



VIP Webinar: Managing Investments when Cash Flows are Uncertain

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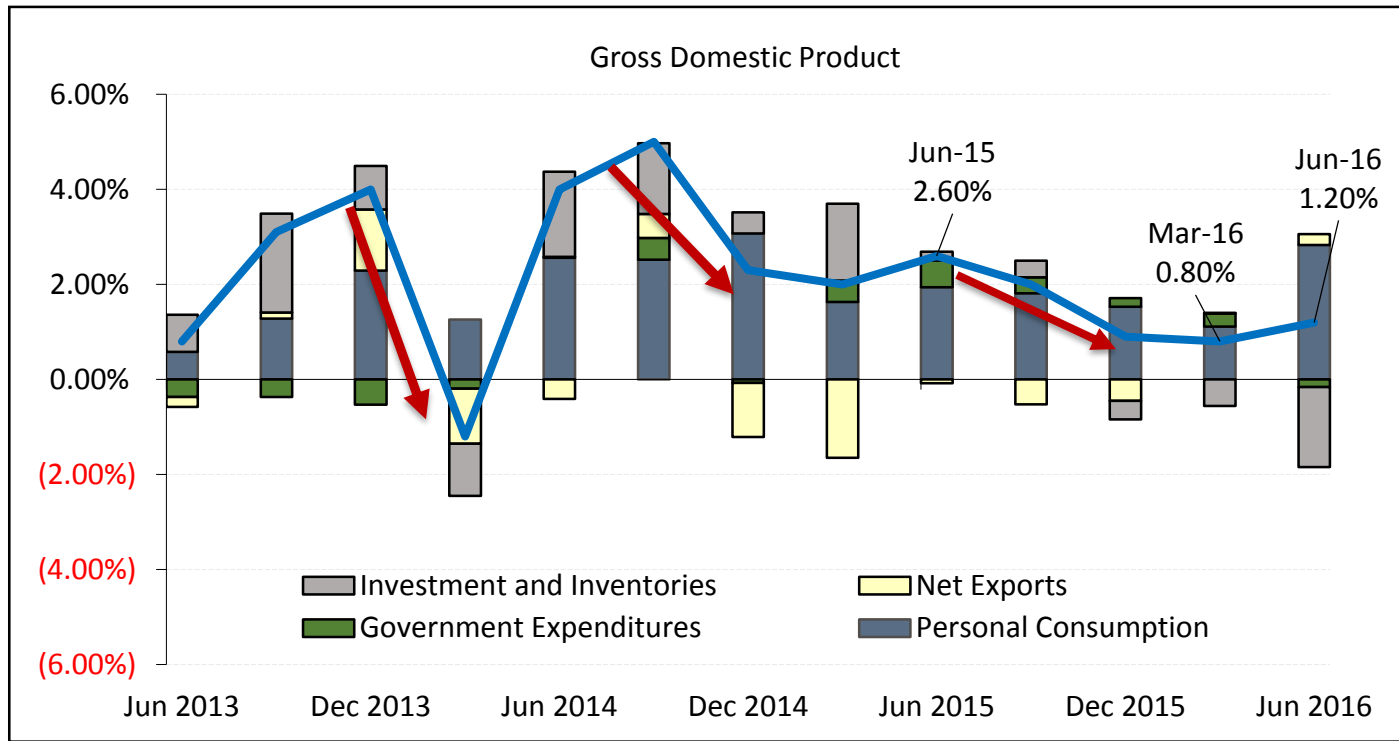
Thomas Tight
Managing Director

August 23, 2016

Economic Update

Gross Domestic Product

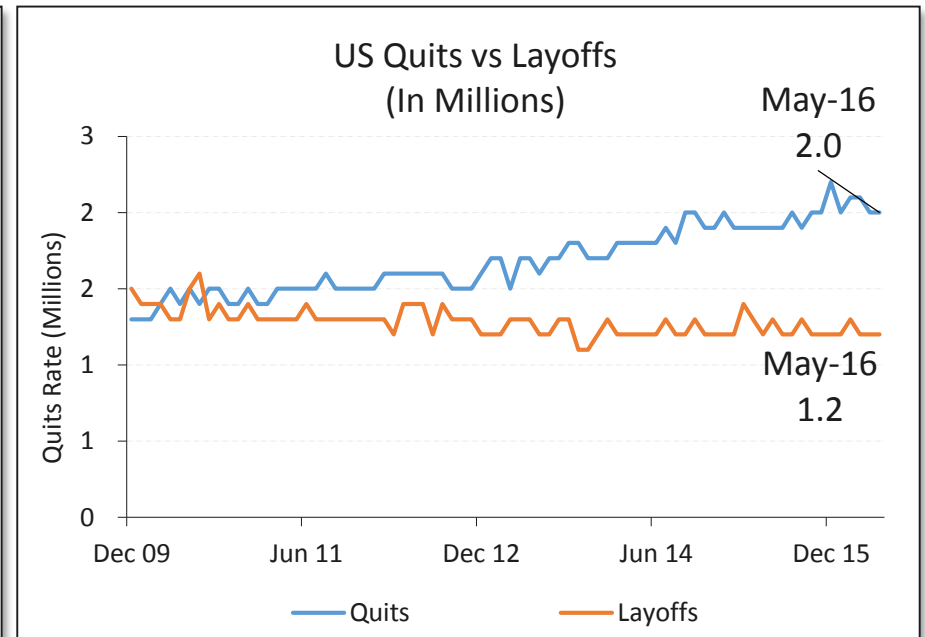
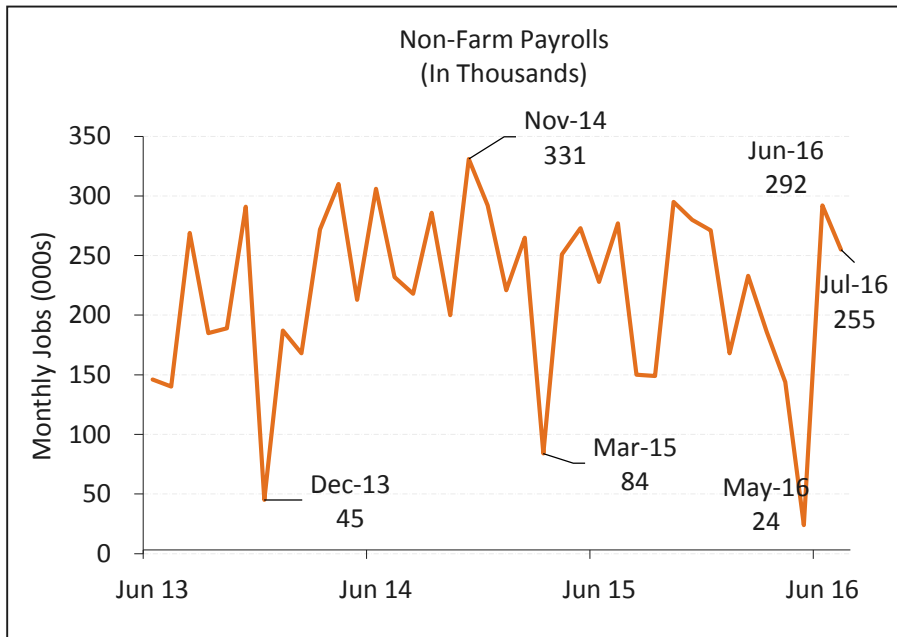
- GDP growth during the 2nd quarter was slightly higher than 1st quarter, although the initial reading of 1.2% was less than half of expectations.
- Consumer consumption was a strong contributor during the quarter with 2.83% growth, although Investment and Inventories declined 1.68%, the third consecutive quarter of declines in this component of GDP.



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Labor Force

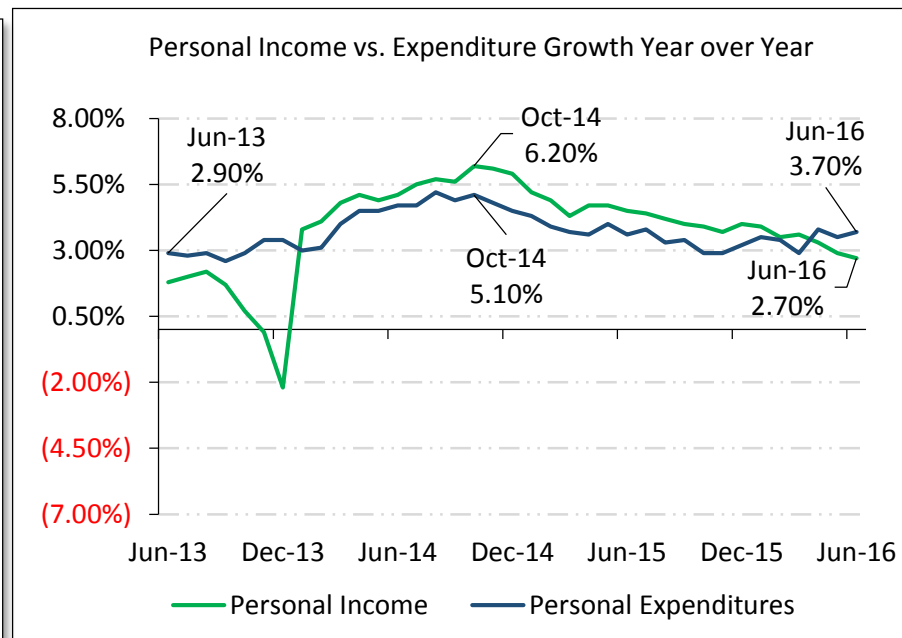
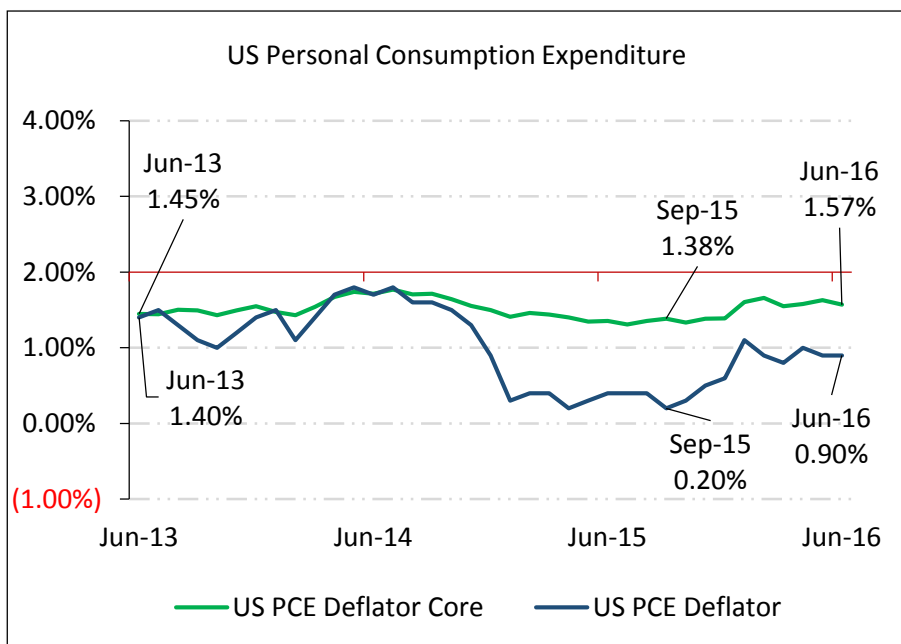
- Following a dismal May jobs report, payroll growth rebounded in June and July with 547k jobs created.
- The Quits/Layoff ratio maintained the positive trend through May. Almost twice as many workers quit, presumably for better job opportunities in most cases, than were laid off.



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Inflation and Personal Income

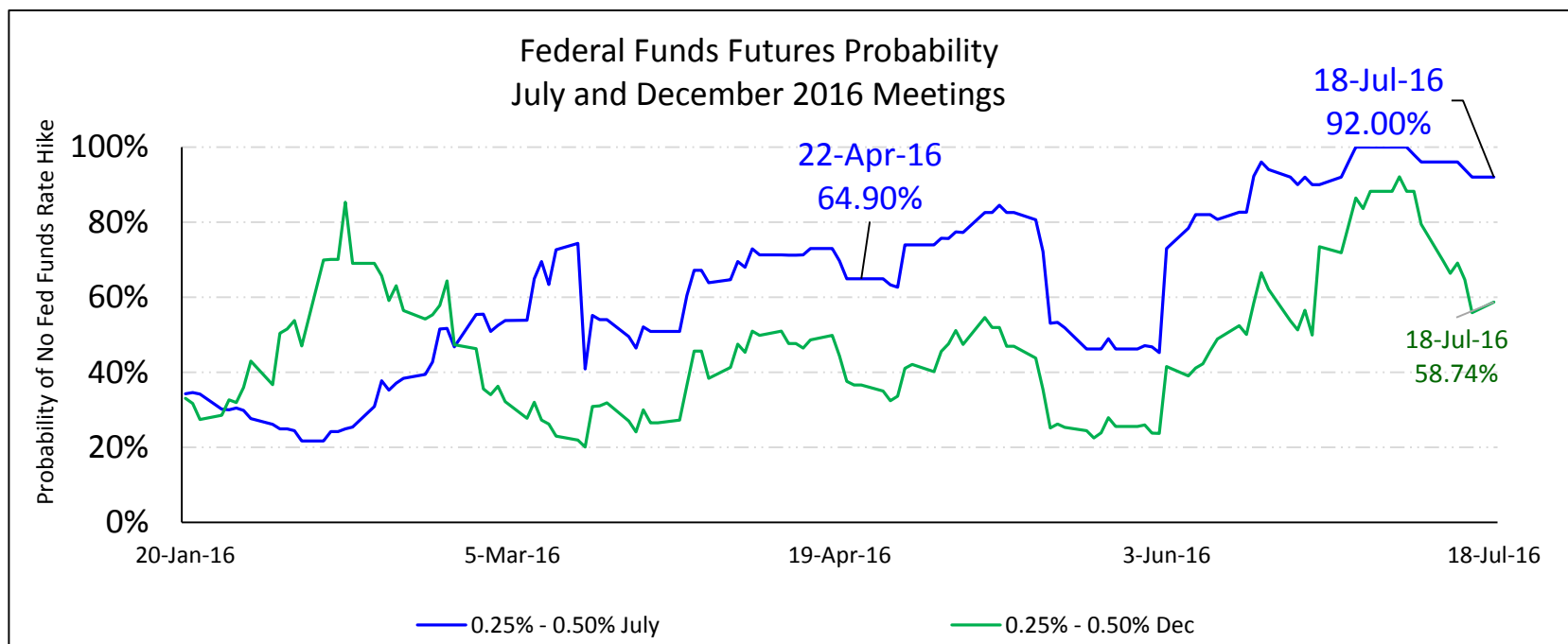
- ▢ Inflation remained below the Fed Target of 2% in June, maintaining a steady rate over the last several months between 1.35% and 1.65%.
- ▢ Personal Income growth was revised significantly lower recently as it was discovered the figure was not being calculated correctly. The revision resulted in a decrease of more than 1.0% to the May figure from 4.0% to 2.9%. This also resulted in growth in expenditure exceeding income for May and June.



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Federal Funds Rate Futures

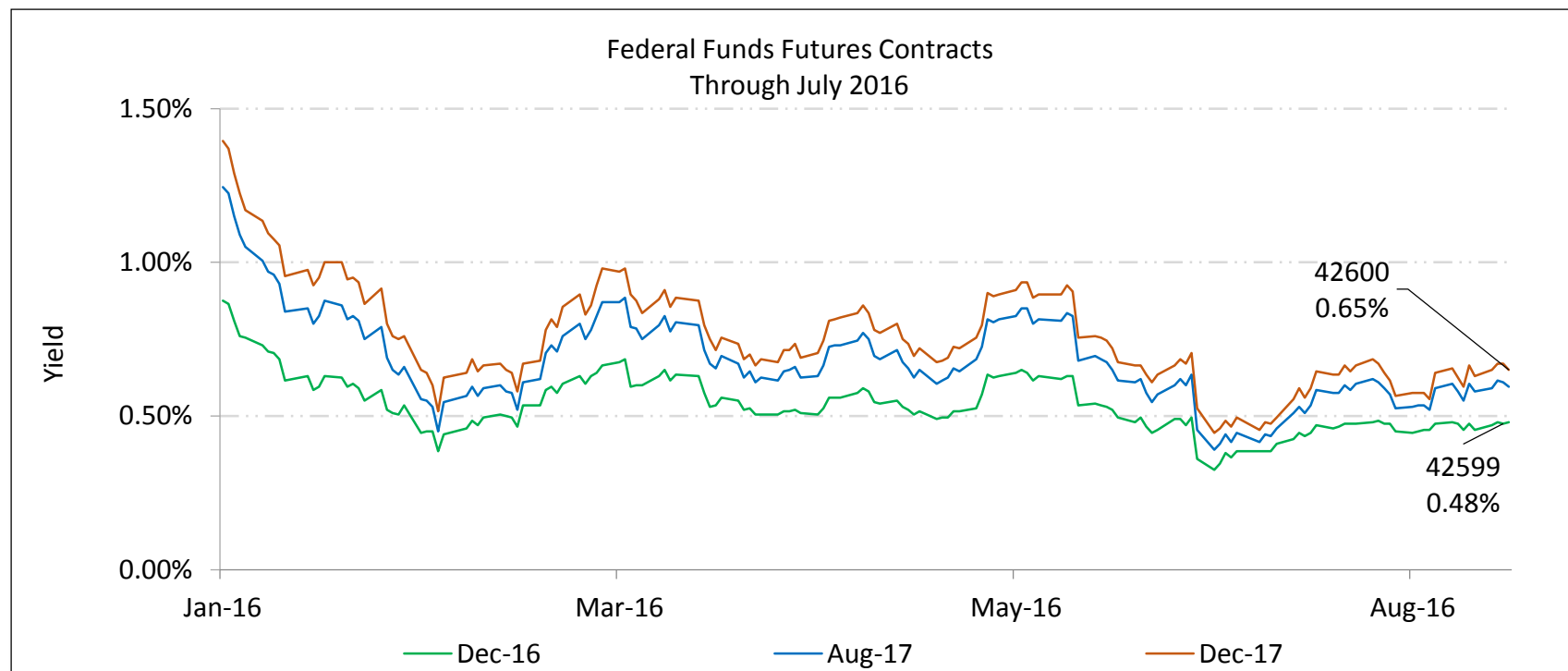
- Future rate increase probabilities have been as volatile as interest rates. Currently there is a 92% implied chance of no rate increase during the July FOMC meeting and a 58% implied chance of no rate increase through the end of 2016.
- The expectation of a rate increase by the end of 2016 has significantly improved from initial reactions in the wake of the Brexit Vote.



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Federal Funds Rate Futures

- Fed futures contracts and expectations of the overnight rate, are significantly lower than earlier in the year, primarily due to less than stellar domestic economic growth.
- The market currently has one 0.25% increase priced in through the end of 2016 and a slight probability of one additional increase of 0.25% in all of 2017.



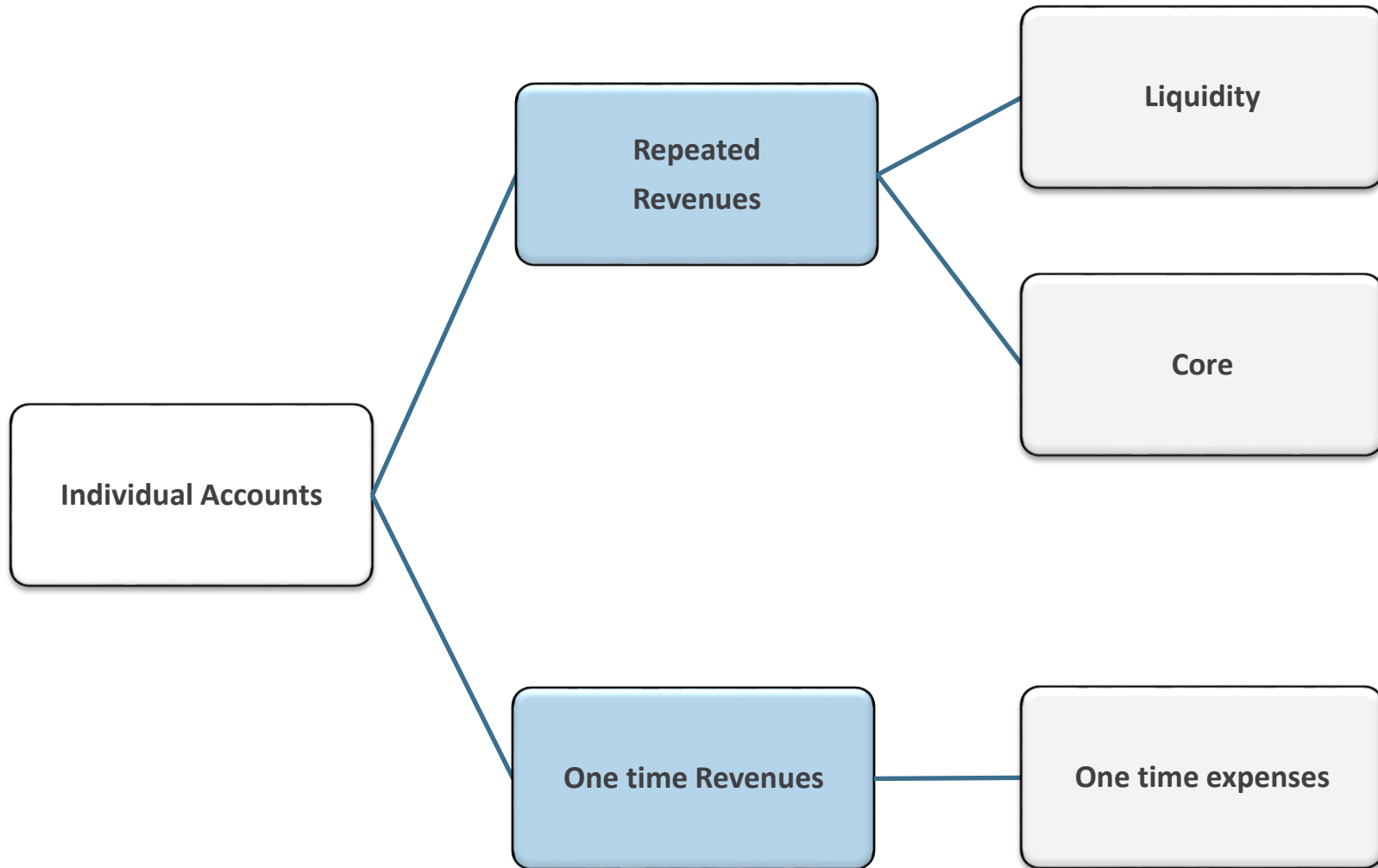
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Developing a Cash Flow Analysis

Cashflow Forecasting

- ▮ Revenues and Expenditures are influenced by unique characteristics of each entity
- ▮ Timing
- ▮ Debt Structure
- ▮ Entity Type (School District, County, Special District, Transportation Authority)
- ▮ Account structure
 - ▮ General Fund
 - ▮ Special Revenue Funds
 - ▮ CIP
 - ▮ Debt Service Funds
 - ▮ Enterprise Funds

Cash flow Analysis



Source: Public Trust Advisors. For illustration only. Not an investment transaction or strategy recommendation.

Cash Flow Analysis Purpose and Benefits

- The purpose of the cash flow analysis is to estimate investment balances for short term expenditures and long term expenditures and reserves.
- Historically longer term investment strategies have provided higher returns over long investment horizons when compared to shorter term duration strategies.
- This analysis may improve overall returns by identifying assets for short term needs and estimated assets available for longer term investment strategies.
- Benefits of a cash flow analysis include:
 - Establishing a more in-depth understanding of cash flows to establish ongoing investment strategies based on liquidity needs.
 - Analyze historical information to assist with the development and implementation of a dynamic investment program.
 - Provide a resource to better manage duration based portfolio strategies.
 - The analysis is a useful tool for comparing historical cash flows with projected and actual results, and for determining the reasons for any deviation from the expected values.
 - Serves as a basis to determine how financial assets should be invested based on liquidity needs and historical balances going forward.

Historical Characteristics of Long Term Total Return Strategies

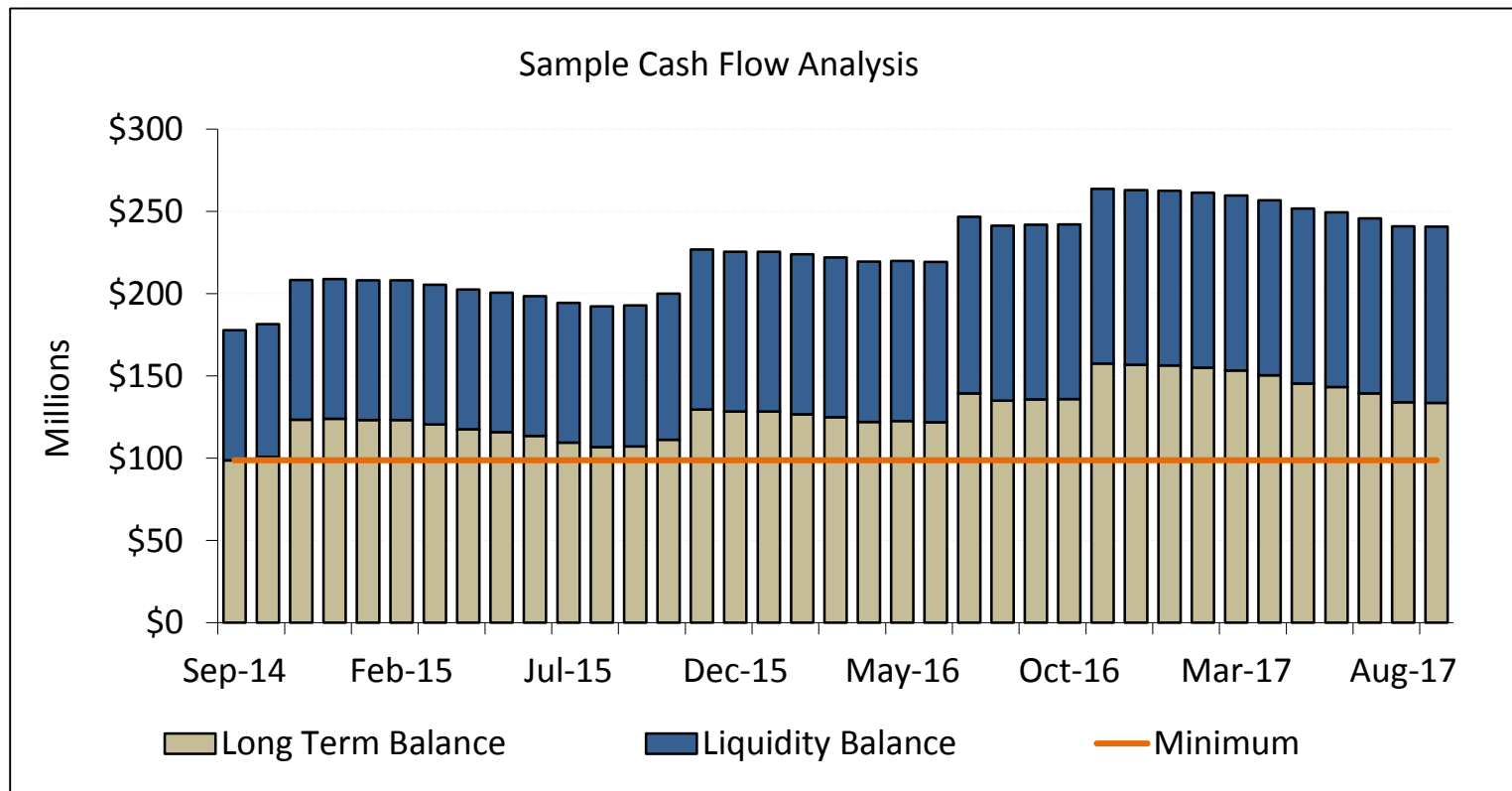
- Historically longer term investment strategies have provided higher returns over long investment horizons when compared to shorter term duration strategies, although with higher price volatility as measured by the change in market value for any given change in interest rates.

Historical characteristics of longer term total return performance:

- Over the last ten years as of June 30, 2016 the 1-3 Year U.S. Treasury Index and the 1-5 year U.S. Treasury Index (Treasury Only Securities) experienced the same or more quarters of negative returns over the last 10 years than more diverse indexes with the similar duration strategies, with lower historical returns.
- For similar duration strategies, indexes with multiple asset classes have experienced fewer quarters of negative returns versus a single asset class index.
- The 1-3 year and 1-5 year duration portfolios may be optimal strategies for core assets based on permitted investments, maximum duration limitations and historical information for these indexes, if historical trends continue.
- Another factor to consider regarding total return for public funds investment portfolios is income generated from the portfolio with recognition to the market value change of the portfolio during the evaluation period.

Cash Flow Analysis Approach

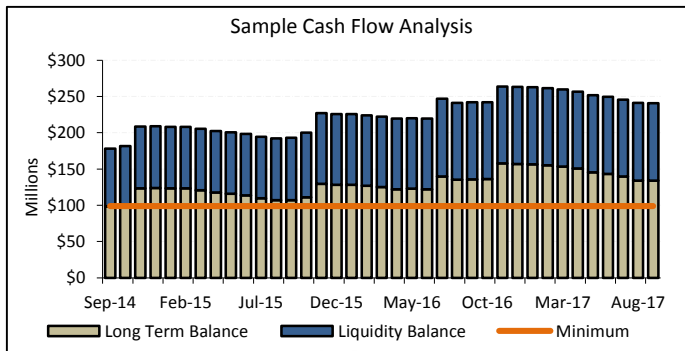
- Review existing cash flows and utilize fund balance information to develop tailored cash flow analysis. Compare results with previous cash flows and provide recommended strategies based on liquidity needs, historical, and current balances and forecast assumptions.
- Analysis includes fund-by-fund strategy and pooled scenario strategy



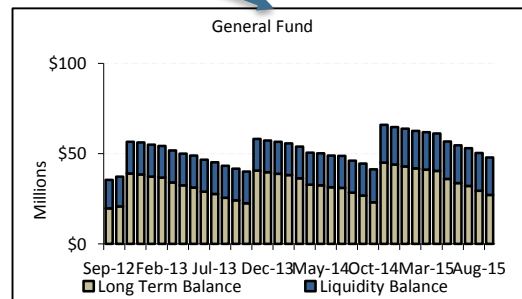
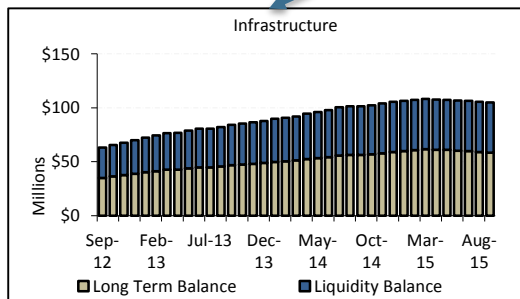
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Cash Flow Analysis Approach

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- Analysis includes fund-by-fund strategy and pooled scenario strategy



Total Funds	
Portfolio Analysis Beginning Date:	September 30, 2012
Portfolio Analysis End Date:	September 30, 2015
Growth of Fund During Portfolio Analysis Period	11.1%
Average Monthly Change of Fund	1,160,232
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Duration Strategy	
Portfolio Duration Strategy	1.5 Years
<hr/>	
Portfolio Technical Analysis Date	September 30, 2017
Historical Liquidity Allocation of Portfolio	107,011,770
Historical Core Portfolio Allocation	133,764,713
Total Historical Portfolio Balance	240,776,483
<hr/>	
Periodic Analysis Beginning	September 30, 2013
Periodic Analysis Ending	September 30, 2014
Periodic Growth Rate	16.7%



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Fixed Income Strategies Bond Proceeds and Capital Projects

Bond Proceeds Strategy

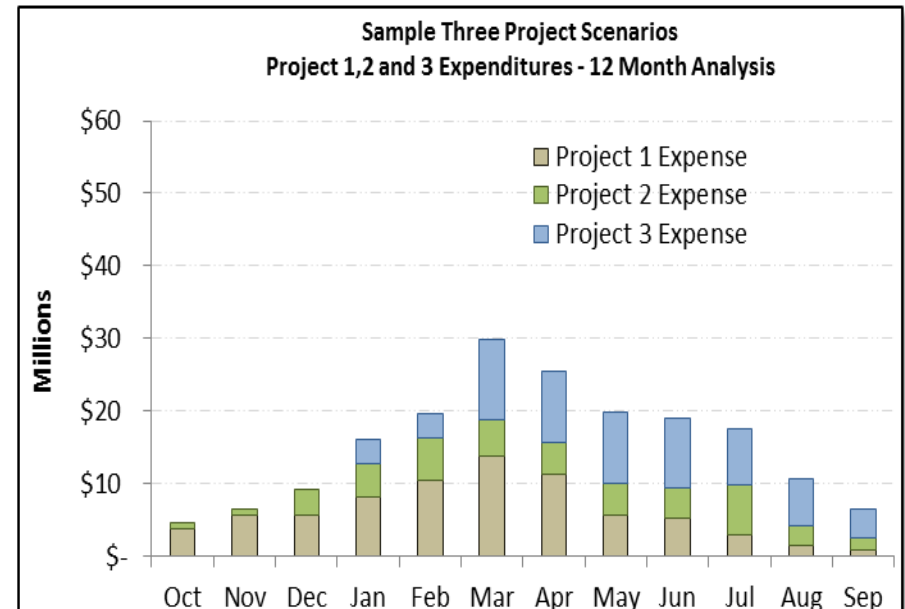
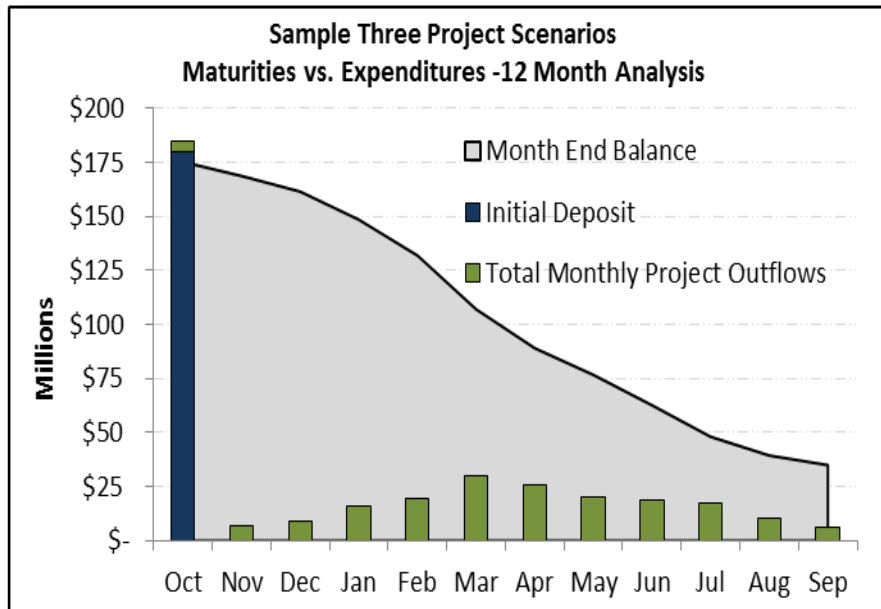
Pre – and Post Issue active management is essential for compliance and maximizing interest earnings

Initial Portfolio

- Projected expenditures
- Permitted investments
- Current and anticipated draw schedules
- Relative value among sectors and maturities
- All securities competitively bid
- Coordinate settlement

Reinvestment Strategy and Communication

- Each maturity communicated with client
- Actual vs projected expenditures
- Update of current market conditions
- Monitor arbitrage compliance rules
- Separate statements and reporting
- Monitor expenditure adjustment



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Capital Projects Strategy

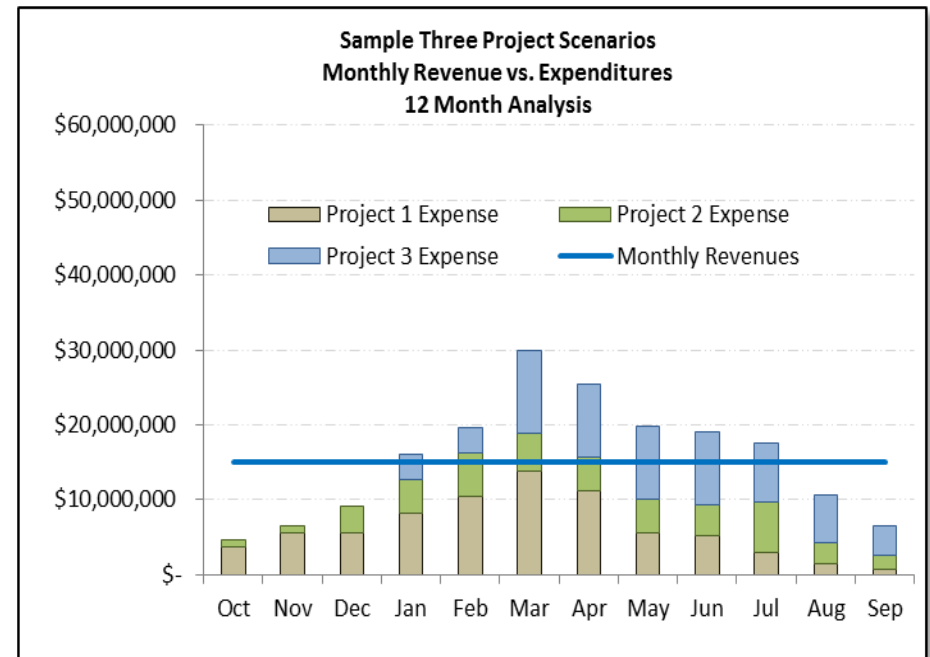
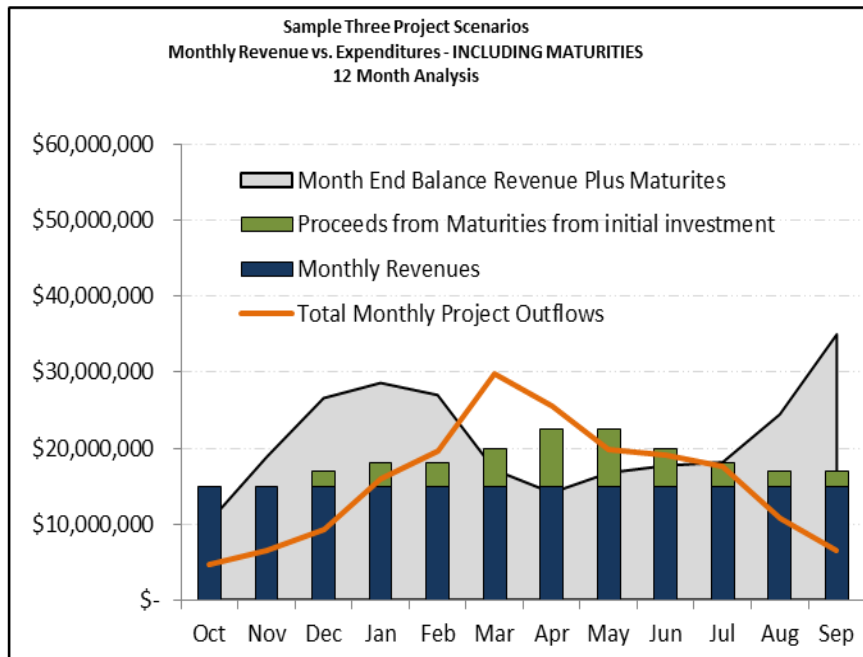
Initial and Ongoing steps in Managing Liquidity for Capital Project Portfolios

Structure Initial Portfolio

- Consider initial balance
- Monthly revenue
- Timing of expenditures
- Study the shape of the yield curve

Initial Portfolio

- Ongoing monthly investment strategy
- Based on estimated vs. actual revenues
- Updates to timing of expenditures
- Market conditions, yield curve and investment options

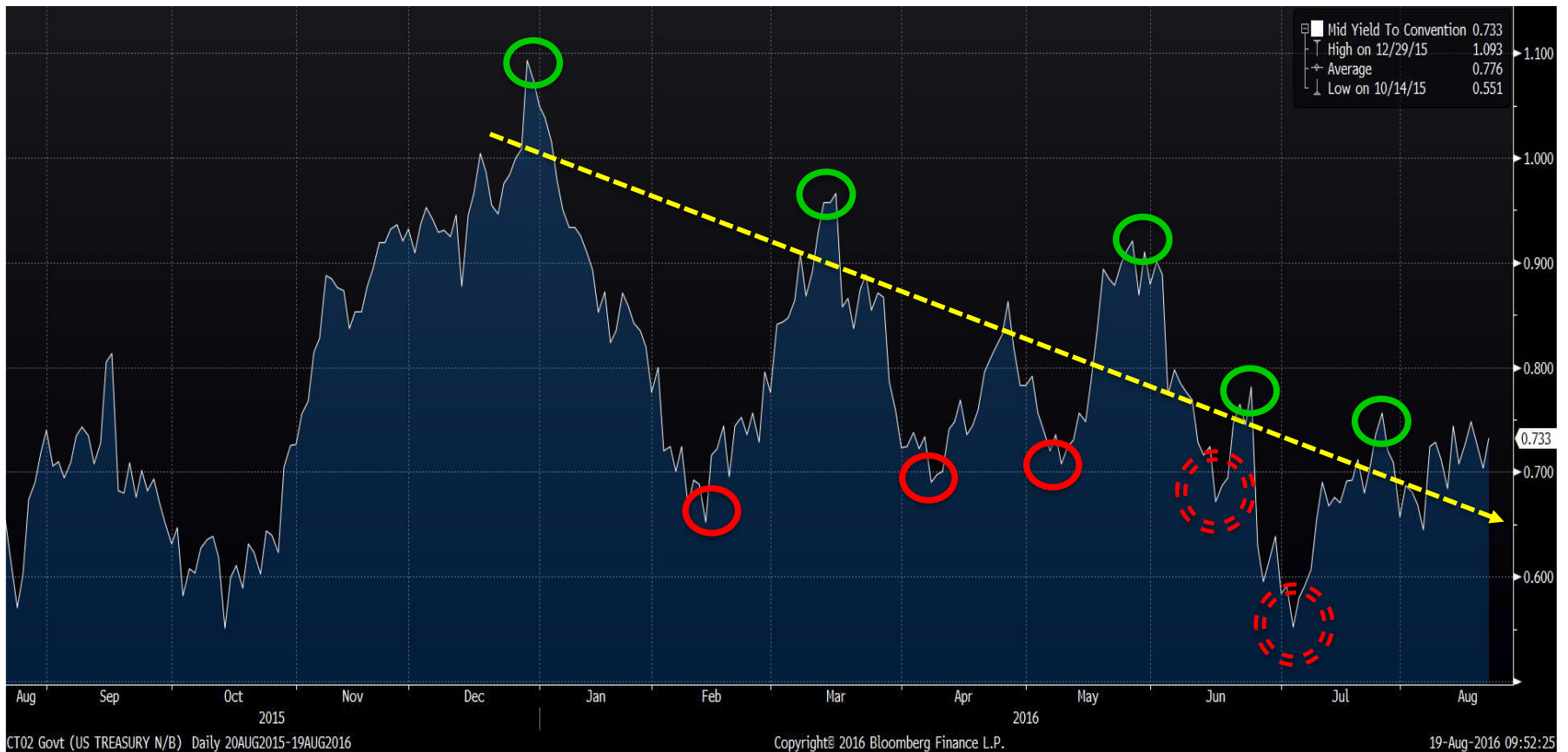


Source: Public Trust Advisors. For illustration only. Not an investment transaction or strategy recommendation.

Historical Performance

Two Year US Treasury August 2015 – July 2016

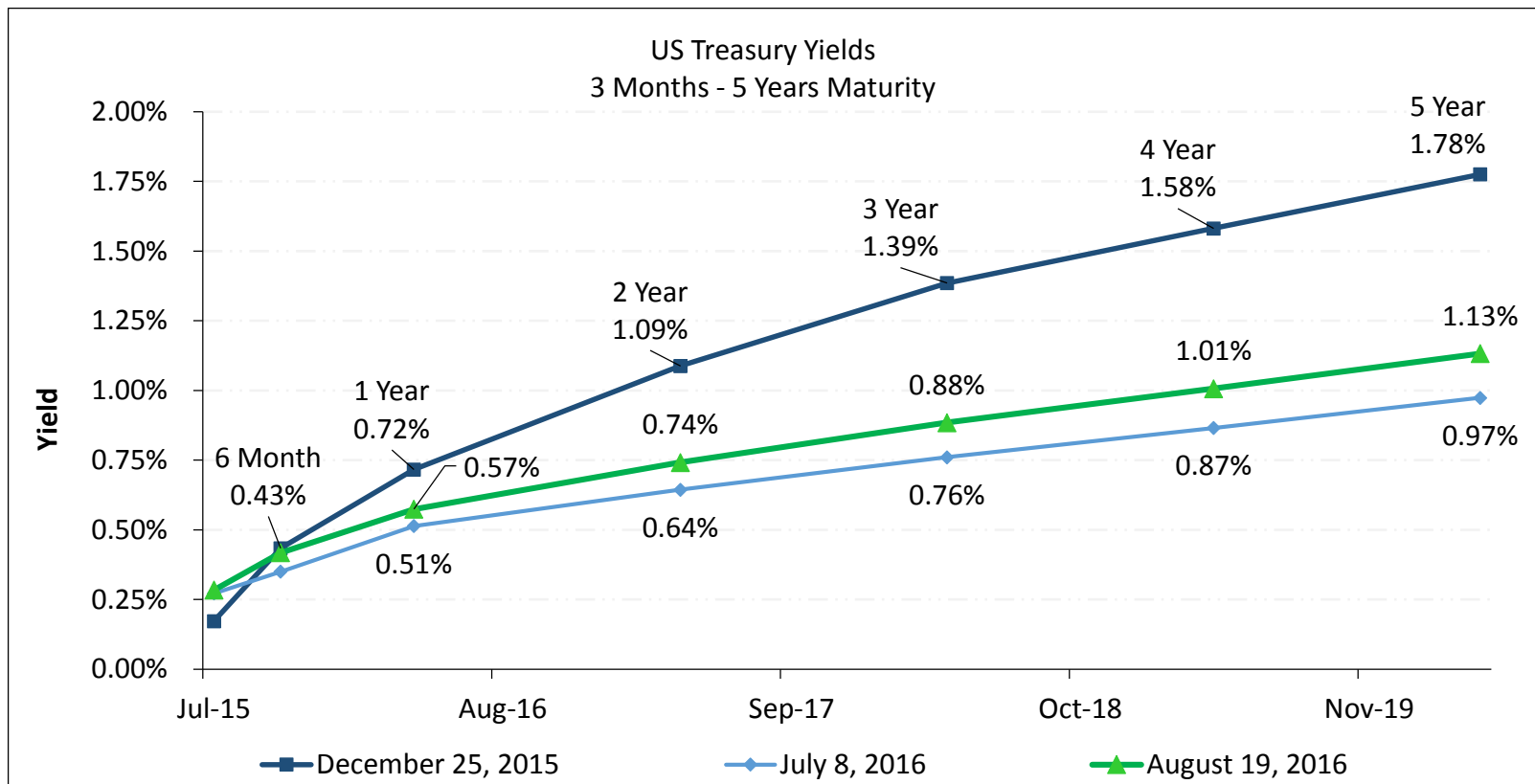
- Interest rates continued the declining trend through early July 2016 as seen below. The peaks during the period are progressively lower and more recently, the lower end of the trading range has also shifted lower with Two Year U.S. Treasury yields declining to the mid 0.50% levels, the lowest since October of 2015, before increasing to the current low to mid 0.70% range.



Source: Bloomberg – The charts above contain data available from Bloomberg and are intended for informational purposes only and not a recommendation. Past performance is not indicative of future performance.

Yield Curve Analysis - 2016

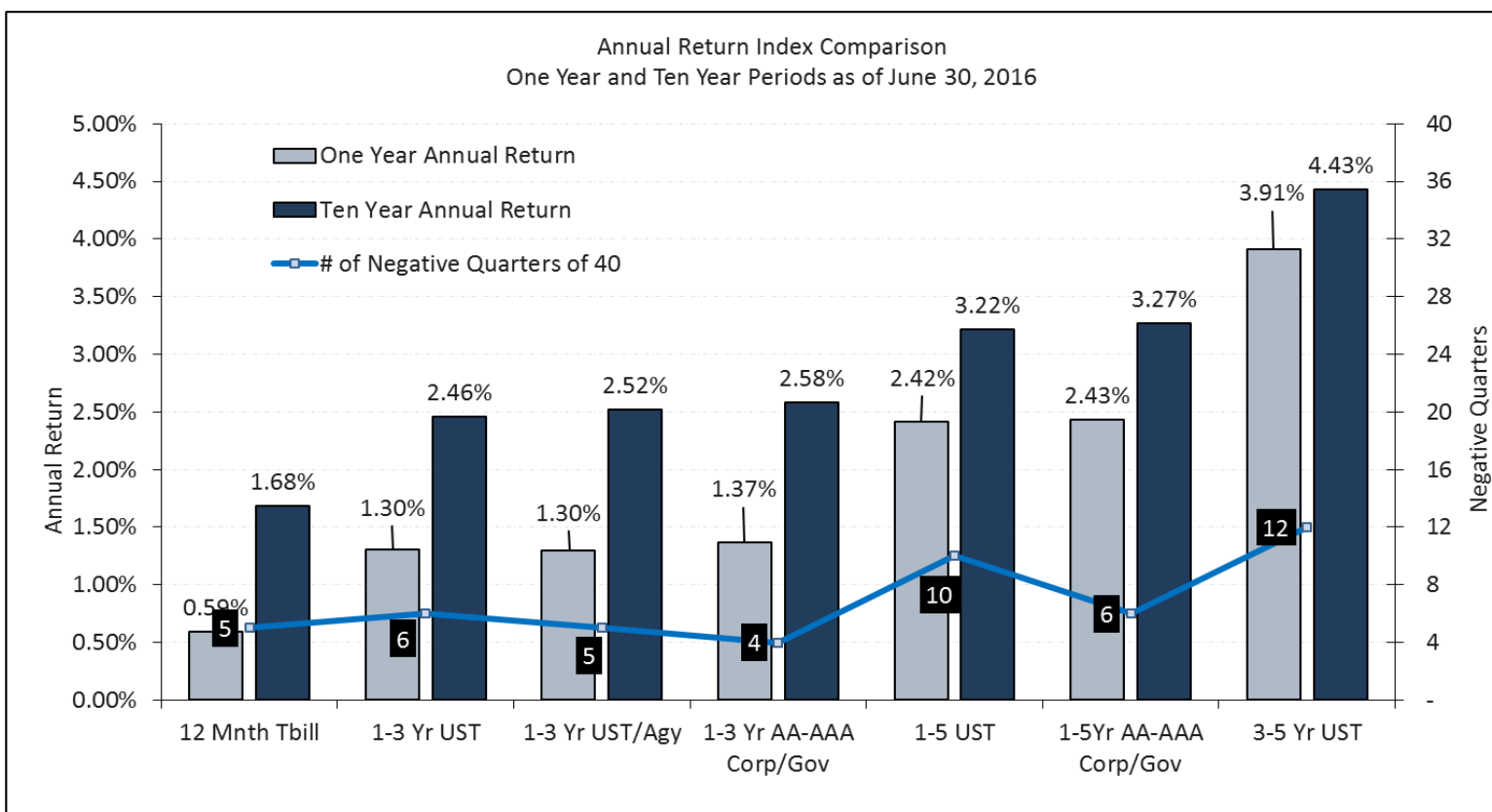
- Although short term yields have increased as a result of the December Federal Funds rate increase, diminished long term growth expectations, monetary easing by global central banks, and a global search for yield have resulted in a lower, flatter yield curve for longer maturities.



Source: Bloomberg – The charts above contain data available from Bloomberg and are intended for informational purposes only and not a recommendation. Past performance is not indicative of future performance.

Portfolio Strategies and Historical Performance

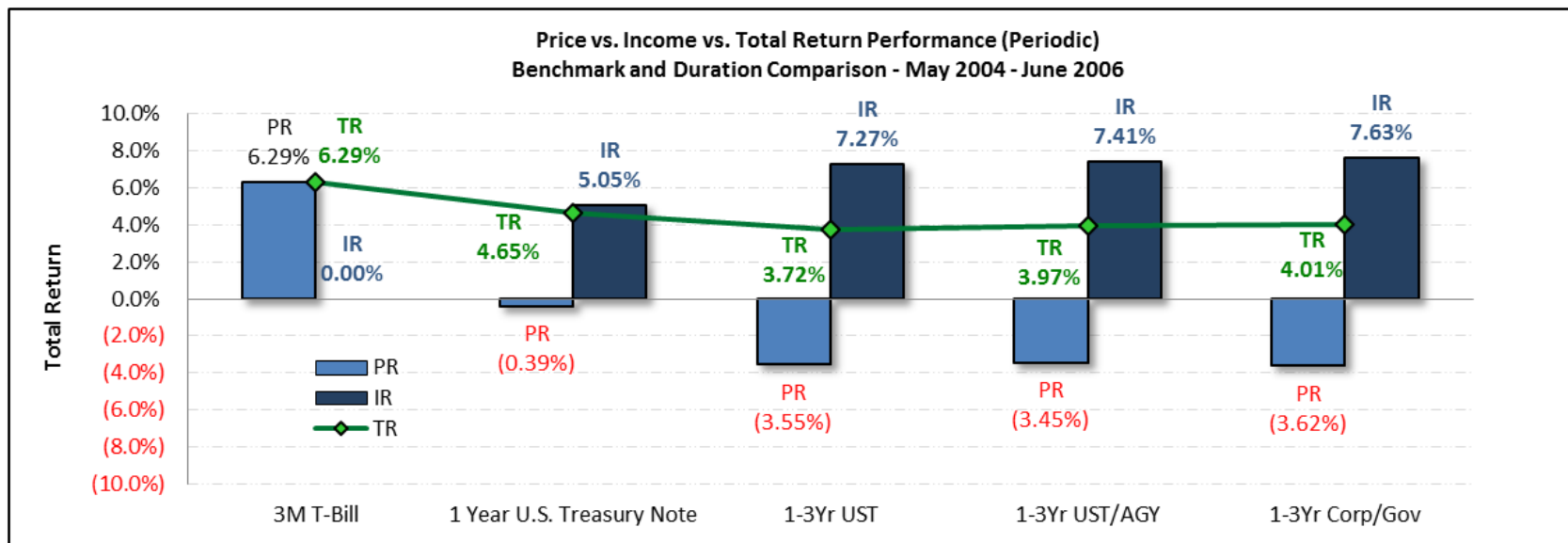
- Two primary tools for managing fixed income public funds are duration strategy and asset allocation.
- Duration strategies impact the price volatility of each security and of the portfolio in aggregate. Historically, longer duration strategies have outperformed shorter maturity portfolios over extended periods of time, although with higher price volatility.



Source: Bloomberg – The charts above represent data available from Bloomberg and are intended for informational purposes only and not a recommendation. Past performance is not indicative of future performance.

Income and Total Return

- In periods of rising interest rates, such as the period of May 2004 – June 2006, longer term strategies may experience lower total return, but the income component may provide additional income versus short term investments. Price return volatility may be managed by limiting realized losses during the period.
- The chart shown below presents total return for various investment strategies and the components of income return and price return.

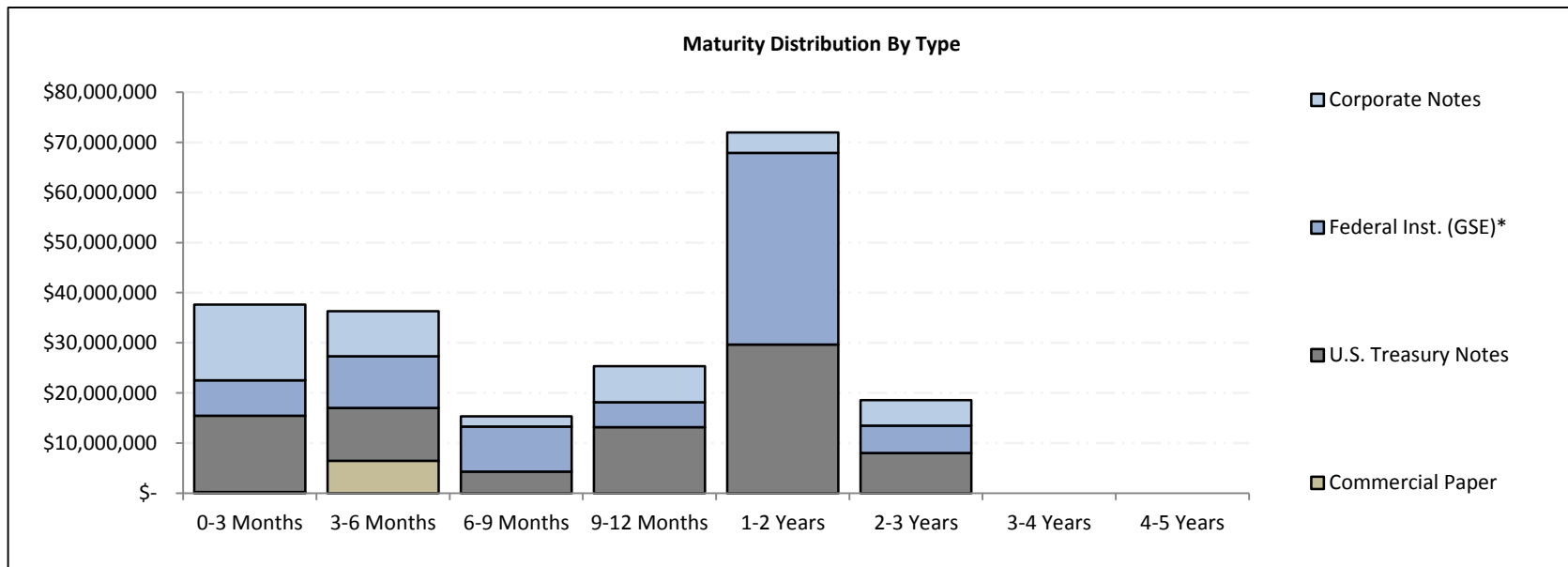
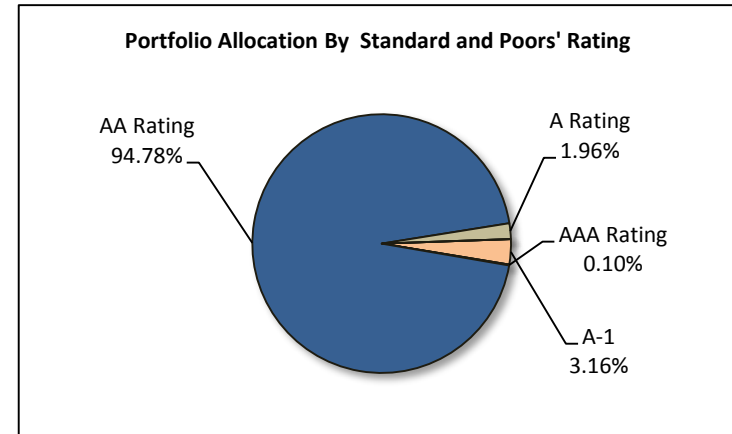


Source: Bloomberg – The charts above represent Bank of America Merrill Lynch index data available from Bloomberg and are intended for informational purposes only and not a recommendation. Past performance is not indicative of future performance.

Fixed Income Strategy Portfolios

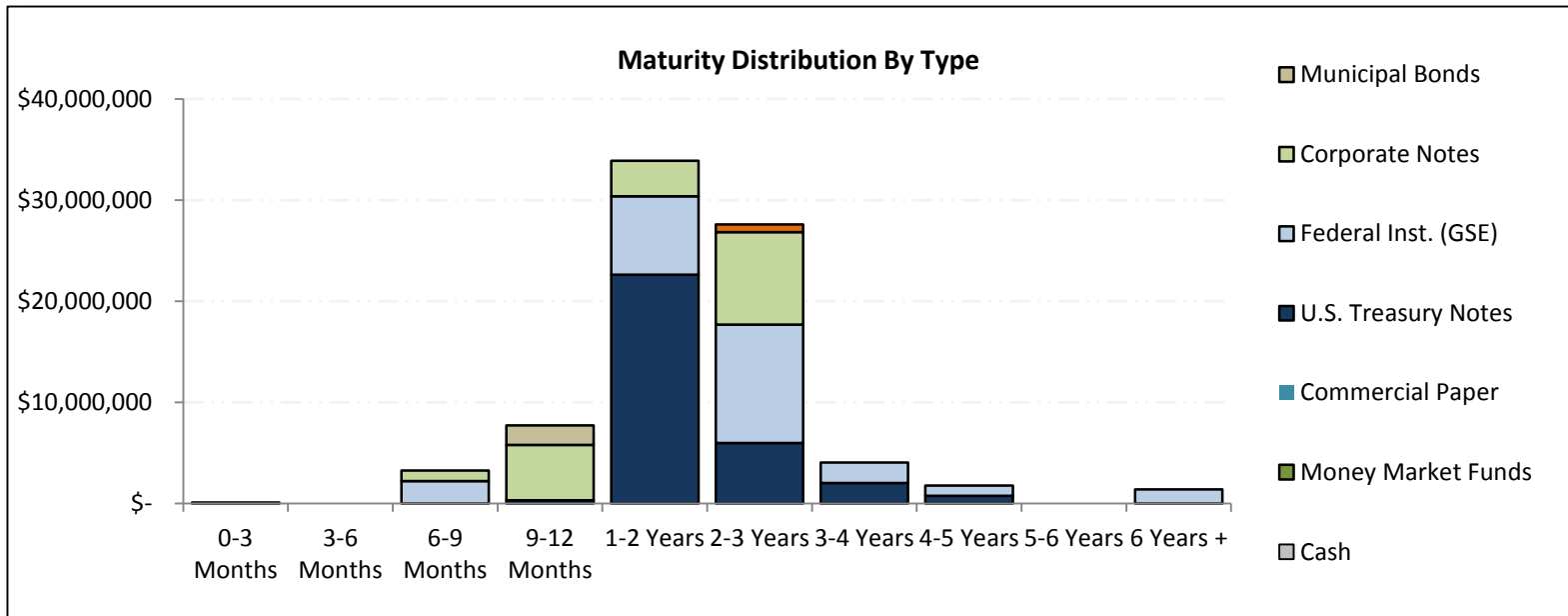
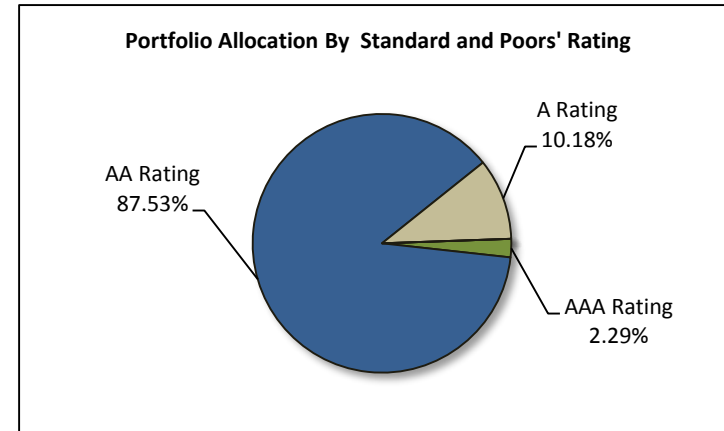
Enhanced Cash Strategy

<u>Portfolio Characteristic</u>	<u>July 31, 2016 Ending Balance</u>
Book Yield Gross	0.85%
Market Yield Gross	0.70%
Weighted Average Coupon	1.10%
Duration	0.95 Years
Weighted Effective Maturity	0.94 Years
Weighted Final Maturity	0.99 Years



Long Term Strategy 1-3 Year Duration

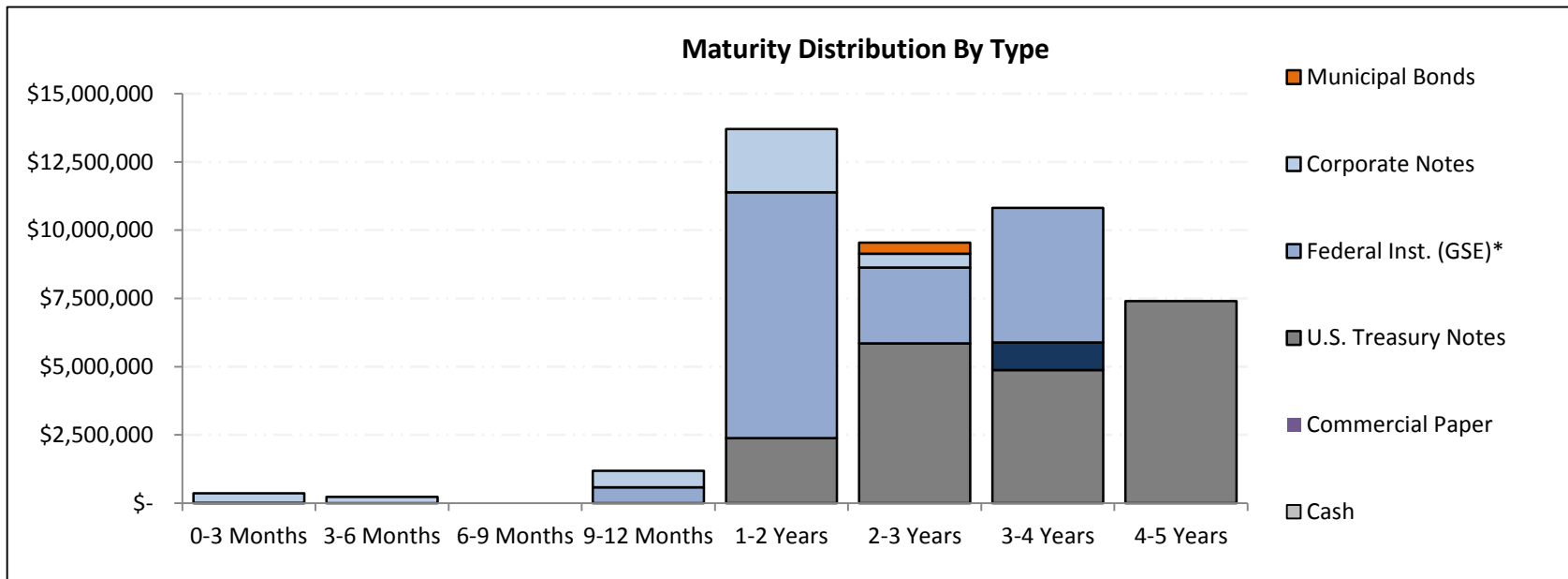
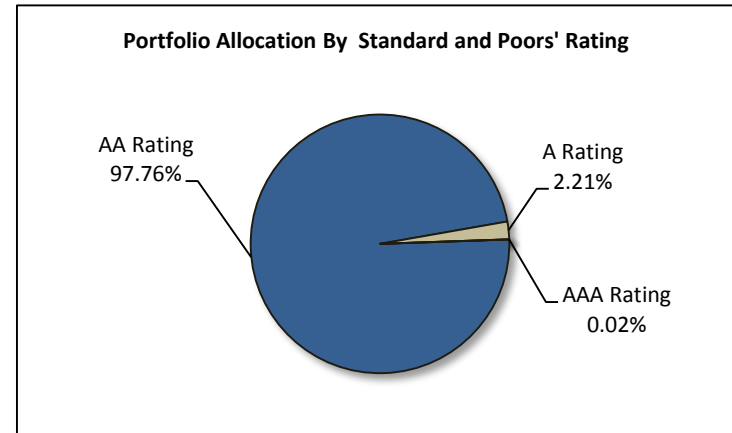
Portfolio Characteristic	July 31, 2015 Ending Balance
Book Yield Gross	0.90%
Market Yield Gross	0.77%
Weighted Average Coupon	1.12%
Duration	1.79 Years
Weighted Effective Maturity	1.87 Years
Weighted Final Maturity	1.97 Years



Source: Clearwater Analytics – The charts above represent data available from Clearwater and are intended for informational purposes only and not a recommendation. Past performance is not indicative of future performance.

Long Term Strategy 1-5 Year Duration

Portfolio Characteristic	July 31, 2016 Ending Balance
Book Yield Gross	1.31%
Market Yield Gross	0.88%
Weighted Average Coupon	1.78%
Duration	2.51 Years
Weighted Effective Maturity	2.66 Years
Weighted Final Maturity	3.17 Years



Source: Clearwater Analytics – The charts above represent data available from Clearwater and are intended for informational purposes only and not a recommendation. Past performance is not indicative of future performance.

Money Market Fund Reform

Securities and Exchange Commission - MMF 2a-7

- ❏ Money market funds (MMF) are a type of mutual fund registered under the Investment Company Act of 1940 and regulated under rule 2a7 of the Act.

- ❏ Characteristic of a 2a-7 MMF:
 - ❏ Pay dividends at current short term interest rates
 - ❏ Redeemable on Demand
 - ❏ Seek to maintain a stable NAV

- ❏ Several Types of MMF
 - ❏ Government
 - ❏ Corporate (Prime)
 - ❏ Municipal

- ❏ Retail and Institutional

Securities and Exchange Commission - MMF Reform

- On July 23, 2014 The Securities and Exchange Commission adopted amendments to the rules that govern money market mutual funds (MMF).
- These rules designed to reform MMF and provide structures (specifically fees and gates) that are designed to address a run on the fund, while also preserving the benefits (daily liquidity) of MMF.
- Designed to Reduce:
 - Interest Rate Risk
 - Credit Risk
 - Liquidity Risk
- Floating NAV
- Fees
- Gates

GASB Statement 79

GASB 79 – Certain External Investment Pools and Participants

- Addresses accounting and financial reporting for certain external investment pools and pool participants.
 - How the external investment pool transacts with participants.
 - Requirements for portfolio maturity, quality, diversification, and liquidity.
 - Calculation and requirements of a shadow price
- Significant noncompliance prevents the external investment pool from measuring all of its investments at amortized cost for financial reporting purposes.
- If an external investment pool does not meet the criteria established by this Statement, that pool should apply the provisions in paragraph 16 of Statement No. 31, Accounting and Financial Reporting for Certain Investments and for External Investment Pools, as amended.
- If an external investment pool does not meet the criteria in this Statement, the pool's participants should measure their investments in that pool at fair value, as provided in paragraph 11 of Statement 31, as amended.

Source: GASB Statement 79 and GASB Statement 31

GASB 79 – Compliance with Amortized Cost Criteria

- GASB 79 Paragraph 4: External investment pools may elect to measure for financial reporting purposes all of its investments at amortized cost if it meets all of the following:
 - a. Transacts with its participants at a stable net asset value per share (for example, all contributions and redemptions are transacted at \$1.00 net asset value per share)
 - b. Meets the portfolio **maturity** requirements in paragraphs 8–16
 - c. Meets the portfolio **quality** requirements in paragraphs 17–26
 - d. Meets the portfolio **diversification** requirements in paragraphs 27–31
 - e. Meets the portfolio **liquidity** requirements in paragraphs 32–38
 - f. Meets the shadow **pricing** requirements in paragraphs 39 and 40.

- If an external investment pool reported fair market value in the previous period, the pool may elect to change from fair value to amortized cost-based in the subsequent reporting period if it complies with Paragraph 4 and justifies a change in accounting principle as prescribed in paragraphs 73 and 74 of Statement No. 62, Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements.

Source: GASB Statement 79 and GASB Statement 31

Short Term Investments

Short Term Investment Options - MMF

- ❏ Money market funds (MMF) are a type of mutual fund registered under the Investment Company Act of 1940 and regulated under rule 2a7 of the Act.

- ❏ Characteristic of a 2a-7 MMF:
 - ❏ Pay dividends at current short term interest rates
 - ❏ Redeemable on Demand
 - ❏ Seek to maintain a stable NAV (previously)
 - ❏ Viewed as low risk – low return
 - ❏ Short term investments

- ❏ Several Types of MMF
 - ❏ Government
 - ❏ Corporate (Prime)
 - ❏ Municipal

- ❏ Retail and Institutional

Short Term Investment Options – Commercial Paper

- Commercial Paper (CP) is a short term investment that typically has a maturity of 270 days or less which allows the issuer to avoid registering with the SEC.

- Characteristics of CP:
 - Issued at a discount and matures at par
 - Typically issued by large banks and corporations
 - Most issuance from finance companies
 - Unsecured debt
 - Most issued in primary market due to short term nature

Short Term Investment Options – TBills, Agency Discount Notes

- T-bills are short term U.S. government debt obligation with a maturity of less than one year.

- Characteristics of T-Bills:
 - Issued at a discount and matures at par (4, 13, 26 52 week maturities)
 - Full Faith and Credit of U.S. Government
 - Competitively or acceptance of current market price
 - Exempt from state and local tax

- Agency discount notes are issued by Federal Agencies (FHLB, FHLMC, FNMA, FFCB)

- Characteristics of GSE Discount Notes:
 - Issued at a discount and matures at par (4, 13, 26 52 week maturities)
 - Implied but not explicit backing of the U.S. Government
 - Currently trade close to or through T-bills

Short Term Investment Options – Bank Deposits, CDs

- Bank deposits are listed as a permitted investment in Florida State Statute 280
 - Bank must be a qualified public depository
 - Qualifying banks must deposit collateral at the State
 - Various deposit rates based on banking agreements, and regulatory requirements

- Certificates of Deposit
 - FDIC insured to \$250,000
 - There are various programs that aggregate CDs to allow for larger investments
 - CD rates vary from issuer and term
 - Subject to penalty if redeemed prior to maturity

Short Term Investment Options – LGIPs

- Government Sponsored Local Government Investment Pools (LGIPs)
 - Authorized under state statutes
 - Has own investment policy
 - Investment, administrative, custody and other services provided by professional firms
 - May have a sponsoring entity (State, or specific government type)

- Joint Powers Agreement Local Government Investment Pools (LGIPs)
 - Authorized under state statute
 - Have own investment policy
 - Created when two or more government authorities join together
 - Oversight from a Board of Directors
 - Investment, administrative, custody and other services provided by professional firms
 - Can be fixed or floating NAV

Disclosures

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