a profit or guarantee against loss.*

## Glossary

**Beta** A measure of a portfolio's sensitivity to market movements (as represented by a benchmark index). The benchmark index, such as the S&P 500® Index, has a beta of 1.0. A beta of more (less) than 1.0 indicates that a fund's historical returns have fluctuated more (less) than the benchmark index. Beta is a more reliable measure of volatility when used in combination with a high  $R^2$  which indicates a high correlation between the movements in a fund's returns and movements in a benchmark index.

**Federal Funds Rate** An overnight lending rate between banks. It is set by the Federal Reserve.

**Ibbotson U.S. Intermediate Government Bond data series** A total return series that is calculated using data from The Wall Street Journal from 1987 to present and from the CRSP Government Bond file from 1934-1986. From 1926-1933, data was obtained from Thomas S. Coleman, Lawrence Fisher and Roger G. Ibbotson's *Historical U.S. Treasury Yield Curves: 1926-1992*, with 1994 update (Ibbotson Associates, Chicago, 1994).

**Lehman Brothers® 1-3 Year Credit Index** An unmanaged market value-weighted index of publicly issued U.S. corporate and specified foreign debentures and secured notes with maturities between one and three years.

**Lehman Brothers® Aggregate Bond Index** An unmanaged market value-weighted index of investment-grade fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities, with maturities of one year or more.

**London InterBank Offered Rate (LIBOR)** The rate of interest at which banks borrow funds from other banks, in marketable size, in the London interbank market.

**Standard & Poor's 500® Index (S&P 500 Index)** An unmanaged market capitalization-weighted index of 500 common stocks chosen for market size, liquidity and industry group representation to represent U.S. equity performance.

**Standard Deviation** A statistical measure of how much a return varies over an extended period of time. The more variable the returns, the larger the standard deviation. Investors may examine historical standard deviation in conjunction with historical returns to decide whether an investment's volatility would have been acceptable given the returns it would have produced. A higher standard deviation indicates a wider dispersion of past returns and thus greater historical volatility. Standard deviation does not indicate how an investment actually performed, but it does indicate the volatility of its returns over time.

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