Stepping Out of Buy & Hold:
A Corporate Treasurer's Perspective on Total Return Investment Strategies

EXECUTIVE SUMMARY:

The most compelling argument for total return strategies is demonstrated by a difference of **1.73%** in annualized returns between the 1-month and the 1-3 year Treasury benchmarks in the 1995-2004 period. The return difference translates into **$26.6 million** for a hypothetical investment with a starting value of $100 million.

Even though neither of the 1-year and the 1-3 year Treasury benchmarks has had a negative-return year since 1995, wide dispersion of returns exists from month-to-month. The return swings include worst monthly returns of **-0.26%** and **-0.96%** for the 1-year and the 1-3 year benchmarks in the same period, respectively.

Marked-to-market value changes may have unexpected or undesired impact on a corporate investor's financial statements. As an example, the principal value of a $100 million investment could have shrunk by **$2.4 million** in 2004 with a 1-3 year total return strategy.

Total return investing often involves active trading, results in higher portfolio turnover, and generates larger realized gains or losses. While realized gains may increase tax liabilities for some investors, realized losses reduce accounting profits for all accounts. For the 1-year benchmark, trading securities to rebalance index duration alone would have resulted in **$400,000** in gains in 2000 and **$143,000** losses in 2003.

A total return investment mandate tends to work better for a corporate cash account that has a moderate investment horizon; stable and predictable cash flows; moderate interest rate and credit risk tolerance; and better understand of financial statement and tax implications of total return investing.

INTRODUCTION:

"Buy-and-hold" and "total return" investment mandates often treat the investment process in a very different fashion. The objective of the former is almost entirely on maximizing yield on investments at the point of purchase, while the latter attempts to achieve a higher level of "all-in" return that includes both coupon income and price appreciation.

In managing corporate cash portfolios, we are often asked by clients when would be an appropriate time to consider a total return strategy. In most cases, stepping out of a buy-and-hold strategy into the area of total return is not merely a change of mentality or risk appetite. Instead, it is often associated with the life stages of the corporate investor. As cash assets start to build up and the

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pattern of cash expenditures become predictable, it is often advisable for a corporation to explore higher return opportunities using a total return strategy. Meanwhile, accounting and tax considerations, especially in the case of publicly traded corporations, may also become relevant decision factors.

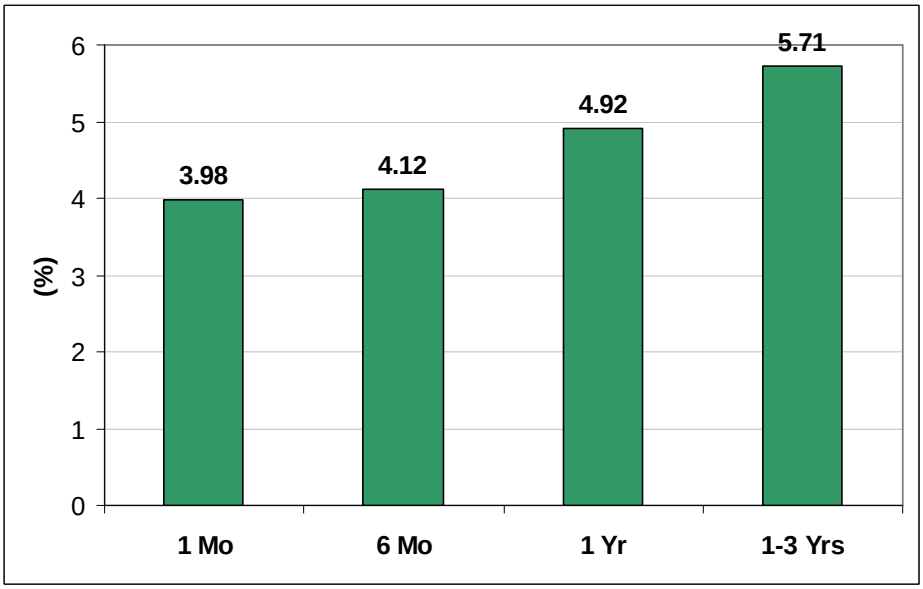
THE TOTAL RETURN ADVANTAGE:

Since higher expected return is a primary consideration for a corporate cash account to pursue a total return strategy, we will compare the annual returns of four base-case benchmarks over the last 10 years: the 1-month and 6-month constant maturity Treasury (CMT) bills, the Merrill Lynch 1 Year Treasury Note Index and the 1-3 Year Merrill Lynch Treasuries Index. We use the CMT yields on the shorter Treasury benchmarks to make returns comparable.

One of the challenges of comparing relative returns of a buy-and-hold portfolio with one that uses a total return strategy is that the former usually reports a book-value based yield level without regard to principal value changes, while the latter incorporates marked-to-market gains and losses over time. Another challenge is that the former simply reinvests matured proceeds while the latter requires periodic buying and selling securities to rebalance its portfolio duration.

Constant maturity treasury yields are interpolated yields by the U.S. Treasury Department from the daily yield curve information supplied by the Federal Reserve Bank of New York. The 6-month CMT yield assumes that the Treasury bill always stays at 6 months to maturity with its price fixed at $100. Using CMT yields to simulate buy-and-hold portfolios allows us to overcome the two previous challenges and make returns of different strategies comparable.

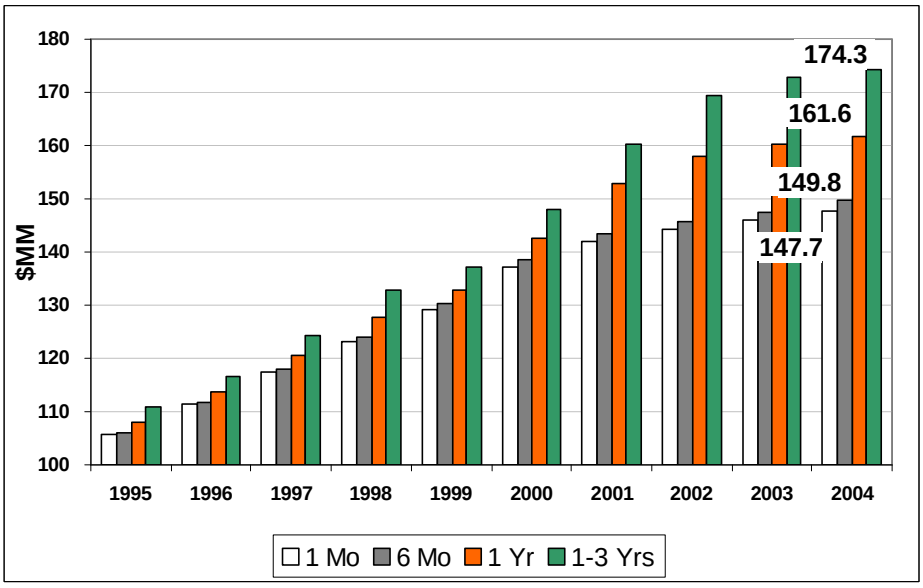
Figure 1: Annualized Total Returns of Treasury Benchmarks (1995-2004)



Source data for all figures in this article come from Bloomberg databases. The 1-month and 6-month constant maturity treasury yield information comes from the Federal Reserve H15 Statistical Releases. Historical returns for Merrill Lynch 1-Year Treasury Note and 1-3 Year Treasuries indices come from the ML Global Index System. The ML 1-Year index was the Merrill Lynch 1-Year Treasury Bills Index prior to 6-30-2000.

In Figure 1, our study shows the return pick-up of **14 basis points** from 1-month to 6-month Treasury, **80 basis points** from 6-month to 1-year, and **79 basis points** from 1-year to 1-3 year Treasury benchmarks.

Figure 2: Growth of Hypothetical $100 Million (1995-2004):



Note: Market value of principal plus reinvested Income.

Figure 2 provides an illustration of 10-year cumulative growth of hypothetical **$100 million** invested at the end of 1994. Although the difference between the 1-month and 6-month strategies was only **$2.1 million**, extending from 6-month to the 1-year strategy would have increased the market value of the investment by **$11.6 million**. The incremental pick-up to the 1-3 year strategy would have brought in another **$12.7 million**.

In our analysis, we assume all investments were made in US Treasury securities that do not have credit risk premium. Incorporating corporate and asset-backed securities in the 1-year and 1-3 year strategies would have increased the portfolio value by a larger margin.

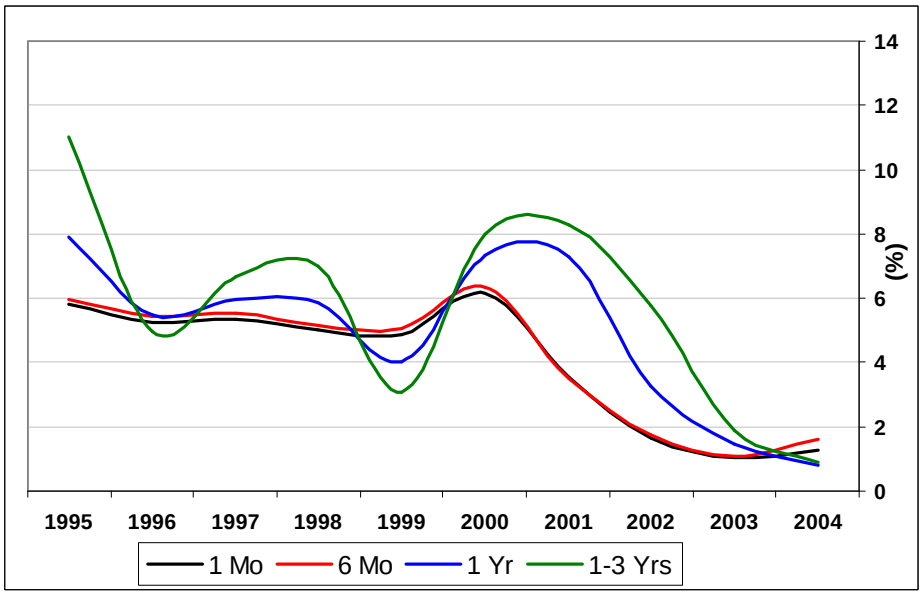
HIGHER HISTORICAL VOLATILITY:

A total return strategy is expected to generate a higher level of return over a market cycle mainly due to greater assumption of interest rate risk, otherwise known as duration risk. While the market often compensates investors for holding longer maturity securities with higher coupon rates, large changes in general interest rate levels or in the term structure of interest rates can result in inconsistent and unpredictable returns over time. A comparison of investment strategies is not complete without looking at how returns vary over time, commonly known as "return volatility".

Figure 3 provides the returns of the four Treasury benchmarks in each of the previous 10 years. We can observe the general correlation in the shapes of the four lines. This is because all fixed income returns tend to be affected by the same macroeconomic factors such as economic growth and inflation measures. However, return swings for the 1-year and 1-3 year strategies were much more pronounced than the 1-month and the 6-month benchmarks, an indicator of greater variability of

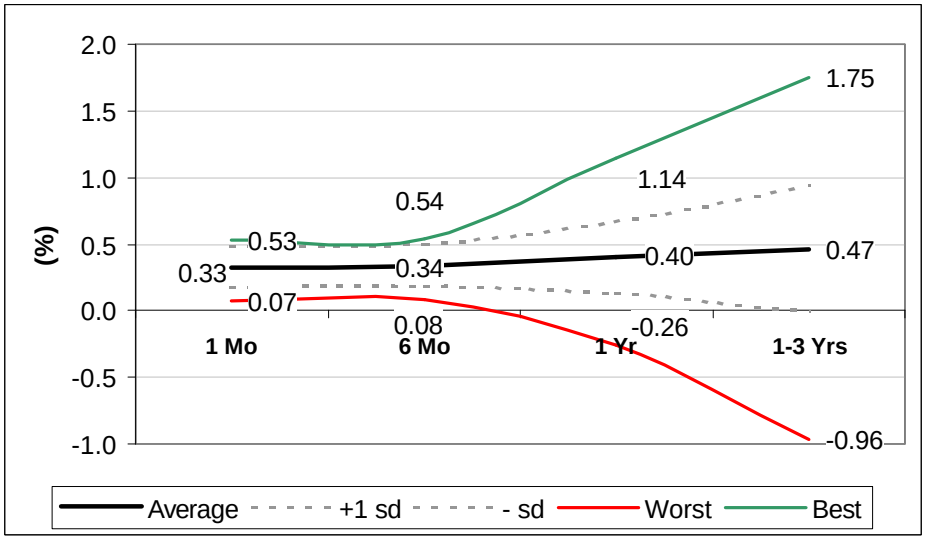
returns when those economic conditions change.

Figure 3: Annual Returns of Treasury Benchmarks



It is interesting to note that none of the strategies has had a negative return year since 1985, an indication that even the 1-3 Year index is still generally considered a safer benchmark compared with intermediate and core bond benchmarks frequently used by retirement and endowment accounts.

Figure 4: Dispersion of Monthly Treasury Total Returns (1995-2004)



We provide a more in-depth look at total return variability on a month-by-month basis in Figure 4. The black line represents the average monthly returns for the four strategies over the last 10 years. The two dotted lines form a band of one standard deviation from the average return, a statistical indication that 68% of the monthly returns fall within this band. The two outside lines represent the actual best and worst months for respective Treasury benchmarks over the last 10 years. The figure

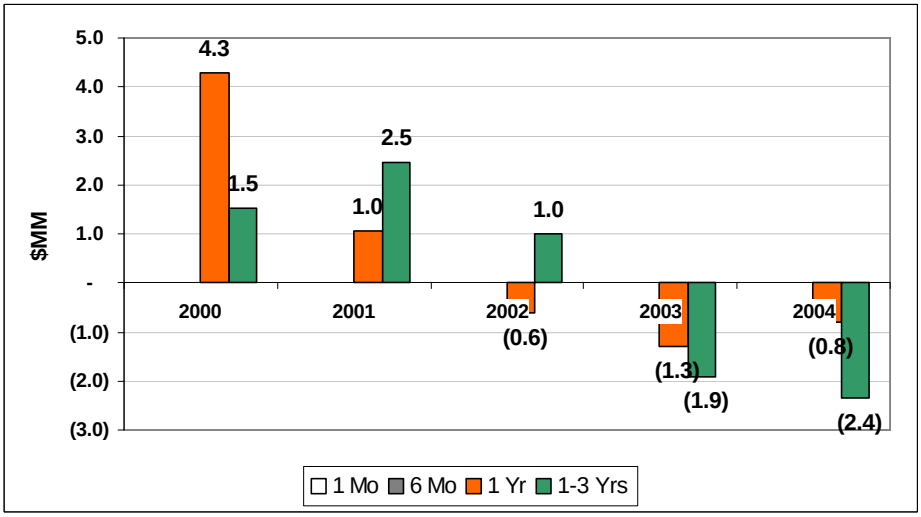
shows that in pursuing a 1-3 year strategy, an investor has had a worst monthly return of **–0.96%** in the last 10 years, and a best monthly return of 1.75%.

INVESTMENT REPORTING CONSIDERATIONS:

When a buy-and-hold corporate cash account considers a total return strategy, it often has to consider its accounting implications. Many corporate accounts report corporate cash holdings as "available for sale" or "trading securities" under the Financial Accounting Standards Board Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities*. The necessity of evaluating the size of quarterly balance sheet adjustments to account for marked-to-market gains/losses on the firm's overall balance sheet impact is a unique challenge to corporate investors.

In Figure 5, we decompose the total returns of the four benchmarks into income and principal returns and show only the latter to simulate the amounts a corporate cash account with $100 million starting balance in 2000 would have had to adjust to its shareholders' equity from marked-to-market gains and losses. Since we assumed the 1-month and 6-month benchmarks were book value based, their principal values did not change. We use available data going back to 2000 since it was the first year that the 1-Year Treasury Note index became a market value based index.

Figure 5: Principal Changes of hypothetical $100 million Investment (2000-2004)



In 2000 through 2002, the declining interest rate environment allowed both the 1-year and the 1-3 year benchmarks to accumulate positive principal returns, while rising interest rates caused the 1-3 year benchmark to report as much as **$2.4 million** in principal loss in 2004, even though its total return for the year was positive **0.91%** (not shown on graph).

In our understanding, corporations prefer to minimize balance sheet impact from marked-to-market adjustments to shareholders' equity, since some key financial ratios are computed from its equity base. When a buy-and-hold account considers switching over to a total return mandate, it needs to consider the balance sheet impact, as a portfolio with a longer market index is likely to experience higher levels of periodic adjustments to equity.

For our exercise, we assume that accounts use the "available for sale" accounting method. If a

corporation treats its cash investments as "trading securities", market value fluctuations would have had income statement impact, not balance sheet item adjustments.

IMPACT OF ACTIVE TRADING ON REALIZED CAPITAL GAINS:

Investors general prefer infrequent trading to minimize transaction costs and accounting entries. However, total return strategies almost always require active trading. This is because an account managed against a market index periodically rebalances its duration by selling shorter-dated securities no longer in the index and using the proceeds to buy bonds with longer maturities, a process known as "portfolio extension". Since all bonds move closer to maturity as time progresses, failure to extend duration will result in a portfolio drifting away from its target duration.

Increased portfolio turnover from total return strategies result not only in more accounting entries, but also in realizing capital gains or losses that can affect a corporation's reported profitability. For tax paying entities, such actions also have tax consequences. A corporation, therefore, needs to establish a level of comfort with higher portfolio turnovers in a total return strategy.

Figure 6: Estimated Portfolio Turnover Rate of Treasury Benchmarks

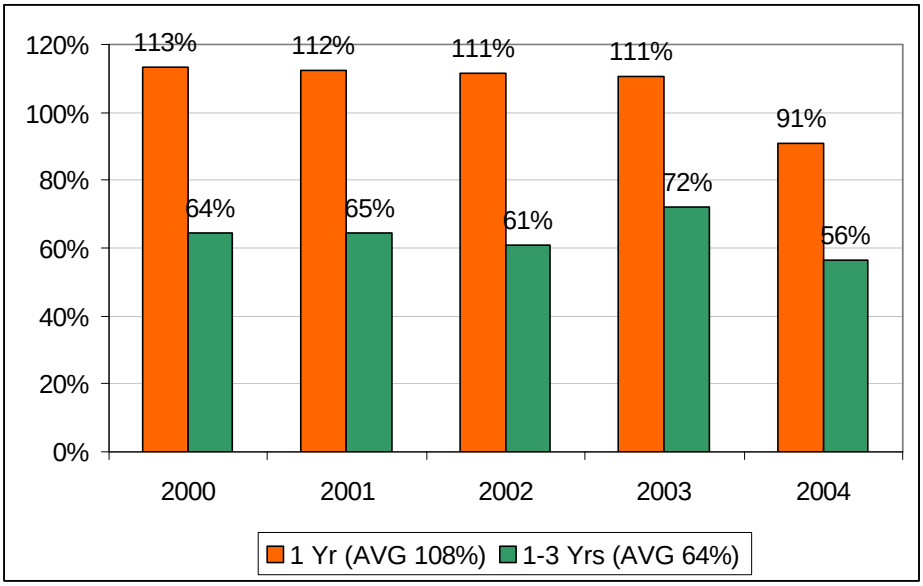


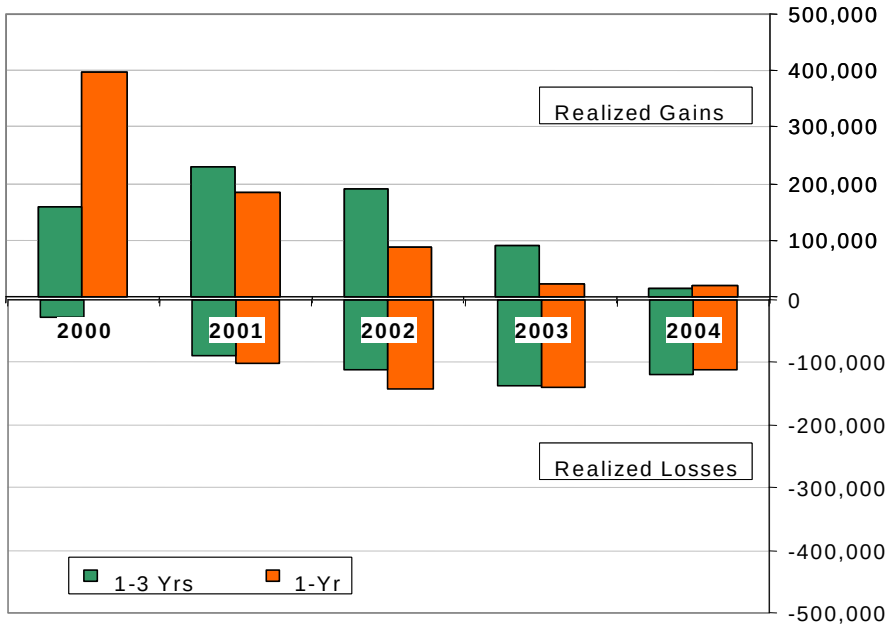
Figure 6 provides the estimated average portfolio turnover rates in the last five years. It uses the beginning and ending duration statistics of the two total return Treasury indices, and works into the assumption that a comparable portfolio must sell a proportional amount of its securities to extend its duration to match the index duration. It shows that the average turnover rate for the 1-year benchmark was **108%** in the last five years, and the ratio for the 1-3 year benchmark was **64%**. The rate is higher for the shorter benchmark since a portfolio of 1-year securities would have been turned over entirely in a year.

In addition to portfolio extensions, a total return account may also sell securities perceived by the manager to be relatively expensive and replace them with bonds with better return potentials. A manager may also choose to conduct trades to alter account duration intentionally to deviate from the market index. Our analysis does not consider these active trading strategies, and in stead focuses on

realized gain/loss situations purely from portfolio extensions.

Returning to our hypothetical $100 million investment, Figure 7 provides the estimated gains and losses derived from monthly extension trades in each of the last five years. We did not present a net figure since both realized gains and losses may impact a corporation's accounting profitability.

Figure 7: Realized Capital Gains From Portfolio Extension Trades (2000-2004)



With our simplified assumptions, a portfolio with a 1-year benchmark would have had to report a realized **gain of $397,000 in 2000** and a **realized loss of $143, 000 in 2003**. The best and worst years for the 1-3 year benchmark were **2001 ($230,000)** and **2003 (-$134,000)**, respectively.

We stress that the simplified assumptions are for analysis purpose only. In an actual portfolio, a manager mindful of corporate situations may have flexibility in minimizing realized losses for profitability concerns, or minimizing realized gains for tax advantaged accounts. The actual figures can be substantially different from the base case example. A manager's experience and sensitivity to corporate accounting and tax considerations are sometimes part of the manager selection criteria.

WHEN TOTAL RETURN MAKES SENSE:

Having presented a case study of four Treasury benchmarks on the return advantage, volatility, accounting, and capital gain considerations of a total return strategy; we now turn our attention to when it makes sense for a buy-and-hold corporate account to adopt the new mandate.

1. Moderate investment horizon (cash life)

With exceptions, investors who adopt a total return strategy generally have an investment horizon of three years or longer. Economic conditions and credit environment tend to be cyclical that may result in months or even years of total return underperformance relative to a buy-and-hold-strategy. The

interest rate and credit cycles can also affect market supply and demand for bonds; causing transaction costs to rise and fall.

2. Stable and predictable cash flows

We often advise clients to maintain a total return account with planned and infrequent cash flow transactions, and create a separate operating account for general cash flow uses. A total return mandate requires stable cash flows, because cash transactions in and out of an account can have dramatic effects on investment performance. An unexpected large inflow will cause a portfolio to shorten in duration that may result in underperformance with the market is rallying. An unexpected large cash withdrawal request may force the portfolio to prematurely liquidate holdings with good return potential. Outflows also cause the portfolio duration to lengthen that increases an account's interest rate risk.

3. Moderate Risk Tolerance

When an account considers a total return strategy, it needs to establish an acceptable level of risk tolerance. Since market and credit cycles may result in periods of negative principal returns and/or total returns, the investor's level of risk tolerance, as expressed in its investment guidelines, should be higher than a buy-and-hold investor.

Investors often use a market index as a reference point to limit interest rate risk. For example, the 1-Year Treasury Note Index's duration of **0.94 year** as of June 2005 implies a probable total loss of **0.94%** if the general level of interest rates increases by 1%. The 1-3 Year Treasury Index has duration of **1.67 years**, suggesting its interest rate risk is **1.67%** for every 1% increase in interest rates. These two benchmarks are particularly popular with corporate cash accounts because of their relatively low interest rate risk.

Similarly, an investor may use credit ratings and industry/issuer concentration to express its credit risk tolerance. Since a manager has discretion in selling deteriorating credits more quickly, ratings requirement may not need to be as stringent as one for the buy-and-hold mandate.

4. Accounting, Reporting, and Tax Considerations

Investors often consider factors other than returns when evaluating total return mandates. Sometimes, a corporation may decide against the strategy if it introduces more balance sheet volatility. For corporate accounts that already incorporate the "available for sale" accounting method, the magnitude of balance sheet adjustments, the impact of capital gains on profitability, and the level of reporting complexity can all be relevant factors. Although investment managers sometimes offer customized accounting solutions to assist clients in satisfying corporate reporting requirements, ultimately a corporation needs to reach a decision as to whether incremental expected returns outweigh the various non-investment related tradeoffs.

CONCLUSIONS:

The decision to adopt a total return mandate for a corporate cash account involves more factors than pure returns. While a case for enhanced return opportunity is often compelling, each corporation must establish its own comfort level with regards to return volatility, potentials for large reported principal losses, higher levels of portfolio turnover and realized gains/losses.

While many of the factors are qualitative, we use four treasury benchmarks to quantify some of the concerns on the minds of corporate treasurers. The examples are simplistic, and are meant for

illustrative purposes. We hope corporate treasurers can benefit from our analysis by applying their own portfolio balances and use variations of our methodology to arrive at their own conclusions.

For total return strategies to perform as expected, an investor may need to have a moderate investment horizon of three year or more, maintain a stable investment balance, establish a risk tolerance level using a market index and appropriate investment guidelines, and have adequate preparedness in dealing with more complex investment accounting and tax considerations.

We should note that all index returns in this article are reported as gross of fees. Expenses paid by institutional investors for separately managed short-duration total return accounts can vary widely between 10 to 35 basis points, depending on the size of the portfolio, the complexity of its investment mandate, the manager's expertise, and levels of services offered. According to the semi-annual Moody's Investor Services surveys on money market funds, typical annual expenses collected by the 15 largest institutional money market funds in the U.S. have stayed at 20 basis points in the last four years.