

MAXIMIZING RETURNS FOR CORPORATE CASH PORTFOLIOS IN A RISING INTEREST RATE ENVIRONMENT

A Yield Comparison of Custom Liquidity Accounts vs. Money Market Funds

EXECUTIVE SUMMARY:

A portfolio of laddered maturities may have better yield advantage over money market funds in a rising rate environment.

MARKET CYCLE COMPARISON

- Since 1993, the average net-of-fees yield advantage of 1-year A-rated corporate bonds over the Lipper institutional Money Market Average was 86 basis points annually.
- In the rising rate environment of 1994, 1-year A-rated corporate bonds provided as much as 199 basis points in yield pickup over the Lipper average.

THE RISK OF PREDICTING FED ACTIONS

- Trying to predict the direction of interest rates is a futile exercise, which may result in higher interest rate risk as well as lost yield opportunities.
- The opportunity cost of market timing the Fed action was as much as 82 basis points since the last Fed rate cut in June of 2003. The loss would have been over \$546,000 for a \$100 million portfolio.
- The Fed funds futures market is often premature in predicting the change of direction in the Fed funds rate, and tends to overshoot in both directions when the rate does change.
- In the last 22 years, economist consensus successfully predicted the general direction of interest rates only 28% of the time. The success rate of predicting higher interest rates was even lower at 16%.



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SAMPLE PORTFOLIO COMPARISON

- Under reasonable assumptions, a laddered portfolio with today's corporate yield curve will outperform money markets by 54 basis points even if the Fed raises rates by 50 basis points by year-end.
- The pickup will be even greater, at 62 basis points, if the rate stays the same.

CAG COMPOSITE RETURNS HISTORY

- Based on the composite book value returns at CAG, we provided a historical reference of appropriate average maturities for corporate portfolios with cash lives shorter-than two years.
- The five-year comparison of the CAG composite against the Lipper Institutional Money Market Average suggests generally better yield advantage over money market funds as the average maturity of a portfolio is lengthened.

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INTRODUCTION

Recent concerns with rising interest rates cause some corporate cash managers to consider staying in institutional money market funds in an effort to defend against potential investment losses when the Federal Reserve starts to raise the Fed funds rate.

A portfolio of laddered maturities provides higher yield potential than money market funds throughout an interest rate cycle.

This article attempts to demonstrate that, a custom liquidity account of high-grade corporate securities with laddered maturities provides higher yield potential than money market vehicles throughout an interest rate cycle. We use historical information to show specifically that, in a rising interest rate environment, a laddered portfolio has had, and may continue to have, better yield advantage over an average institutional money market fund.

MARKET CYCLE COMPARISON

We begin our comparison with the annualized yield of one-year corporate bonds rated A against that of the Lipper Institutional Money Market Fund Average since January 1993, the earliest date the Lipper composite was available. This period, with two rising and three falling Fed funds cycles, provides a reasonable historical perspective for yield performance under different interest rate conditions.

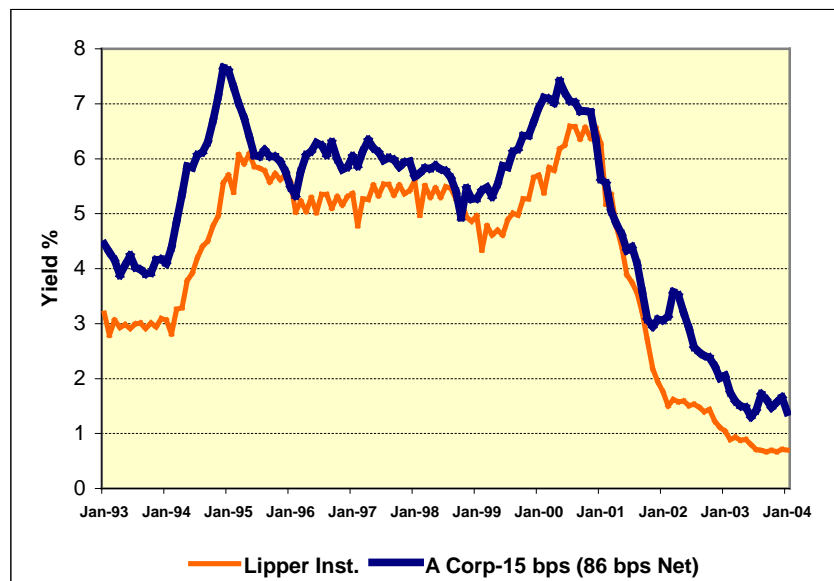
Net Yield Comparison Over the Entire Period

We start our analysis with a net yield comparison over the entire period since 1993. For net-of-fees comparison, we subtract 15 basis points from the corporate bond yields to take into account fees associated with active investment management and research.

In the last 12 years, 1-year corporate bonds were out-yielding money market funds by 86 bps on an annualized basis.

Figure 1 indicates that one-year securities were yieldier investments than money market funds throughout the period. The average annualized excess yield was quite large, at 86 basis points. In addition, the former provided higher yields than the latter in 129 of the 133 months under observation.

Figure 1: Net Yield Comparison of 1-Year Corp. Bonds vs. Lipper Institutional



Sources: Lipper for Instl. Money Market Fund Average. Stone & McCarthy for corporate bond history.

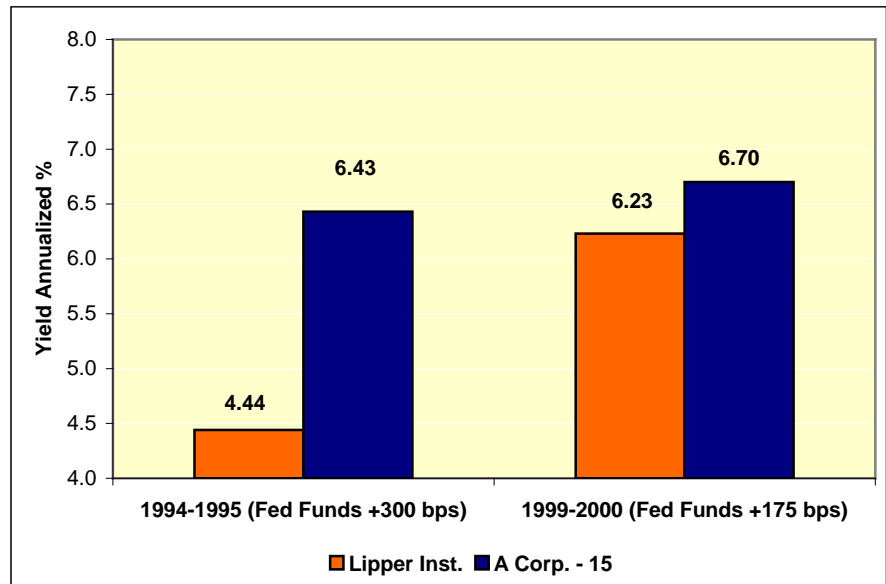
Yields Under Higher Fed Funds Conditions

Since the concern with rising interest rates is on the mind of many corporate treasurers, we took a closer look at the periods when the Fed funds rate was on the rise. Since 1993, there were two such periods: between February 1994 and February 1995 when the Fed raised rates by 300 basis points, and between June 1999 and December 2000, when rates went 175 basis points higher.

The yield advantage of the longer maturity portfolio is more pronounced in a rising rate environment, to as much as 199 bps in the 1994-1995 period.

Figure 2 indicates that for both periods, 1-year corporate bonds provided higher yields than the Lipper average. In the 1994-1995 period, A-rated corporates were yielding 6.43% on an annualized net-of-fees basis, or 199 basis points higher than the money fund average! In the 1999-2000 period when the Fed funds rate rose by 175 bps, the yield advantage was 47 basis points.

Figure 2: Yield Comparison When The Fed Funds Rate Is Rising



Sources: Lipper for Instl. Money Market Average. Stone & McCarthy Research for corporate bond history.

Based on yield comparisons provided in figures 1 and 2, we conclude that a portfolio with a one-year average maturity is likely to be in a better yield position than a money market fund, regardless of the direction of interest rate movement. We will now turn our topic to the risk of market timing Fed moves.

THE RISK OF PREDICTING FED ACTIONS

The fear of higher rates may force some investors into the mindset of waiting out the Fed funds increases by staying at the front end of the yield curve until such a time that the Fed is done raising rates. At Capital Advisors Group, we agree with the majority of fixed income managers that trying to predict the direction of interest rates is a futile exercise, which may result in higher interest rate risk as well as lost yield opportunities.

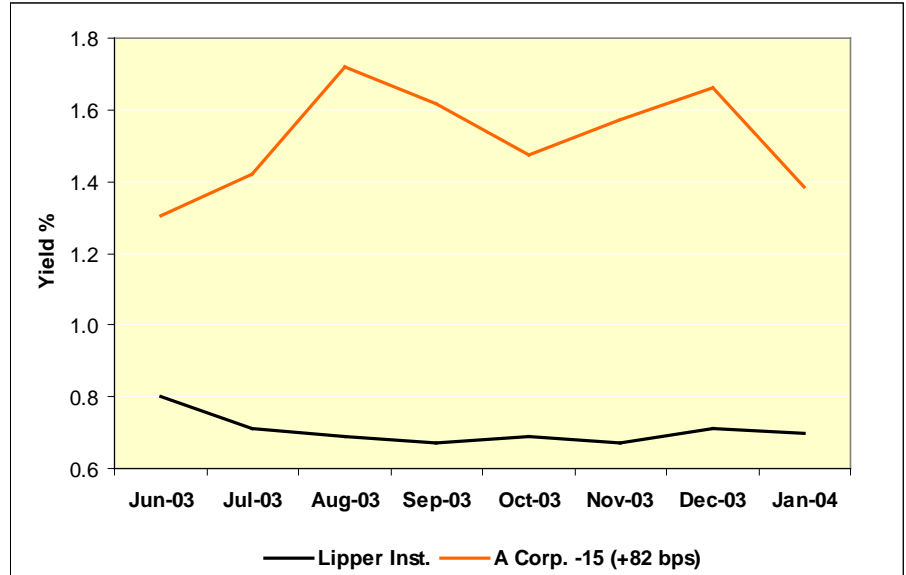
Trying to predict the direction of interest rates is a futile exercise, which may result in higher interest rate risk as well as lost yield opportunities.

The Opportunity Cost of Market Timing

Since June 25th, 2003, when the Fed last lowered the Fed funds rate to 1% from 1.25%, an investor who parked investments in an institutional money market fund exclusively in the hope of reinvesting after the Fed hikes would have lost the yield spread between overnight and the one-year part of the yield curve.

The opportunity cost of market timing Fed rate increases was as much as 82 basis points since the last Fed rate cut in June 2003. The loss would have been over \$546,000 for a \$100 million portfolio.

Figure 3: Yield Comparison Since the Last 25 bps Rate Cut



Sources: Lipper for Instl. Money Market Average. S&M Research for corporate bond history.

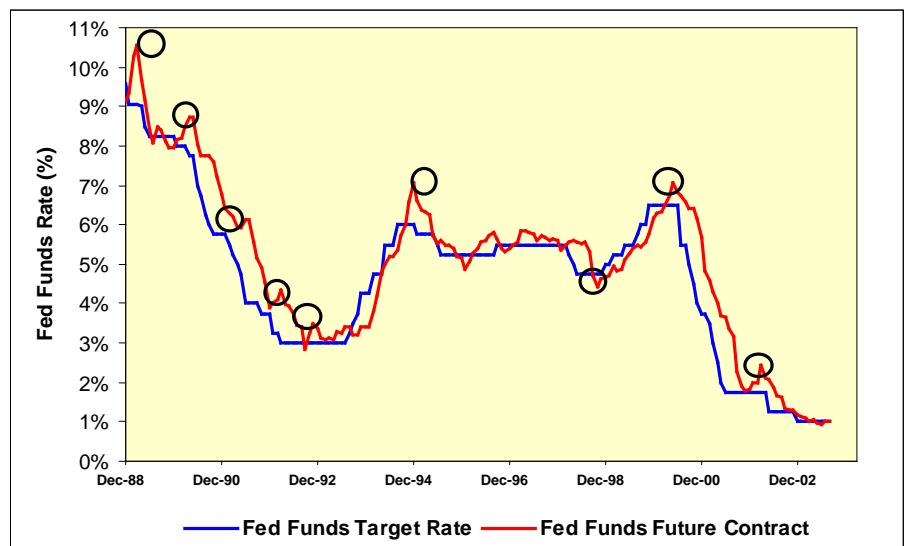
Figure 3 compares the yield between one-year A-rated securities and the Lipper average. The annualized difference of 82 basis points represents the opportunity cost of not extending out on the curve in this period. In this extremely low interest rate environment, such difference represents 54% less in earned income by not extending to one-year maturities, or over \$546,000 for a \$100 million portfolio of A-rated portfolios.

Using Fed Funds Futures as An Indicator of Future Fed Funds

Some investors attempt to implement their investment strategies based on indications from the Fed funds futures market. Our study reveals that, while futures contracts indicate the consensus of market expectations, it does not have a good track record of predicting the actual outcome of the Fed funds rate.

The futures market is often premature in predicting the change of direction in the Fed funds rate, and tends to overshoot in both directions when the rate does change.

Figure 4: 6-Month Futures Contract vs. Fed Funds Target Rate



Source: Bloomberg Data.

Figure 4 plots the trend lines of the predicted Fed funds rate (as determined by the 6-

month futures contract) versus the actual funds rate six months later. The black circles in the graph indicate that the futures market is often premature in predicting the change of direction in the funds rate, and tends to overshoot in both directions when the rate does change. In addition, the contract market made several false predictions of higher rates when the rate continued falling.

We think the poor predictive value of the futures market is due to a number of factors, including changing economic conditions, market psychology, a thinly traded futures market, and unforeseen event risks. While the Fed funds futures provide an interesting dimension of market dynamics, we instead focus on maintaining a laddered portfolio to minimize the risk of higher rates.

Track Record of Economists In Interest Rate Forecasts

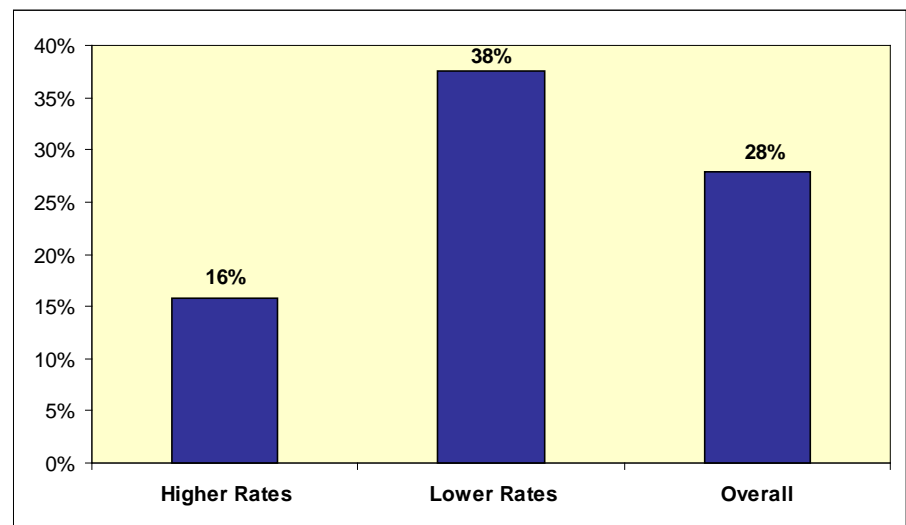
Before leaving the subject of market timing based on interest rate predictions, we turn to the track record of economists on their ability, in aggregate, to effectively forecast interest rate changes.

Since January 1982, the Wall Street Journal has conducted semi-annual surveys of the most prominent economists in the country to learn their forecasts of key interest rates in the next six months. In compiling the survey results, Bianco Research LLC, an independent third-party research firm, looked at whether the economists were right in at least the general direction of their forecasts, i.e. whether the rates were higher or lower as the consensus had predicted.

In The last 22 years, economist consensus successfully predicted the direction of interest rates in only 28% of the time.

The success rate of predicting higher interest rates was even lower at 16%.

Figure 5: Accuracy of Economists' Forecast of Rate Directions in 6 Months



Source: WSJ survey results, "Is the Bond Market 'Overvalued'", Bianco Research LLC, June 3, 2003.

Figure 5 shows that, in the last 43 surveys since 1982, the economists were correct in the rate direction only 28% of the time. In addition, their accuracy rate predicting higher rates was considerably lower than forecasting lower yields.

We use survey results from the Wall Street Journal not to make a mockery of the economists' contribution to the investment management process, but to suggest that interest rate movement is influenced by a host of factors that are beyond the ability of any one group of experts in the marketplace to reliably forecast with acceptable accuracy.

SAMPLE PORTFOLIO COMPARISION

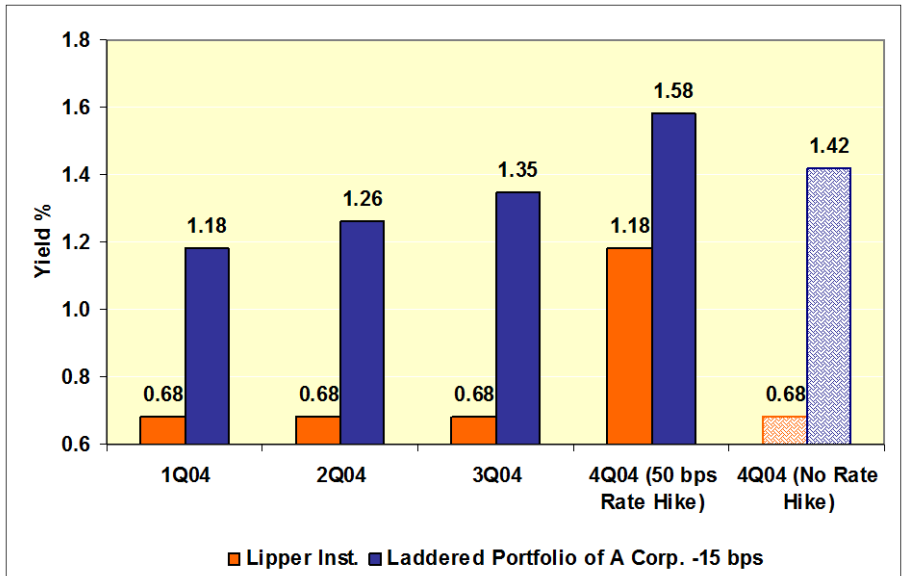
Having established the futility of market timing Fed actions, we now address, in the event of a Fed hike, how a laddered portfolio would perform in a higher rate

environment relative to a money fund portfolio. Using what we believe to be reasonable assumptions, a laddered portfolio with today's market rates will outperform the Lipper average, regardless of whether the Fed funds rate stays the same or increases by 50 basis points, in December 2004.

Under reasonable assumptions, a laddered corporate portfolio at today's yields will outperform a money market portfolio by 54 basis points even if the Fed raises rates by 50 basis points.

The pickup will be 62 basis points, if the rate stays unchanged.

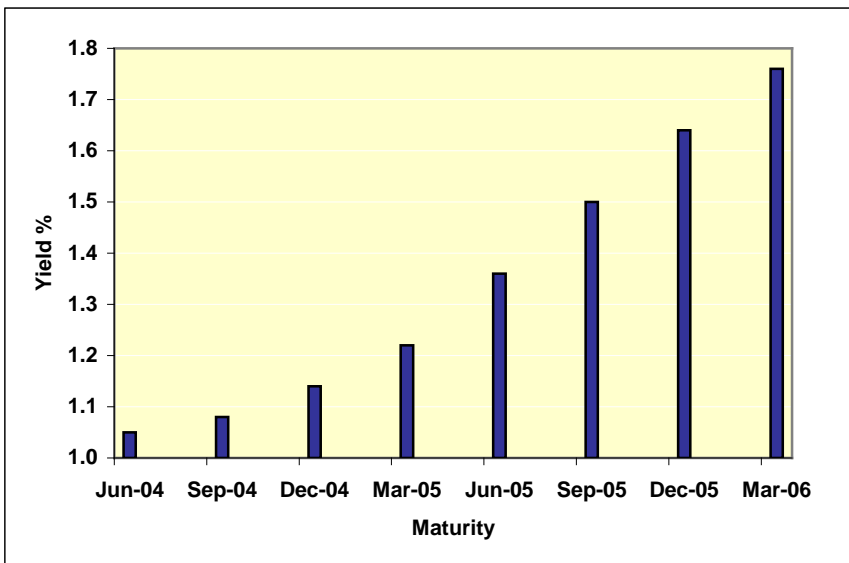
Figure 6: Sample Portfolio Comparison with December Fed Funds at 1.50%



For the rising rate scenario, we use the assumption that the yield of the Lipper institutional average stays constant at 0.68%, the level as of March 31st, through the end of the year and increases instantly (an unlikely scenario) by 50 basis points to 1.18% in December 2004.

As Figure 6 indicates, a laddered portfolio outperforms money funds in each of the four quarters of 2004, with an average yield pickup of 54 bps annualized, even with a 50 bps rate increase. Should the Fed funds rate remain unchanged through December 2004, the yield advantage of a laddered portfolio would be even greater, at 62 basis points!

Figure 7: Yield Curve of A-Rated Corporate Securities



Source: Capital Advisors Group trading desk based on actual dealer offerings as of 3/17/04.

The laddered portfolio consists of eight A-rated corporate securities with quarterly maturities in June 2004 through March 2006 and an average maturity of one year. The yields of such securities correspond to the actual corporate yield curve (see Figure 7). We assume that, if Fed funds increase 50 basis points in December 2004, the spread of Fed funds to the two-year treasury will increase from the current level of 64 bps to 109 bps, a figure we derived from the two previous rate hike cycles.

The yield pickup in our example is largely due to a “normal” yield curve (see figure 7), or one that is positively sloped, which we are currently experiencing. In this environment, the greater the duration of a portfolio, the higher its return should be over time.

We used the 1.50% Fed fund rate in December for our analysis even though the market expects only a 25 basis point increase, as predicted by the Fed fund futures.

CAG COMPOSITE RETURN HISTORY

For illustration purposes, we attached in the appendix the composite book value returns of laddered portfolios managed by Capital Advisors Group against the returns of the Lipper Institutional Money Market Average. We hope the graph will provide corporate treasurers with meaningful historical references in establishing the appropriate average maturities of their laddered portfolio based on their projected cash lives.

As the graph illustrates, the composite achieved 4.31% annualized return for past five years, compared to 3.47% for Lipper average. As a corporation’s cash life extends, incrementally longer portfolios produced better relative book value performance when compared to the money market average.

SUMMARY:

A laddered portfolio with a one-year average maturity provides better protection against higher interest rates than a money market portfolio in most interest rate cycles.

Based on market data since 1993, we demonstrated an 86 basis-point net yield advantage of one-year A corporate bonds over the Lipper Institutional Money Fund Average. We also used empirical and survey data to show the risk of attempting to market time Fed moves. We then analyzed the yield differential of the two portfolios in a 50 basis point rate hike scenario.

We caution readers that, in performing analysis for this article, we use simplified book yield comparison to illustrate the differences between cash management portfolios. We welcome the opportunity to discuss with interested parties on interest rate strategies for longer term, index based, and market value oriented portfolios.

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