Bond Funds, Stable Value and 401(k) Plans

Presented by: Mike Malone and Bud Green

April 22, 2014
Topics

- Looking at bond risk and return
- The role of bond funds
- Should 401(k) selections be adjusted for a rising rate environment?
- Capital preservation
  - Stable value – how are these changing?
  - Money market funds – the proposed SEC reforms
  - What is the best option?
The Asset Allocation Story

- Key components
  - Return comes from stocks
  - Stability comes from bonds and cash
- Diversification and non-correlation improve results
The Trade-Off

Short-term Stability  Long-term Returns

- **Stocks:** 20%  **Bonds:** 80%
- **Stocks:** 40%  **Bonds:** 60%
- **Stocks:** 60%  **Bonds:** 40%
- **Stocks:** 80%  **Bonds:** 20%
- **Stocks:** 100%  **Bonds:** 0%
• Bond Fund Return = Interest Payments + Change in Price
• Bond prices rise or fall according to average duration

Interest Rates
Rise 1%

Bond Prices
Fall 1% x Duration
Where Are We Now?
Cash Returns 1970 to 2013

Return data: USTREAS T-Bill Auction Ave 3 Month Index
Credit Spreads & Bond Risk

- Bond Fund Return = Interest Payments + Change in Price
- Bond prices rise or fall with change in credit spreads
Where Are We Now?
Credit Spread Movement

Spreads widen approximately 80 months after recessions.

Source: Credit Suisse, Guggenheim Investments. Data as of December 15, 2013.
# Bond Risk & Return

## US Treasuries

<table>
<thead>
<tr>
<th>US Treasuries</th>
<th># of Issues</th>
<th>Correlation to 10-year</th>
<th>Avg. Maturity</th>
<th>1/31/2014</th>
<th>12/31/2013</th>
<th>1Q14</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Year</td>
<td>86</td>
<td>0.66</td>
<td>2 years</td>
<td>0.44%</td>
<td>0.38%</td>
<td>0.19%</td>
<td>0.30%</td>
</tr>
<tr>
<td>5-Year</td>
<td>59</td>
<td>0.91</td>
<td>5</td>
<td>1.73%</td>
<td>1.75%</td>
<td>0.73%</td>
<td>-2.47%</td>
</tr>
<tr>
<td>10-Year</td>
<td>19</td>
<td>1.00</td>
<td>10</td>
<td>2.73%</td>
<td>3.04%</td>
<td>3.36%</td>
<td>-7.81%</td>
</tr>
<tr>
<td>30-Year</td>
<td>20</td>
<td>0.92</td>
<td>30</td>
<td>3.56%</td>
<td>3.96%</td>
<td>8.11%</td>
<td>-15.03%</td>
</tr>
<tr>
<td>TIPS</td>
<td>35</td>
<td>0.60</td>
<td>10</td>
<td>0.60%</td>
<td>0.80%</td>
<td>1.95%</td>
<td>-8.61%</td>
</tr>
</tbody>
</table>

## Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Issues</th>
<th>Correlation to 10-year</th>
<th>Avg. Maturity</th>
<th>1/31/2014</th>
<th>12/31/2013</th>
<th>1Q14</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad Market</td>
<td>8,732</td>
<td>0.86</td>
<td>7.7 years</td>
<td>2.39%</td>
<td>2.48%</td>
<td>1.84%</td>
<td>-2.02%</td>
</tr>
<tr>
<td>MBS</td>
<td>765</td>
<td>0.82</td>
<td>7.6</td>
<td>3.11%</td>
<td>3.26%</td>
<td>1.59%</td>
<td>-1.41%</td>
</tr>
<tr>
<td>Municipals</td>
<td>9,070</td>
<td>0.49</td>
<td>9.9</td>
<td>2.55%</td>
<td>3.03%</td>
<td>3.13%</td>
<td>-2.17%</td>
</tr>
<tr>
<td>Corporates</td>
<td>4,940</td>
<td>0.48</td>
<td>10.4</td>
<td>3.10%</td>
<td>3.28%</td>
<td>2.94%</td>
<td>-1.53%</td>
</tr>
<tr>
<td>High Yield</td>
<td>2,137</td>
<td>-0.22</td>
<td>6.6</td>
<td>5.23%</td>
<td>5.64%</td>
<td>2.98%</td>
<td>7.44%</td>
</tr>
<tr>
<td>Floating Rate</td>
<td>42</td>
<td>-0.21</td>
<td>3.2</td>
<td>1.17%</td>
<td>1.07%</td>
<td>0.40%</td>
<td>2.42%</td>
</tr>
<tr>
<td>Convertibles</td>
<td>538</td>
<td>-0.30</td>
<td>--</td>
<td>1.18%</td>
<td>1.19%</td>
<td>4.38%</td>
<td>24.43%</td>
</tr>
<tr>
<td>ABS</td>
<td>1,319</td>
<td>-0.04</td>
<td>3.5</td>
<td>1.90%</td>
<td>2.05%</td>
<td>1.13%</td>
<td>0.14%</td>
</tr>
</tbody>
</table>

## Price Impact of a 1% Rise/Fall in Interest Rates*

- **2y UST**: -2.0% to 0.8% (0.8% increase, -1% decrease)
- **5y UST**: -4.7% to 5.0% (5.0% increase, -1% decrease)
- **TIPS**: -6.2% to 7.3% (7.3% increase, -1% decrease)
- **10y UST**: -8.4% to 9.3% (9.3% increase, -1% decrease)
- **30y UST**: -16.4% to 21.2% (21.2% increase, -1% decrease)

*Note: The price impact is shown for a 1% rise/fall in interest rates.*
## Largest 1-year loss, 1994 - 2013

<table>
<thead>
<tr>
<th>Intermediate-term Government Bonds</th>
<th>Long-term Government bonds</th>
<th>High-yield bonds</th>
<th>Equities</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5.1%</td>
<td>-14.9%</td>
<td>-26.4%</td>
<td>-37.0%</td>
</tr>
</tbody>
</table>

Source: Morningstar EnCorr as of 12/31/2013. Average annual total return shown is for the year in which the representative index had its greatest loss over the period of time from 1994 – 2013. Intermediate-term government bonds represented by the IA SBBI U.S. Intermediate-Term Government Bond Index. Long-term government bonds are represented by the IA SBBI Long-Term Government Bond Index. High-yield bonds are represented by the Bank of America Merrill Lynch (BoFA ML) High Yield Bond Master II Index. Equities are represented by the Standard & Poor's 500® Index. Past Performance is no guarantee of future results. All indices are unmanaged. It is not possible to invest directly in an index.
<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Risk Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Inflation + 0.5%</td>
</tr>
<tr>
<td>Bonds</td>
<td>Inflation + 1%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>Inflation + 2%</td>
</tr>
<tr>
<td>Stocks</td>
<td>Inflation + 4%</td>
</tr>
</tbody>
</table>

Due to growth in the economy
Remembering the 70’s
Remembering the 70’s

1978 + 2.2%
1979 + 3.2%
1980 + 1.8%
1981 + 2.9%

Return data: USTREAS T-Bill Auction Ave 3 Month Index
<table>
<thead>
<tr>
<th>Year</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>14.4</td>
</tr>
<tr>
<td>1975</td>
<td>8.0</td>
</tr>
<tr>
<td>1980</td>
<td>5.3</td>
</tr>
<tr>
<td>1985</td>
<td>6.2</td>
</tr>
<tr>
<td>1990</td>
<td>22.1</td>
</tr>
<tr>
<td>1995</td>
<td>18.5</td>
</tr>
<tr>
<td>2000</td>
<td>11.6</td>
</tr>
<tr>
<td>2005</td>
<td>4.1</td>
</tr>
<tr>
<td>2010</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Return Data: BarCap U.S. Aggregate Bond Index
Bond 12 Month Rolling Returns

Investment Name: Barclays US Agg Bond TR USD

Source: Morningstar Direct
## Account Growth 1975 to 1981

<table>
<thead>
<tr>
<th>Investment Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barclays US Agg Bond TR USD (Market Return, USD, Pre-Tax)</td>
<td>12.7K</td>
</tr>
</tbody>
</table>

Source: Morningstar Direct
When Rates Fell

When Rates Rose

Income return drives total return
Intermediate-term government bonds

Compare When Rates Rose When Rates Fell

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL RETURN</td>
<td>4.9%</td>
<td></td>
</tr>
<tr>
<td>INCOME RETURN</td>
<td>6.5%</td>
<td></td>
</tr>
<tr>
<td>CAPITAL APPRECIATION</td>
<td>-1.5%</td>
<td></td>
</tr>
</tbody>
</table>

Positive returns in a rising interest rate environment
Rising rates boosted income, resulting in positive returns.

Stock vs Bond Returns
1970 - 2013

Stock Return Data: S&P 500 Index
Bond Return Data: BarCap U.S. Aggregate Bond Index
Effect of Inflation on Stocks

- Stock Return = Dividends + Earnings Growth + P/E Expansion
- As inflation heats up, P/E ratios drop
Inflation versus Dis-inflation

SOURCE: Morningstar.
Hypothetical example for illustrative purposes only.
Stocks is represented by the S&P 500, bonds is represented by the 10 Year U.S. Treasuries, commodities is represented by the Gorton and Rouwenhorst Commodity Index Plus, and TIPS Total Returns were calculated in the periods before TIPS were issued by combining actual U.S. CPI (NSA) inflation with estimated price returns and real yields. Estimated real yields were calculated by subtracting 12 month ahead forecasted CPI (NSA) from ten-year U.S. Treasury yields. The estimates were from the Livingston Survey of Economists’ Forecasts. The estimated price returns were calculated by multiplying the monthly changes in these estimated real yields by an assumed duration of 7 years.
Refer to the Appendix for additional hypothetical example and index information.
Fixed Income Decision Points

- Should plans have an intermediate or long-term bond fund?
- Should plans have a government bond fund?
- Should plans use active management to cut interest rate risk?
  - Some leeway on duration
  - Fully tactical
  - Ability to hedge
- Should the participants be notified about potential bond fund risk?
  - Do they know what they have?
  - Why did they buy the fund?
## Impact of Interest Rate Rise On Target Date Funds

<table>
<thead>
<tr>
<th>T Rowe Price 2020 Fund Impact of a 1% Rise in Interest Rates</th>
<th>T Rowe Price 2040 Fund Impact of a 1% Rise in Interest Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocks 68.00%</td>
<td>Stocks 89.00%</td>
</tr>
<tr>
<td>Bonds 29.00%</td>
<td>Bonds 8.00%</td>
</tr>
<tr>
<td>Cash 3.00%</td>
<td>Cash 3.00%</td>
</tr>
<tr>
<td>Average Duration 5 years</td>
<td>Average Duration 5 years</td>
</tr>
<tr>
<td>Reduction in Bond Prices -5.00%</td>
<td>Reduction in Bond Prices -5.00%</td>
</tr>
<tr>
<td>Increase in Yield 1.00%</td>
<td>Increase in Yield 1.00%</td>
</tr>
<tr>
<td>Total -4.00%</td>
<td>Total -4.00%</td>
</tr>
<tr>
<td>Total Portfolio Loss (-4%*29%) -1.16%</td>
<td>Total Portfolio Loss (-4%*8%) -0.32%</td>
</tr>
</tbody>
</table>
Things to consider...
- Risk is relative and bonds are still less risky than stocks
- There is still a diversification benefit to bonds

Adjusting the bond fund selection
- Consider a low duration fund if no stable value fund included
- Consider international/global funds
- Consider multi-sector over high yield
- Strategic bond funds?
Capital Preservation - Stable Value and Money Market Funds
Next to targets, the capital preservation fund is the second most important choice in the line-up.

Like target date funds, they have been historically under scrutinized from a fiduciary viewpoint:
- Often just accepting (or being required to accept) the money market or stable value sponsored by the plan’s provider.

Like target date funds, this approach will no longer pass as an acceptable selection process.

Plan committees must adopt a strategy or philosophy about what type of cash option should be used, and how to evaluate that option.
DC plan capital preservation options generally take two forms:

<table>
<thead>
<tr>
<th>Money Market Funds</th>
<th>Stable Value Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutual funds holding short term corporate &amp; government debt with a goal of maintaining a $1 share price</td>
<td>Collective trust funds with underlying bond portfolios insured with “wrappers”</td>
</tr>
</tbody>
</table>

Understanding that employees perceive these as the “safe” option in the plan, what is the best option today?
### Money Market Funds

- Nominal yield near zero
- Real yields are negative
- Plans with overlay fees could produce a negative return on the statement
- Shorter duration/greater interest rate sensitivity
- Less credit risk?
- No restrictions – daily liquidity at participant and plan level (for now)
- SEC proposals

### Stable Value Funds

- Requires a trust agreement
- Equity wash rules
- Declining market to book ratios
- Liquidity issues
- Wrap provider capacity and cost
- Put option and other restrictions
Stable Value vs. Money Market Funds
12/31/1988 to 1/31/2014
Growth of $1
12/31/1988 to 01/31/2014
Annualized Monthly Returns
6/30/2008 to 1/31/2014
<table>
<thead>
<tr>
<th></th>
<th>1 Month</th>
<th>3 Month</th>
<th>1 Year</th>
<th>3 Year</th>
<th>5 Year</th>
<th>10 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As of 03/31/2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hueler Stable Value Universe</td>
<td>0.14</td>
<td>0.41</td>
<td>1.77</td>
<td>2.17</td>
<td>2.52</td>
<td>3.53</td>
</tr>
<tr>
<td><strong>As of 03/31/2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Money Market-Taxable Category</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.02</td>
<td>0.04</td>
<td>1.46</td>
</tr>
</tbody>
</table>
• About one-half of all DC plans offer stable value
  – 190,000 plans
  – Over $700 billion
  – The percentage rises to 70% for large plans (over 5,000 participants)
  – Historical allocation to SV – 17%
• Some 58% of plans offer a money market fund
  – Historical allocation – 6%
  – Higher in self-directed brokerage
  – Higher prevalence in smaller arrangements
Since 2008, the marketplace for stable value has changed, and continues to do so.

The “credit crunch” had an impact on many SV funds.

A number of big providers left the marketplace.
- Others have closed to new investors or are proprietary platform-only products.

Changes in the wrap provider landscape have effected product terms.
- Cost
  - Cost of wrap insurance more than doubled
  - (DOL fee notices)
- Put requirements
  - Movement to 2-year puts (put to correspond with duration)
  - Elimination of the put (MVA)
**SEC proposal summary – Two alternatives**

- The proposal includes two principal alternative reforms that could be adopted alone or in combination.
- It also includes additional diversification and disclosure measures that would apply under either alternative.

**Alternative one: floating net asset value (NAV)**

- Institutional "prime" (or general purpose) money market mutual funds would be required to transact at a floating NAV.
- *Floating the NAV* – Funds would no longer be able to use amortized cost to value their portfolio securities except to the limited extent all mutual funds are able to do so. Daily share prices of these money market mutual funds would fluctuate along with changes, if any, in the market-based value of their portfolio securities.
  - *Showing fluctuations in price* – Funds would be required to "basis point round" their share price to the nearest 1/100th of one percent
  - *Exempting government and retail money market funds (MMFs)* – All Treasury and government money market mutual funds and retail market mutual funds would be allowed to maintain a stable share price (a mutual fund that limits each shareholder's redemptions to no more than $1 million per business day).
Money Market Reform

- **Alternative two: Liquidity fees and redemption gates**
  - *Liquidity fees* – If a money market mutual fund's level of "weekly liquid assets" were to fall below 15 percent of its total assets (half the required amount), the money market mutual fund would have to impose a **2 percent liquidity fee** on all redemptions. However, such a fee would not be imposed if the fund's board of directors determines that such a fee is not in the best interest of the fund or that a lesser liquidity fee is in the best interest of the fund.
  
  - *Board imposed redemption gates* – Once a money market mutual funds level of "weekly liquid assets" were to fall below 15 percent of its total assets (half the required amount), its board of directors also would be able to impose a temporary suspension of redemptions (or "gate"). A money market mutual fund that imposes a gate would need to **lift that gate within 30 days**, although the board of directors could determine to lift the gate earlier. Money market mutual funds would not be able to impose a gate for more than 30 days in any 90-day period.

  - *Prompt public disclosure* – Money market mutual funds would be required to disclose promptly and publicly the weekly liquidity threshold dropped below 15%, any imposition or removal of any liquidity fee or gate, and a discussion of the board's analysis in determining whether or not to impose a fee or gate.

  - *Exemption for government money market funds* – Government money market mutual funds would be exempt from the fees and gates requirement.
• Additional disclosure and reporting requirements (applicable to all MMFs)
  – The SEC also proposed additional reforms, including enhanced reporting requirements, more timely reporting of fund portfolio holdings, comparable reporting requirements for private liquidity funds under Form PF, stronger diversification requirements, and enhanced stress testing.
The Evaluation Elements

- **Liquidity**
  - Are there any restrictions placed on the fund at the participant level or the plan level?
    - Competing funds
    - Equity wash rule

- **Risk**
  - The capital market volatility over a given period of time

- **Real return**
  - Returns at or in excess of inflation
Effects of Inflation on Stable Value and Money Market

- Interest Rates Rise
  - Fed will raise rates
  - Investors will demand more inflation protection (yield)
  - Debt gets “crowded out”
- Money market rates immediately increase
- Stable value rates slowly increase
- Bond prices drop, rates slowly increase
Carefully evaluate the plan’s cash option, paying close attention to the potential risks, and the participant communication materials describing the option.

Define the acceptable level of risk that the cash option should assume going forward.

If the current product fails acceptable criteria, evaluate the options to get out (put, MVA, proprietary provider requirements).