Tax Sensitive Investing

Effectively Managing Operating Funds in a Rising Tax Environment

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Senior Vice President
Investment Relationship Manager
Northern Trust Global Investments
AGENDA

November 10, 2010

• Northern Trust Corporate Overview
• The Corporate Tax Burden
• Tax Sensitive Investing
• Portfolio Construction
• Current Market Conditions/Considerations
• Tax-Adjusted Yield History - Five Years
• Appendix
  – Economic Research Forecasts
  – Biographies

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For more than a century, Northern Trust has successfully provided people and institutions with financial products and advice through:

- Distinctive solutions
- High touch service
- Industry-leading technology

<table>
<thead>
<tr>
<th></th>
<th>As of 6/30/10</th>
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<tbody>
<tr>
<td>Assets Under Management</td>
<td>U.S. $603.0 Billion</td>
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<tr>
<td>Assets Under Custody</td>
<td>U.S. $3.6 Trillion</td>
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<tr>
<td>Worldwide Staff</td>
<td>12,940</td>
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</tbody>
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Northern Trust: A Global Leader in Investment, Trust and Wealth Management Service
The Corporate Tax Burden

Percent Change in Total State Tax Collections
Vs. Same Quarter Year Ago

Source: Rockefeller Institute of Government

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The Corporate Tax Burden

Percent Change in State Tax Collections
Vs. Same Quarter Year Ago, by Type of Tax

Source: Rockefeller Institute of Government

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The Corporate Tax Burden

When compared to other OECD countries:

- 24 U.S. states have a combined corporate tax rate higher than top-ranked Japan.
- 32 states have a combined corporate tax rate higher than third-ranked Germany.
- 46 states have a combined corporate tax rate higher than fourth-ranked Canada.
- All 50 states have a combined corporate tax rate higher than fifth-ranked France.
The Corporate Tax Burden

Obama's 2011 Budget Tax Hikes Contradict Focus on Job Creation
The president needs to remove economic uncertainty

Eliminate the corporate income tax, and nobody gets hurt
Minneapolis Star Tribune - Todd Rapp - Feb 6, 2010

In anti-tax Oregon, voters consider tapping the rich
Two measures will test how willing residents are to increase taxes on those theoretically best equipped to pay them -- the wealthy and big companies.
January 26, 2010|By Kim Murphy Los Angeles Times

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Tax Sensitive Investing

In today’s complex financial environment, managing and investing balance sheet cash is a responsibility that requires not only time, but knowledge, expertise, and day-to-day attention. Highly volatile markets make the timing and execution of purchases and sales critical.

Consider tax sensitive investing objectives for balance sheet and operating assets:

- Incorporates the effective Fed corporate tax rate into everyday portfolio management decisions
- Captures value through trading on the dynamic and cyclical relationship of tax exempt muni yields to taxable alternatives
- Easily incorporated into a "second line of liquidity" investment strategy, overnight to 2 or 3 year maturity focus
- Provides advantages in diversification and overall higher quality of municipal market versus corporates credits
- Investing on a best net after tax basis adds value continuously
Portfolio Construction

1. Duration decision
2. Yield curve construction
3. Sector and quality weighting
4. Security selection
**Portfolio Construction**

**Cash Enhanced Cash Short Duration Bond**

**Cash**

- Description: $1 NAV Funds comprised of high quality 2(a)7 securities structured to maximize income while preserving principal and liquidity.
- Weighted Avg. Maturity: 90 day Weighted Average Life Max.
- Average Quality: AA

**Enhanced Cash**

- Total Return Portfolios invested in high quality short-term instruments with a target WAM of 6-12 months.
- Weighted Avg. Maturity: 6 Months
- Average Quality: AA

**Short Duration Bond**

- Total Return Portfolio focusing on sector allocation, security selection and yield curve management across a broad universe of investment grade securities.
- Weighted Avg. Maturity: 1.5-2.0 Years
- Average Quality: AA
Portfolio Construction

1. Duration decision

   a) Macro economic analysis

   b) Interest rate strategy forecast - rolling six month view
Portfolio Construction

2. Yield curve construction
   a) Tactical liquidity considerations
   b) Scenario analysis - anticipated curve reshaping
   c) Maturity demand/supply
   d) Relative value decision taxable vs. tax exempt
Portfolio Construction

3. Sector and quality weighting

   a) Economic analysis by sector/state/region
   b) Relative value analysis -- credit and quality spreads
   c) Best net after tax screen - snapshot and cyclical factors
Portfolio Construction

4. Security selection

a) Credit analysis by specialists for taxable and municipal securities
b) Opportunities in new issue and secondary markets
c) Dynamic sell/buy discipline actively employed particularly for money market issues
Portfolio Construction

Yield Curve Weighting

- Modest yield curve risk relative to money market alternatives
- Target Weighted Average Maturity (WAM) of 6 months for Standard and 12 months for Extended
- Yield curve “Roll-Down” a source of value from a positively sloped curve

Sector Allocation

- Spread product may enhance yield in a risk controlled manner
- Asset Backed Securities, Taxable Municipals, Corporate Bonds, Treasury and Agency Securities

Security Selection

Alpha
Portfolio Construction

Eligible security universe:

- Treasuries, Agencies (state tax exempt include FHLB, FFCB, TVA), repo
- Bank CDs, commercial paper, corporate bonds, sovereign bonds, supranationals
- Asset backed issues
- Taxable munis
- Tax exempt muni VRDNs (variable rate demand notes with daily and weekly put options)
- Tax exempt Muni commercial paper
- Tax exempt muni notes and bonds: G.O.s, essential service bonds, revenue bonds, tax anticipation notes, AMT issues, put bonds
- Credit parameters: Recommend Tier Two or better short-term, Single A or better long-term
- Maturity parameters: Overnight to two or three years, with weighted average life standard
Current Market Conditions/Considerations
Current Market Yields

Source: Northern Trust
Current Market Conditions/Considerations

Yield ratios : Prime Muni / US Treasury

Source : Northern Trust
Current Market Conditions/Considerations
Indices
Tax-Adjusted Yield History - Five Years

Municipal vs. Corporate and US Treasury
- 2 year maturity
- AAA Tax-Exempt Munis vs. AA Corporate Bonds and US Treasury Notes
- 5 year history at 35% tax rate

Municipals vs. Taxable securities
- 1 week maturity
- Tax-Exempt Muni Variable Rate Demand Notes vs. LIBOR
- 5 year history at 35% tax rate
Tax-Adjusted Yield History - Five Years

2 Year Yields – Muni vs. Corp & Treasury - Tax adjusted @ 35%

Source: Bloomberg
Tax-Adjusted Yield History - Five Years
1 Week Yields - Muni vs. LIBOR - Tax adjusted @ 35%

Source: Bloomberg
Economic and Interest Rate Forecast

### Table 1 US GDP, Inflation, and Unemployment Rate

<table>
<thead>
<tr>
<th></th>
<th>2009a</th>
<th>2009b</th>
<th>2010a</th>
<th>2010b</th>
<th>01 to 04 Change</th>
<th>Annual Change</th>
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<tr>
<td>REAL GROSS DOMESTIC PRODUCT (% change from prior quarter)</td>
<td></td>
<td></td>
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<tr>
<td>Consumption Expenditures</td>
<td>-15.1</td>
<td>-18.4</td>
<td>-19.4</td>
<td>-20.4</td>
<td>-20.3</td>
<td>-20.9</td>
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<tr>
<td>Business Investment</td>
<td>-15.9</td>
<td>-23.2</td>
<td>-23.6</td>
<td>-23.8</td>
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<td>-23.8</td>
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<td>Residential Investment</td>
<td>-26.9</td>
<td>-73.0</td>
<td>-93.3</td>
<td>-124.5</td>
<td>-134.1</td>
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<tr>
<td>Change in Inventories (%)</td>
<td>-96.8</td>
<td>-108.1</td>
<td>-135.2</td>
<td>-141.5</td>
<td>-141.5</td>
<td>-141.5</td>
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<tr>
<td>Government</td>
<td>4.0</td>
<td>4.7</td>
<td>4.1</td>
<td>4.7</td>
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<td>Net Exports</td>
<td>-4.1</td>
<td>-4.2</td>
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<td>-4.2</td>
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<td>Final Sales</td>
<td>1.1</td>
<td>1.5</td>
<td>1.9</td>
<td>2.2</td>
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<tr>
<td>Nominal Gross Domestic Product</td>
<td>1.4</td>
<td>1.9</td>
<td>2.5</td>
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<tr>
<td>GDP Deflator - Implicit (% change)</td>
<td>4.4</td>
<td>4.7</td>
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<tr>
<td>CPI (% Change, 1982-84 = 100)</td>
<td>6.6</td>
<td>7.4</td>
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<tr>
<td>Civilian Unemployment Rate (avg.)</td>
<td>6.1</td>
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<td>6.1</td>
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**Source:** Northern Trust

### Table 2 Outlook for Interest Rates

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<th>SPECIFIC INTEREST RATES</th>
<th>08:4a</th>
<th>08:4b</th>
<th>09:1a</th>
<th>09:2a</th>
<th>09:3a</th>
<th>09:4a</th>
<th>10:1a</th>
<th>10:2a</th>
<th>10:3a</th>
<th>10:4a</th>
<th>Annual Average</th>
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<tr>
<td>Federal Funds</td>
<td>1.94</td>
<td>0.51</td>
<td>0.18</td>
<td>0.18</td>
<td>0.16</td>
<td>0.13</td>
<td>0.15</td>
<td>0.15</td>
<td>0.40</td>
<td>0.95</td>
<td>1.93</td>
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<tr>
<td>2-yr. Treasury Note</td>
<td>2.36</td>
<td>1.21</td>
<td>0.91</td>
<td>1.01</td>
<td>1.03</td>
<td>0.85</td>
<td>0.75</td>
<td>0.85</td>
<td>1.15</td>
<td>1.70</td>
<td>2.00</td>
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<td>10-yr. Treasury Note</td>
<td>3.86</td>
<td>3.25</td>
<td>2.74</td>
<td>3.31</td>
<td>3.52</td>
<td>3.40</td>
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<td>3.45</td>
<td>3.70</td>
<td>4.00</td>
<td>3.67</td>
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**Source:** Northern Trust

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