Global Investments & Risk Management
Best Practices, Innovations and Strategies

Moderator
Scott Fox
SVP, Business Development
ICD

Panelist
Jeff Knapp
Senior Treasury Analyst
Coca-Cola

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Devin Parker
Vice President & Assistant Treasurer
Capital Markets, Investments, Risk & Insurance
Western Union
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Global Corporations

127 Years Old
Operates in 200+ Countries
Over 3,500 Products
Over 500 Brands Worldwide

162 Years Old
Operates in 200+ Countries
Over 520,000 Locations Worldwide
Investment Considerations, Risks and Liquidity Needs

Methods for Evaluating Risk

Understanding the Yield Curve

Analyzing Opportunities to Extend Duration

Using Technology to Manage Risks & Investments

Summary / Key Takeaways
Investment Considerations & Approach

1. Identify Liquidity Characteristics
   - Liquidity needs
   - Investment horizon – acquisition plans, capital spending
   - Cash flow considerations – frequency/magnitude of position changes

2. Formulate Investment Objectives and Establish Guidelines
   - Risk / return objectives and tolerance
   - Benchmark selection / guideline parameters
   - Accounting and tax considerations
   - Manager selection

3. Construct Optimal Portfolio Allocation
   - Seek to:
     - Maximize returns given risk tolerance
     - Diversify risks
     - Hedge unwanted risk

4. Actively Manage Portfolios / Managers
   - Sector allocation
   - Security selection
   - Yield curve structure
   - Daily risk management

Developing a successful investment strategy requires thoughtful consideration of cash flow planning, investment objectives and risk tolerances
Investment Risk

RISK TOLERANCE CONSIDERATIONS:

- Tradeoffs of yield versus volatility
- Potential for negative returns
- Effect of interest rate moves

DESCRIPTIONS OF CERTAIN INVESTMENT RISKS:

Interest Rate Risk - the risk that an investment’s value will change due to changes in the absolute level of interest rates or the shape of the yield curve; risk rises with increasing duration. Reinvestment risk is a competing risk to interest rate risk.

Credit Risk - adverse changes of a security’s value from actual or perceived deterioration in credit quality. Types of risks factors evaluated under credit risk include: profitability, leverage, quality of assets, capital, liquidity, corporate governance, legal risk, and event risk.

Liquidity Risk – risk that a security may not have a ready and deep market into which it may be sold without a substantial discount to price.

Pursuing incremental yield requires a willingness to assume measured risks
Investment Types

Bank Deposits

Time Deposits

Repurchase Agreement

Treasury/Agencies

Money Market Funds
### Investment Types

<table>
<thead>
<tr>
<th>Bond Funds</th>
<th>Separately Managed Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPITAL PRESERVATION</td>
<td>LIQUIDITY</td>
</tr>
<tr>
<td>VARIES DEPENDING UPON FUND’S PROFILE</td>
<td>CUSTOMIZABLE TO INVESTMENT POLICY, RISK TOLERANCE, AND RETURN OBJECTIVES</td>
</tr>
</tbody>
</table>

**AFP® Annual Conference**
Identifying Liquidity Characteristics

- Many companies rely solely on money market investments despite the fact that immediate liquidity needs are only a portion of cash balances.

- Consider creating 2 to 3 distinct “pools” of cash to improve returns while meeting liquidity needs.
Consider incorporating “best practices” for investment management – matching liquidity considerations, investment horizons, and risk tolerances.
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Summary / Key Takeaways
## Ratings Considerations

### Comparative Default Rates for Municipal & Corporate Debt

<table>
<thead>
<tr>
<th></th>
<th>Municipal (%)</th>
<th>Corporate (%)</th>
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<tbody>
<tr>
<td>AAA</td>
<td>0.00</td>
<td>1.09</td>
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<tr>
<td>AA</td>
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<tr>
<td>B</td>
<td>8.84</td>
<td>34.54</td>
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<td>CCC/C2</td>
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<td>Investment-Grade</td>
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<tr>
<td>Speculative-Grade</td>
<td>6.75</td>
<td>29.40</td>
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</table>

*For municipal defaults, S&P’s study period was January 1986 to January 2010. For corporate defaults, S&P’s study period was January 1981 to December 2010.*
What is CDS?
The ability to buy or sell insurance against default

A swap designed to transfer the credit exposure of fixed income products between parties whereby the purchaser of the swap makes payments to the seller up until the maturity date of a contract, in return, the seller agrees to pay off a third party debt if this party defaults on the loan. A CDS is considered insurance against non-payment.

- CDS Spread is the amount over LIBOR that a counterparty charges for credit protection
  - The higher the spread, the higher the credit risk of the underlying asset

- Benefits and considerations of using CDS in your analysis
  - Real time, market based information (unlike credit ratings)
  - Ability to see trends and compare (and ease of use)
  - Liquidity / Technicals
  - A word of caution
Probability of Default

Using a CDS spread, it is possible to calculate a probability of default of the underlying asset for a specific period of time.

1 Year Probability of Default = \[ \frac{1 \text{ Year CDS}}{10,000} \times \frac{1}{1 - \text{Recovery Rate}} \]

5 Year Probability of Default\(^1\) = \[ [1 - e^x] \]

Where \( x \) is calculated as:

\[ x = \frac{5 \text{ Year CDS}}{10,000} \times \frac{1}{1 - \text{Recovery Rate}} \]

\(^1\) Where “e” is the mathematical constant 2.71828 (base of the natural log)
JP Morgan (CDS of 91) – 7% Probability of default within 5 years
Citibank (CDS of 103) – 8% Probability of default within 5 years
Puerto Rico (CDS of 589) – 39% Probability of default within 5 years
Venezuela (CDS of 988) – 56% Probability of default within 5 years
2008 Headline Name CDS Spreads

2008 5-YEAR CREDIT DEFAULT SWAP (CDS) PRICING

January 31, 2008

July 31, 2008
What is Tier 1 Capital?

• A comparison between a banking firm's core equity capital and total risk-weighted assets. A firm's core equity capital is known as its Tier 1 capital and is the measure of a bank's financial strength based on the sum of its equity capital and disclosed reserves, and sometimes non-redeemable, non-cumulative preferred stock. A firm's risk-weighted assets include all assets that the firm holds that are systematically weighted for credit risk.

• Benefits and considerations of using Tier 1 capital in your analysis
  
  – Helps determine if a bank is well capitalized (6% or higher to be well capitalized)
  – Provides the ability to compare different banks

\[
\text{Tier 1 Ratio} = \frac{\text{Common Stock} + \text{Non - Redeemable Common Stock} + \text{Retained Earnings} + \text{Disclosed Reserves}}{\text{Total Assets}}
\]
What are Non-Performing Assets?

- A classification used by financial institutions that refer to loans that are in jeopardy of default. Once the borrower has failed to make interest or principal payments for 90 days the loan is considered to be a non-performing asset.

- Benefits and considerations of using Non-Performing Assets in your analysis:
  - Only as good as the most recent financials
  - May be late to the game

\[
\text{Non - Performing Assets to Total Assets} = \frac{\text{Non - Performing Assets}}{\text{Total Assets}}
\]
Investment Considerations, Risks and Liquidity Needs

Methods for Evaluating Risk

**Understanding the Yield Curve**

Analyzing Opportunities to Extend Duration

Using Technology to Manage Risks & Investments

Summary / Key Takeaways
Understanding rate risk when extending maturities to pick-up yield

Interest Rate Risk is the risk an investment declines in value due to an increase in interest rates – is it worth extending duration?

• How severe is the move?
• How long does it take?
• Are maturities affected differently?
• How much is priced in?
  • What does the curve tell you?
  • What is the volatility of rates and how big a standard deviation move would it take to regret the trade?
  • Do you get paid over time for extending duration?
Yield Curve Tells a Story...

- The current yield curve tells a story of which direction rates are expected to go
  - An upward sloping curve says that rates are expected to rise
  - A downward (or inverted) yield curve says that rates are expected to decline
- Forward rate (or yield) curves take it a step further. They tell the story of how much and when rates will move over a certain period of time (i.e., 1, 2, 3 years)
  - These calculations are interpolated based on the current yield curve.
- You can use the forward rate curves to calculate what is “priced in”
  - Priced in means that if you own a maturing security over x number of years versus holding cash you would be indifferent
- A key concept to understand is that in a rising rate environment, you can be indifferent because you still earn income and roll down by owning a maturing security
Investment Options – Putting it Simply

OPTION 1
• Buy a 1 year maturity
• 1 year bond yield is 0.25%

• Income 0.25%
• Principal 0.00%
• Return in 1 year 0.25%

OPTION 2
• Buy a 2 year maturity and sell in 1 year
• 2 year bond yield is 0.60%
• In order to have Option 1 and Option 2 equal each other (or, break even), the 2 year maturity must lose -0.35% in principal value because it’s income is 0.60%.

• Income 0.60%
• Principal -0.35%
• Return in 1 year 0.25%

• Since a 2 year maturity, one year forward, is a 1 year maturity, how much do rates need to rise in order to lose 0.35% of principal? For a 1 year maturity security, that is 0.35% (1 year duration x 35 bps = 0.35%) therefore, 1 year securities will need to yield 0.95% (0.60% + 0.35%).
• Current 1 year security is 0.25% and the breakeven rate is 0.95%, the market is pricing in a 70 bps rise.
• If rates rise more than 70 bps for 1 year securities, an investor is better off in Option 1. If rates rise less, an investor is better off in Option 2.
Expected Yield Curves (forwards) “breakevens”
Investment Considerations, Risks and Liquidity Needs

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Summary / Key Takeaways
Wells Fargo Ultra Short Bond Fund Overview (as of June 2013)

Fund Characteristics:

- 30-day SEC yield: 1.12%
- Sharpe Ratio: 2.71
- Average Return: 0.40%
- Portfolio turnover: 64.89%
- Effective Duration: 0.44 years
- Number of Holdings: 334

Credit Rating

Maturity distribution (%)

- 0–1 Years: 30
- 1–3 Years: 67
- 3–5 Years: 2
- 5–10 Years: 1

Portfolio composition (%)

- Corporate Bonds (54)
- Asset Backed Securities (20)
- CMBS (11)
- CMO (7)
- Municipals (4)
- MBS (2)
- Agencies (1)
- Government-Related (1)
## Risk/Reward Trade Off – SADIX

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<th>MPT Statistics</th>
<th>Compared to Lipper Inst. MF Index</th>
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<tr>
<td>Alpha</td>
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<tr>
<td>Correlation</td>
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<tr>
<td>R-Squared</td>
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<tr>
<td>Beta</td>
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<tr>
<td>Excess Return</td>
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<tr>
<td>Sharpe</td>
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<table>
<thead>
<tr>
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<th>S&amp;P</th>
<th>Outlook</th>
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<tr>
<td>United States</td>
<td>41</td>
<td>AA+</td>
<td>Negative</td>
</tr>
<tr>
<td>JPMorgan</td>
<td>81</td>
<td>A</td>
<td>Negative</td>
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<tr>
<td>Ford Motor</td>
<td>165</td>
<td>BB+</td>
<td>Positive</td>
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<tr>
<td>Bank of America</td>
<td>117</td>
<td>A-</td>
<td>Negative</td>
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<tr>
<td>Fiat Industrial</td>
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<tr>
<td>General Electric</td>
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<tr>
<td>Citigroup</td>
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<td>Morgan Stanley</td>
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<td>Nordea Bank</td>
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<td>Negative</td>
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<td>AA-</td>
<td>Negative</td>
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<tr>
<td>Porshe Automobil</td>
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<td>--</td>
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<td>Dominion Resources</td>
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<td>A-</td>
<td>Stable</td>
</tr>
<tr>
<td>Daimler</td>
<td>97</td>
<td>A-</td>
<td>Stable</td>
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</table>

Weighted Average: 85
Risk/Reward Trade Off – SADIX Continued

Time to Recover 1¢ NAV

Breakeven Point

| $100,150,000 | $90,000 |
| $100,100,000 | $80,000 |
| $100,050,000 | $70,000 |
| $100,000,000 | $60,000 |
| $99,950,000 | $50,000 |
| $99,900,000 | $40,000 |
| $99,850,000 | $30,000 |
| $99,800,000 | $20,000 |
| $99,750,000 | $10,000 |

Day 1, Month 1, Month 2, Month 3, Month 4

Principal (LHS)  Income (RHS)
Maturity Risk – Return

1994-2012 Rolling 12-Month Returns At Each Quarter-End

Greater duration is typically accompanied by higher expected return and higher volatility

- BofA ML 1-10 Year US Treasury Index
- BofA ML 1-5 Year US Treasury Index
- BofA ML 1-3 Year US Treasury Index
- BofA ML 1 Year US Treasury Note Index
- BofA ML US 6-Month Treasury Bill Index

Source: Bloomberg
Total Return for One Year Holding Periods

Rolling 12-Month Returns At Each Quarter-End
January 1994- December 2012

*BofA ML US 6-Month Treasury Bill Index
*BofA ML 1-Year US Treasury Note Index
*BofA ML 1-3 Year US Treasury Index
*BofA ML 1-5 Year US Treasury Index
*BofA ML 1-10 Year US Treasury Index

*The 1994-2012 period includes one negative return period for the 1-3 Year Index, two negative return periods for the 1-5 Year Index, and five negative return periods for the 1-10 Year Index. Source: Bloomberg
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Summary / Key Takeaways
Optimize with Integration

Consolidate trading to small number of platforms

- Invest all Money Market Funds through one platform
  - ICD portal
  - Numerous bank portals
- Place time deposit trades electronically
  - Bloomberg RFQ
### Bloomberg RFQ

<table>
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<tr>
<th>Type</th>
<th>Deposit</th>
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<tbody>
<tr>
<td>COLA Deposits</td>
<td>New</td>
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<tr>
<td>Principal</td>
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<tr>
<td>GBP</td>
<td></td>
</tr>
<tr>
<td>Start Date</td>
<td>10/22/2013</td>
</tr>
<tr>
<td>End Date</td>
<td>11/22/2013</td>
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<tr>
<td></td>
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**Notes:**

- Account: <None>
- Portfolio: <None>

**Add Deal Code:**

- ING BANK NV., Amsterdam (INGD)
- BANK OF AMERICA London (BAMO)
- BANK OF TOKYO-MITSUBISHI MH SALES, NEW
- CITI - Rates London (CISW)
- MIZUHO CORPORATE BANK LTD London (MHCC)
- Standard Chartered Bank, New York (SCBN)
- ANZ DEPO DESK (TREASURY), LONDON (ANZ2)
- BLOOMBERG/ Tokyo (BGTO)
- RABOBANK, NY (RATD)
- UBS AG Stamford Corporate Desk (UBNK)
- RABOBANK NEDERLAND FX, NEW YORK (RANY)
Optimize with Integration

Integrate trading platforms to Treasury Workstation

• Eliminates extra work
• Reduces data entry allowing more time for analysis of exposures
• Simplifies reporting
  • If everything is in one place, less work
Optimize with Integration

ICD Portal

FTP Push

FTP Pull

Email

Web Service

Treasury Workstation

Logos of various companies are displayed at the bottom.
Elements to Managing Counterparty Risk

1. Avoid concentrating funds with too few counterparties

2. Evaluate the relative financial strength of selected counterparties

3. Understand the exposures that your counterparty may have
   a. Bank may have a large exposure to a specific country/counterparty
## Risk Analysis Tool

<table>
<thead>
<tr>
<th>Bank / Criteria Weighting</th>
<th>Moody's</th>
<th>S&amp;P</th>
<th>Fitch</th>
<th>30 CDS AVG</th>
<th>CDS from Avg</th>
<th>T1 Capital Ratio</th>
<th>NPA/Total Assets</th>
<th>Wt/Avg Score</th>
<th>Change in Stock Price</th>
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<td></td>
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<td>25%</td>
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Direct Exposure

Short Duration
Bond Funds

Separately Managed
Accounts

Money Market Funds

REPORT DATE: 9/19/2013

COMPREHENSIVE REPORT

My Portfolio

<table>
<thead>
<tr>
<th>PORTFOLIO</th>
<th>CURRENT YIELDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INVESTMENT</td>
<td>HOLDS ASOF</td>
</tr>
<tr>
<td>ICD TICKER</td>
<td>(000,000's)</td>
</tr>
<tr>
<td>Exposure2 JPMorgan Chase &amp; Co (Bank</td>
<td>EXP2 (Bank Account)</td>
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<tr>
<td>Exposure3 Royal Bank of Canada (CDTIME DEP)</td>
<td>EXP3 (CDTIME DEP)</td>
</tr>
<tr>
<td>Exposure1 Bank of America Corp (Bank</td>
<td>EXPI (Bank Account)</td>
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<tr>
<td>Exposure4 Barclays PLC (CDTIME DEP)</td>
<td>EXP4 (CDTIME DEP)</td>
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<td>Wells Fargo Adv Ultra Short-Term Municipal Income Fund</td>
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<td>Wells Fargo Adv Ultra Short-Term Income Fund</td>
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<td>FPXXX</td>
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<td>Morgan Stanley ILP/Prime/Inst</td>
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<td>PORTFOLIO TOTALS</td>
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Risk Management Analysis – Fund Holdings

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<thead>
<tr>
<th>SPONSOR</th>
<th>TICKER</th>
<th>AMOUNT</th>
<th>% OF MY PORTFOLIO</th>
<th>% OF FUND AUM</th>
<th>% OF FUND HOLDINGS</th>
<th>WAM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOP 25 HOLDINGS</strong></td>
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<td></td>
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<tr>
<td>United States of America</td>
<td>3352Z US</td>
<td>$370,444,800</td>
<td>87.84%</td>
<td>1,172,893%</td>
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<td>Prime SMA</td>
<td>PSMA</td>
<td>$49,421,394</td>
<td>4.94%</td>
<td>3.28%</td>
<td>21.59%</td>
<td>647</td>
</tr>
<tr>
<td>Treasury MMF1</td>
<td>TMMF1</td>
<td>$46,602,017</td>
<td>4.06%</td>
<td>66.57%</td>
<td>0.44%</td>
<td>78</td>
</tr>
<tr>
<td>Govt SMA</td>
<td>GSMA</td>
<td>$41,779,426</td>
<td>4.18%</td>
<td>34.81%</td>
<td>18.14%</td>
<td>555</td>
</tr>
<tr>
<td>FDIC Insured Brokered CDs</td>
<td>FDICED</td>
<td>$40,000,000</td>
<td>4.00%</td>
<td>100.000%</td>
<td>211.43%</td>
<td>150</td>
</tr>
<tr>
<td>Govt MMF1</td>
<td>GMMF1</td>
<td>$36,351,327</td>
<td>3.64%</td>
<td>60.56%</td>
<td>0.23%</td>
<td>100</td>
</tr>
<tr>
<td>Prime MMF2</td>
<td>PMMF2</td>
<td>$14,076,724</td>
<td>1.41%</td>
<td>20.11%</td>
<td>0.00%</td>
<td>181</td>
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<tr>
<td>Govt SDBF</td>
<td>GSDBF</td>
<td>$6,173,118</td>
<td>0.62%</td>
<td>12.34%</td>
<td>0.44%</td>
<td>3931</td>
</tr>
<tr>
<td>Barclays PLC</td>
<td>BARC LN</td>
<td>$101,544,377</td>
<td>10.15%</td>
<td>100.000%</td>
<td>0.14%</td>
<td>38</td>
</tr>
<tr>
<td>Time Deposit 2</td>
<td>TD1</td>
<td>$100,000,000</td>
<td>10.00%</td>
<td>100.000%</td>
<td>100.000%</td>
<td>51</td>
</tr>
<tr>
<td>Prime MMF1</td>
<td>PMMF1</td>
<td>$1,544,377</td>
<td>0.15%</td>
<td>4.41%</td>
<td>0.19%</td>
<td>1</td>
</tr>
<tr>
<td><strong>REPO</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime MMF3</td>
<td>PMMF3</td>
<td>$26,251,322</td>
<td>2.63%</td>
<td>36.07%</td>
<td>0.11%</td>
<td>11</td>
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<tr>
<td>Treasury MMF1</td>
<td>TMMF1</td>
<td>$23,307,003</td>
<td>2.34%</td>
<td>33.42%</td>
<td>0.22%</td>
<td>5</td>
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<tr>
<td>Prime MMF2</td>
<td>PMMF2</td>
<td>$23,052,360</td>
<td>2.31%</td>
<td>32.03%</td>
<td>0.13%</td>
<td>9</td>
</tr>
<tr>
<td>Govt MMF1</td>
<td>GMMF1</td>
<td>$22,368,889</td>
<td>2.24%</td>
<td>37.28%</td>
<td>0.14%</td>
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</tr>
<tr>
<td><strong>Bank of America Corp</strong></td>
<td>BAC US</td>
<td>$80,641,143</td>
<td>8.06%</td>
<td>100.000%</td>
<td>0.10%</td>
<td>1,202</td>
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<tr>
<td>Bank Deposit 1</td>
<td>ED1</td>
<td>$76,000,000</td>
<td>7.60%</td>
<td>100.000%</td>
<td>100.000%</td>
<td>0</td>
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<td>Prime SMA</td>
<td>PSMA</td>
<td>$3,275,429</td>
<td>0.33%</td>
<td>2.13%</td>
<td>1.43%</td>
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<tr>
<td>Prime MMF1</td>
<td>PMMF1</td>
<td>$1,601,477</td>
<td>0.16%</td>
<td>4.29%</td>
<td>0.18%</td>
<td>1</td>
</tr>
<tr>
<td>Govt SDBF</td>
<td>GSDBF</td>
<td>$924,337</td>
<td>0.06%</td>
<td>1.72%</td>
<td>0.06%</td>
<td>8,901</td>
</tr>
<tr>
<td><strong>MUNI</strong></td>
<td><strong>MUNI</strong></td>
<td>$71,830,251</td>
<td>7.18%</td>
<td>0.09%</td>
<td>2.602</td>
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</table>
### Risk Management Analysis – CDS Spreads

<table>
<thead>
<tr>
<th>SPONSOR</th>
<th>5-YR CDS</th>
<th>CREDIT DEFAULT SWAP SUMMARY (AS OF 5/17/2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 WEEK</td>
</tr>
<tr>
<td>United States of America</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Barclays PLC</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>REPO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of America Corp</td>
<td>103</td>
<td>107</td>
</tr>
<tr>
<td>MUNI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPMorgan Chase &amp; Co</td>
<td>84</td>
<td>87</td>
</tr>
<tr>
<td>Wells Fargo &amp; Co</td>
<td>62</td>
<td>64</td>
</tr>
<tr>
<td>Deutsche Bank AG</td>
<td>98</td>
<td>102</td>
</tr>
<tr>
<td>Berkshire Hathaway Inc</td>
<td>77</td>
<td>80</td>
</tr>
<tr>
<td>Coca-Cola Co/The</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Toyota Motor Corp</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>Caterpillar Inc</td>
<td>77</td>
<td>81</td>
</tr>
<tr>
<td>PepsiCo Inc</td>
<td>47</td>
<td>48</td>
</tr>
<tr>
<td>International Business</td>
<td>41</td>
<td>39</td>
</tr>
<tr>
<td>Machinery Corp</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>21</td>
<td>24</td>
</tr>
</tbody>
</table>

**WEIGHTED AVERAGE**

63
Risk Management Analysis – Stock Performance

<table>
<thead>
<tr>
<th>SPONSOR</th>
<th>BLOOMBERG TICKER</th>
<th>CURRENT STOCK</th>
<th>1 WK</th>
<th>% CHG</th>
<th>52 WK HIGH</th>
<th>% CHG</th>
<th>52 WK LOW</th>
<th>% CHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>3352Z US</td>
<td>306</td>
<td>-2.21%</td>
<td>-11.59%</td>
<td>212</td>
<td>41.17%</td>
<td></td>
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<tr>
<td>Barclays PLC</td>
<td>BARC LN</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPO</td>
<td>REPO</td>
<td>15</td>
<td>-0.41%</td>
<td>-3.19%</td>
<td>9</td>
<td>67.24%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of America Corp</td>
<td>BAC US</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUNI</td>
<td>MUNI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Bank of Canada</td>
<td>RY CN</td>
<td>66</td>
<td>0.33%</td>
<td>-1.01%</td>
<td>55</td>
<td>21.67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPMorgan Chase &amp; Co</td>
<td>JPM US</td>
<td>53</td>
<td>-1.05%</td>
<td>-6.75%</td>
<td>39</td>
<td>36.72%</td>
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</tr>
<tr>
<td>Federal Home Loan Banks</td>
<td>1799Z US</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wells Fargo &amp; Co</td>
<td>WFC US</td>
<td>43</td>
<td>0.94%</td>
<td>-4.32%</td>
<td>31</td>
<td>37.12%</td>
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</tr>
<tr>
<td>US Bancorp/MN</td>
<td>USB US</td>
<td>38</td>
<td>2.21%</td>
<td>-1.19%</td>
<td>31</td>
<td>21.19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Electric Co</td>
<td>GE US</td>
<td>24</td>
<td>2.43%</td>
<td>-2.00%</td>
<td>20</td>
<td>23.05%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toronto-Dominion Bank/The</td>
<td>TD CN</td>
<td>91</td>
<td>0.88%</td>
<td>-0.89%</td>
<td>78</td>
<td>17.14%</td>
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</tr>
<tr>
<td>Deutsche Bank AG</td>
<td>DBK GR</td>
<td>36</td>
<td>2.36%</td>
<td>-8.29%</td>
<td>29</td>
<td>21.31%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Farm Credit Banks</td>
<td>1795Z US</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Berkshire Hathaway Inc</td>
<td>BRKA US</td>
<td>173299</td>
<td>1.65%</td>
<td>-3.13%</td>
<td>125950</td>
<td>37.59%</td>
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<td></td>
</tr>
<tr>
<td>Coca-Cola Co/The</td>
<td>KO US</td>
<td>39</td>
<td>0.41%</td>
<td>-10.68%</td>
<td>36</td>
<td>9.02%</td>
<td></td>
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<tr>
<td>Bank of Nova Scotia</td>
<td>BNS CN</td>
<td>60</td>
<td>-0.42%</td>
<td>-3.38%</td>
<td>52</td>
<td>14.24%</td>
<td></td>
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</tr>
<tr>
<td>Toyota Motor Corp</td>
<td>T203 JP</td>
<td>6240</td>
<td>-0.32%</td>
<td>-2.14%</td>
<td>2873</td>
<td>117.19%</td>
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</tr>
<tr>
<td>Bank of New York Mellon Corp</td>
<td>BK US</td>
<td>31</td>
<td>0.54%</td>
<td>-2.81%</td>
<td>22</td>
<td>40.28%</td>
<td></td>
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</tr>
<tr>
<td>Caterpillar Inc</td>
<td>CAT US</td>
<td>87</td>
<td>0.53%</td>
<td>-12.67%</td>
<td>79</td>
<td>9.54%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PepsiCo Inc</td>
<td>PEP US</td>
<td>82</td>
<td>2.81%</td>
<td>-6.20%</td>
<td>67</td>
<td>21.18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of Montreal</td>
<td>BMO CN</td>
<td>58</td>
<td>1.06%</td>
<td>-0.52%</td>
<td>57</td>
<td>18.26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Business Machines Corp</td>
<td>IBM US</td>
<td>167</td>
<td>2.98%</td>
<td>-11.00%</td>
<td>181</td>
<td>8.11%</td>
<td></td>
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</tr>
<tr>
<td>Cisco Systems Inc</td>
<td>CSNO US</td>
<td>24</td>
<td>0.99%</td>
<td>-7.99%</td>
<td>17</td>
<td>46.10%</td>
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<td></td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>JNJ US</td>
<td>89</td>
<td>0.00%</td>
<td>-5.68%</td>
<td>68</td>
<td>31.56%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AVERAGE**: 7235.02 | 0.05% | -4.40% | 25.53%
Risk Management Analysis – Sector Allocation

**Current Sector Allocation**
- 13% ABCP
- 12% ABCP
- Other sectors (19%, 9%, 1%, 1%, 9%, 2%, 36%)

**Since Last Summary**
- 12% ABCP
- Other sectors (18%, 20%, 36%, 1%, 11%)

**Previous Month**
- 12% ABCP
- Other sectors (18%, 20%, 36%, 2%, 36%)

**Previous Year**
- 13% ABCP
- Other sectors (0%, 9%, 18%, 20%, 36%)

AFPa Annual Conference
What If Scenarios

Model what can happen in different circumstances

- Default scenarios
- Spread widening scenarios
- Rate shock scenarios / forward curve analysis
  - Duration risk – to extend or not
- Money Fund risk analysis
  - Credit risk in the fund portfolio
  - Interest rate risk
  - Risk from heavy investor redemption
  - What happens if I change my fund lineup
What are the implications on your liquidity planning of a failure of the U.S. Government to increase the debt ceiling and a potential technical default/payment delay resulting from such inaction?

- The chances of such an event are low but are not zero and while the full implications including unintended consequences can’t be fully known it is important to have a plan to successfully navigate such a scenario.

- We may face this issue multiple times.

- The payment delay from a default will be temporary and would impact near term maturities and interest payments (no cross-default).

- Money market funds have run stress tests showing even a severe rate shock should not result in a loss of principle, nevertheless they maintained excess liquidity.
  - Prime funds vs. Treasury / Government Funds.

- A sound approach is to stay diversified, keep cash liquid in bank accounts and high quality funds with strong bank sponsors and to continue to monitor counterparty strength / underlying exposures.

- Dislocations can also create opportunities.
Dislocation in T-Bills
Investment Considerations, Risks and Liquidity Needs

Methods for Evaluating Risk

Understanding the Yield Curve

Analyzing Opportunity to Extend Duration

Using Technology to Manage Risks & Investments

Summary / Key Takeaways
Credit Review Process

- Importance of a dedicated team of independent fixed income credit analysts
  - Internal vs. external resources
  - Intensive credit focus on both quantitative and qualitative factors

Internal Review
- Interview Obligor Management
- Perform Structural, Legal, Financial and Economic Analysis
- Review and Deliberate with Portfolio Manager

Other Data Resources
- Media
- Internet

Comparables

Offering Documents
- Investment Banker
- Bond Counsel
- Proposed Deal Structure

Wall Street Research

Rating Agencies

Site Visit
Utilize a rigorous relative value assessment and a disciplined research process drive security selection with a focus on the factors unique to each sector when evaluating securities for investment.

### Disciplined Approach to Security Selection

**Relative Value Assessment**
- Identify securities with attractive risk/reward characteristics
- Security misvaluations can be identified and captured

**Security Selection**

**Security Analysis**
- Maturity characteristics
- Structure
- Scenario analysis

**Quantitative Analysis**
- Historical spread analysis
- Volatility
- Tax considerations

**Fundamental Credit Research**
- Credit score
- Proactive approach
- Industry / Company outlook

**Qualitative Analysis**
- Liquidity
- Supply outlook
- Investor demand
Key Takeaways

- Understand liquidity requirements and consider dividing your cash into 2-3 pools / tiers
- Pursuing incremental returns requires assuming measured risks
- Understanding the risks you are assuming is key
  - Discussed multiple tools to assist you (CDS, Ratio Analysis, Non-performing assets)
  - Make active decisions about the risk you want to assume
- Yield curve Analysis can help you make better decisions on extending duration
- Scenario analysis can be a useful tool for managing risk and investments
  - Rate shocks, forward curve analysis
  - Changes in holdings
- Utilize the power of technology to bring it all together and save time
  - Aggregate exposures
  - Analyze trends
  - Manage risk, not data (manage your time)
Thank You!

Moderator
Scott Fox
SVP, Business Development
ICD

Panelist
Jeff Knapp
Senior Treasury Analyst
Coca-Cola

Panelist
Devin Parker
Vice President & Assistant Treasurer
Capital Markets, Investments, Risk & Insurance
Western Union