

CPIM

CENTER FOR PUBLIC INVESTMENT MANAGEMENT



A PROGRAM BROUGHT TO YOU BY:

JOSH MANDEL

TREASURER OF OHIO

INV 301:

Best Practices for Investing Public Funds

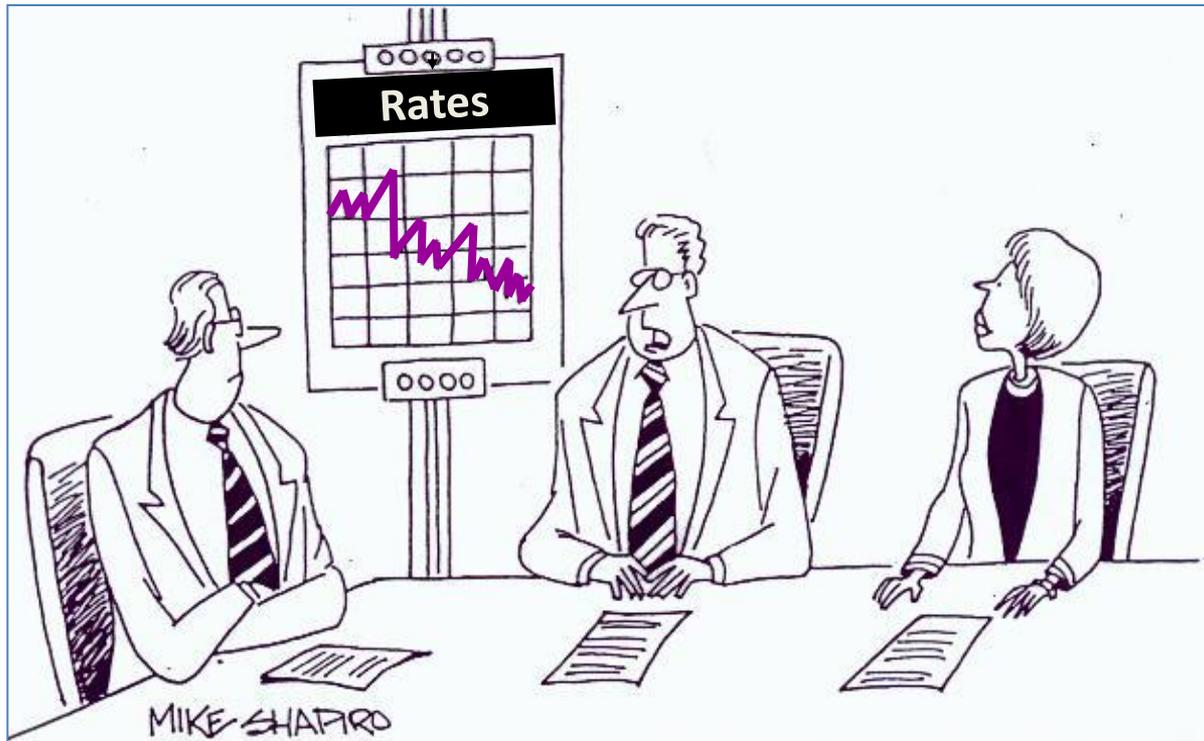
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What to do?



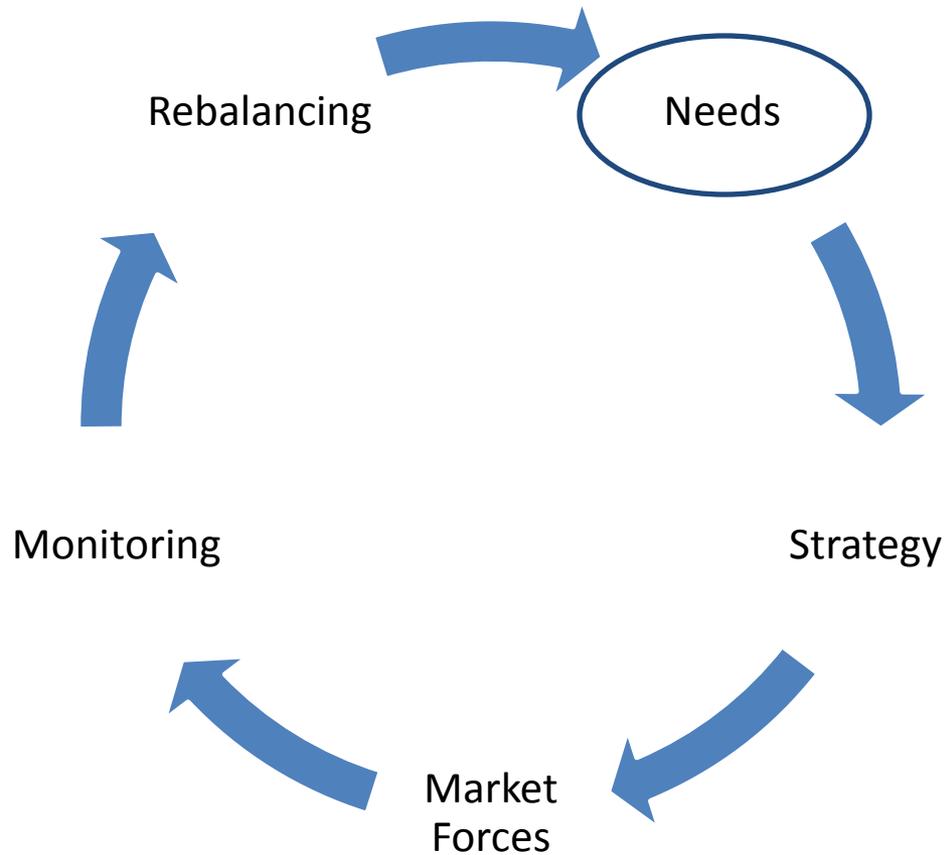
“I think we’re all in agreement that it’s time to abandon the “waiting for a miracle strategy.”

Developing an Investment Program

As fiscal officers, you have the fiduciary responsibilities of:

1. Obey state laws
2. Establish Investment Policy Statement
3. Apply objectives as a “Prudent Person”
4. Be good stewards of taxpayers' money

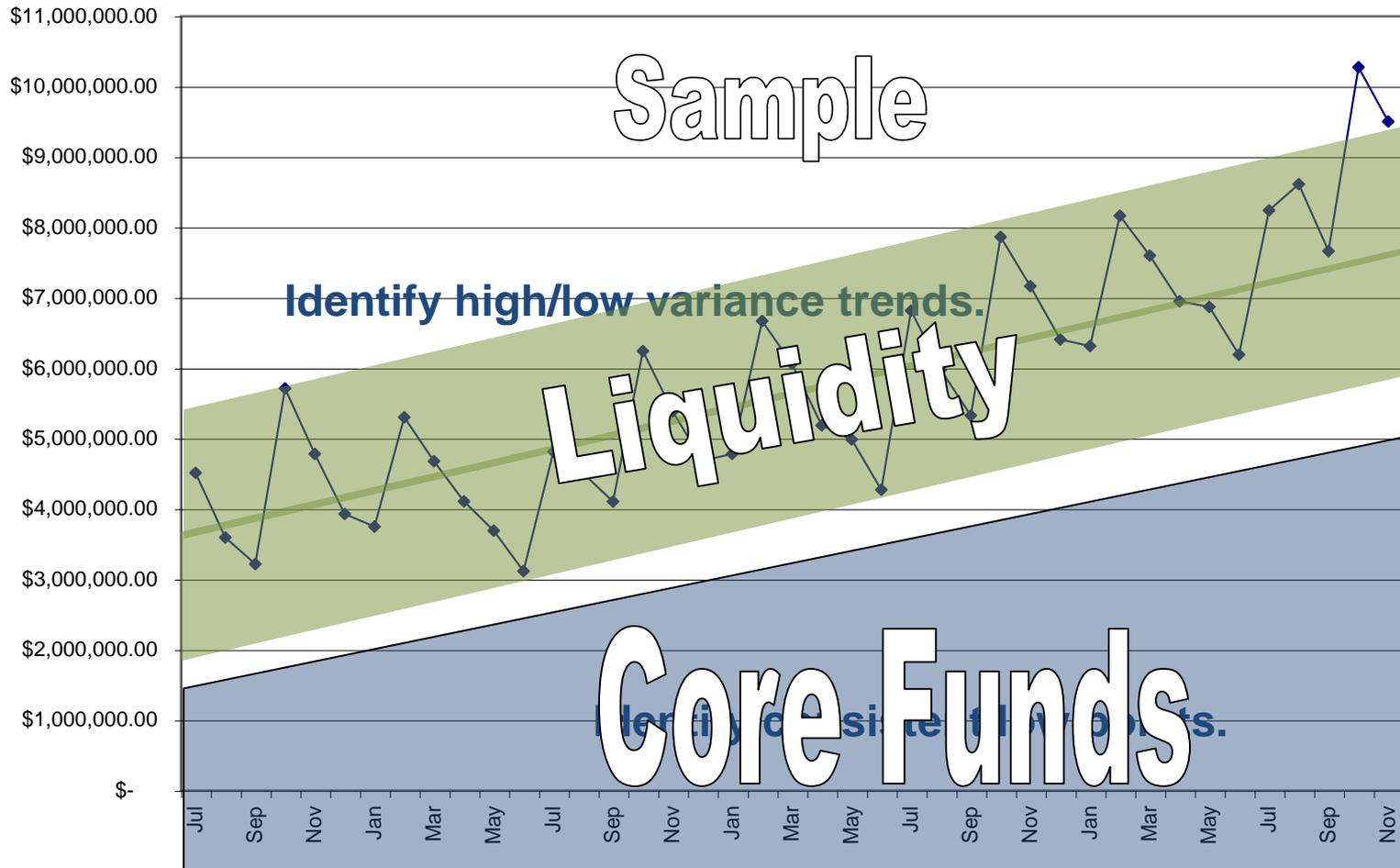
Best Practices



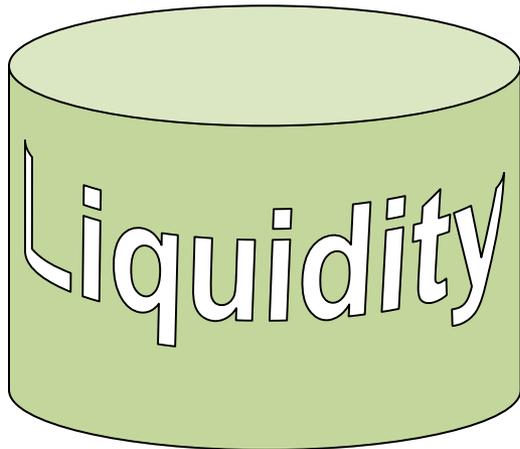
Segment Funds

- ◎ Perform Cash Flow Analysis
 - Identify near term cash needs. Look at trends, high and low balances, seasonal patterns
- ◎ Liquidity Portfolio
 - Will be different for every entity
 - Typically invested in STAR OHIO/PLUS, bank accounts or other short-term investments
- ◎ Core/Reserve Portfolio
 - Invested longer-term and more diversified for potential higher interest earnings

Analyze Cash Flow



Objectives for Each Bucket

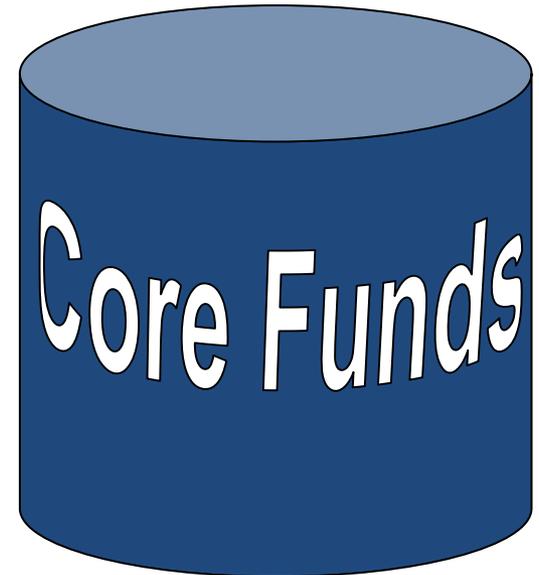


Objectives:

- No Principal Fluctuations
- Daily Liquidity
- Attain highest yield
- Benchmark: 3 Mos. T-Bill/ StarOhio

Objectives:

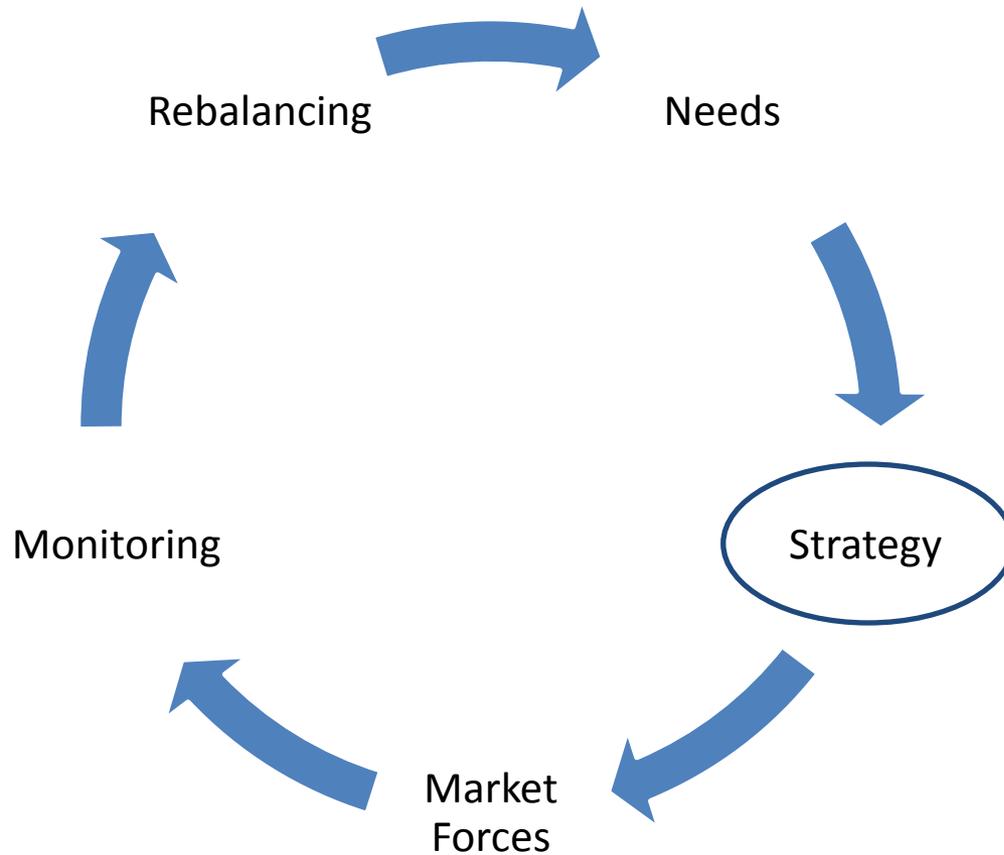
- Safety**
- Liquidity**
- Return**



Objectives:

- Minimal Principal Fluctuations
- High Market Liquidity
- Maximize long-term returns
- Benchmark: 1-3 Yr. Govt. Index or 1 Year moving avg. 2 Yr. CMT

Best Practices



Questions to consider

- ⦿ What are the investment objectives?
- ⦿ Are there any investment constraints?
 - Risk Tolerances of Entity
 - Investment Policy
 - Staff Experience
 - Needs of Funds

Importance of strategy

- ⦿ Provides discipline in managing risk
- ⦿ Helps manage return expectations
- ⦿ Establishes accountability
- ⦿ Promotes communication

What strategy works for you?

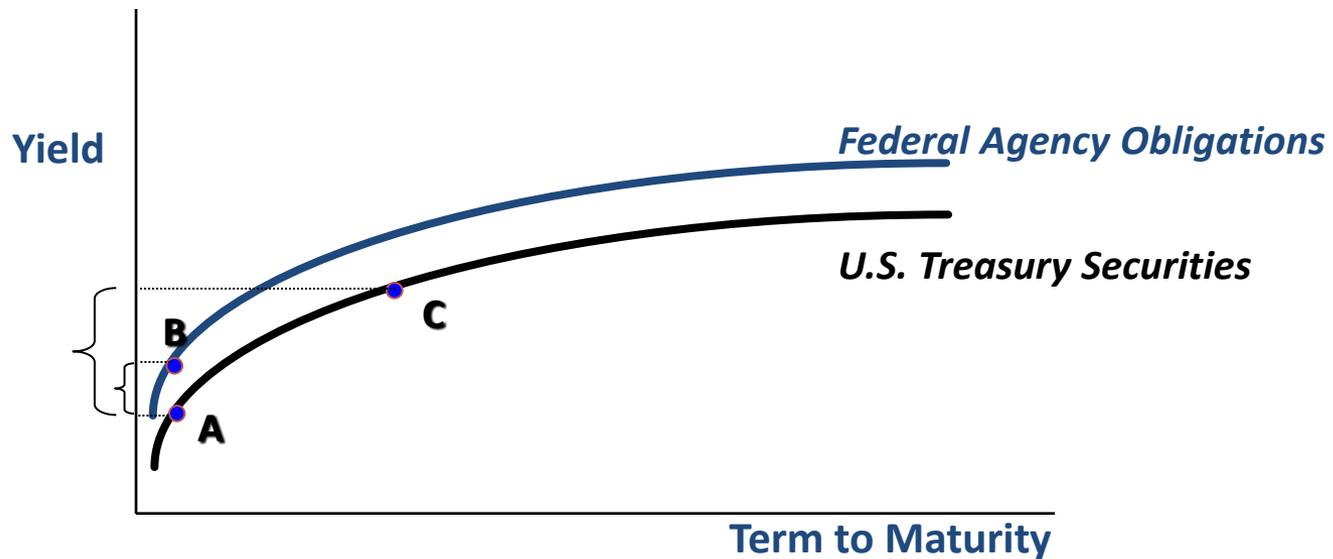
- ◎ Passive investment strategy
 - Buy/Hold
 - Less resources needed
- ◎ Active investment strategy
 - Investment portfolio evolves and is adjusted to meet current market and cash flow considerations
 - More resources needed
 - Time Consuming, Higher Costs

Managing Risk

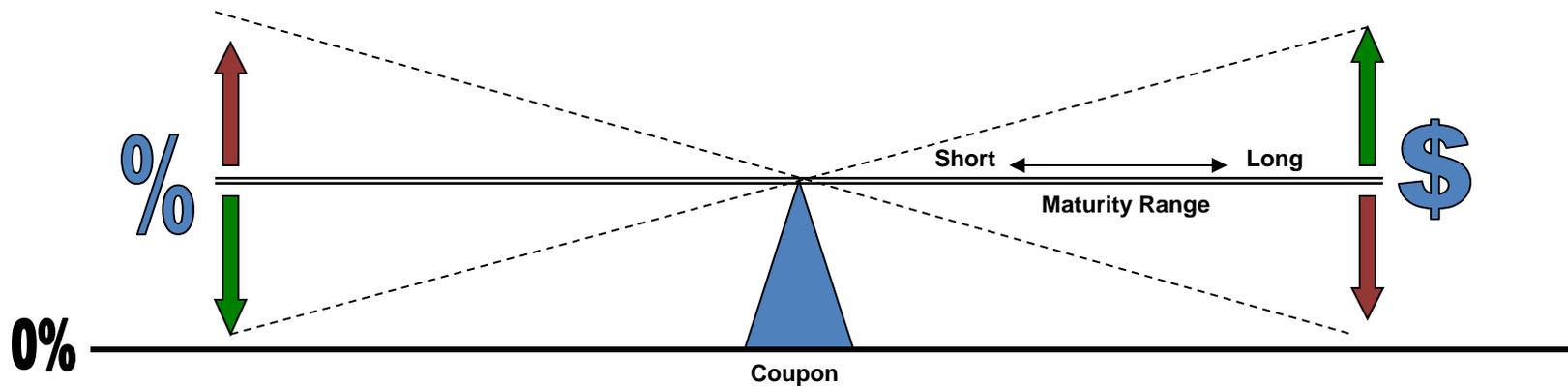
- ◎ Interest Rate/Reinvestment Risk/Market Risk
 - Weighted average maturity
 - Portfolio duration
 - More robust measure
 - Maturity structure
 - Ladder, Barbell, or Bullet
- ◎ Liquidity Risk
 - Diversification reduces overall risk

Factors to Consider

- ⦿ The average maturity of the portfolio is arguably the single greatest determinant of investment performance



What are the risks?



Interest Rate Risk

Interest rate risk is greater in the earlier years, but is reduced with time.

Reinvestment Risk

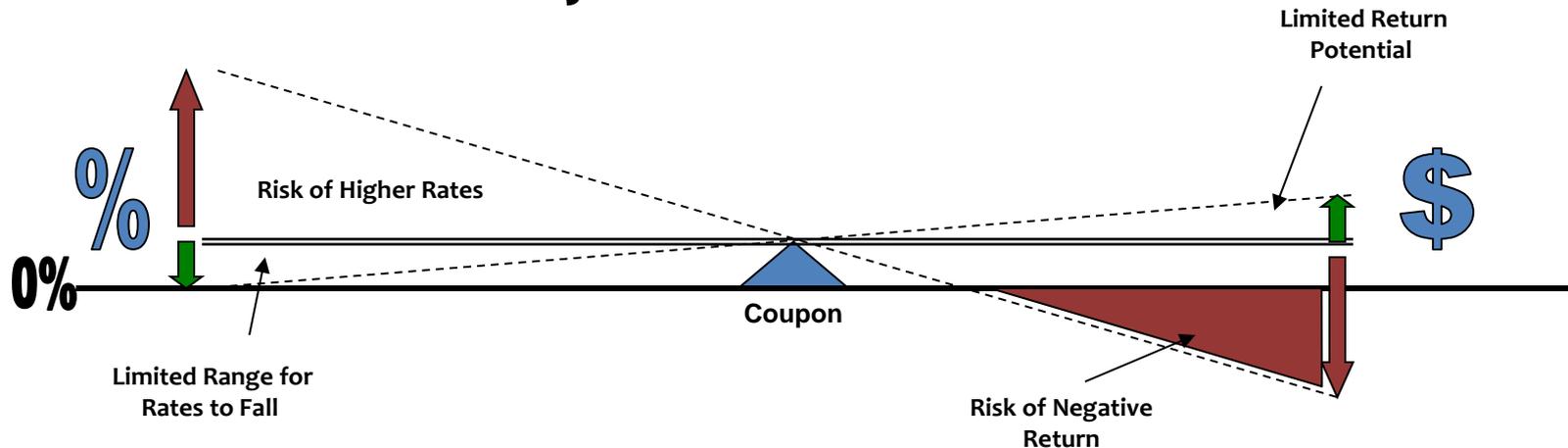
Reinvestment risk is greater over time, but is reduced in the earlier years.

DURATION

Duration is a measure of a bond's price sensitivity to changes in interest rates. It can be used to gauge the volatility of one bond compared with another.

Risks during today's environment

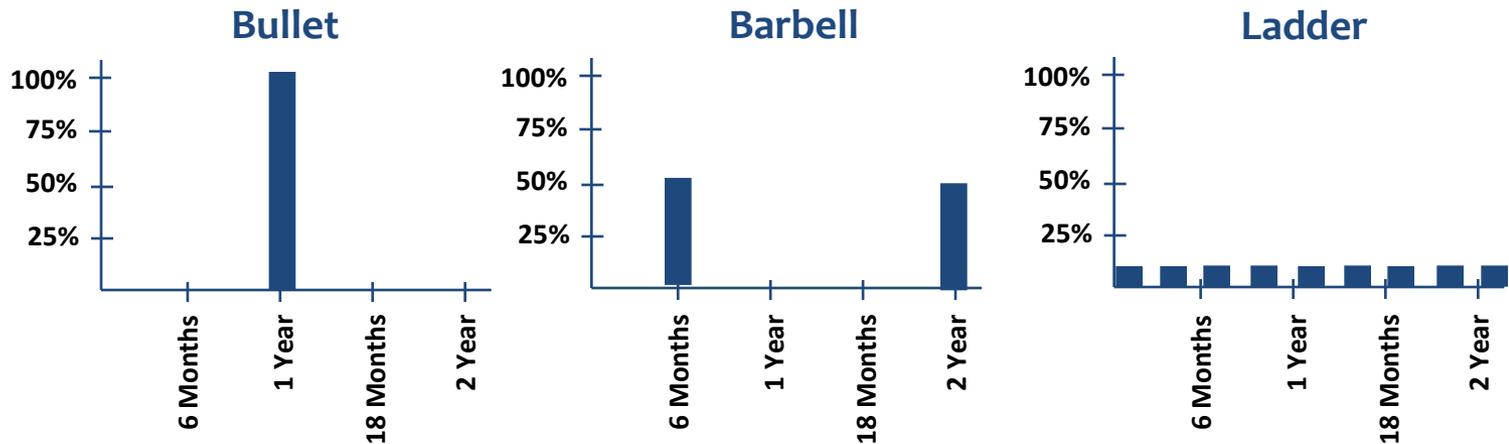
Today's Rate Environment



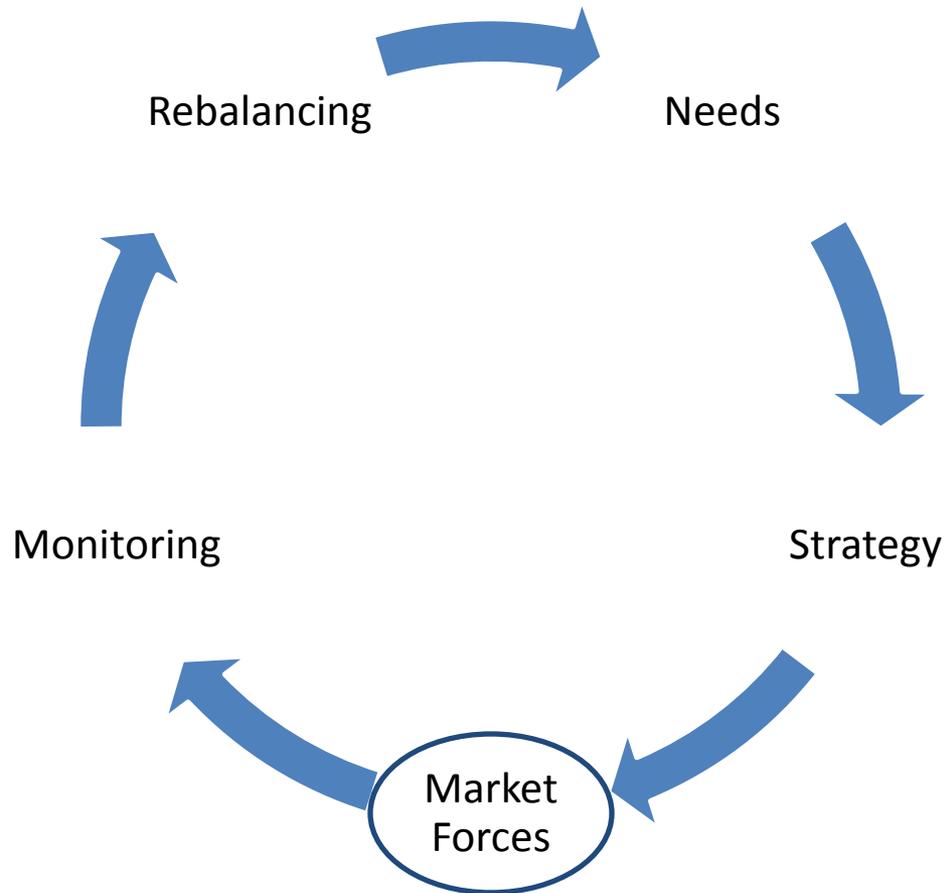
- ⦿ A rising rate environment will put greater downward pressure on longer duration bonds
- ⦿ By managing duration, your portfolio value sensitivity can be controlled to your objectives

Portfolio Structuring

- There are numerous ways to achieve a specific target maturity.
- The optimal structure will depend on the shape of the yield curve



Best Practices



Factors Influencing Strategy

- ◎ Specific Entity Characteristics
 - Cash Flows
 - Risk Tolerances
 - Resources
 - Local politics

Factors Influencing Strategy

⦿ Economic Environment

- Growth or slowing economy
- Employment
- Inflation
- Monetary Policy
- Fiscal Policy

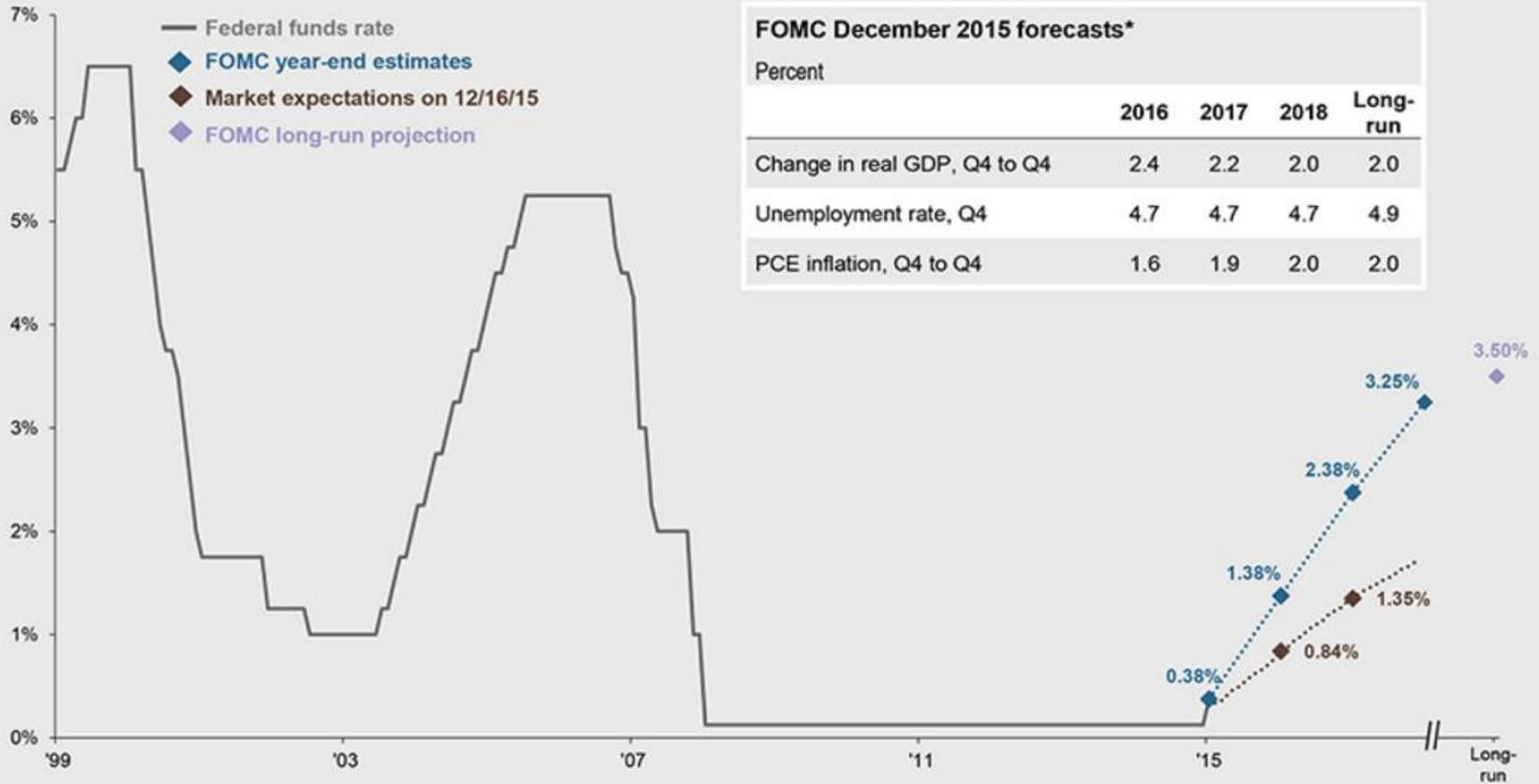
Factors Influencing Strategy

- ⦿ Market Environment
 - Shape of yield curve
 - Interest rate expectations
 - Spread analysis
- ⦿ Global environment
 - Economic
 - Markets
 - Geo-political

The Fed and Interest Rates

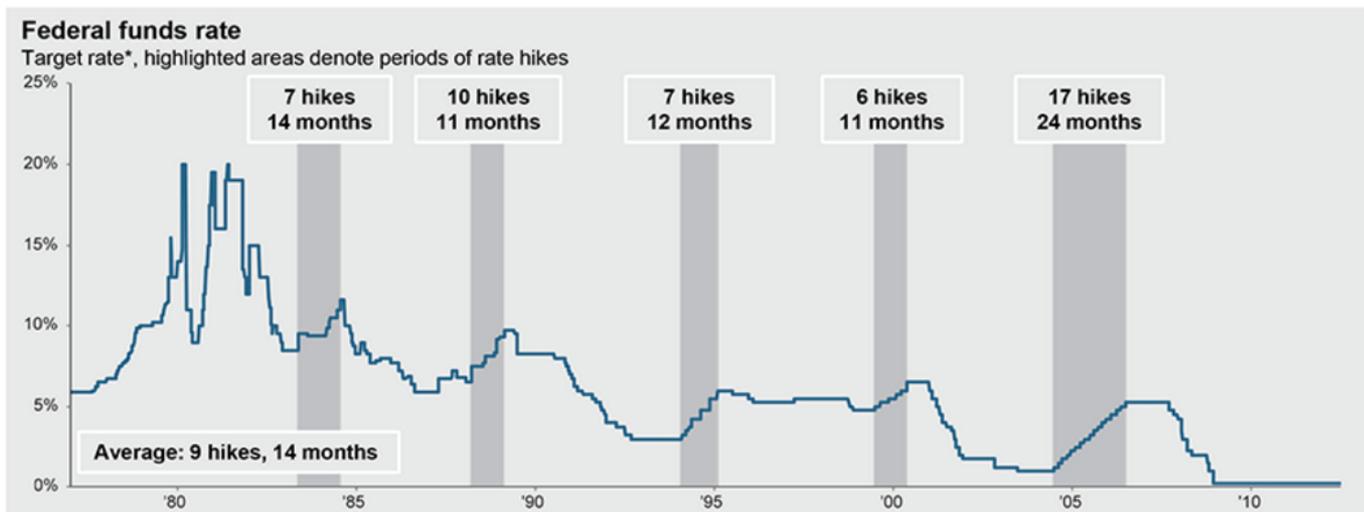
Federal funds rate expectations

FOMC and market expectations for the fed funds rate



Source: FactSet, Federal Reserve, J.P. Morgan Asset Management. Feb. 29, 2016

Historical impact of Fed tightening



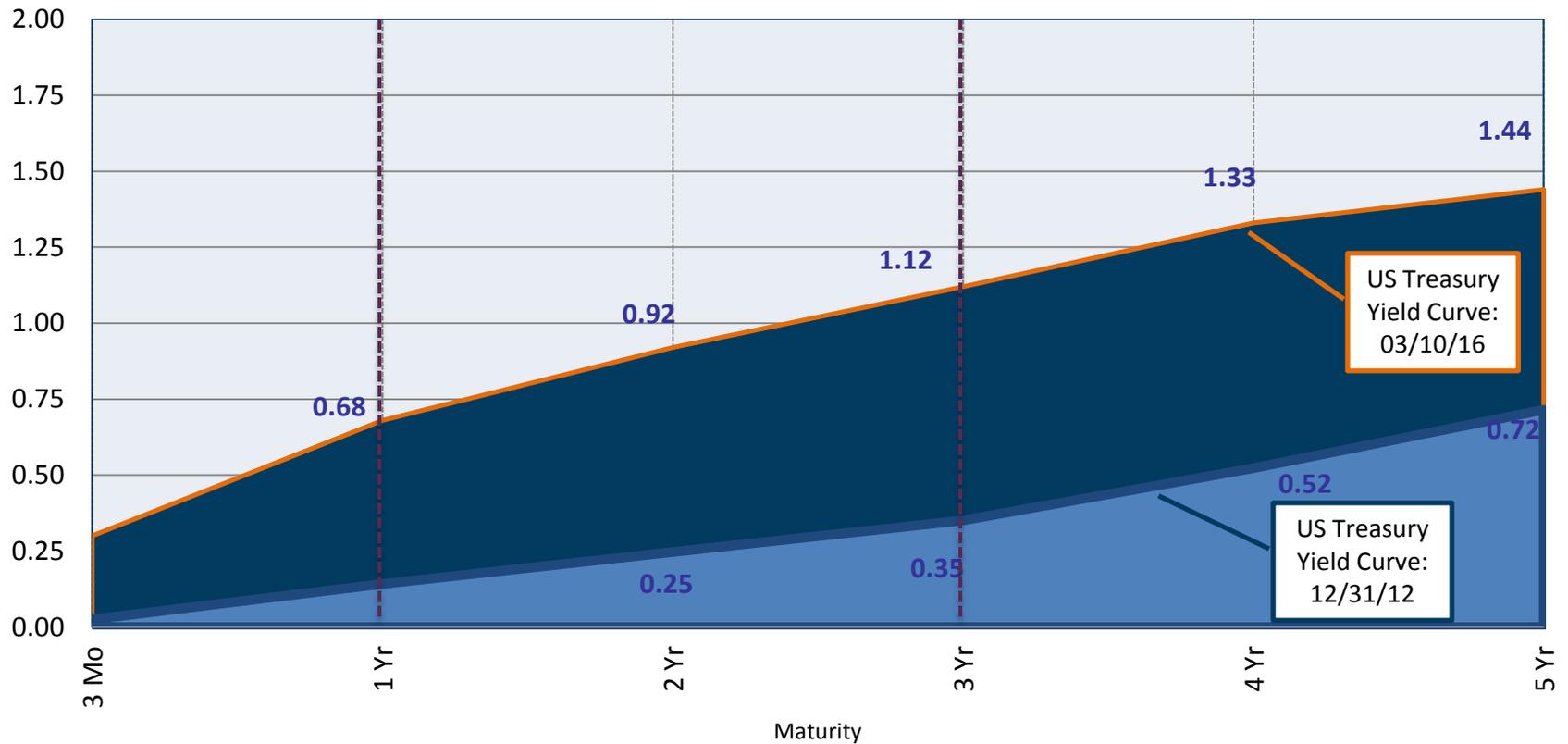
Market reaction during previous rate hiking cycles

	May 1983 – July 1984	March 1988 – February 1989	February 1994 – February 1995	June 1999 – May 2000	June 2004 – June 2006	Average
Change in interest rates						
Federal funds rate	3.13%	3.25%	3.00%	1.75%	4.25%	3.08%
2-year Treasury	3.11%	2.27%	3.05%	1.21%	2.38%	2.40%
10-year Treasury	2.74%	0.85%	1.89%	0.49%	0.51%	1.30%
S&P 500 return	-9.6%	6.8%	-2.1%	8.5%	12.0%	3.1%
U.S. dollar	10.4%	1.7%	-4.8%	3.4%	-5.8%	1.0%

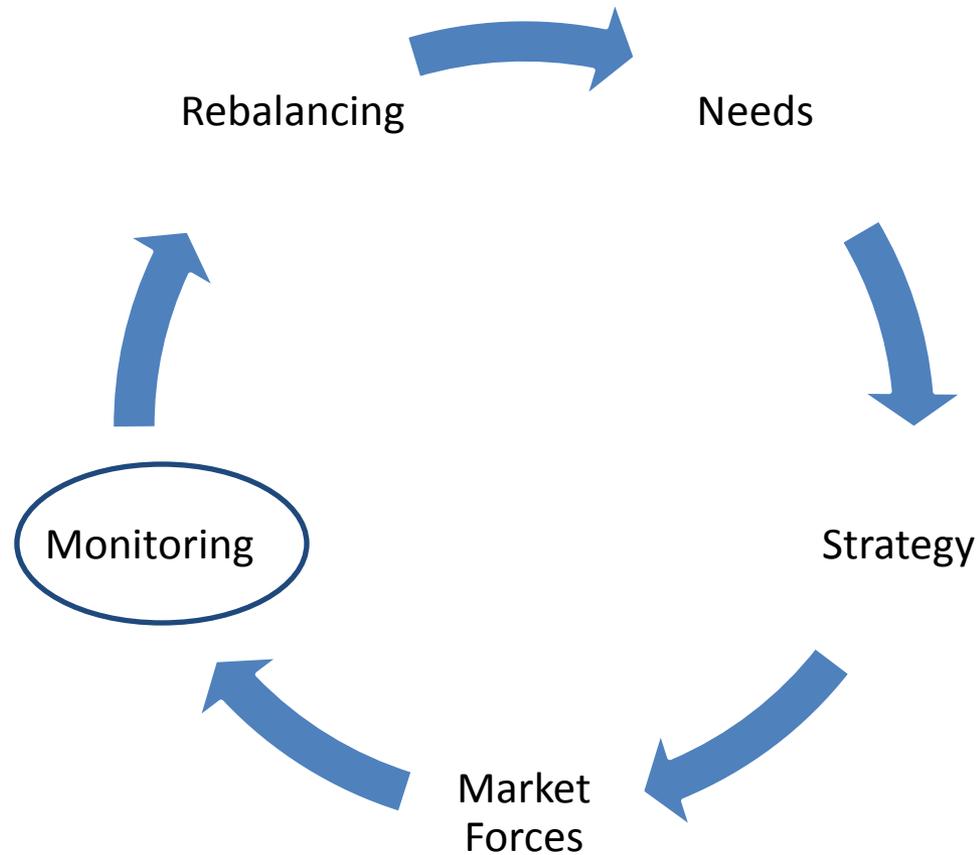
Source: FactSet, Federal Reserve, J.P. Morgan Asset Management. Fed. 29, 2016

Yield Curve

US Treasury 0 - 5 Yr. Yield Curve Shift 12/31/12 vs 03/10/16



Best Practices



Monitoring the Portfolio

⦿ Compliance monitoring

- Have investment laws changed?

⦿ Investment reporting

- Proper accounting and tracking
- How is overall portfolio performing?
- Promotes accountability

Qualitative Review

- ⦿ The entity's objectives have been met.
- ⦿ Consistent investment approach has been followed.
- ⦿ Execution reporting and/or other services have been supplied.
- ⦿ Firm's personnel structure is unchanged.
- ⦿ Advisor has maintained an appropriate level of client contact and communication.

Source: An Introduction to Investment Advisers for State and Local Governments – Sophia Anastopoulos

Quantitative Measurements

⦿ Performance Benchmarks

- Short-term funds vs. benchmark
- Longer-term funds vs. benchmark

⦿ Reporting Requirements

- Summary of portfolio holdings
- Investment performance report
- Maturity/Duration indicators
- Transaction summary
- Mark-to-Market report

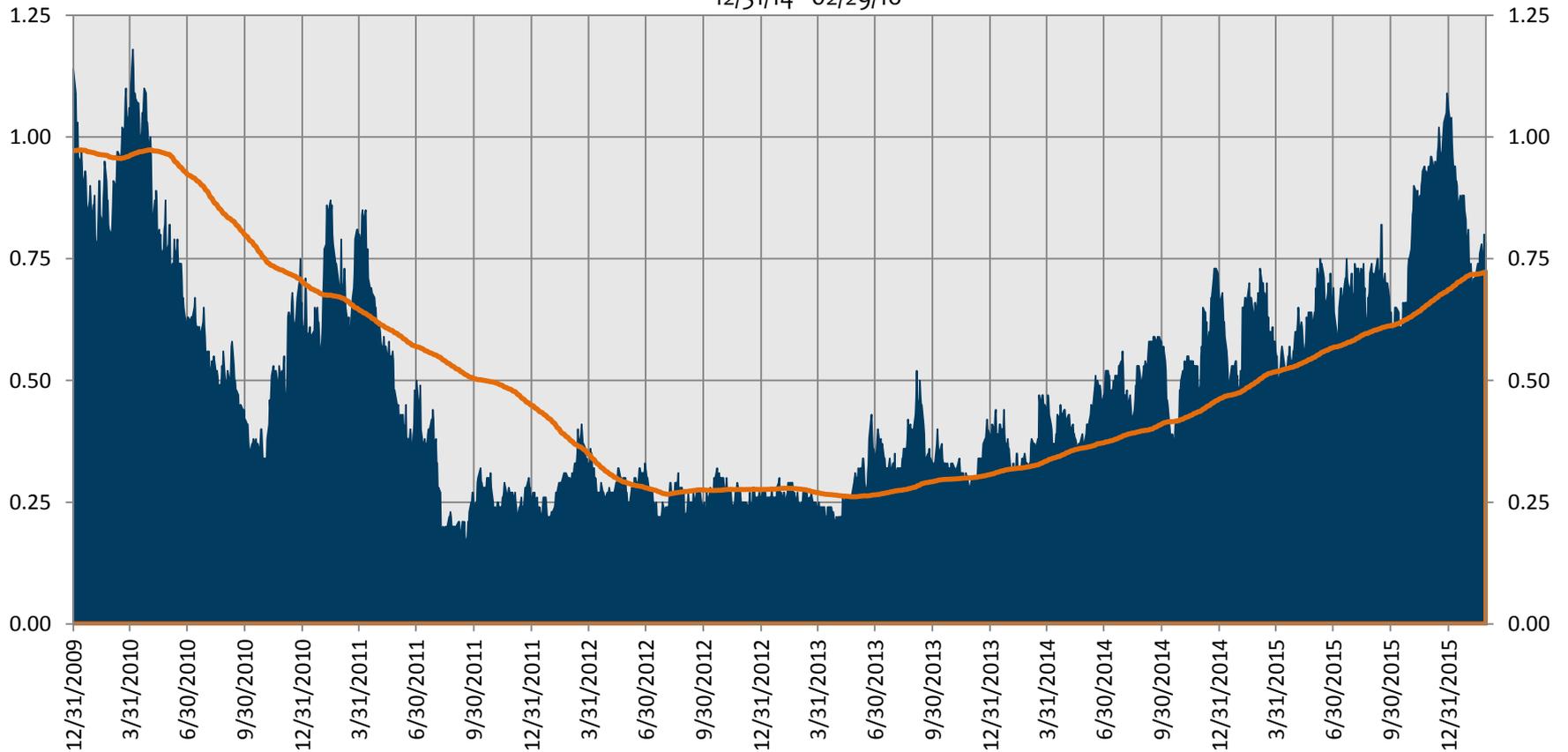
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Portfolio Yield Comparison

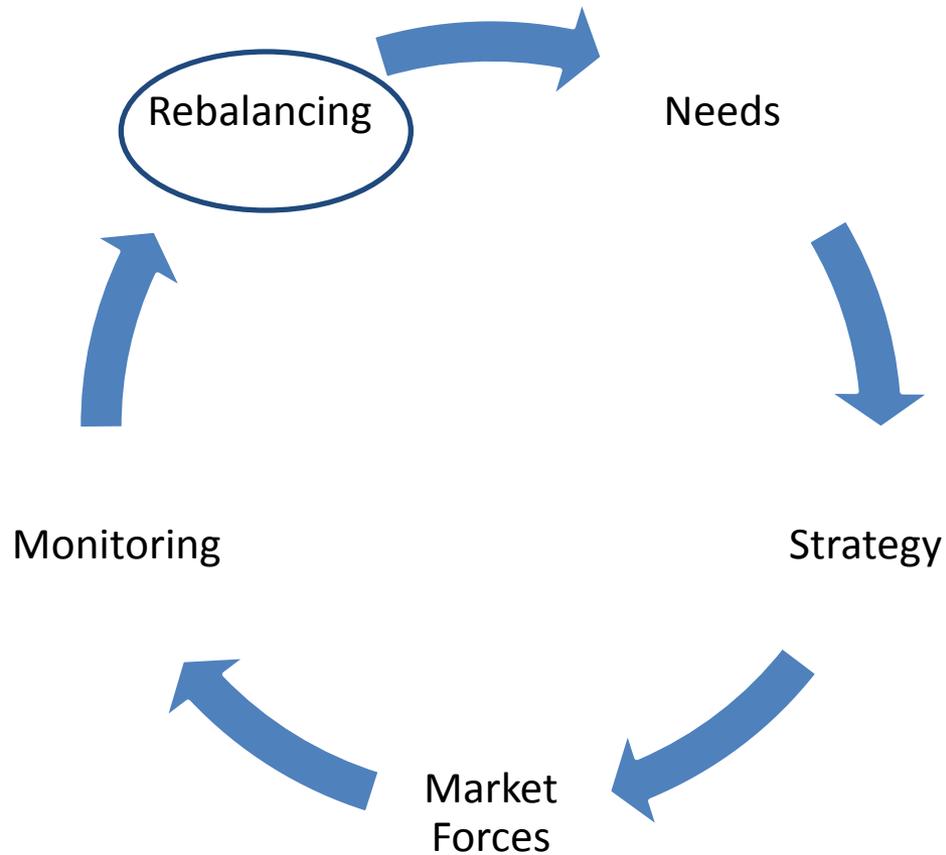
Yield Comparison

2 Yr. Constant Maturity Treasury (CMT) & 12 Mos. MA

12/31/14 - 02/29/16



Best Practices



Rebalancing the Portfolio

- ◎ Why rebalance the portfolio?
 - Cash flow changes
 - Market forces
 - Increase interest earning potential
 - Reduce interest rate risk
 - Political factors

Questions for Today?

