



Essential Elements of a Successful Investment Program



PFM Asset Management LLC

PFM Asset Management LLC

Richard Pengelly, CFA, CTP

300 S. Orange Avenue, Suite 1170

Orlando, FL 32801

(407) 648-2208

pengellyr@pfm.com

Investment Program Development Objectives

- 1) Create and Implement Sound Investment Policies
- 2) Determine the Investment Horizon
- 3) Understand and Implement Investment Performance Benchmarks
- 4) Developing an Investment Portfolio and Management Strategies
- 5) Track and Report Investments and Investment Earnings

Considerations for the Investment Program

- Florida Statutes
- GFOA Best Practices
- Association of Public Treasurers of the US & Canada
- Association of Financial Professionals
- CFA Institute
- GASB



CFA Institute



GASB GOVERNMENTAL
ACCOUNTING
STANDARDS BOARD


Association for
Financial Professionals®

1. Developing Investment Policies

Florida Statute 218.415 Local Government Investment Policies

Investment activity by a unit of local government must be consistent with a written investment plan adopted by the governing body, or in the absence of the existence of a governing body, the respective principal officer of the unit of local government and maintained by the unit of local government or, in the alternative, such activity must be conducted in accordance with subsection (17).

Any such unit of local government shall have an investment policy for any public funds in excess of the amounts needed to meet current expenses as provided in subsections (1)-(16), or shall meet the alternative investment guidelines contained in subsection (17).

Such policies shall be structured to place the **highest priority on the safety of principal and liquidity of funds**. The optimization of investment returns shall be secondary to the requirements for safety and liquidity. Each unit of local government shall adopt policies that are commensurate with the nature and size of the public funds within its custody.



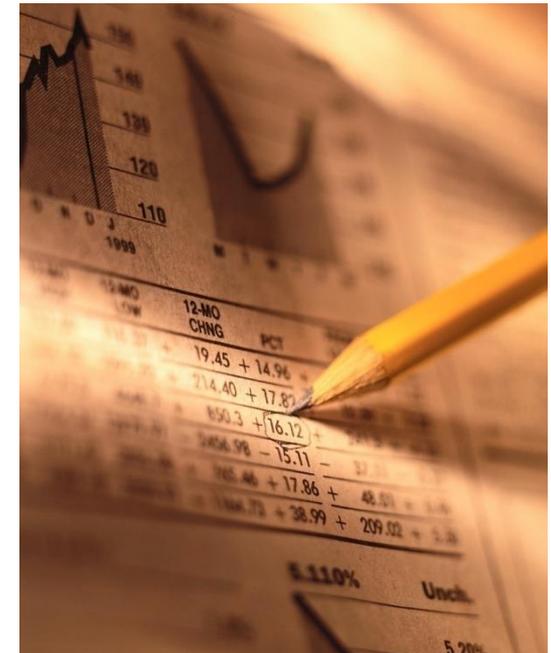
Florida Statute 218.415

- (1) **SCOPE** – The investment policy shall apply to funds under the control of the unit of local government in excess of those required to meet current expenses. The investment policy shall not apply to pension funds, including those funds in chapters 175 and 185, or funds related to the issuance of debt where there are other existing policies or indentures in effect for such funds.



Florida Statute 218.415

(2) INVESTMENT OBJECTIVES – The investment policy shall describe the investment objectives of the unit of local government. Investment objectives shall include safety of capital, liquidity of funds, and investment income, in that order.



Florida Statute 218.415

- (3) PERFORMANCE MEASUREMENT** – The investment policy shall specify performance measures as are appropriate for the nature and size of the public funds within the custody of the unit of local government.



Florida Statute 218.415

(4) PRUDENCE AND ETHICAL STANDARDS – The investment policy shall describe the level of prudence and ethical standards to be followed by the unit of local government in carrying out its investment activities with respect to funds described in this section. The unit of local government shall adopt the Prudent Person Rule, which states that: "Investments should be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived from the investment."



Florida Statute 218.415

(5) LISTING OF AUTHORIZED INVESTMENTS – The investment policy shall list investments authorized by the governing body of the unit of local government, subject to the provisions of subsection (16). Investments not listed in the investment policy are prohibited. If the policy authorizes investments in derivative products, the policy must require that the unit of local government's officials responsible for making investment decisions or chief financial officer have developed sufficient understanding of the derivative products and have the expertise to manage them. For purposes of this subsection, a "derivative" is defined as a financial instrument the value of which depends on, or is derived from, the value of one or more underlying assets or index or asset values. If the policy authorizes investments in reverse repurchase agreements or other forms of leverage, the policy must limit the investments to transactions in which the proceeds are intended to provide liquidity and for which the unit of local government has sufficient resources and expertise.



Florida Statute 218.415

(6) MATURITY AND LIQUIDITY REQUIREMENTS – The investment policy shall require that the investment portfolio is structured in such manner as to provide sufficient liquidity to pay obligations as they come due. To that end, the investment policy should direct that, to the extent possible, an attempt will be made to match investment maturities with known cash needs and anticipated cash-flow requirements.



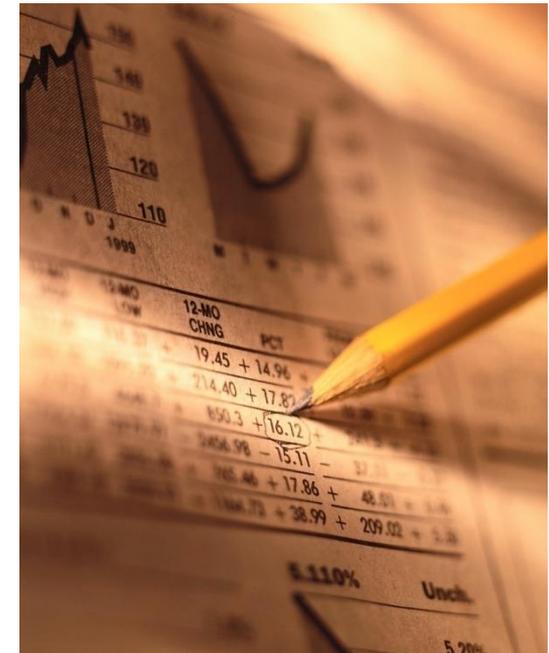
Florida Statute 218.415

(7) PORTFOLIO COMPOSITION – The investment policy shall establish guidelines for investments and limits on security issues, issuers, and maturities. Such guidelines shall be commensurate with the nature and size of the public funds within the custody of the unit of local government.



Florida Statute 218.415

- (8) RISK AND DIVERSIFICATION** – The investment policy shall provide for appropriate diversification of the investment portfolio. Investments held should be diversified to the extent practicable to control the risk of loss resulting from overconcentration of assets in a specific maturity, issuer, instrument, dealer, or bank through which financial instruments are bought and sold. Diversification strategies within the established guidelines shall be reviewed and revised periodically, as deemed necessary by the appropriate management staff.



Florida Statute 218.415

(10) THIRD-PARTY CUSTODIAL AGREEMENTS – The investment policy shall provide appropriate arrangements for the holding of assets of the unit of local government. Securities should be held with a third party; and all securities purchased by, and all collateral obtained by, the unit of local government should be properly designated as an asset of the unit of local government. No withdrawal of securities, in whole or in part, shall be made from safekeeping, except by an authorized staff member of the unit of local government. Securities transactions between a broker-dealer and the custodian involving purchase or sale of securities by transfer of money or securities must be made on a "delivery vs. payment" basis, if applicable, to ensure that the custodian will have the security or money, as appropriate, in hand at the conclusion of the transaction.



Florida Statute 218.415

(11) MASTER REPURCHASE AGREEMENT – The investment policy shall require all approved institutions and dealers transacting repurchase agreements to execute and perform as stated in the Master Repurchase Agreement. All repurchase agreement transactions shall adhere to the requirements of the Master Repurchase Agreement.



Florida Statute 218.415

(12) BID REQUIREMENT – The investment policy shall require that the unit of local government's staff determine the approximate maturity date based on cash-flow needs and market conditions, analyze and select one or more optimal types of investment, and competitively bid the security in question when feasible and appropriate. Except as otherwise required by law, the bid deemed to best meet the investment objectives specified in subsection (2) must be selected.



Florida Statute 218.415

(13) INTERNAL CONTROLS – The investment policy shall provide for a system of internal controls and operational procedures. The unit of local government's officials responsible for making investment decisions or chief financial officer shall establish a system of internal controls which shall be in writing and made a part of the governmental entity's operational procedures. The investment policy shall provide for review of such controls by independent auditors as part of any financial audit periodically required of the unit of local government. The internal controls should be designed to prevent losses of funds which might arise from fraud, employee error, misrepresentation by third parties, or imprudent actions by employees of the unit of local government.



Florida Statute 218.415

(14) CONTINUING EDUCATION – The investment policy shall provide for the continuing education of the unit of local government's officials responsible for making investment decisions or chief financial officer. Such officials must annually complete 8 hours of continuing education in subjects or courses of study related to investment practices and products.



Florida Statute 218.415

(15) REPORTING – The investment policy shall provide for appropriate annual or more frequent reporting of investment activities. To that end, the governmental entity's officials responsible for making investment decisions or chief financial officer shall prepare periodic reports for submission to the legislative and governing body of the unit of local government, which shall include securities in the portfolio by class or type, book value, income earned, and market value as of the report date. Such reports shall be available to the public.



Florida Statute 218.415

(16) AUTHORIZED INVESTMENTS; WRITTEN INVESTMENT POLICIES –

Those units of local government electing to adopt a written investment policy as provided in subsections (1)-(15) may by resolution invest and reinvest any surplus public funds in their control or possession in:

- (a) The Local Government Surplus Funds Trust Fund or any intergovernmental investment pool authorized pursuant to the Florida Interlocal Cooperation Act of 1969, as provided in s. 163.01.**
- (b) Securities and Exchange Commission registered money market funds with the highest credit quality rating from a nationally recognized rating agency.**
- (c) Interest-bearing time deposits or savings accounts in qualified public depositories as defined in s. 280.02.**
- (d) Direct obligations of the United States Treasury.**
- (e) Federal agencies and instrumentalities.**
- (f) Rated or unrated bonds, notes, or instruments backed by the full faith and credit of the government of Israel.**

Florida Statute 218.415

(16) AUTHORIZED INVESTMENTS; WRITTEN INVESTMENT POLICIES –

Those units of local government electing to adopt a written investment policy as provided in subsections (1)-(15) may by resolution invest and reinvest any surplus public funds in their control or possession in:

- (g) Securities of, or other interests in, any open-end or closed-end management-type investment company or investment trust registered under the Investment Company Act of 1940, 15 U.S.C. ss. 80a-1 et seq., as amended from time to time, provided that the portfolio of such investment company or investment trust is limited to obligations of the United States Government or any agency or instrumentality thereof and to repurchase agreements fully collateralized by such United States Government obligations, and provided that such investment company or investment trust takes delivery of such collateral either directly or through an authorized custodian.**
- (h) Other investments authorized by law or by ordinance for a county or a municipality.**
- (i) Other investments authorized by law or by resolution for a school district or a special district.**

Florida Statute 218.415

(17) AUTHORIZED INVESTMENTS; NO WRITTEN INVESTMENT POLICY –

Those units of local government electing not to adopt a written investment policy in accordance with investment policies developed as provided in subsections (1)-(15) may invest or reinvest any surplus public funds in their control or possession in:

- (a) The Local Government Surplus Funds Trust Fund, or any intergovernmental investment pool authorized pursuant to the Florida Interlocal Cooperation Act of 1969, as provided in s. 163.01.**
- (b) Securities and Exchange Commission registered money market funds with the highest credit quality rating from a nationally recognized rating agency.**
- (c) Interest-bearing time deposits or savings accounts in qualified public depositories, as defined in s. 280.02.**
- (d) Direct obligations of the U.S. Treasury.**

The securities listed in paragraphs (c) and (d) shall be invested to provide sufficient liquidity to pay obligations as they come due.

Florida Statute 218.415

(18) SECURITIES; DISPOSITION –

- (a) Every security purchased under this section on behalf of the governing body of a unit of local government must be properly earmarked and:
1. If registered with the issuer or its agents, must be immediately placed for safekeeping in a location that protects the governing body's interest in the security;
 2. If in book entry form, must be held for the credit of the governing body by a depository chartered by the Federal Government, the state, or any other state or territory of the United States which has a branch or principal place of business in this state as defined in s. 658.12, or by a national association organized and existing under the laws of the United States which is authorized to accept and execute trusts and which is doing business in this state, and must be kept by the depository in an account separate and apart from the assets of the financial institution; or
 3. If physically issued to the holder but not registered with the issuer or its agents, must be immediately placed for safekeeping in a secured vault.
- (b) The unit of local government's governing body may also receive bank trust receipts in return for investment of surplus funds in securities. Any trust receipts received must enumerate the various securities held, together with the specific number of each security held. The actual securities on which the trust receipts are issued may be held by any bank depository chartered by the Federal Government, this state, or any other state or territory of the United States which has a branch or principal place of business in this state as defined in s. 658.12, or by a national association organized and existing under the laws of the United States which is authorized to accept and execute trusts and which is doing business in this state.

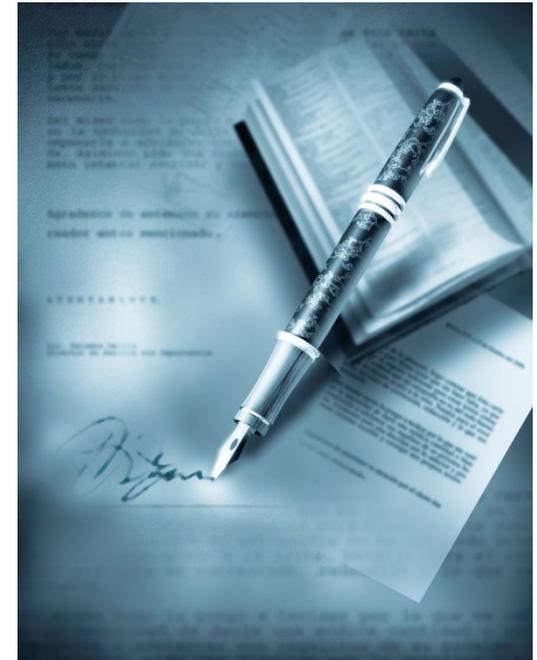
Florida Statute 218.415

(19) SALE OF SECURITIES – When the invested funds are needed in whole or in part for the purposes originally intended or for more optimal investments, the unit of local government's governing body may sell such investments at the then-prevailing market price and place the proceeds into the proper account or fund of the unit of local government.



Florida Statute 218.415

(20) PREEXISTING CONTRACT – Any public funds subject to a contract or agreement existing on October 1, 2000, may not be invested contrary to such contract or agreement.



Florida Statute 218.415

(21) PREEMPTION – Any provision of any special act, municipal charter, or other law which prohibits or restricts a local governmental entity from complying with this section or any rules adopted under this section is void to the extent of the conflict.



Florida Statute 218.415

(22) AUDITS – Certified public accountants conducting audits of units of local government pursuant to s. 218.39 shall report, as part of the audit, whether or not the unit of local government has complied with this section.



Florida Statute 218.415

- (23) AUTHORIZED DEPOSITS** – In addition to the investments authorized for local governments in subsections (16) and (17) and notwithstanding any other provisions of law, a unit of local government may deposit any portion of surplus public funds in its control or possession in accordance with the following conditions:
- (a) The funds are initially deposited in a qualified public depository, as defined in s. 280.02, selected by the unit of local government.
 - (b) The selected depository arranges for depositing the funds in financial deposit instruments insured by the Federal Deposit Insurance Corporation in one or more federally insured banks or savings and loan associations, wherever located, for the account of the unit of local government.
 - (c) The full amount of the principal and accrued interest of each financial deposit instrument is insured by the Federal Deposit Insurance Corporation.
 - (d) The selected depository acts as custodian for the unit of local government with respect to each financial deposit instrument issued for its account.

Key Components of an Investment Policy

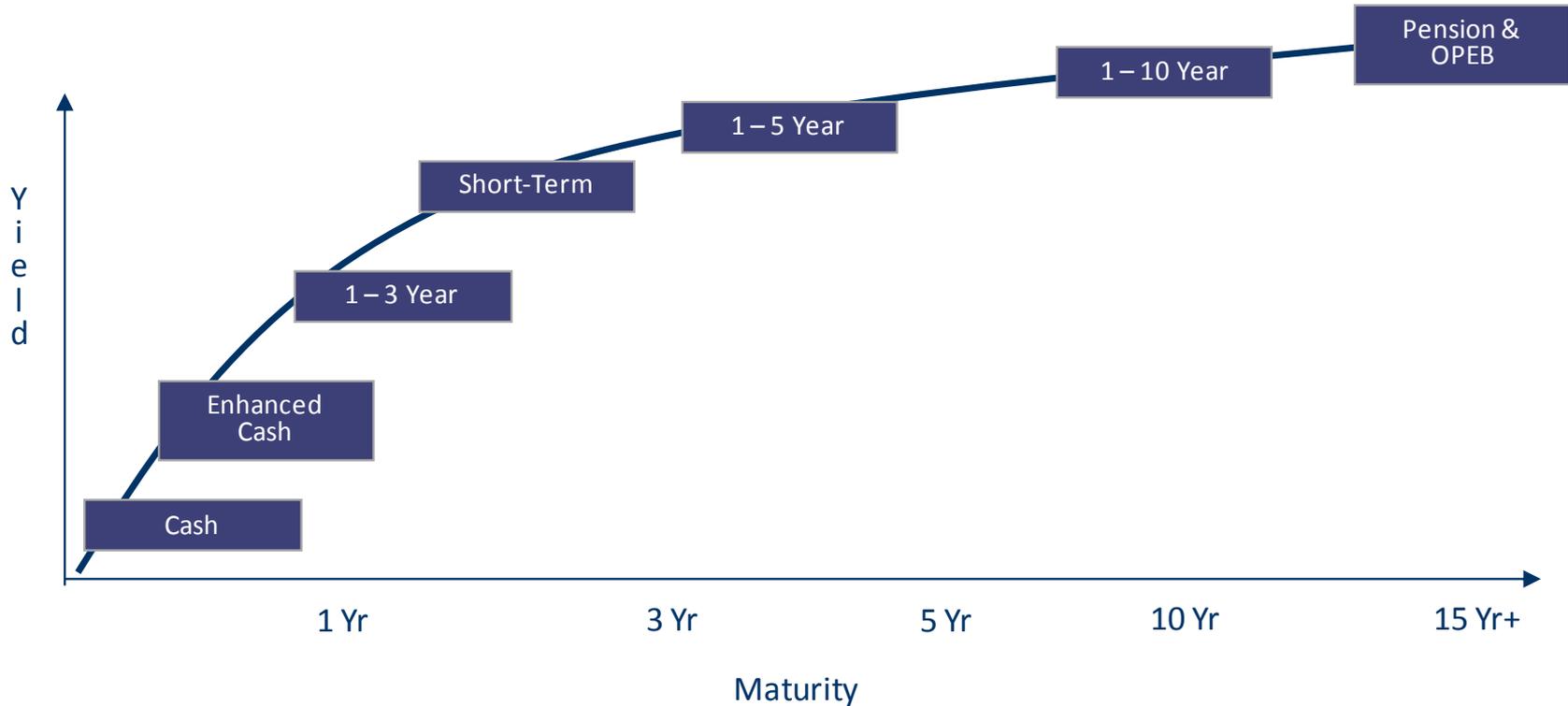
- I. Scope
- II. Investment Objectives
- III. Performance Measurement
- IV. Standards of Care
- V. Authorized Investments
- VI. Maturity & Liquidity
- VII. Authorized Financial Institutions
- VIII. Safekeeping & Custody
- IX. Bid Requirement
- X. Internal Controls
- XI. Continuing Education
- XII. Reporting Requirements

Key Points in Developing an Investment Policy

- Policy should be structured to place the highest priority on the:
 - Safety of principal
 - Liquidity of funds
- The optimization of Returns shall be secondary (yet important - maximize earnings that can be kept)
- Compliance with legal restrictions/regulations
- Flexibility
- Stability (Limited Volatility)
- Simplicity

2. Determining the Investment Horizon

Investment Horizons



Entity Type

- State & Local Governments
- Healthcare
- Higher Education
- Not-for-Profit
- Insurance

Fund Type

- Operating funds
- Capital & Reserves
- Core Fixed-Income
- Pension and OPEB
- Endowments & Foundation

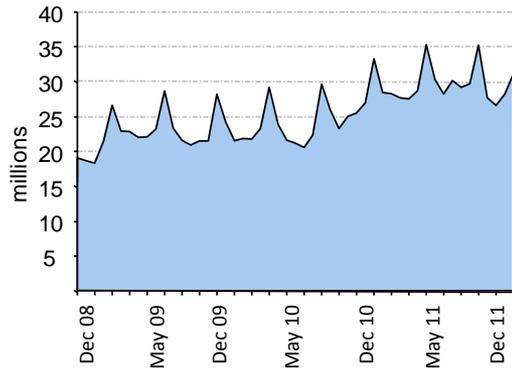
Benefits of a Cash Flow Analysis

- Important Component of an Effective Overall Investment Management Program
 - Determining Long Term versus Short Term Assets
- Better Understanding of Timing of Revenues and Expenditures
 - Results in more effective cash flow management, e.g. stretching out accounts payables and speeding up collection of receivable to finance part of the operations internally
- Better Investment Selection
 - Appropriate security selection
- Increase investment income
 - Amounts available for investment
 - Period of time to hold the investment



Cash Flow Analysis

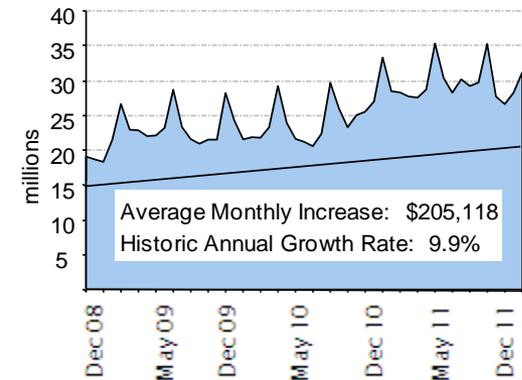
Step 1: Review Historic Balances



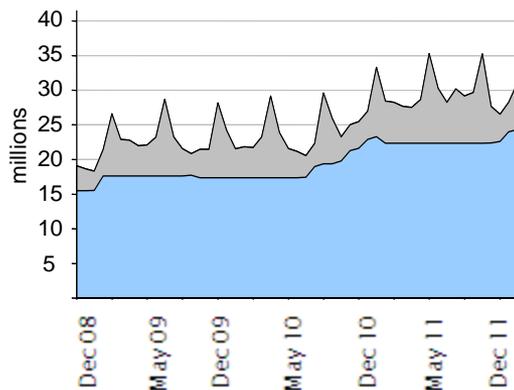
Step 2: Compute Seasonal Factors

Seasonal Factors	
January	94%
February	93%
March	94%
April	96%
May	116%
June	102%
July	96%
August	97%
September	96%
October	99%
November	118%
December	98%

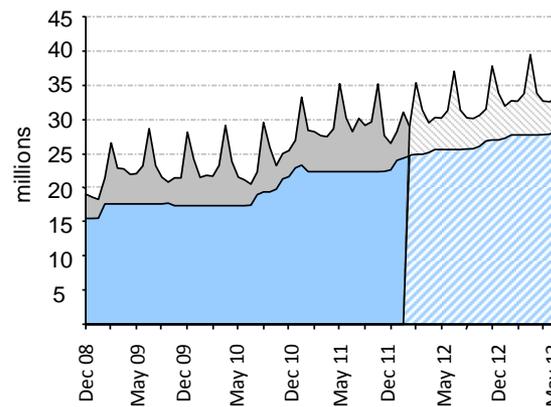
Step 3: Compute Growth



Step 4: Identify Core Portfolio



Step 5: Project Balances

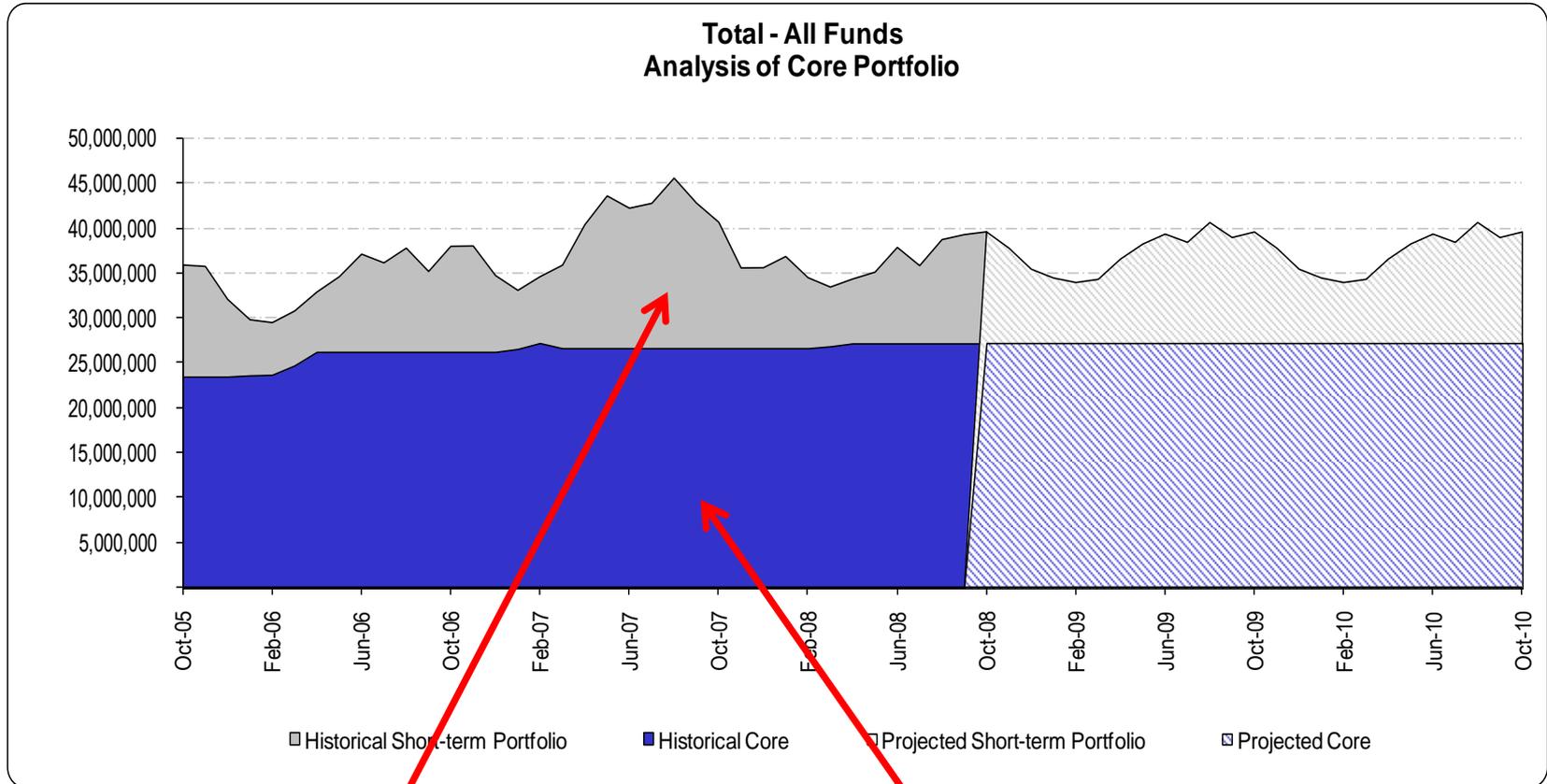


Step 6: Recommendations

The results of the Cash Flow analysis will help answer the following questions:

- How predictable are cash flows?
- Is there a statistically significant seasonal pattern?
- Is there a growth trend?
- What will the portfolio balance be during any month?
- How much is available for longer-term investment?
- How much money should remain in overnight or other highly liquid investments?

Components of Investment Assets



Short-term Portfolio

- Highly liquid funds
- Cover specific, predictable cash flows (i.e. payrolls, debt service)

Long-term ("Core") Portfolio

- Funds not expected to be spent
- Extraordinary circumstances
- Longer-term securities and higher expected return

3. Establishing Performance Benchmarks

The CFA Institute

- International, non-profit organization
- 120,000 investment practitioners in 142 countries
- Administers the Chartered Financial Analyst program
- Sponsors the Global Investment Performance Standards (GIPS)



Mission Statement

To lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society.

Why is GIPS® Good for Public Agencies?

The Standards provide assurance that a firm's presentation of investment performance is:

- Fairly presented
- Properly calculated
- Comparable across managers
- Of the highest professional standards

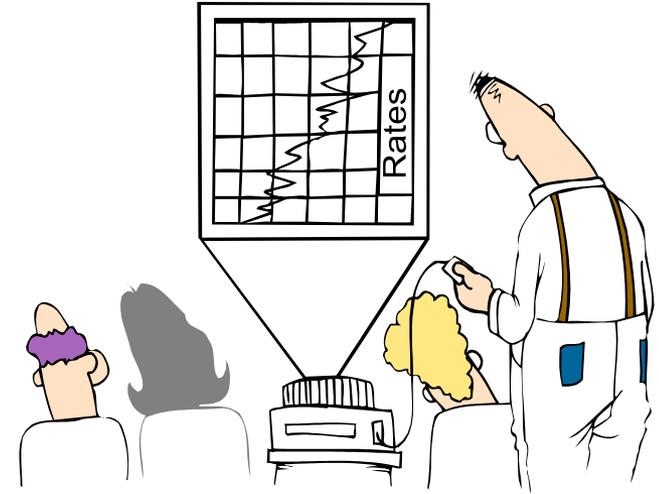


GIPS® Standards Requirements in 5 Key Areas

Key Area	Significant Requirements
Input Data	Portfolio valuations must be based on market values (not cost or book)
Calculation Methodology	Total Return must be used, including realized & unrealized gains and income
Composite Construction	All fee paying, discretionary portfolios must be in at least one composite
Disclosures	<p style="text-align: center;">Statement of Official Compliance: <i>(FIRM) has prepared and presented this report in compliance with the Global Investment Performance Standards.</i></p>
Presentation & Reporting	<ul style="list-style-type: none"> • A minimum of 10 years of annual performance history • Annual returns for all years • The number of portfolios and amount of assets in the composite (or the percentage of the firm's total assets represented by the composite at the end of each period) • A measure of dispersion of individual component portfolios around the aggregate composite return

Total Return and Yield

- Returns shown could be:
 - Total Return
 - Yield
- **Returns** are retrospective
- **Yields** are prospective
- Total Return takes into account
 - interest earnings,
 - realized gains/losses, and
 - unrealized gains/losses



Using Benchmarks in Portfolio Management

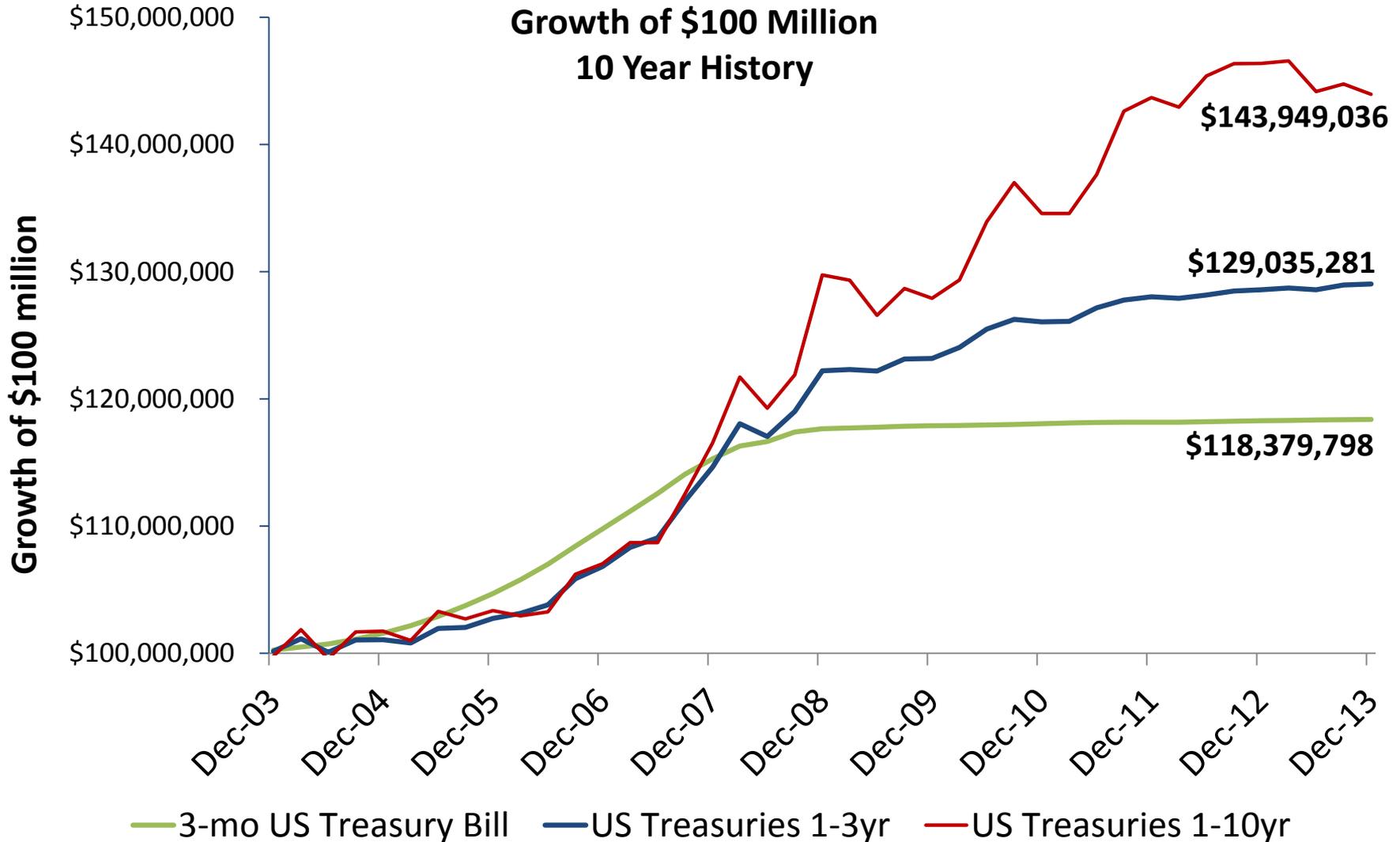
- **Comparability**
 - Close comparability between portfolio and selected benchmark
- **Identification and Explanation**
 - Specifically identified and explained before implementing the proposed portfolio strategy
- **Investable & Unambiguous**
 - Data should be available with the names and weights of the securities comprising the benchmark
- **Measurable**
 - The benchmark return should be readily available to compare portfolio performance

Typical Benchmarks* include:

- Merrill Lynch 1 Year T-Note Index
- Merrill Lynch 1-3 Year Treasury and Agency Index
- Merrill Lynch 1-5 Year Corporate and Government Index
- Barclays Capital 1-3 Year Government Index

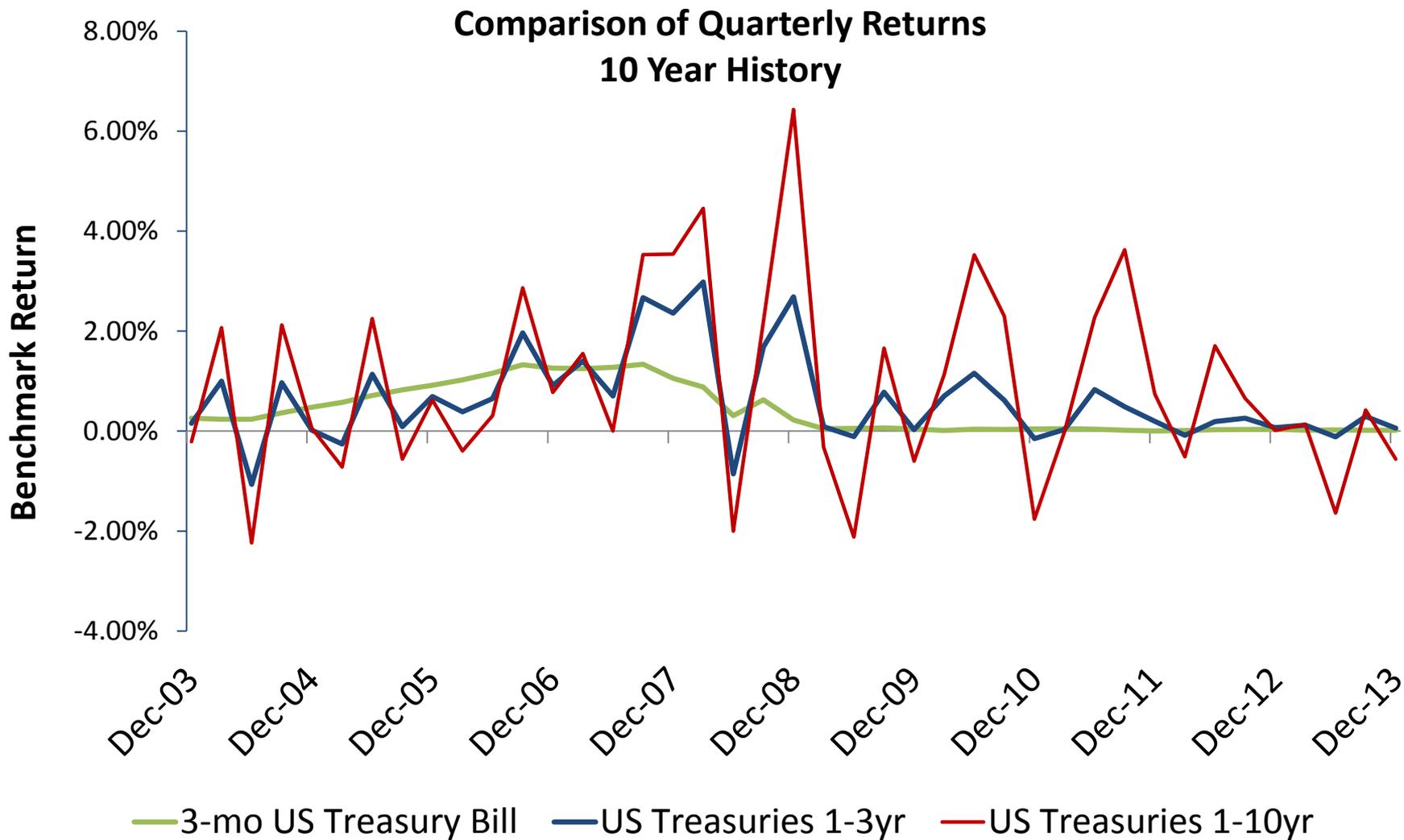
**This is a partial listing of available benchmarks*

Longer-Term Benchmark Provides Greater Expected Return in the Long-Term...



Source Bloomberg

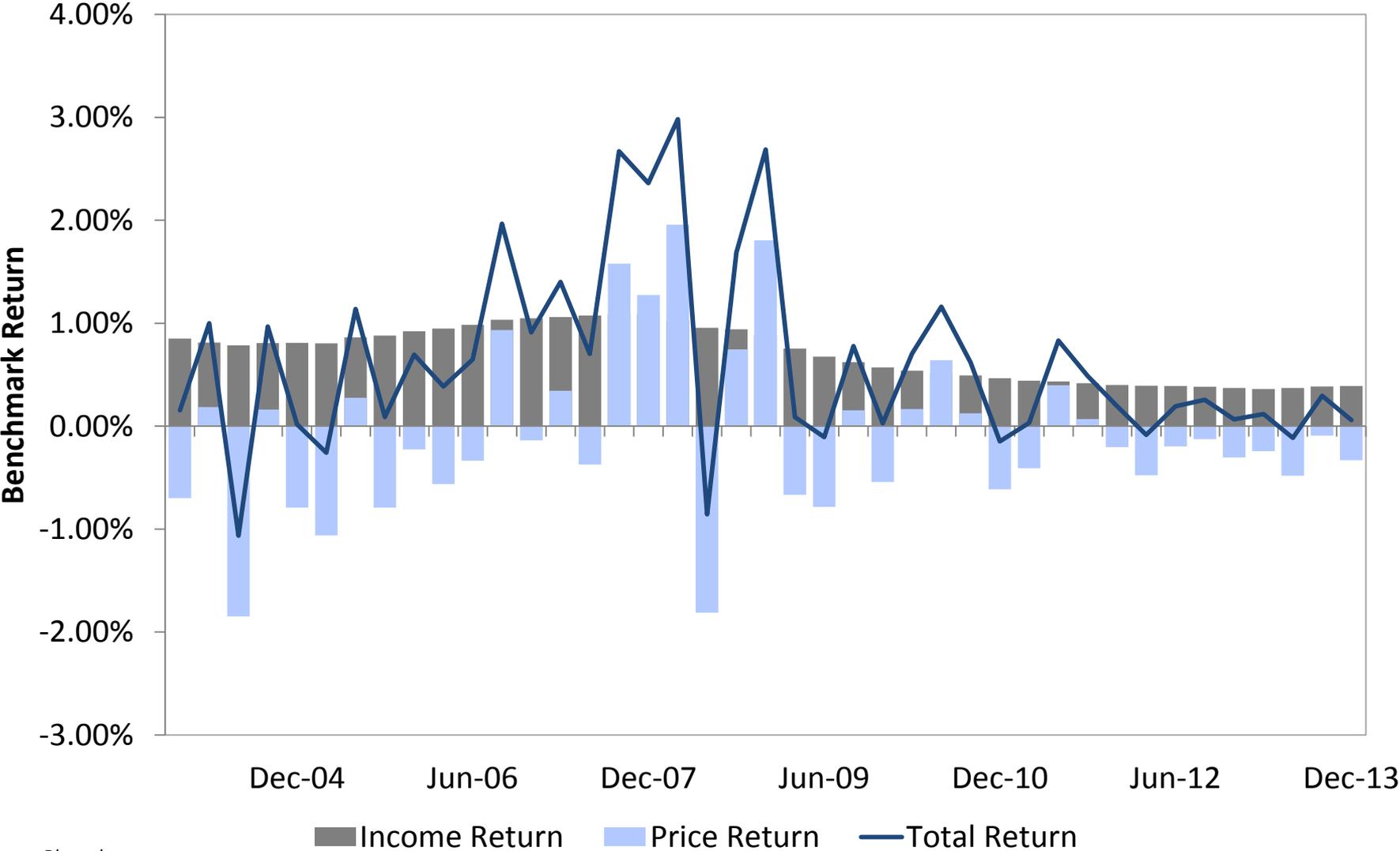
...Longer-Term Benchmark Also Provides Greater Volatility in the Short-Term



Source: Bloomberg

Historical Return Breakdown: Total Return

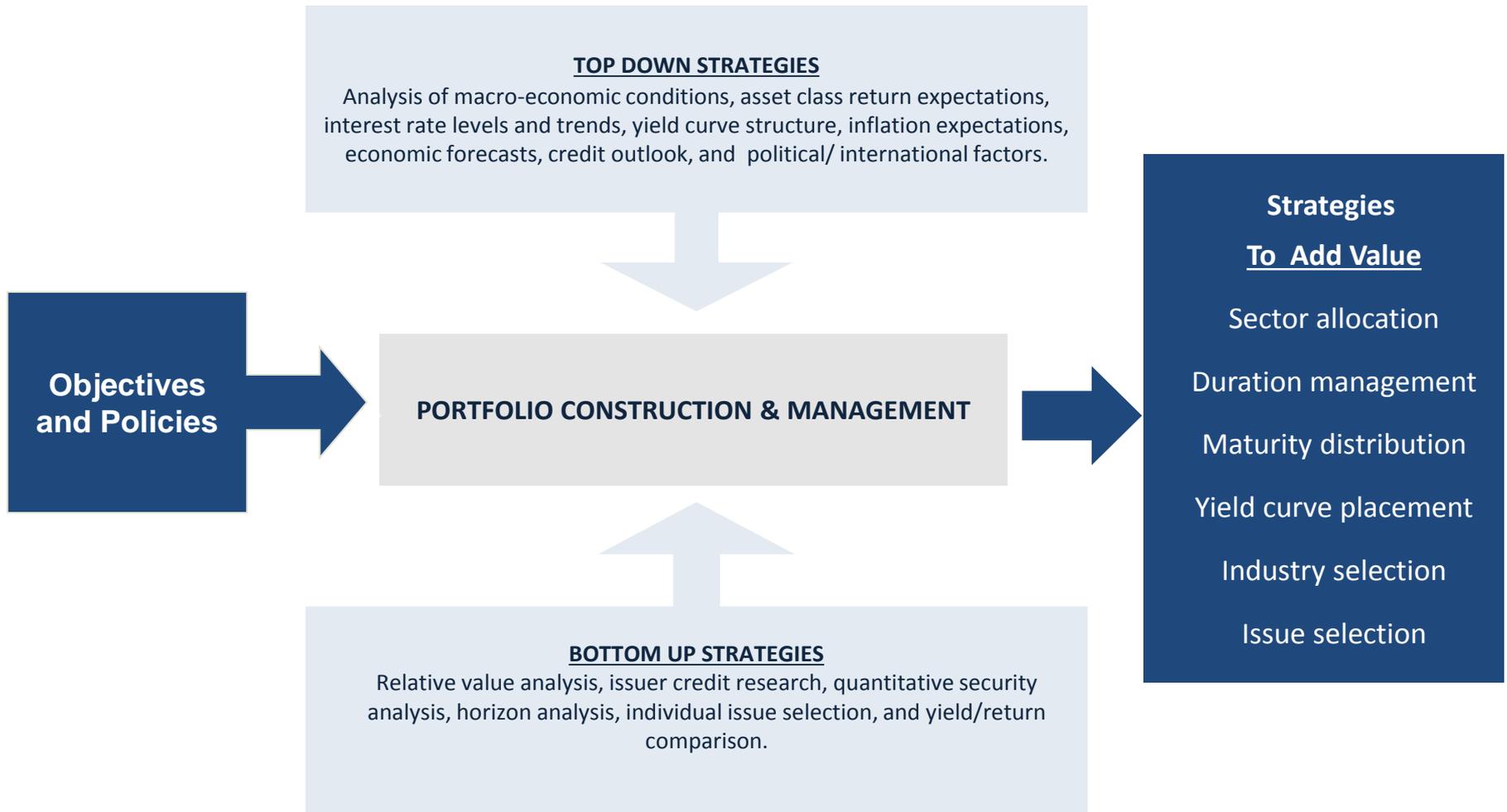
(1-3 Year BAML US Treasury Index – Quarterly Returns)



Source Bloomberg

4. Developing and Managing Portfolios

Overview of Investment Portfolio Management Process



Risk Management

Portfolio risk management

- Duration managed within defined bands
- Diligent, proactive credit process
- Credit monitoring tools for timely identification of emerging trends
- Regular sector/issuer exposure reviews
- Competitive bid process with aggressive price negotiation

Compliance

- Pre-trade and post-trade compliance checking
- Daily policy compliance check on every portfolio
- Comprehensive compliance policies and procedures
- Active, integrated Compliance Department
- Full transparency

“Pragmatic” Credit Process – More than Ratings

- Credit Committee: Responsible for developing and maintaining approved credit list
- Pragmatic approach that focuses on market events and security price tracking
- Early warning system drives proactive credit decisions

**Preliminary
Screening**

**General Market
Assessment**

**Issuer
Review**

**Approved
Issuer List**

Quantitative Analysis

- Balance sheet analysis
- Earnings: actual and projections
- Asset quality and impairments
- Price movement of fixed-income and equity securities
- Monitor credit default swap levels
- Trading volume
- Dividend and capital policies

Qualitative Analysis

- Industry trends
- Competitive environment
- Business cycle
- Corporate governance
- Regulatory environment
- Analysts’ recommendations
- Rating agency actions
- News releases

Example of Active Credit Management

Quarter Ended	2006		2007				2008				2009				2010				2011			
	3Q	4Q	1Q	2Q	3Q	4Q																
American Express Credit	Approved	Approved	Approved	Approved	Hold	Approved	Approved	Approved	Hold	Hold	Hold	Removed	Approved									
Bank Of Nova Scotia	Approved																					
Bear Stearns Co Inc	Approved	Approved	Approved	Approved	Hold	Hold	Removed	Approved														
BNP Paribas Finance Inc	Approved	Hold	Approved																			
Citigroup Funding Inc	Approved	Hold																				
Danske Corporation	Approved	Approved	Approved	Approved	Hold	Approved	Approved	Approved	Hold	Approved												
Dexia Delaware LLC	Approved	Approved	Approved	Approved	Hold	Hold	Approved	Approved	Hold	Approved												
HSBC Finance Corp	Approved	Hold	Approved	Approved	Removed	Approved																
Lehman Brothers	Approved	Approved	Approved	Approved	Hold	Removed	Approved															
Merrill Lynch & Co	Approved	Approved	Approved	Approved	Approved	Hold																
Rabobank USA Fin Corp	Approved																					
Royal Bank Of Canada	Approved																					
Societe Generale	Approved																					
Toyota Motor Credit Corp	Approved																					
Wal-Mart Stores Inc	Approved																					
Westpac Banking Corp	Approved																					



Approved



Hold



Removed

Overview of Strategies

- Portfolio managers use a variety of strategies in order to earn the highest returns for client portfolios:
 - Buy and Hold
 - Active Management
 - Duration Management
 - Maturity Distribution - Ladder, Barbell or Bullet
 - Sector Allocation
 - Security Selection
- A benchmark is selected to monitor portfolio performance

Sector Allocation Strategy Minimizes Risk & Enhances Return

- Diversification
 - Concentration of funds in one sector may leave a portfolio vulnerable to unique sector risks



- Alter sector allocation to take advantage of spread changes
 - Purchase when spreads are high
 - Sell once spreads narrow

Fixed Income Sector Returns

Quarterly 1-3 Year Index Returns

Index / Ending Duration	06/30/10	09/30/10	12/31/10	03/31/11	06/30/11	09/30/11	12/31/11	03/31/12	06/30/12	09/30/12	12/31/12	03/31/13	06/30/13
U.S. Treasury / 1.89 Years	0.85%	2.28%	0.97%	1.00%	1.39%	0.76%	0.83%	2.28%	0.58%	1.91%	0.88%	0.76%	-0.11%
Bullet Agencies / 1.85 Years	0.60%	2.07%	0.60%	0.68%	1.08%	0.57%	0.62%	1.89%	0.39%	1.69%	0.50%	0.48%	-0.13%
Callable Agencies / 1.61 Years	0.59%	1.81%	0.17%	0.66%	1.07%	0.49%	0.40%	1.19%	0.36%	1.05%	0.31%	0.45%	-0.13%
Corp AAA / 2.10 Years	0.56%	1.34%	0.10%	0.61%	1.05%	0.48%	0.37%	0.76%	0.35%	0.91%	0.21%	0.35%	-0.17%
Corp AA / 1.99 Years	0.54%	0.70%	0.05%	0.42%	1.01%	0.42%	0.32%	0.43%	0.25%	0.88%	0.13%	0.29%	-0.18%
Corp A / 1.98 Years	0.50%	0.62%	-0.03%	0.30%	0.89%	0.17%	0.23%	0.42%	0.19%	0.33%	0.11%	0.12%	-0.20%
Corp BBB / 1.96 Years	0.43%	0.52%	-0.04%	0.14%	0.85%	-0.38%	0.20%	0.30%	0.19%	0.27%	0.07%	0.11%	-0.20%
MBS 0 - 3 / 1.69 Years	0.24%	0.52%	-0.15%	0.13%	0.83%	-0.68%	0.18%	0.21%	0.19%	0.26%	0.02%	0.09%	-0.25%
Municipals / 1.77 Years	0.14%	0.20%	-0.37%	0.03%	0.66%	-0.72%	-0.23%	-0.08%	0.16%	0.17%	-0.31%	0.01%	-1.00%

Source: BofA Merrill Lynch Indices

Portfolio Development Example

Our Sample Investment Policy

Florida Statute 218.415 Local Government Investment Policies

- Any such unit of local government shall have an investment policy for any public funds in excess of the amounts needed to meet current expenses...
- Such policies shall be structured to place the highest priority on the **safety** of principal and **liquidity** of funds. The Optimization of investment **returns** shall be secondary to the requirements for safety and liquidity.

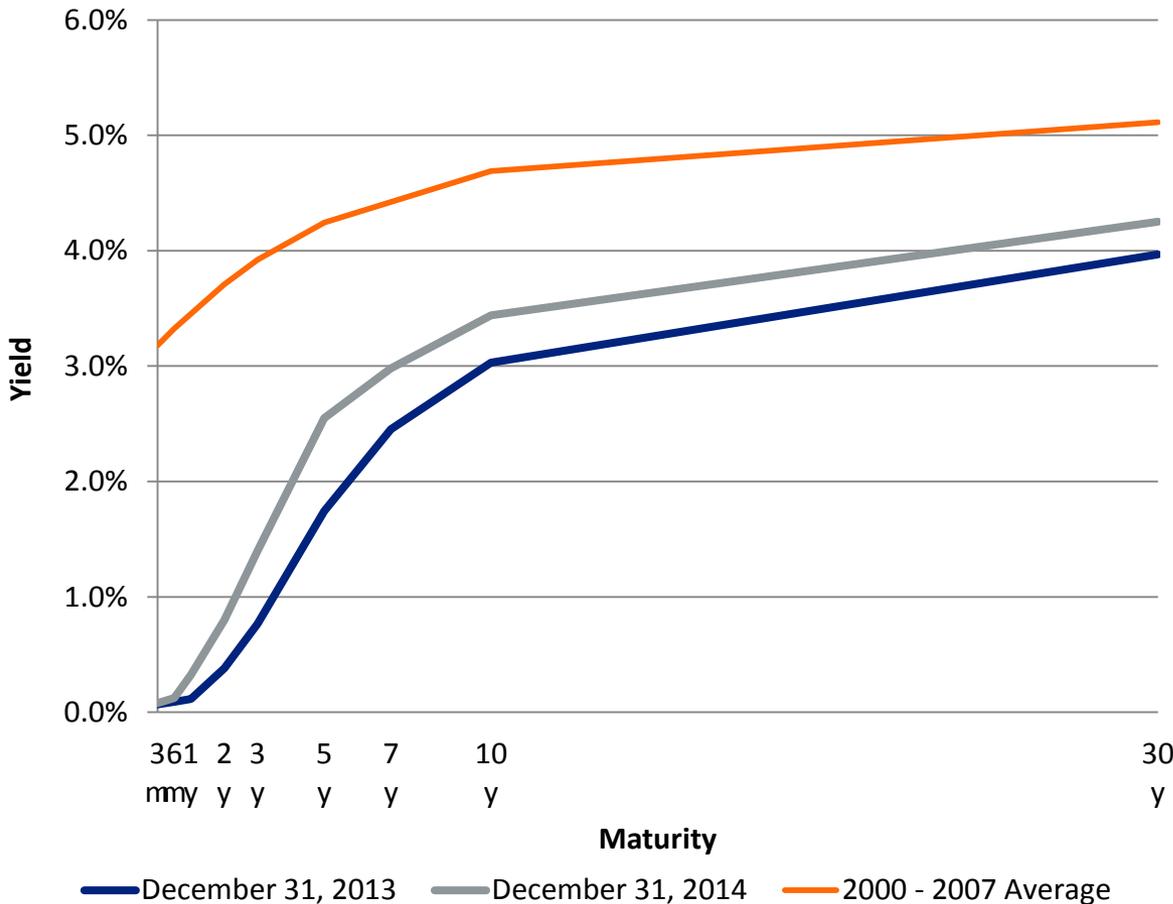
Investment Sector	Policy Limit
Treasuries	100%
Agencies	50%
Instrumentalities	25%
MBS	20%
Corporates	50%
Munis	20%
Money Market	30%



U.S. Treasury Yield Curve Outlook

U.S. Treasury Yield Curve Comparison

Yield Curve History



	12/31/13	Forecast 12/31/14	2000 – 2007 Average
1-Mo.	0.01	0.03	2.51
3-Mo.	0.07	0.08	3.18
6-Mo.	0.09	0.12	3.32
1-Yr.	0.11	0.32	N/A
2-Yr.	0.38	0.80	3.71
3-Yr.	0.76	1.40	3.92
5-Yr.	1.74	2.55	4.25
7-Yr.	2.45	2.98	N/A
10-Yr.	3.03	3.44	4.69
30-Yr.	3.97	4.25	5.11

Source: Bloomberg. 2-, 10-, and 30-year forecast rates are based on Survey of Bloomberg Economists, with the remaining rates interpolated

Strategy for 2014

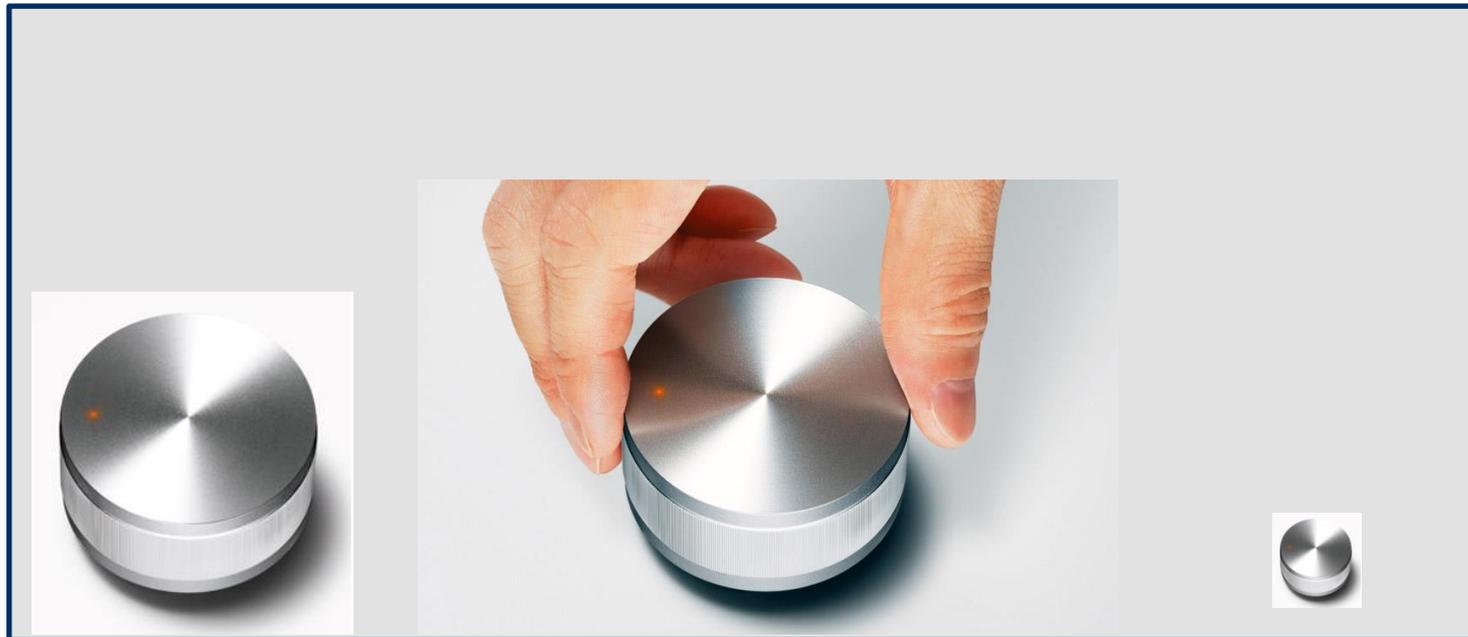
- 2014 will be a year of transition
- Fed influence continues
- Strategy favors credit
- “Carry” vs. rate change

Sector	Investment Preference
MMF/LGIP	
Commercial Paper/CDs	
Treasury: T-Bill	
T-Note	
Agency: <= 3 years	
> 3 Years	
Corporates: Financials	
Industrials	
Taxable Municipal Bonds	
Mortgage-Backed Securities	

Dialing Up Risks (and Reward)

There are three main drivers of portfolio performance for short to intermediate term core portfolios

Portfolio Manager Investment Decisions

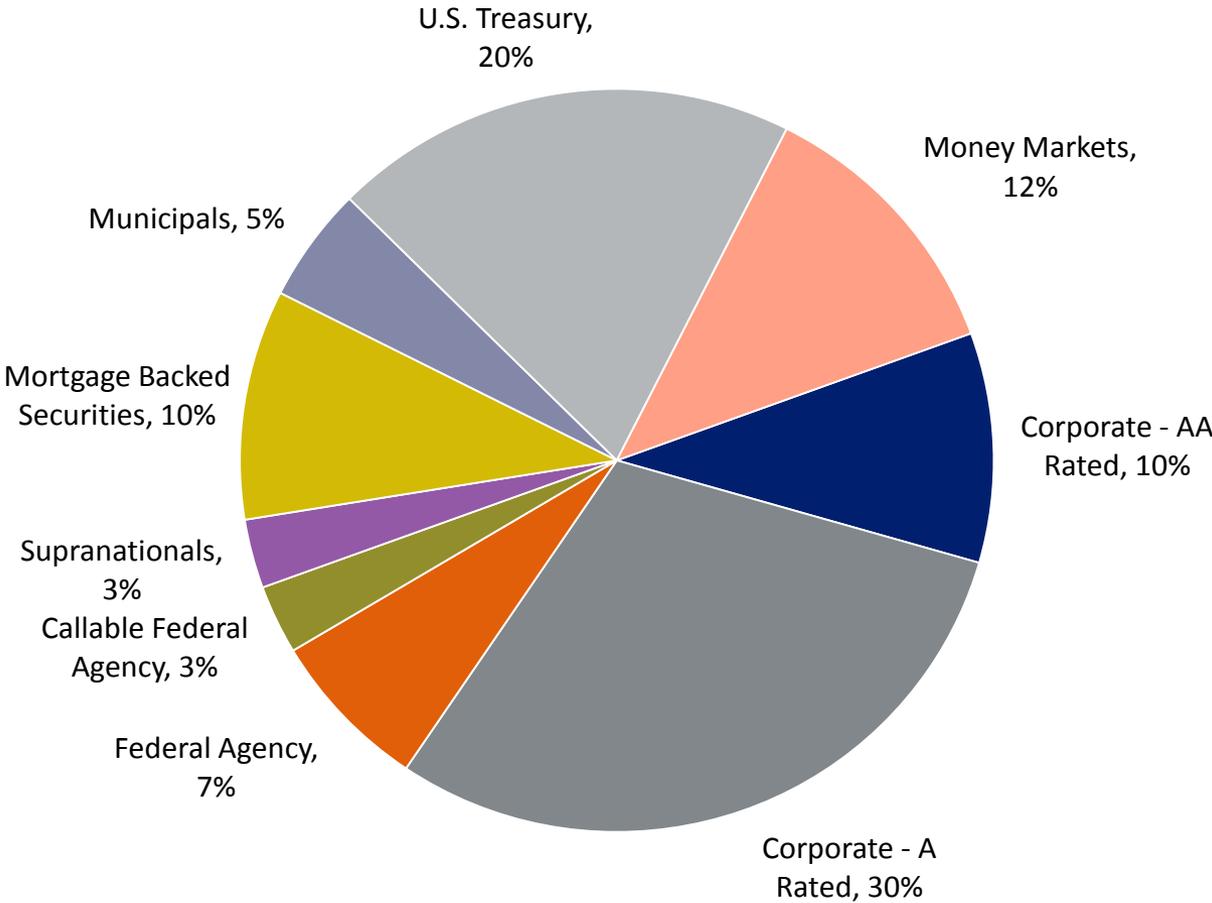


**Sector
Allocation**

Duration

**Individual
Security
Selection**

Model Portfolio for Today's Market



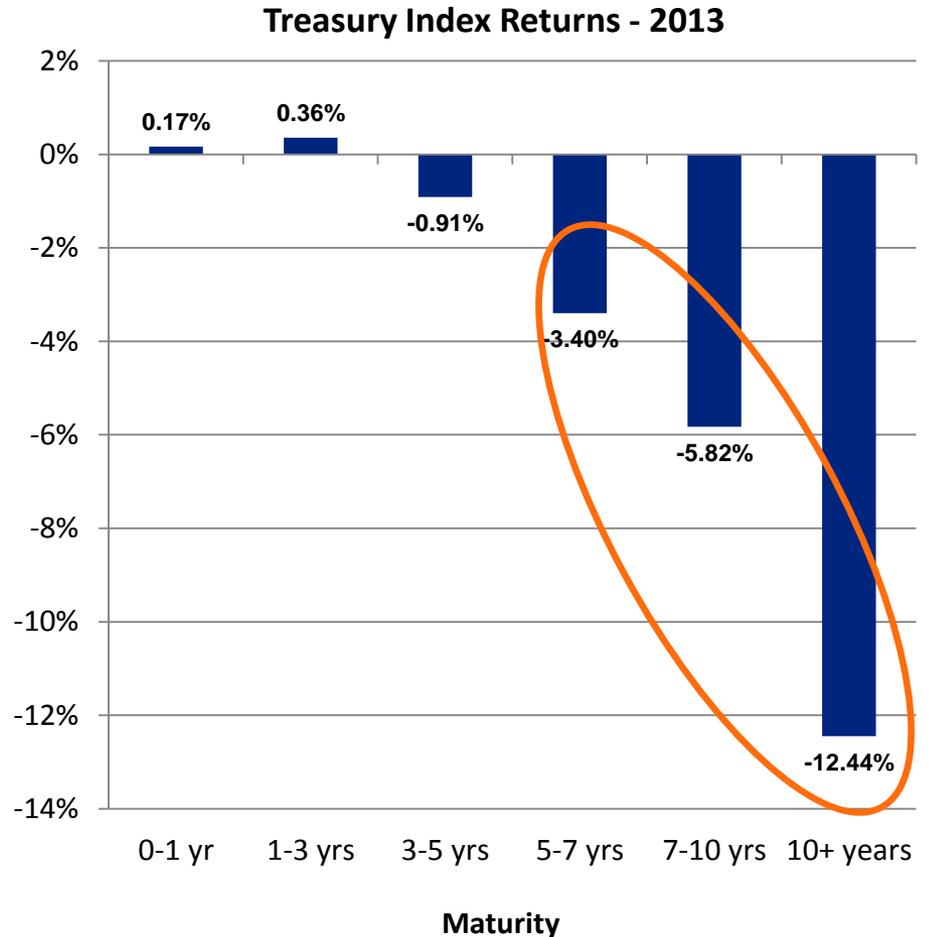
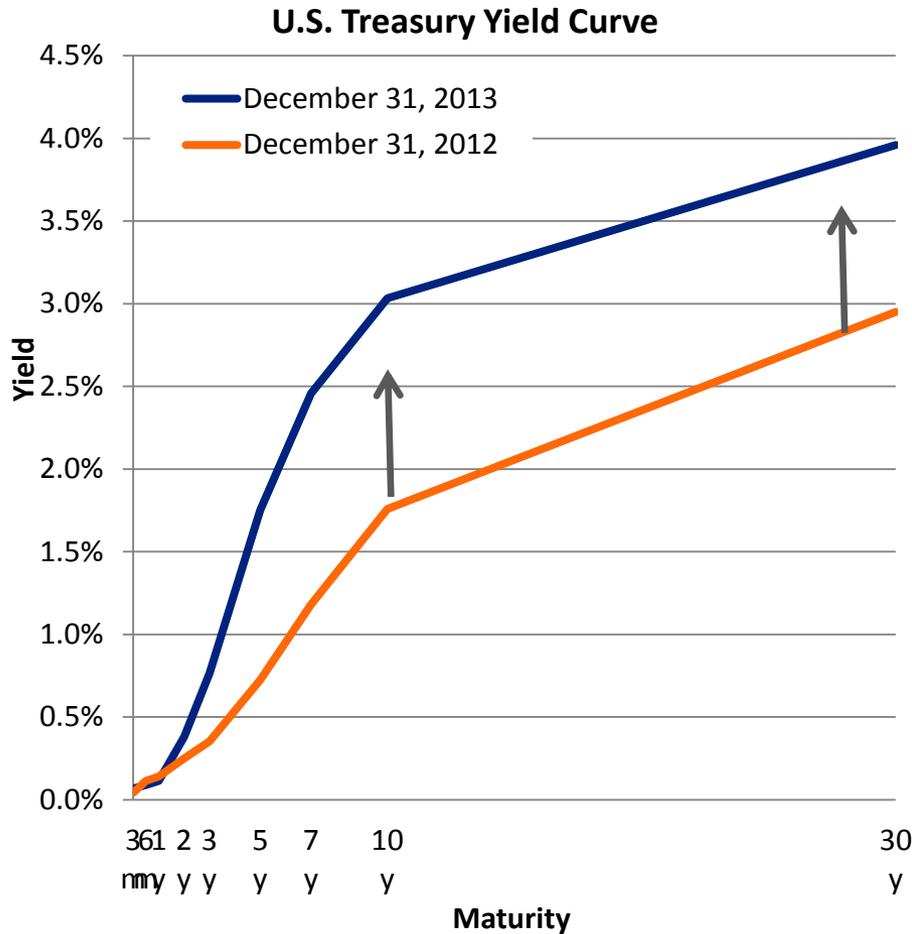
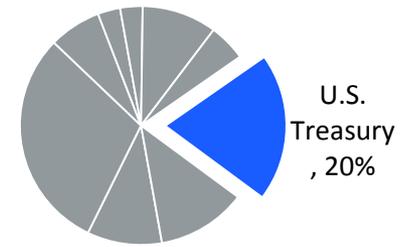
1 – 5 Year Strategy	
Duration	2.43
Yield	0.83%
Average Rating	AA2
Average Maturity	2.58
Benchmark* Duration	2.63

*BofA Merrill Lynch 1-5 Year U.S. Treasury Index

The Model Portfolio: Does It Comply?

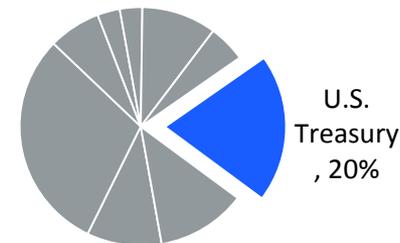
	Policy Limit	Portfolio	
Treasuries	100%	20%	✓
Agencies	50%	10%	✓
Instrumentalities	25%	3%	✓
MBS	20%	10%	✓
Corporates	50%	40%	✓
Munis	20%	5%	✓
Money Market	30%	12%	✓

The Duration Quandary: Part I



Source: Bloomberg, BofA Merrill Lynch Indexes

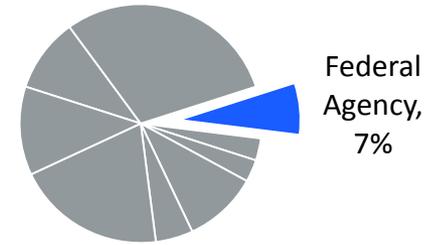
The Duration Quandary: Part II



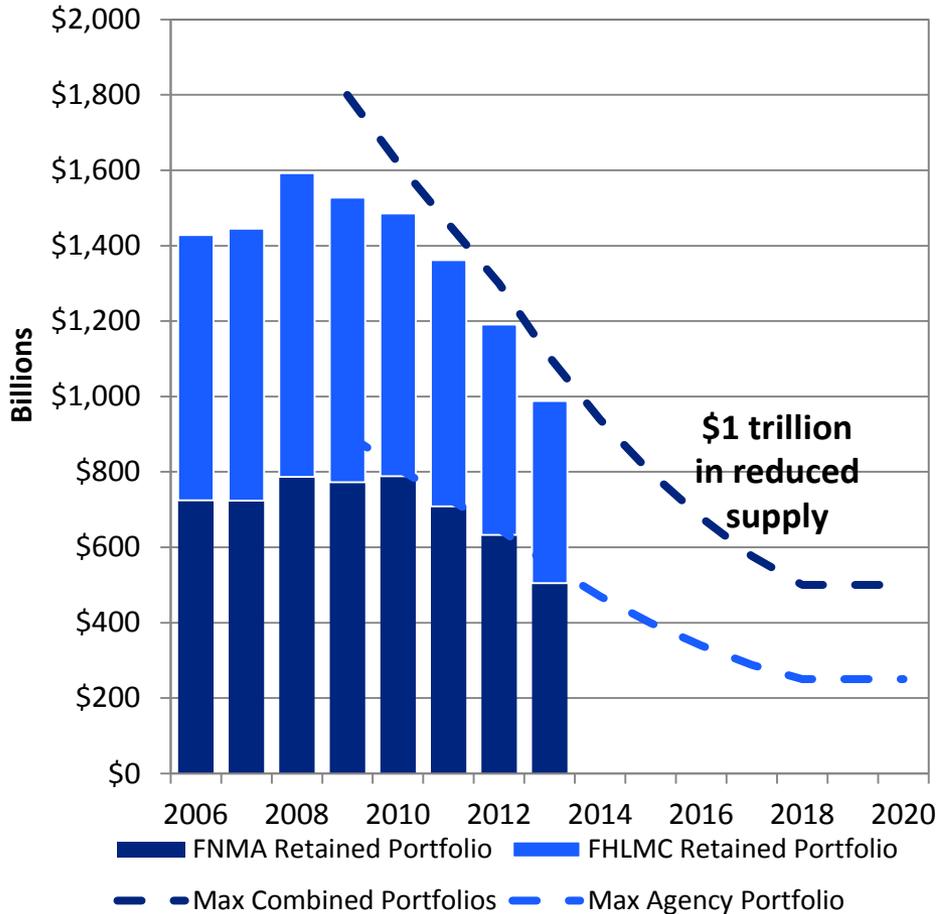
Current YTM		-10	Unch	+25	+50	+100
3 month Horizon						
0.13	1yr UST	0.12	0.05	(0.14)	(0.33)	(0.70)
0.37	2yr UST	0.40	0.23	(0.21)	(0.65)	(1.52)
0.78	3yr UST	0.78	0.50	(0.19)	(0.87)	(2.25)
1.24	4yr UST	1.09	0.72	(0.22)	(1.16)	(3.03)
1.61	5yr UST	1.22	0.76	(0.40)	(1.57)	(3.89)
6 month Horizon						
0.13	1yr UST	0.14	0.09	(0.03)	(0.16)	(0.41)
0.37	2yr UST	0.57	0.42	0.04	(0.33)	(1.08)
0.78	3yr UST	1.19	0.94	0.32	(0.31)	(1.56)
1.24	4yr UST	1.76	1.41	0.54	(0.34)	(2.09)
1.61	5yr UST	2.02	1.57	0.45	(0.68)	(2.93)
1 year Horizon						
0.13	1yr UST	0.13	0.13	0.13	0.13	0.13
0.37	2yr UST	0.72	0.62	0.37	0.12	(0.38)
0.78	3yr UST	1.80	1.60	1.10	0.60	(0.40)
1.24	4yr UST	2.93	2.63	1.88	1.13	(0.37)
1.61	5yr UST	3.45	3.05	2.05	1.05	(0.95)

Source: as of January 23, 2014

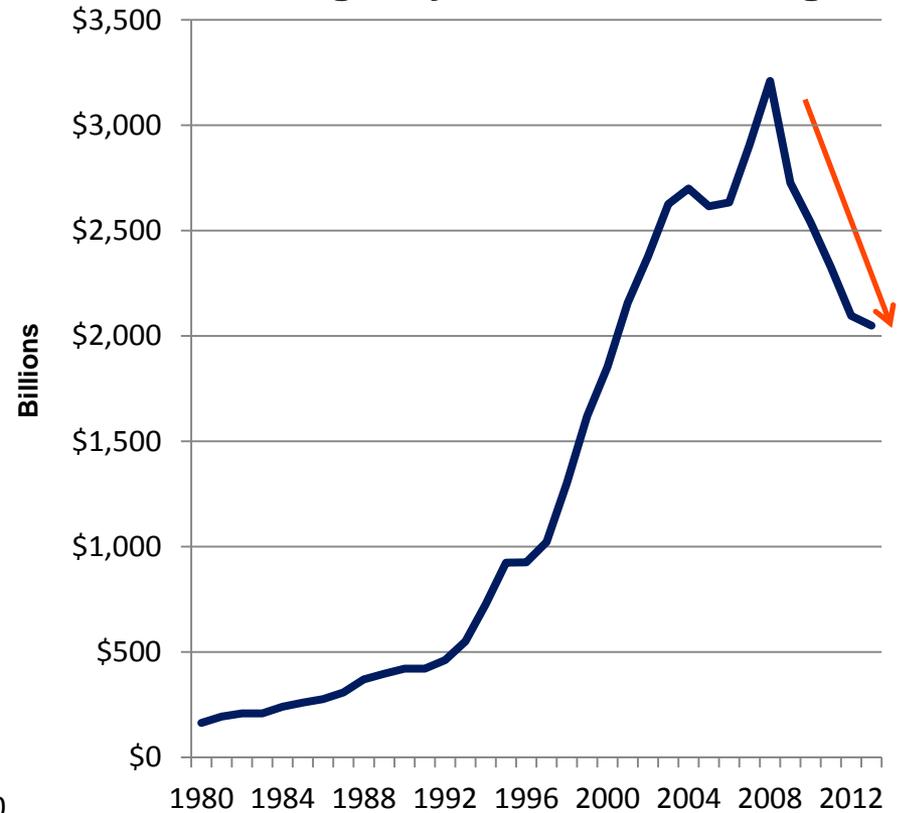
Agency/GSE Sector: Shrinking Supply



Agency Supply

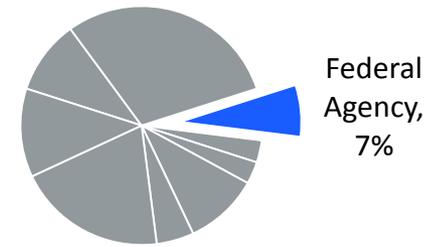


Agency Debt Outstanding

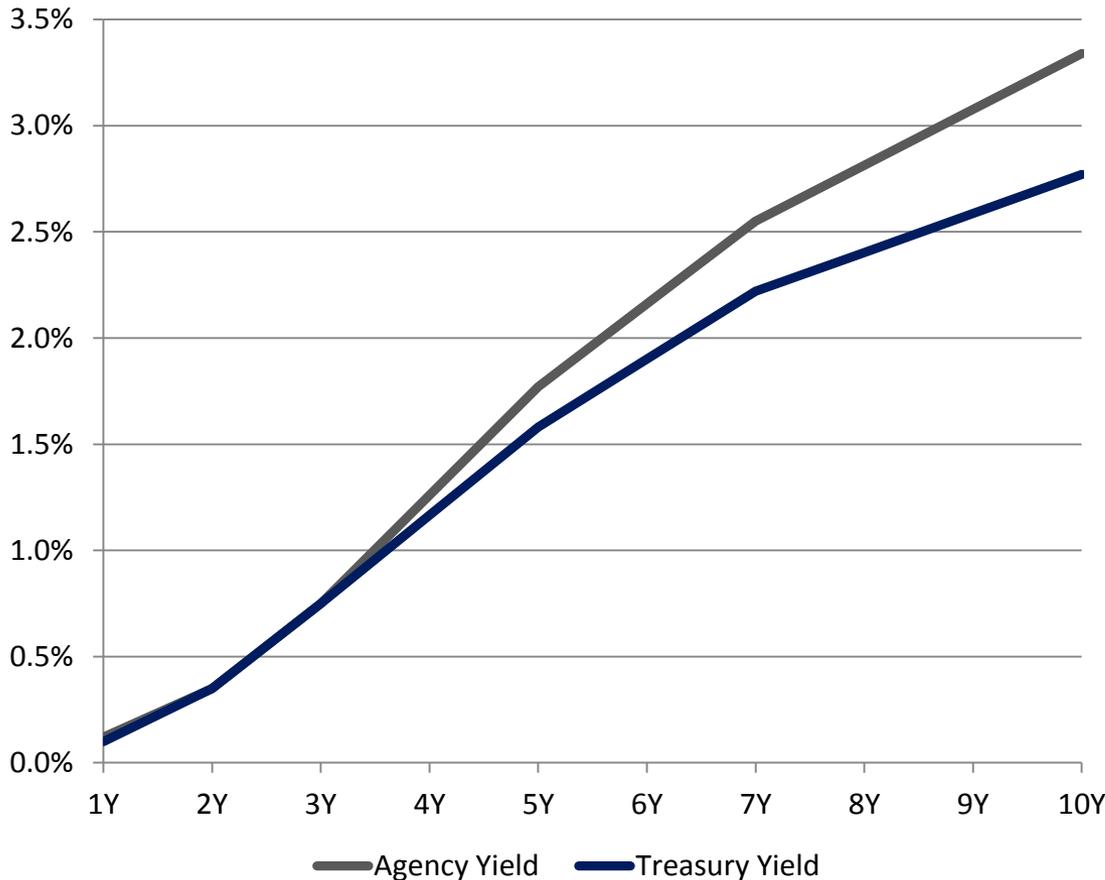


Source: Fannie Mae and Freddie Mac; updated through October 31, 2013

Agency Yields: Little Spread in Short Maturities



**Agency Yield Curve
1/28/2014**

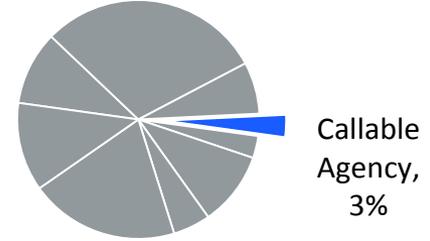


**Agency Yields & Spreads
1/28/2014**

Maturity	Treasury	Agency	Spread
1-Yr	0.10%	0.12%	0.02%
2-Yr	0.35%	0.35%	0.00%
3-Yr	0.75%	0.75%	0.00%
5-Yr	1.58%	1.77%	0.19%
7-Yr	2.22%	2.55%	0.33%
10-Yr	2.77%	3.34%	0.57%

Source: Bloomberg, as of 1/28/2014

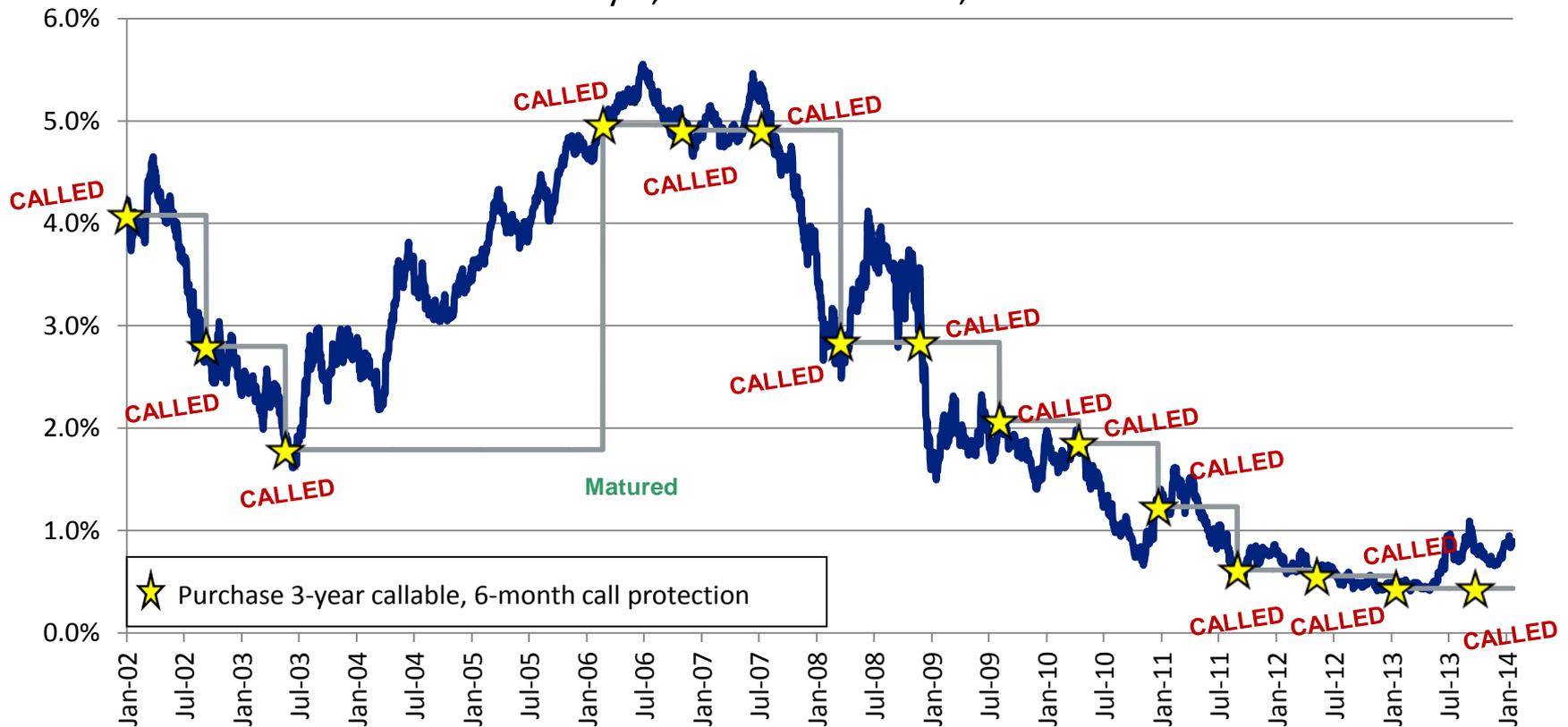
Why Callables Can Perform Poorly



Although callables typically have higher yields at the time of purchase, they frequently do not perform as well as non-callables over a long holding period.

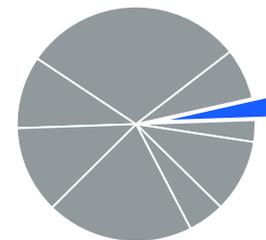
3-Year Federal Agency Yield

January 1, 2002 – October 23, 2013



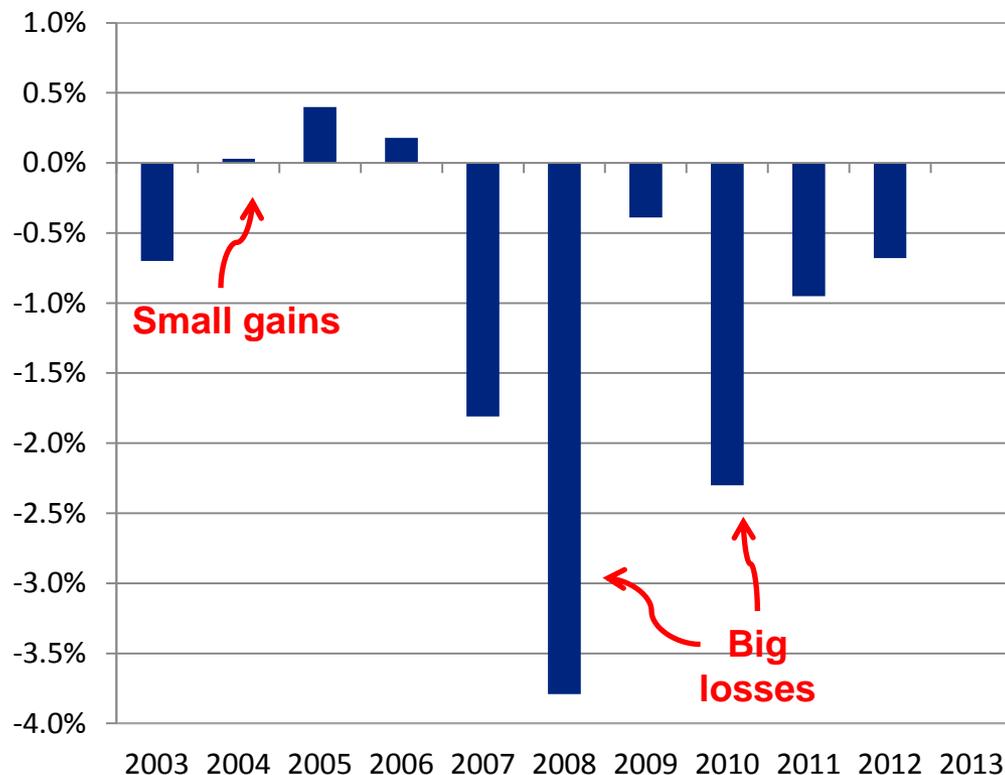
Source: Bloomberg

Callables Have Historically Under-Performed



Callable Agency, 3%

The maximum benefit of a callable is the initial yield spread, but non-callables can generate significantly higher returns in periods of falling rates.



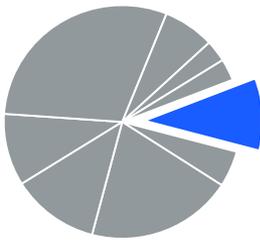
Annual Returns of Callable vs. Non-Callable Agencies

	Agency Callables	Agency Bullets	Difference
2003	1.82%	2.51%	-0.70%
2004	1.75%	1.71%	0.03%
2005	1.86%	1.46%	0.40%
2006	4.67%	4.49%	0.18%
2007	6.00%	7.81%	-1.81%
2008	4.84%	8.63%	-3.79%
2009	2.14%	2.53%	-0.39%
2010	1.24%	3.54%	-2.30%
2011	1.67%	2.62%	-0.95%
2012	0.85%	1.52%	-0.68%
2013	-0.01%	0.03%	-0.04%
Total	2.44%	3.35%	-0.91%

Shifting from callables to non-callables would have added nearly 1% annually to return over the past 10 years

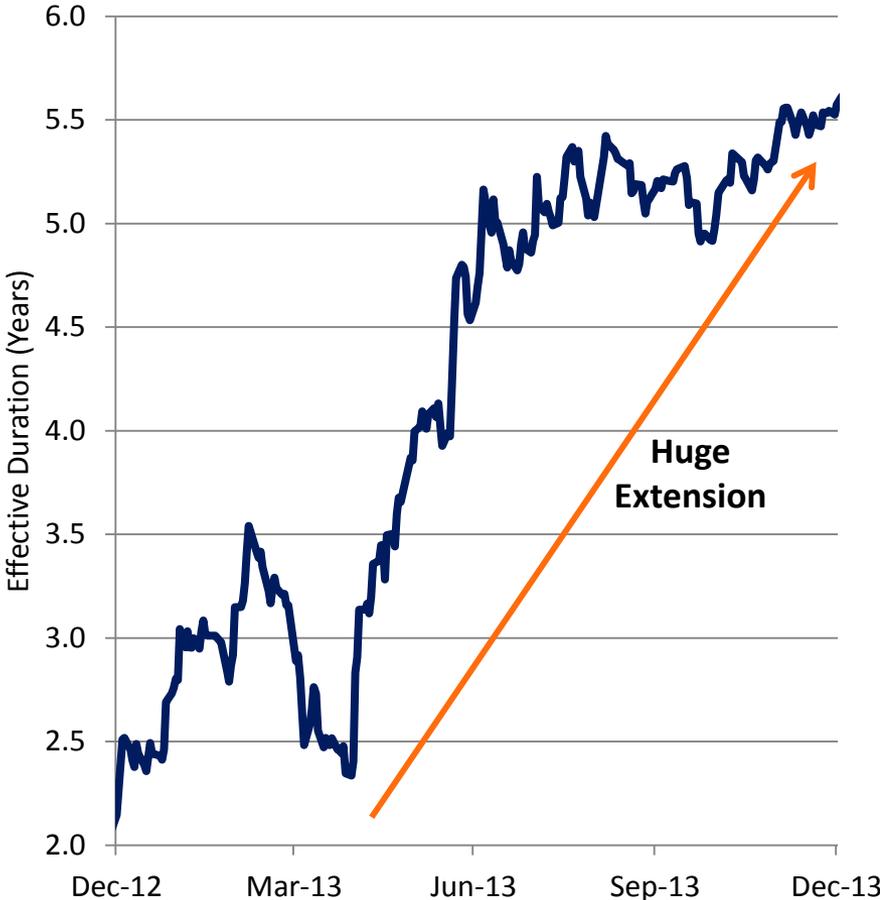
Source: Merrill Lynch Index data, 1-5 year maturity agencies

Mortgage-Backed Sector : A Tough Year



Mortgage Backed Securities, 10%

Duration of BofA ML MBS Index

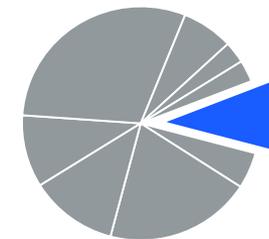


Current Coupon 30-year MBS YTD Through 12/31/13



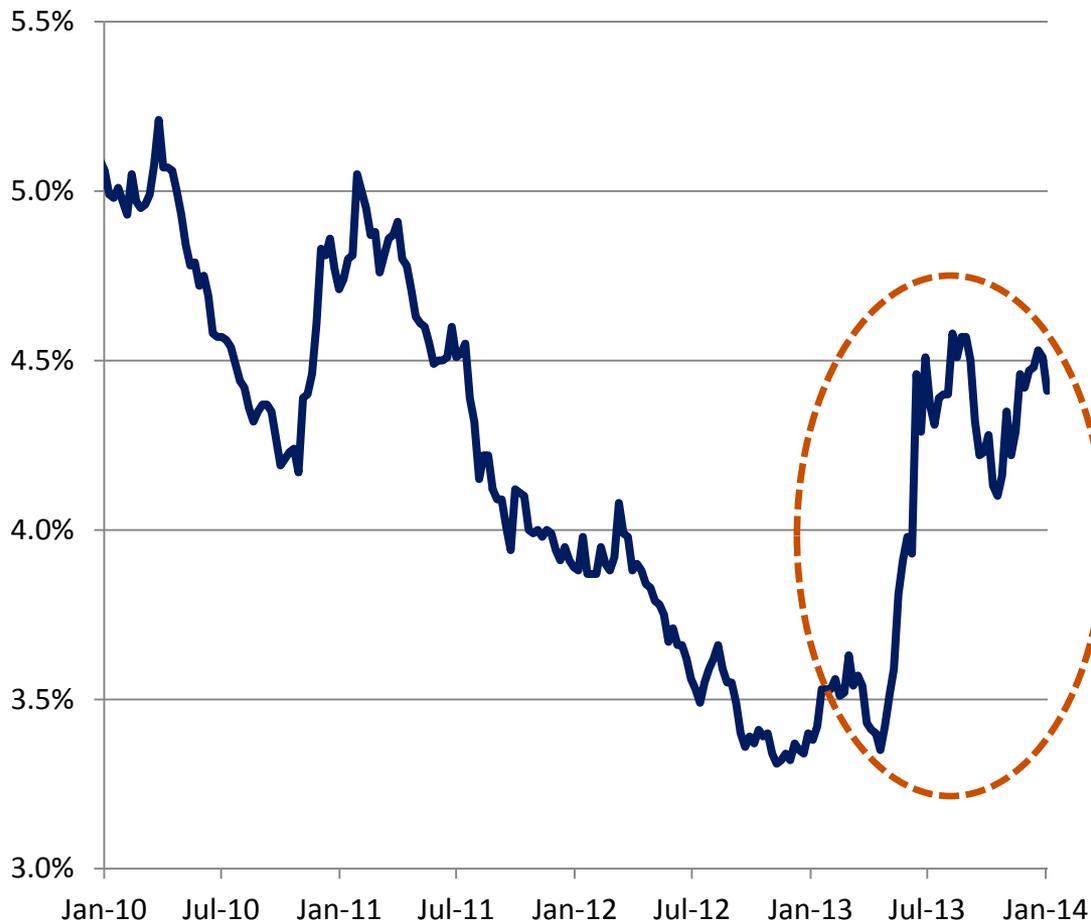
Source: Bloomberg, BofA Merrill Lynch MBS Indexes

Rising Mortgage Rates Impact MBS Sector



Mortgage Backed Securities, 10%

Freddie Mac 30-year Mortgage Commitment Rate

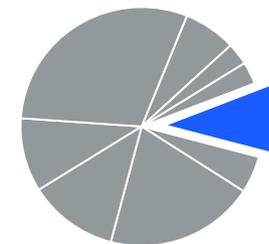


MBS 2013 Performance Characteristics

30-year MBS by Issuer	
FNMA	-1.60%
FHLMC	-0.88%
GNMA	-2.12%
MBS Structure	
Hybrid ARM	0.89%
15-Year	-0.92%
20-Year	-1.40%
30-Year	-1.58%
MBS by Coupon	
3.0%	-6.43%
3.5%	-3.85%
4.0%	-1.42%
4.5%	0.41%
5.0%	1.83%
5.5%	2.08%

Source: Bloomberg, BofA Merrill Lynch MBS Index Data, YTD through 12/31/2013

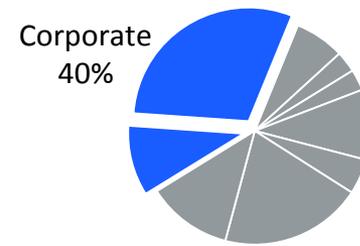
MBS Sector : The Value Today



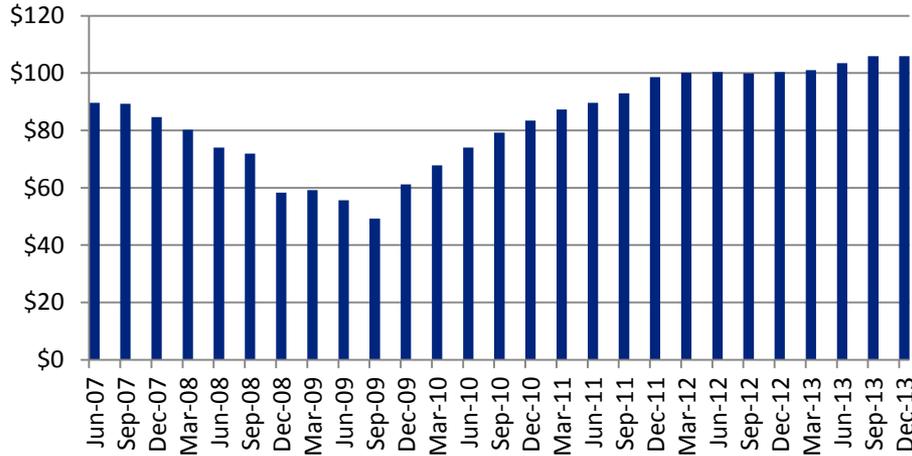
		Current			+100 bps in 12 Months	
Product	Coupon	Eff Dur	Yield	Return	Eff Dur	Return
FG 15	2.0	4.77	2.45	2.30	5.02	-2.05
FG 15	2.0	5.05	2.56	2.43	5.27	-2.24
FN 15	4.5	1.17	0.99	0.85	1.66	0.10
FG 15	4.5	2.10	2.10	1.85	2.79	0.17
FG 15	6.0	1.60	2.17	1.87	1.92	0.81
FG 15	6.0	1.59	2.15	1.86	1.90	0.80
FN 30	3.0	7.64	3.47	3.32	7.91	-4.03
FG 30	3.0	7.78	3.52	3.37	7.94	-4.18
FN 30	4.5	2.19	2.85	2.61	5.61	-1.07
FG 30	4.5	2.90	3.00	2.74	6.01	-1.36
FN 30	6.0	1.26	2.53	2.24	2.67	1.27
FG 30	6.0	1.14	2.82	2.49	3.06	1.03

Source: Bloomberg, BVAL

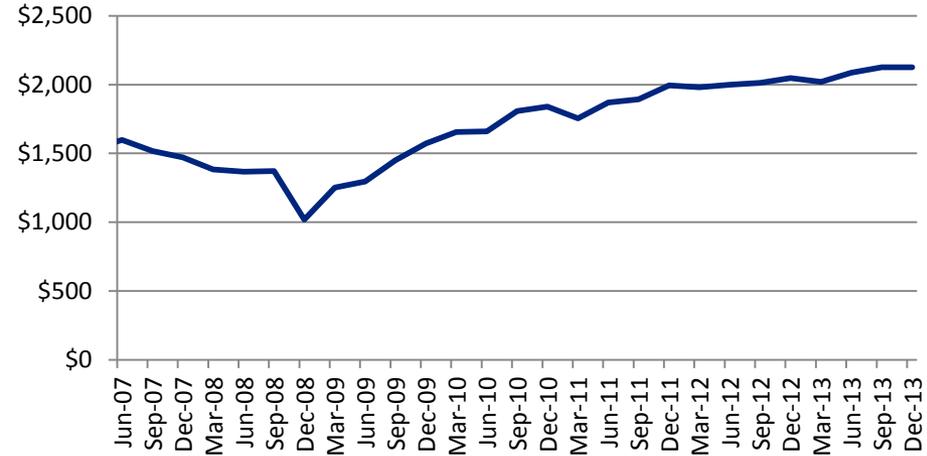
Corporate Fundamentals Are Strong



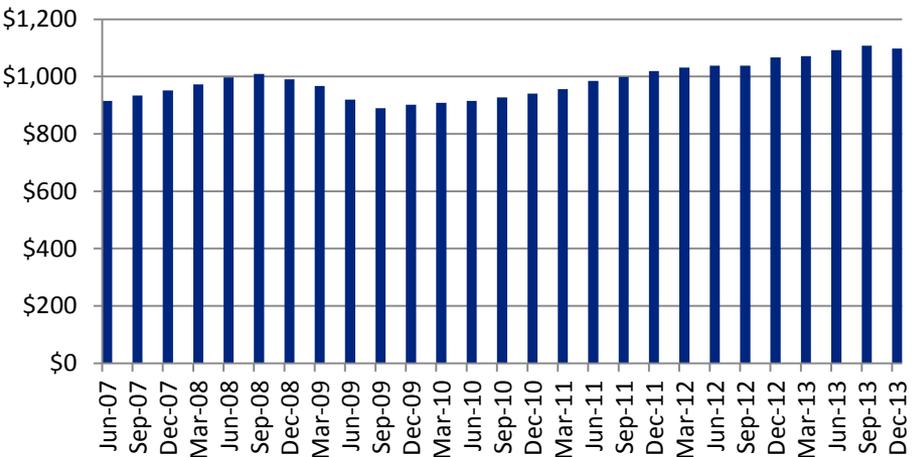
S&P 500 Earnings per Share



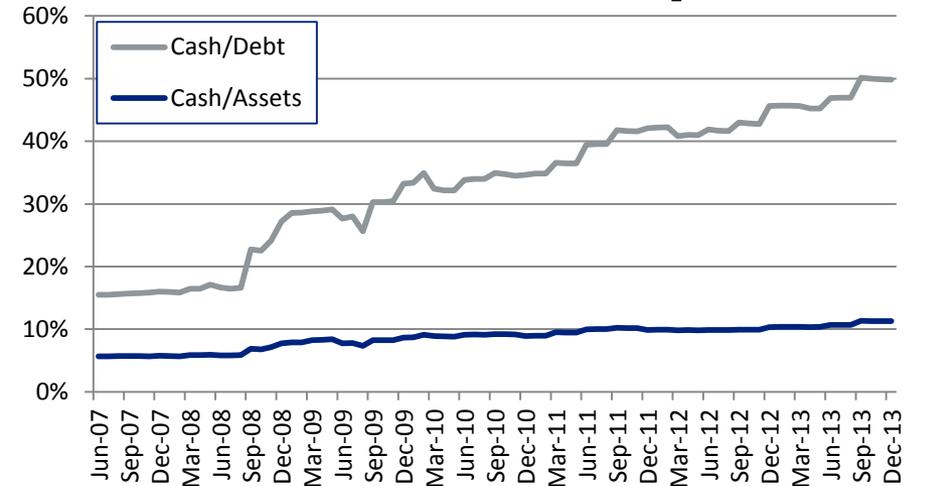
Corporate Profits (\$ bn)



S&P 500 Trailing 12-Month Sales per Share

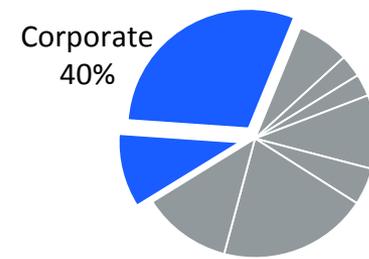


S&P 500 Balance Sheet Cash & Equivalents

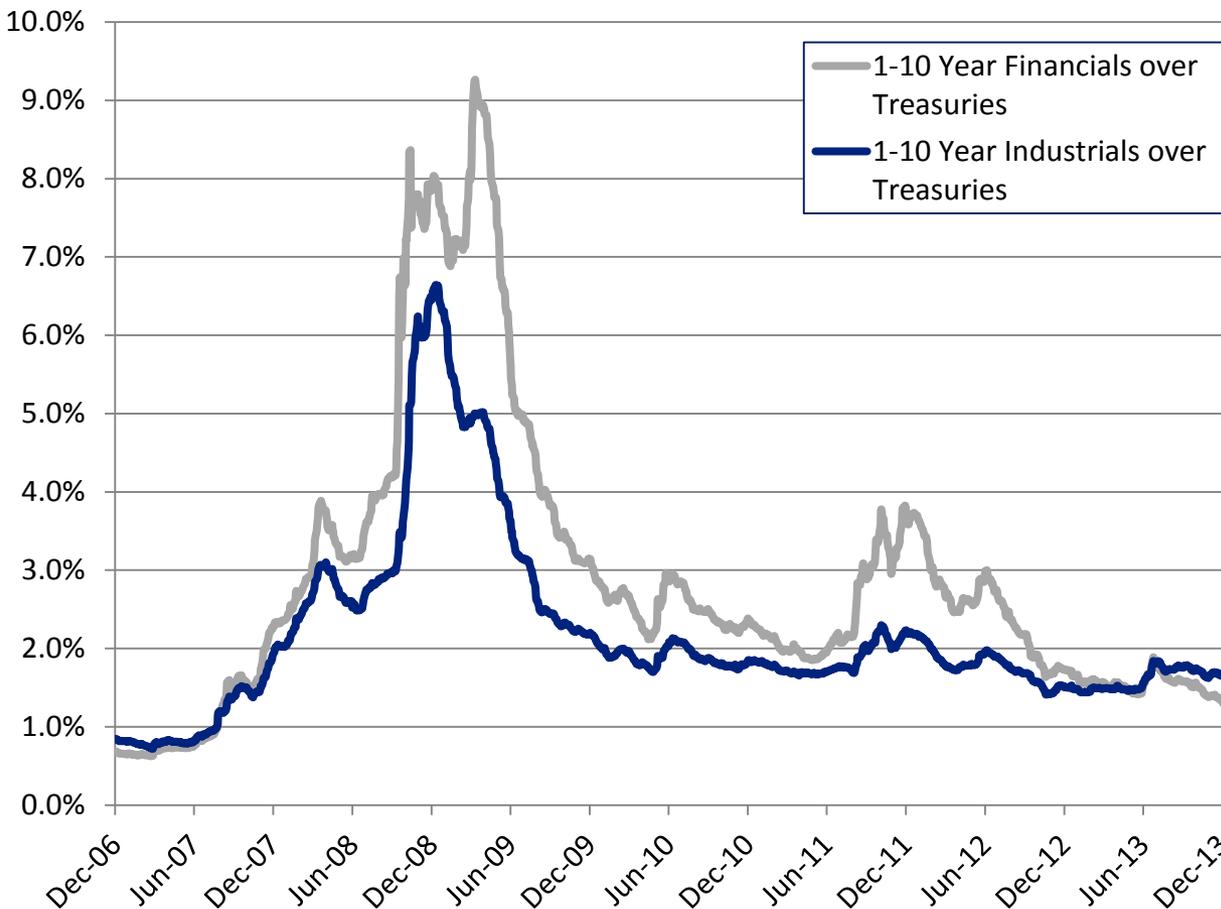


Source: Bloomberg

Corporate Yield Spreads Narrow



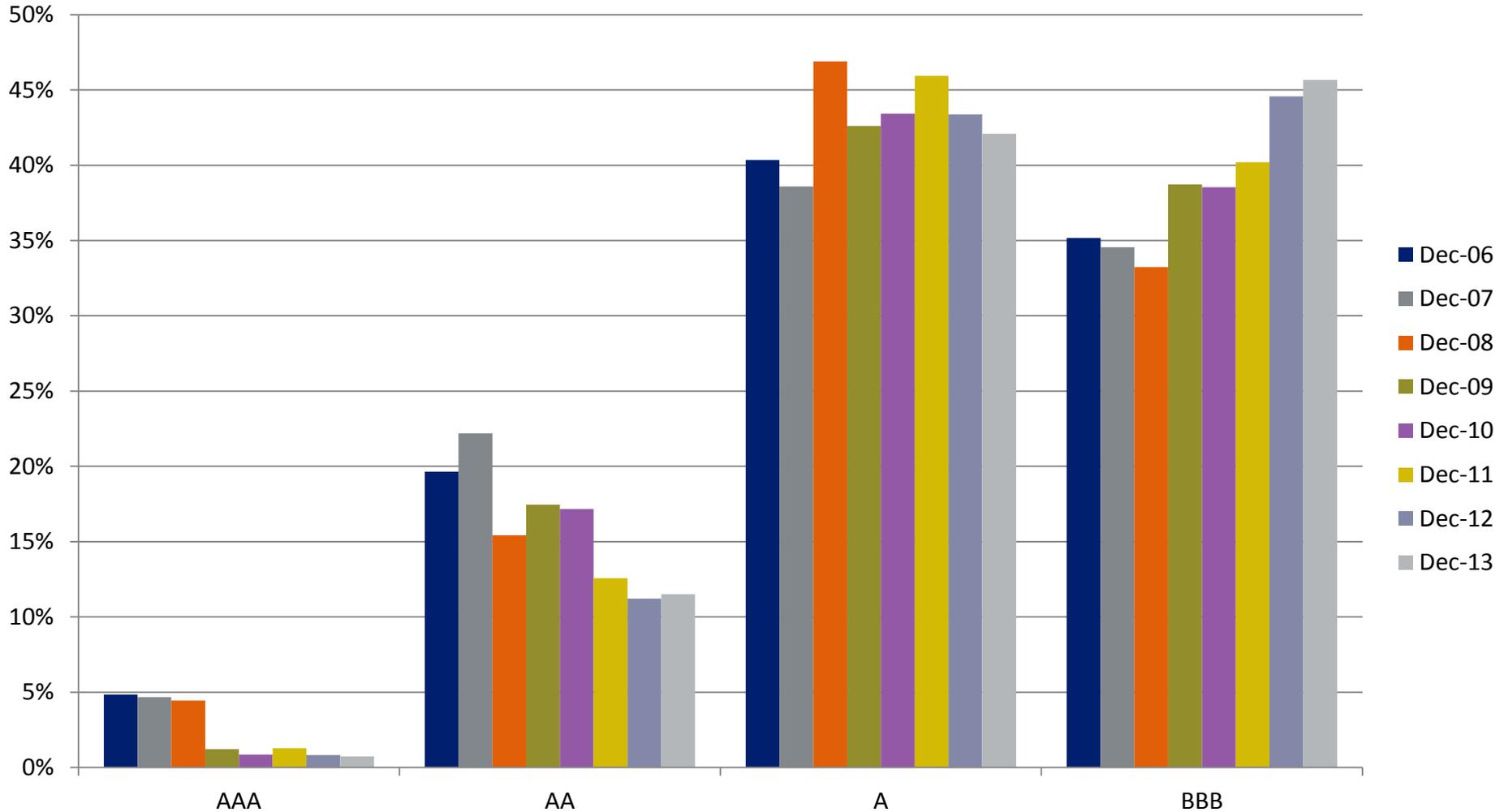
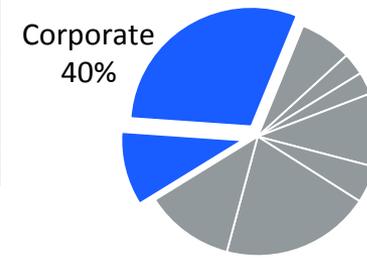
Strong recovery; Financials outperform.



Sector	Current Yield (%)	Current Spread (bp)
Global Banks	2.13-2.48	55-90
Regional Banks	2.18-2.28	60-70
Broker/Dealers	2.58-3.08	100-150
Insurers	2.18-2.28	60-70
Diversified Mfg	1.78-1.88	20-30
Technology Equip	2.18-2.68	60-110
Consumer	1.88-1.98	30-40
Telco	2.28-2.43	70-85
Technology	2.18-2.68	60-110
5 year Treasury	1.58	
5 year Agency	1.77	

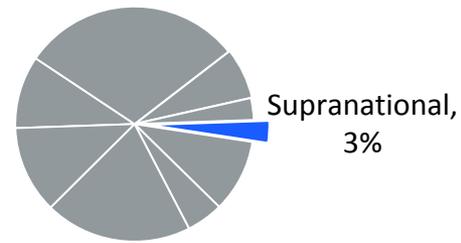
Source: Bloomberg, BofA Merrill Lynch Corporate Index, 1-10 year maturities;; Rates are of January 28, 2014

But There is a Trend Toward Lower Corporate Ratings



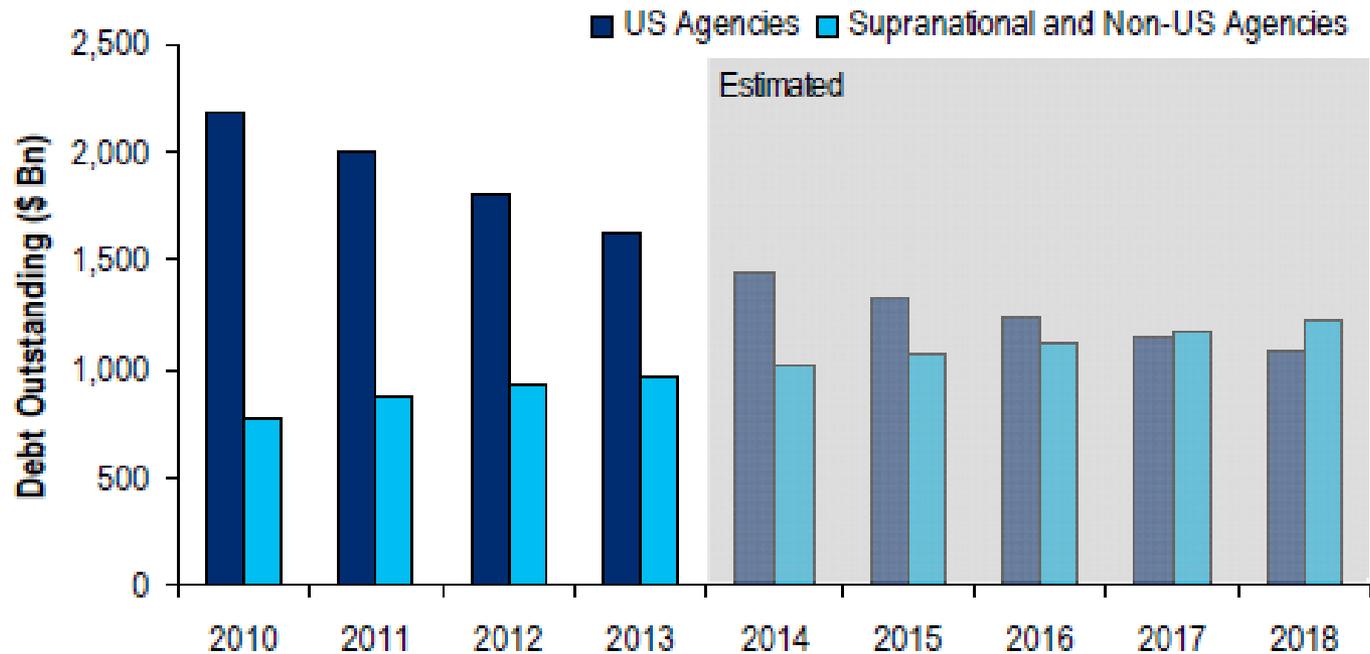
Source: BofA Merrill Lynch US Corporate Index,

Supranationals (and SSA's Generally) are Growing Market Presence



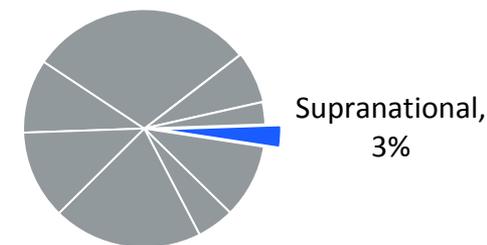
- Continued issuance of \$100 billion/year
- \$325 billion outstanding

Figure 3. Market Size Projection



Source: Citi Research

Supranationals are a Major Part of USD SSA Issuance



Ranking of top 10 USD SSA issuers

Issuer name	Country	Total vol (USD bn)	Market share
EIB	Supra	135.8	21%
KFW	Germany	126.6	20%
* IBRD	Supra	48.0	8%
* ASIA	Supra	33.7	5%
CADES	France	33.5	5%
* IADB	Supra	32.7	5%
BNG	Netherlands	26.3	4%
RENTEN	Germany	20.9	3%
* IFC	Supra	19.8	3%
* EBRD	Supra	15.3	2%
Other		146.6	23%

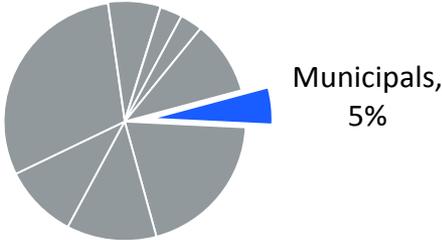
Source: Barclays Research

Indicative Rates on Selected Suprasovereign Issuers

	Treasury	GSE	Supra
1 Year	0.10%	0.12%	0.14%
2 Year	0.35%	0.35%	0.35%
3 Year	0.75%	0.75%	0.78%
5 Year	1.58%	1.77%	1.72%

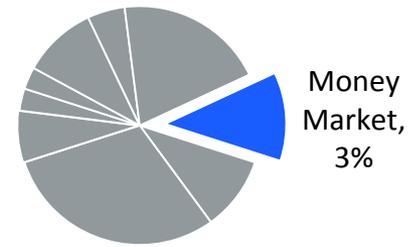
Source: Rates are as of January 28, 2014

Munis : Which Flavor Fits

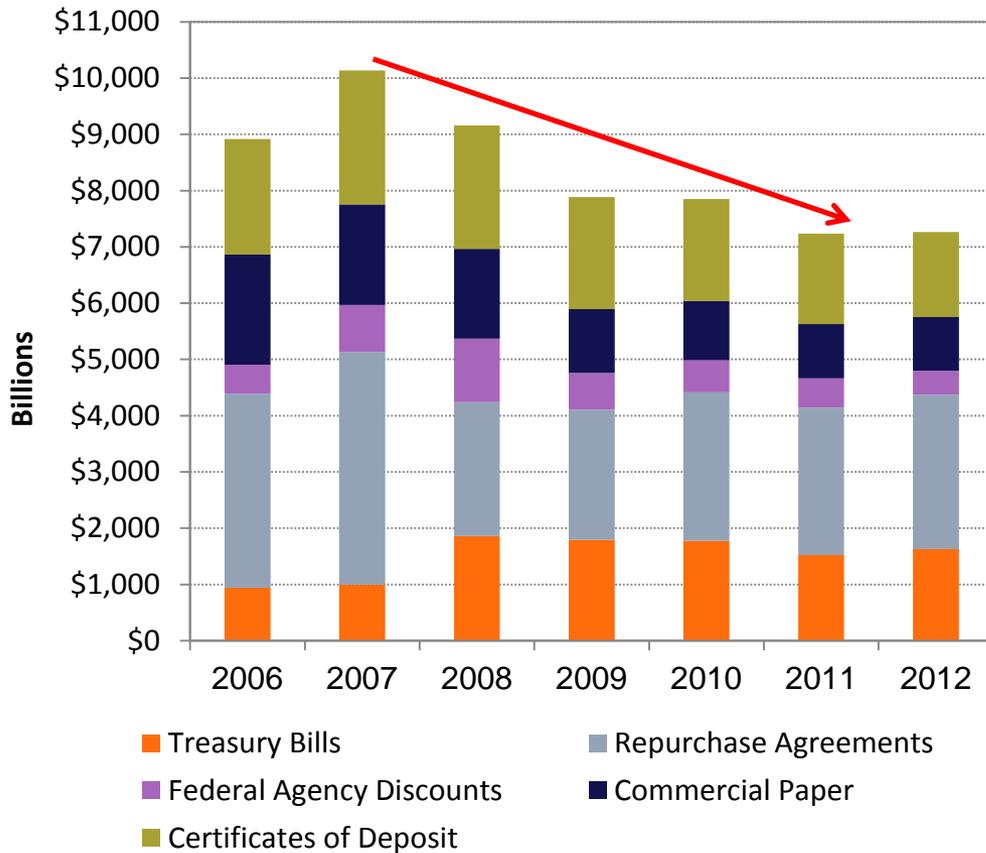


Source: Bloomberg

Money Markets: Changing Supply Dynamics



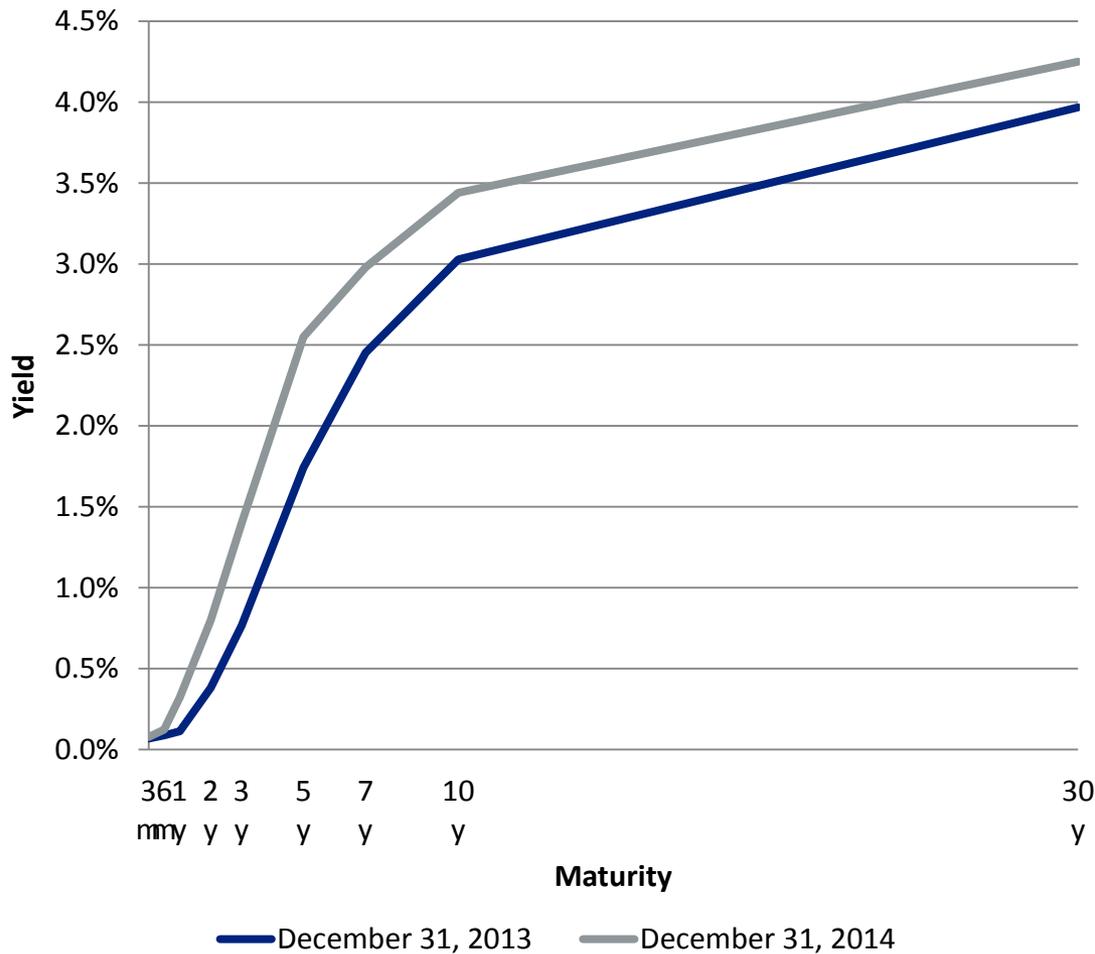
U.S. Money Market Instruments Outstanding



- MMF liquidity rules drive demand to shorter maturities
- Bank liquidity rules reduce supply ≤ 30 days
- Non-bank issuers less reliant on short-term funding
- Fed's purchases reduce collateral for repurchase agreements
- T-Bill supply will decline as budget improves and Treasury issues floating-rate T-Notes
- Short-term agency debt shrinking

Source: SIFMA, Federal Reserve Bank of New York, Bloomberg

So How Will We Do?



1 Year	
Return (unch)	1.88 %
Return (forecast)	0.90%
Return (+100 bps)	(0.25%)

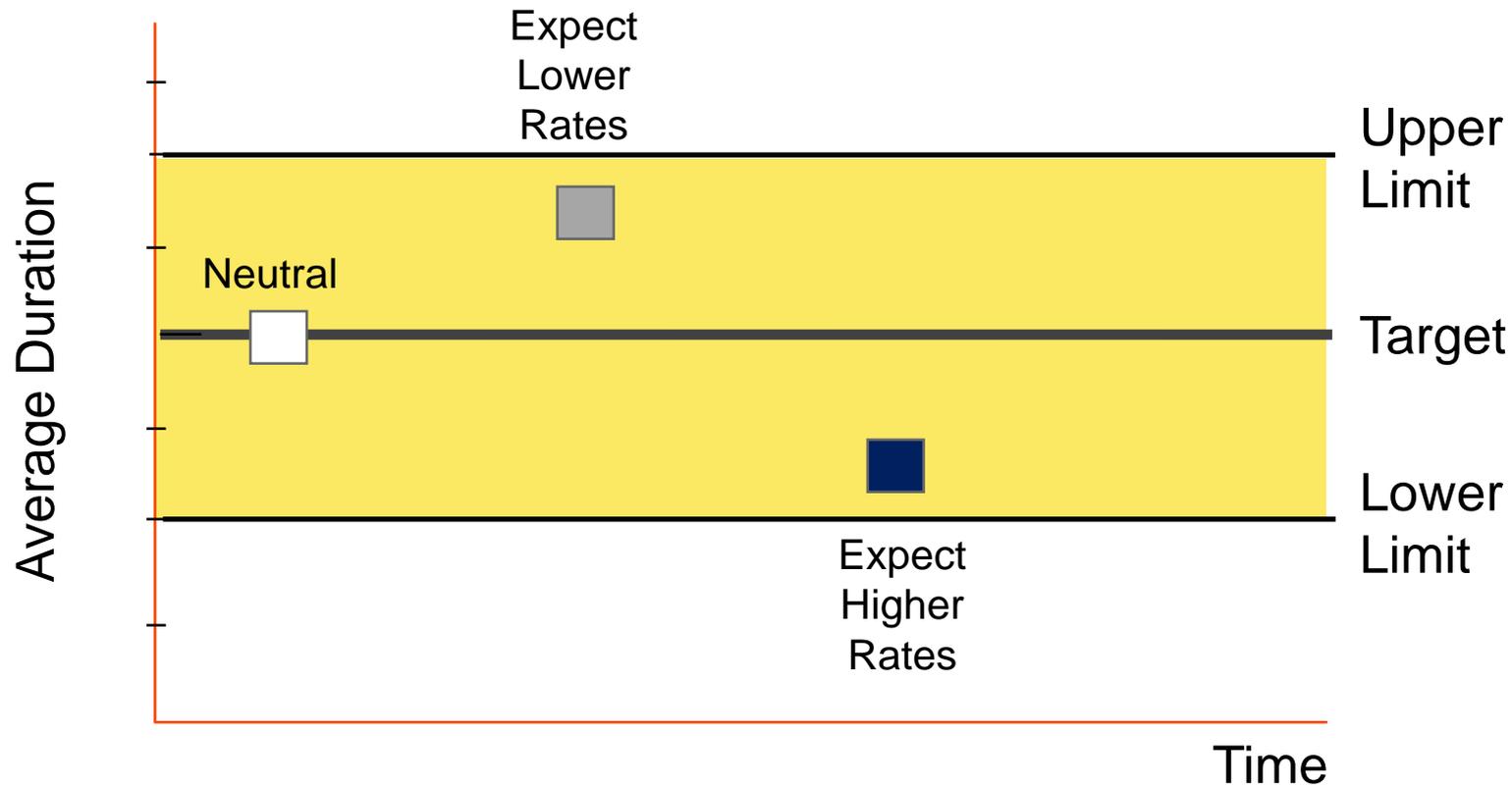
Source: Bloomberg. 2-, 10-, and 30-year forecast rates are based on Survey of Bloomberg Economists, with the remaining rates interpolated as of 12/31/2013

Trading

- Need for periodic rebalancing
 - passage of time
 - changing interest rates
 - actuarial assumptions
- To generate incremental income
- To enhance total return

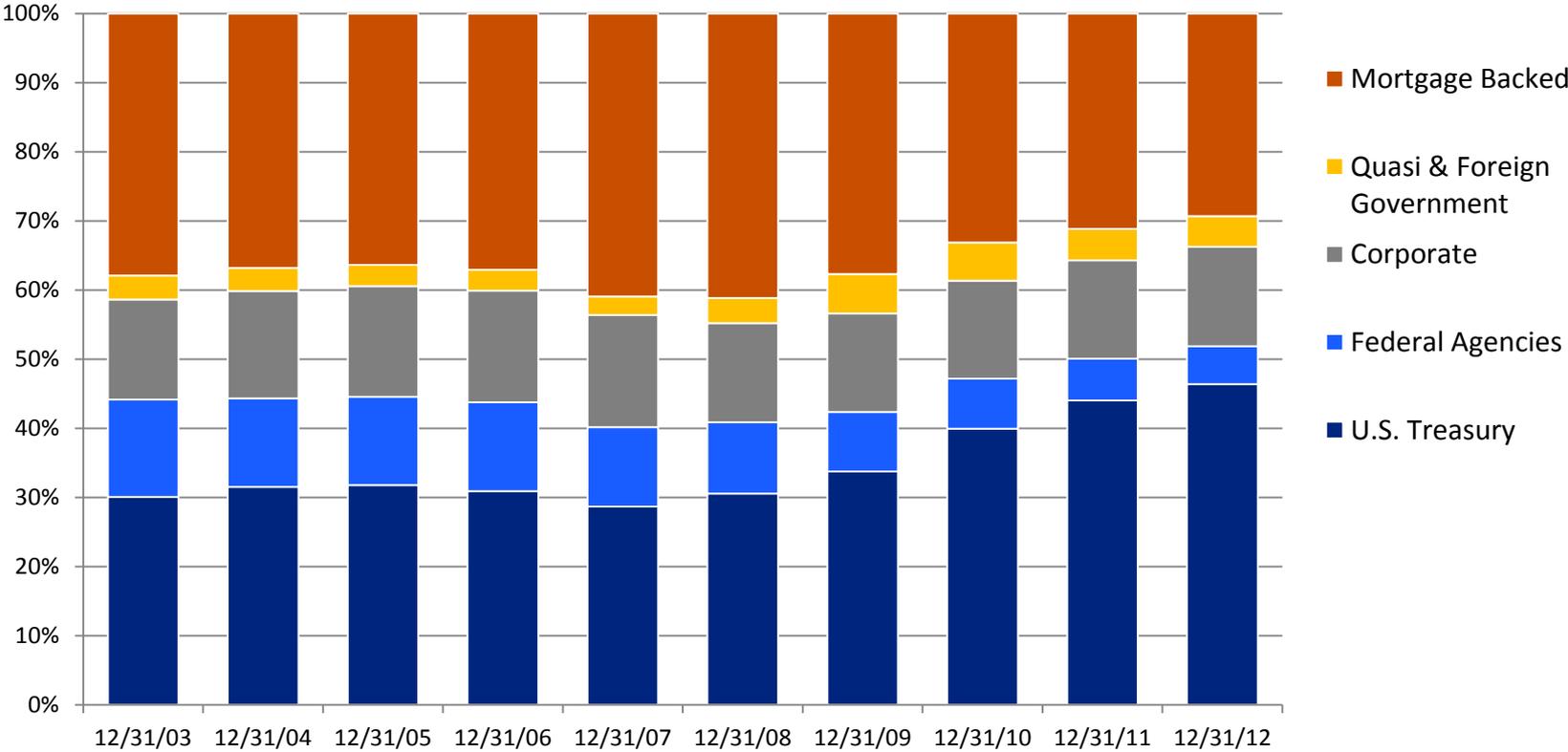


Active Duration Management

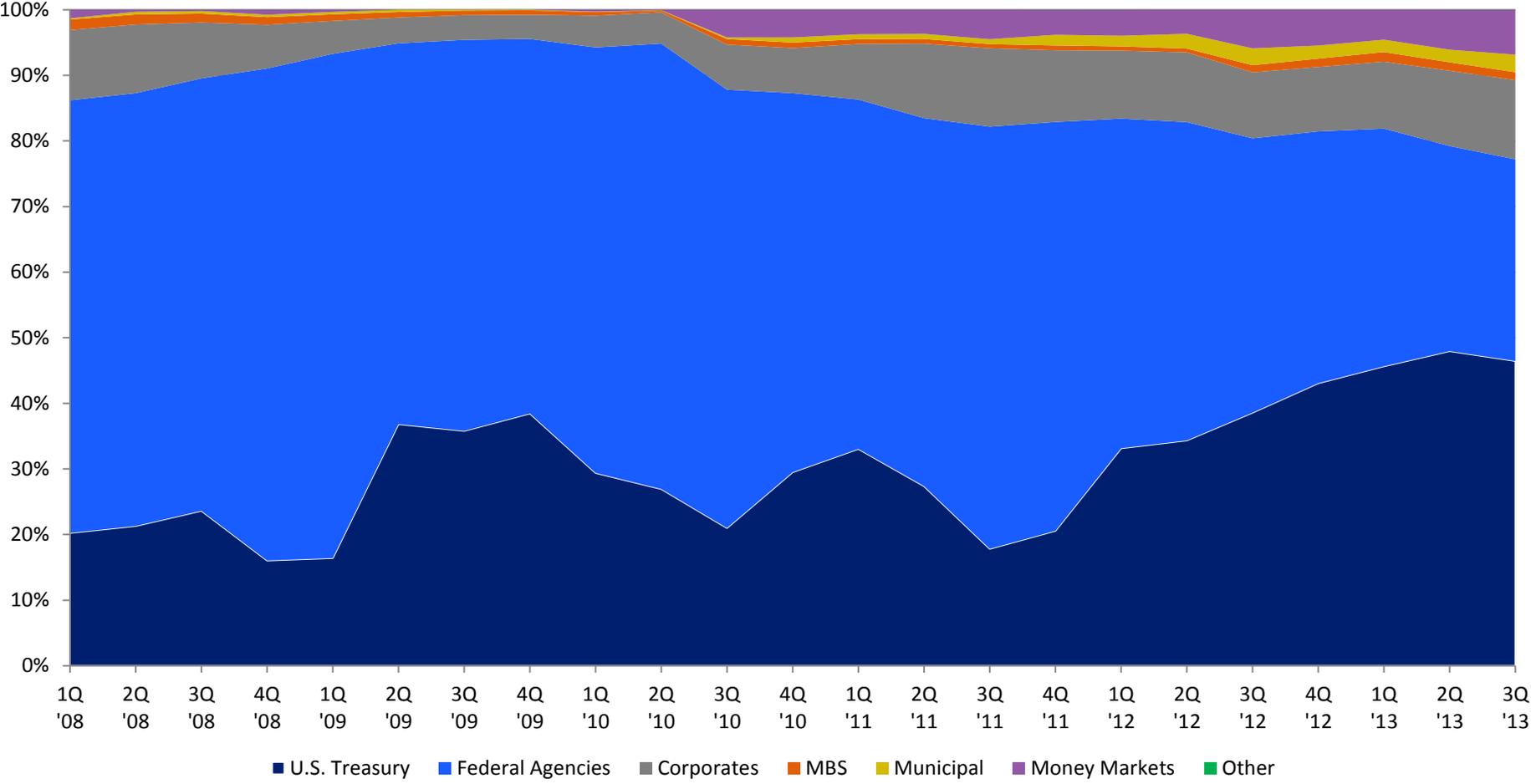


Shifting Fixed-Income Market Composition

Merrill Lynch Domestic Master, A Rated and above

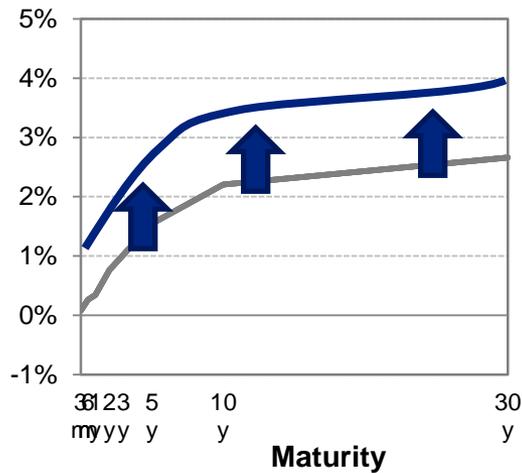


Relative Value Sector Allocation Over Time

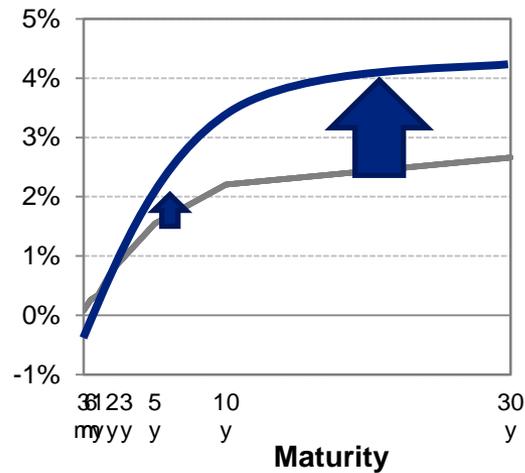


Yield Curve Shape Variability

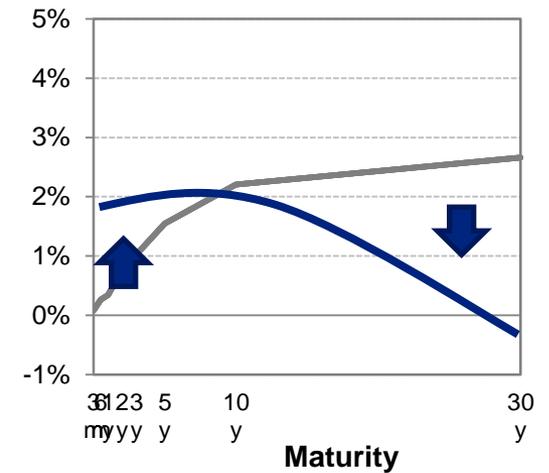
Parallel Shift



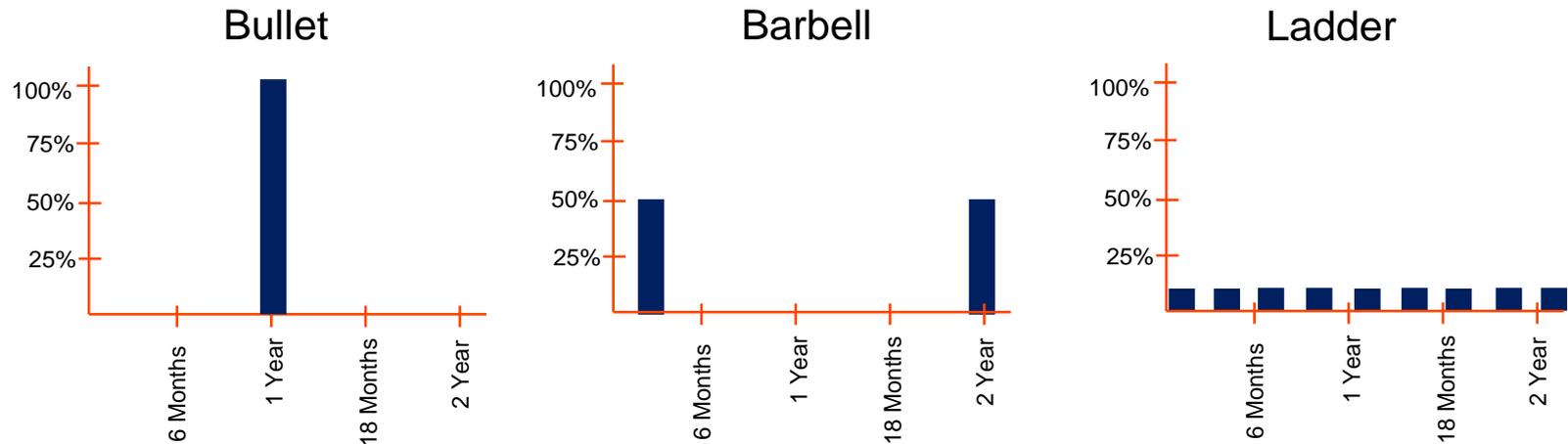
Non-Parallel Shift



Twist



Maturity Distribution Strategies

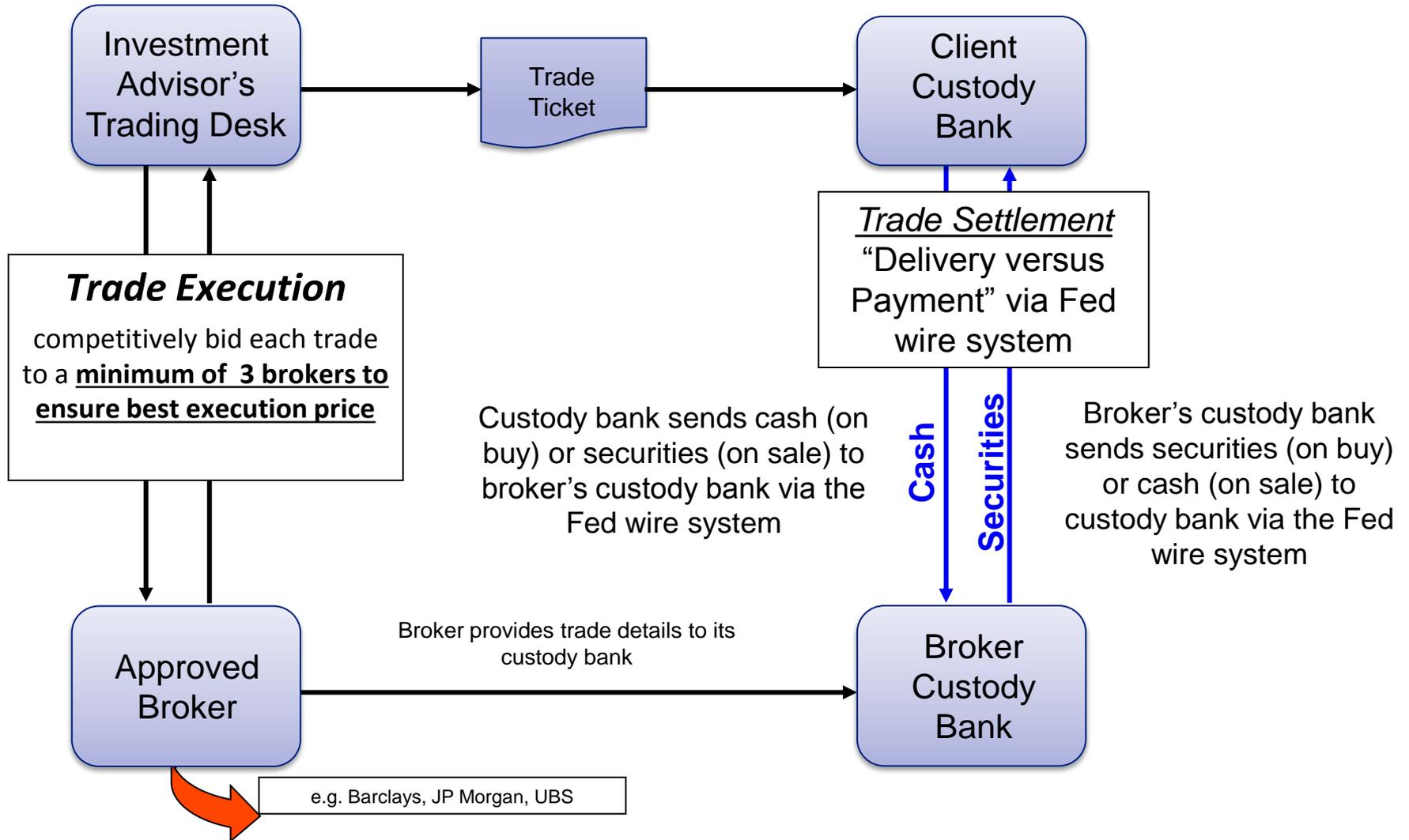


- **Bullet Portfolio**
 - Single maturity to meet an expected future liability
- **Barbell Portfolio**
 - Short and long term investment maturities, typically used in low interest rate environments to maintain liquidity while earning higher yields further out on the yield curve
- **Ladder Portfolio**
 - Evenly spaced investment maturities to minimize loss due to interest rate changes

Competitively Shop Around!

Broker	Price (32nds)	Price (decimal)	Yield	Cost (\$)	Difference (\$)
Barclays	116-08 5/8	116.27	1.044%	8,364,294.34	-
Merrill Lynch	116-08 5/8	116.27	1.044%	8,364,294.34	-
BNP Paribas	116-09	116.28	1.042%	8,365,126.37	832.03
JP Morgan Chase	116-09 1/8	116.29	1.041%	8,365,403.71	1,109.37
Deutsche Bank	116-17 7/8	116.56	0.986%	8,384,817.78	20,523.44

Transaction Process - Delivery versus Payment



5. Reporting

Reporting Securities Holdings

Regular reporting of securities holdings is required by the investment policy

Managed Account Detail of Securities Held For the Month Ending **March 31, 2013**

Sample Client - Investment Portfolio

Security Type/Description Dated Date/Coupon/Maturity	CUSIP	Par	S&P Rating	Moody's Rating	Trade Date	Settle Date	Original Cost	YTM at Cost	Accrued Interest	Amortized Cost	Market Value
U.S. Treasury Bond / Note											
US TREASURY NOTES DTD 04/15/2011 1.250% 04/15/2014	912828QC7	2,000,000.00	AA+	Aaa	04/29/11	05/02/11	2,014,687.50	1.00	11,538.46	2,005,213.82	2,022,188.00
US TREASURY NOTES DTD 05/16/2011 1.000% 05/15/2014	912828OM5	1,960,000.00	AA+	Aaa	03/27/12	03/29/12	1,985,878.13	0.38	7,417.68	1,973,657.44	1,977,839.92
US TREASURY NOTES DTD 10/17/2011 0.500% 10/15/2014	912828RL6	2,210,000.00	AA+	Aaa	10/27/11	10/31/11	2,210,949.61	0.49	5,100.00	2,210,496.15	2,219,323.99
US TREASURY NOTES DTD 12/15/2011 0.250% 12/15/2014	912828RV4	3,070,000.00	AA+	Aaa	01/05/12	01/06/12	3,057,288.28	0.39	2,256.11	3,062,606.21	3,071,200.37
	828285E1	1,405,000.00	AA+	Aaa	02/22/12	02/27/12	1,397,481.06	0.43	436.64	1,400,235.84	1,404,945.12
	828285K7	630,000.00	AA+	Aaa	03/13/12	03/15/12	627,883.59	0.49	109.14	628,618.18	631,501.29
	828285K7	2,980,000.00	AA+	Aaa	06/27/12	06/29/12	2,977,322.66	0.41	516.24	2,978,069.20	2,987,101.34
	82828N29	300,000.00	AA+	Aaa	09/06/12	09/10/12	308,250.00	0.34	10.25	306,751.21	307,054.80
	82828N29	3,200,000.00	AA+	Aaa	08/29/12	08/30/12	3,285,125.00	0.38	109.29	3,268,993.50	3,275,251.20
US TREASURY NOTES DTD 11/01/2010 1.250% 10/31/2015	912828PE4	3,195,000.00	AA+	Aaa	11/29/12	12/05/12	3,279,118.36	0.34	16,769.34	3,269,795.37	3,271,130.46
US TREASURY NOTES DTD 11/30/2010 1.375% 11/30/2015	912828PJ3	4,800,000.00	AA+	Aaa	11/01/12	11/05/12	4,942,312.50	0.40	22,120.88	4,923,697.15	4,932,748.80
US TREASURY NOTES DTD 01/15/2013 0.375% 01/15/2016	912828UG3	530,000.00	AA+	Aaa	01/30/13	02/04/13	529,275.39	0.42	417.27	529,313.28	530,538.48
US TREASURY N/B DTD 05/02/2011 2.000% 04/30/2016	912828QF0	3,325,000.00	AA+	Aaa	03/27/13	04/01/13	3,489,951.17	0.38	27,922.65	3,489,951.17	3,489,431.23
Security Type Sub-Total		29,605,000.00					30,105,523.25	0.44	94,723.95	30,047,398.52	30,120,255.00

Detailed information describing the securities as well as purchase information and market values

Reporting Portfolio Transaction Activity

All transactions related to securities that occurred during the month should also be reported on a regular basis to show and monitor trading activity



Managed Account Security Transactions & Interest

For the Month Ending March 31, 2013

Sample Client - Investment Portfolio											
Transaction Type	Trade	Settle	Security Description	CUSIP	Par	Principal Proceeds	Accrued Interest	Total	Realized G/L Cost	Realized G/L Amort Cost	Sale Method
BUY											
	03/01/13	03/06/13	TOYOTA MOTOR CREDIT CORP DTD 02/17/2012 1.000% 02/17/2015	89233P5Z5	1,825,000.00	(1,841,589.25)	(963.19)	(1,842,552.44)			
	03/27/13	04/01/13	US TREASURY N/B DTD 05/02/2011 2.000% 04/30/2016	9128280F0	3,325,000.00	(3,489,951.17)	(27,922.65)	(3,517,873.82)			
Transaction Type Sub-Total					5,150,000.00	(5,331,540.42)	(28,885.84)	(5,360,426.26)			
INTEREST											
	03/01/13	03/01/13	MONEY MARKET FUND	MONEY0002	0.00	0.00					
	03/04/13	03/04/13	GENERAL ELEC CAP CORP (FLOATING) DTD 06/02/2011 0.917% 06/02/2014	36962G5E0	1,550,000.00						
	03/15/13	03/15/13	US TREASURY NOTES DTD 03/15/2012 0.375% 03/15/2015	9128285K7	2,980,000.00						
	03/15/13	03/15/13	US TREASURY NOTES DTD 03/15/2012 0.375% 03/15/2015	9128285K7	630,000.00						
	03/19/13	03/19/13	FHLMC NOTES DTD 08/12/2011 0.500% 09/19/2014	3134G2YJ5	4,040,000.00						
	03/19/13	03/19/13	FHLMC NOTES DTD 08/12/2011 0.500% 09/19/2014	3134G2YJ5	3,960,000.00						
	03/22/13	03/22/13	FREDDIE MAC GLOBAL NOTES DTD 08/05/2011 0.750% 09/22/2014	3134G2WG3	3,600,000.00						
	03/30/13	03/30/13	FANNIE MAE GLOBAL NOTES DTD 02/15/2013 0.500% 03/30/2016	3135G0VA8	1,820,000.00		1,137.50	1,137.50			
	03/31/13	03/31/13	US TREASURY NOTES DTD 09/30/2010 1.250% 09/30/2015	912828N29	3,200,000.00		20,000.00	20,000.00			
	03/31/13	03/31/13	US TREASURY NOTES DTD 09/30/2010 1.250% 09/30/2015	912828N29	300,000.00		1,875.00	1,875.00			
Transaction Type Sub-Total					22,080,000.00	0.00	67,903.99	67,903.99			
SELL											
	03/01/13	03/06/13	US TREASURY NOTES DTD 02/15/2012 0.250% 02/15/2015	9128285E1	1,835,000.00	1,835,286.72	240.78	1,835,527.50	10,106.84	6,746.38	SPEC LOT

Transaction activity includes interest payments, buys, sells, and maturities along with any realized gains or losses

Quarterly Performance Reporting

Sample Portfolio Performance

Total Portfolio Value	March 31, 2013	December 31, 2012
Market Value	\$83,928,698.91	\$83,381,512.65
Amortized Cost	\$83,595,459.42	\$82,974,541.23

Total Return	Quarterly Return March 31, 2013	Calendar Year to Date	Last 12 Months	Last 2 Years	Last 7 Years	Since Inception on 12/31/98
Sample Portfolio	0.12%	0.12%	0.77%	1.27%	3.55%	3.90%
Merrill Lynch 1-3 Year U.S. Treasury Note Index	0.12%	0.12%	0.64%	1.03%	3.21%	3.66%

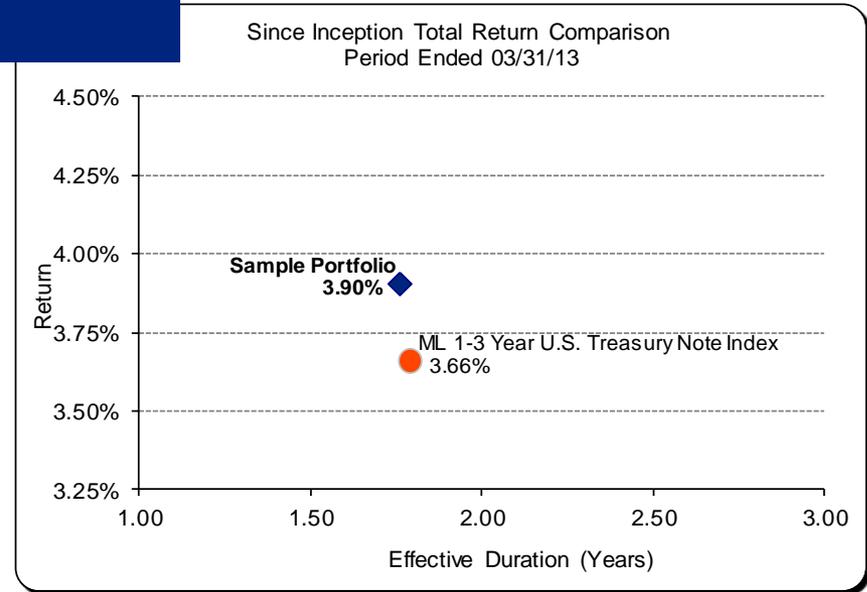
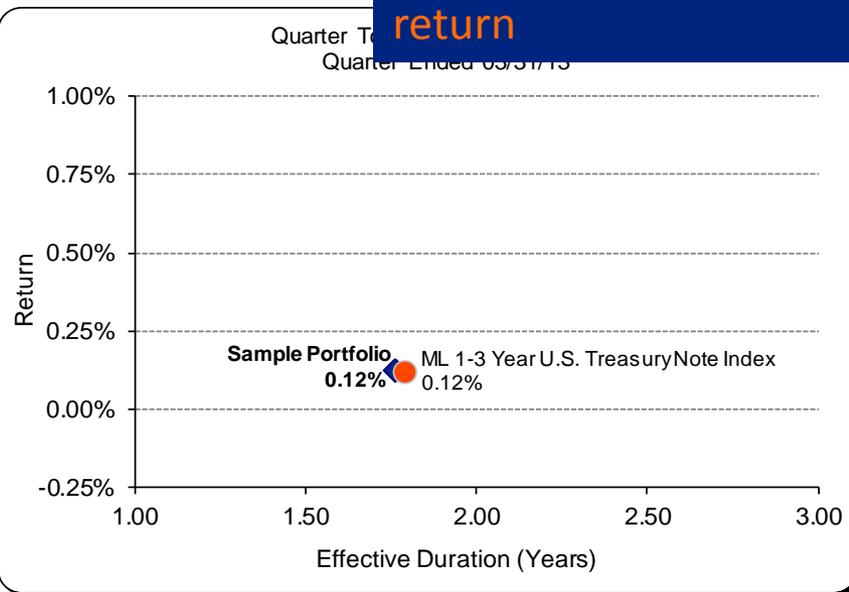
Effective Duration (Years)

Sample Portfolio	March 31, 2013	December 31, 2012
Merrill Lynch 1-3 Year U.S. Treasury Note Index	1.80	1.80
Portfolio Duration % of Benchmark	100%	100%

Yields

	March 31, 2013	December 31, 2012
Yield at Market	0.30%	0.30%
Yield at Cost	0.62%	0.65%

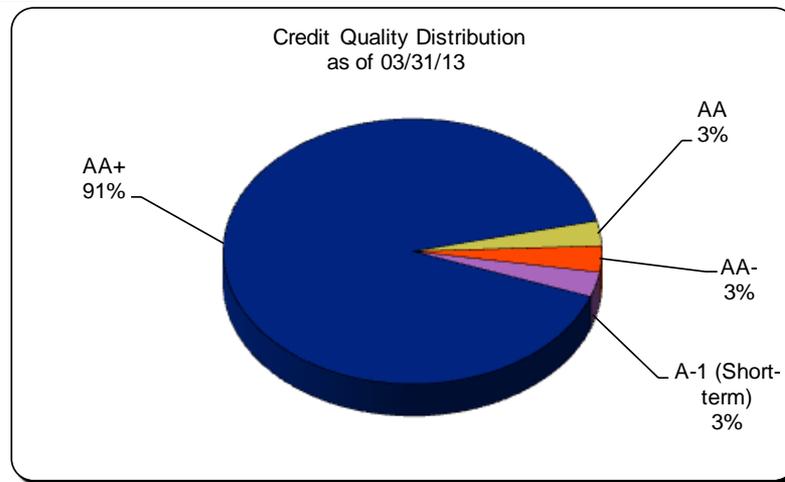
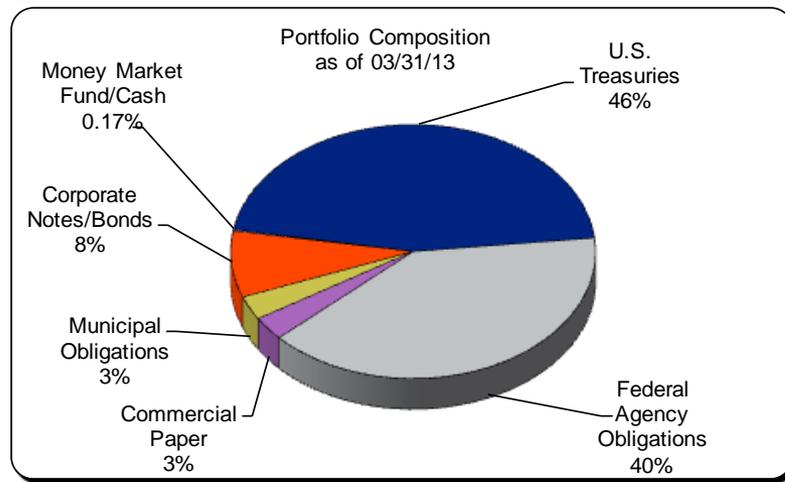
Total return and yield are the two common measures of return



Portfolio Characteristics

Sample Portfolio Composition and Credit Quality Characteristics

<u>Security Type</u>	<u>March 31, 2013</u>	<u>% of Portfolio</u>	<u>December 31, 2012</u>	<u>% of Portfolio</u>
U.S. Treasuries	\$38,199,468.46	45.5%	\$37,823,518.07	45.4%
Federal Agencies	33,426,813.80	39.8%	36,041,870.82	43.2%
Commercial Paper	2,529,592.67	3.0%	2,527,697.70	3.0%
Certificates of Deposit	0.00	0.0%	0.00	0.0%
Bankers Acceptances	0.00	0.0%	0.00	0.0%
Repurchase Agreements	0.00	0.0%	0.00	0.0%
Municipal Obligations	2,539,650.00	3.0%	2,534,600.00	3.0%
Corporate Notes/Bonds	7,089,720.32	8.4%	4,453,826.06	5.3%
Corporate Notes/Bonds - FDIC Insured	0.00	0.0%	0.00	0.0%
Mortgage Backed	0.00	0.0%	0.00	0.0%
Money Market Fund/Cash	143,453.66	0.2%	0.00	0.0%
Totals	\$83,928,698.91	100.0%	\$83,381,512.65	100.0%



Duration Comparison

Sample Portfolio Performance

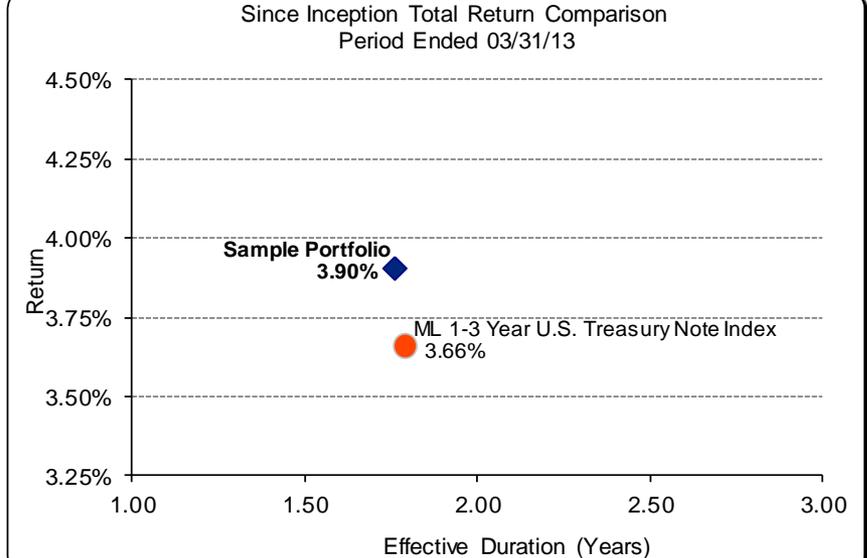
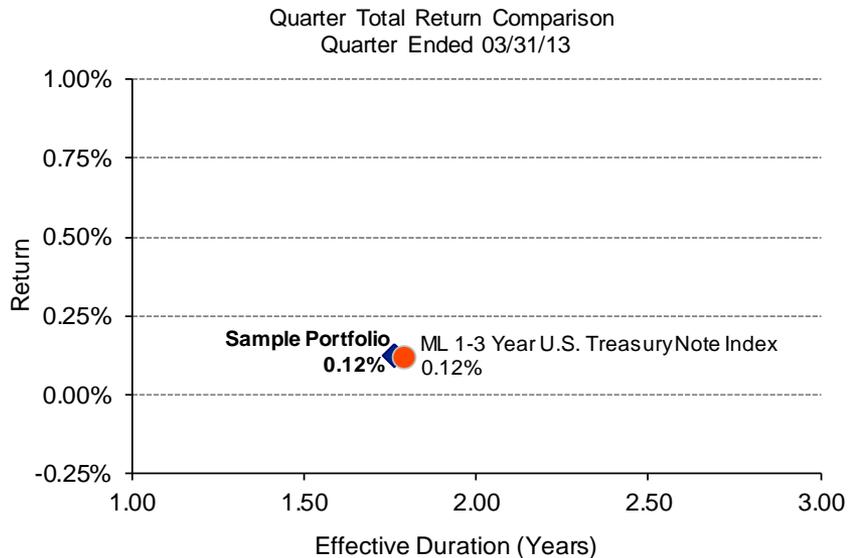
Total Portfolio Value	March 31, 2013	December 31, 2012
Market Value	\$83,928,698.91	\$83,381,512.65
Amortized Cost	\$83,595,459.42	\$82,974,541.23

Total Return	Quarterly Return March 31, 2013	Calendar Year to Date
Sample Portfolio	0.12%	0.12%
Merrill Lynch 1-3 Year U.S. Treasury Note Index	0.12%	0.12%

Effective Duration (Years)	March 31, 2013	December 31, 2012
Sample Portfolio	1.76	1.82
Merrill Lynch 1-3 Year U.S. Treasury Note Index	1.79	1.80
Portfolio Duration % of Benchmark Duration	98%	101%

Yields	March 31, 2013	December 31, 2012
Yield at Market	0.30%	0.30%
Yield at Cost	0.62%	0.65%

Comparing portfolio duration to prior period and benchmarks shows changing and relative risk level

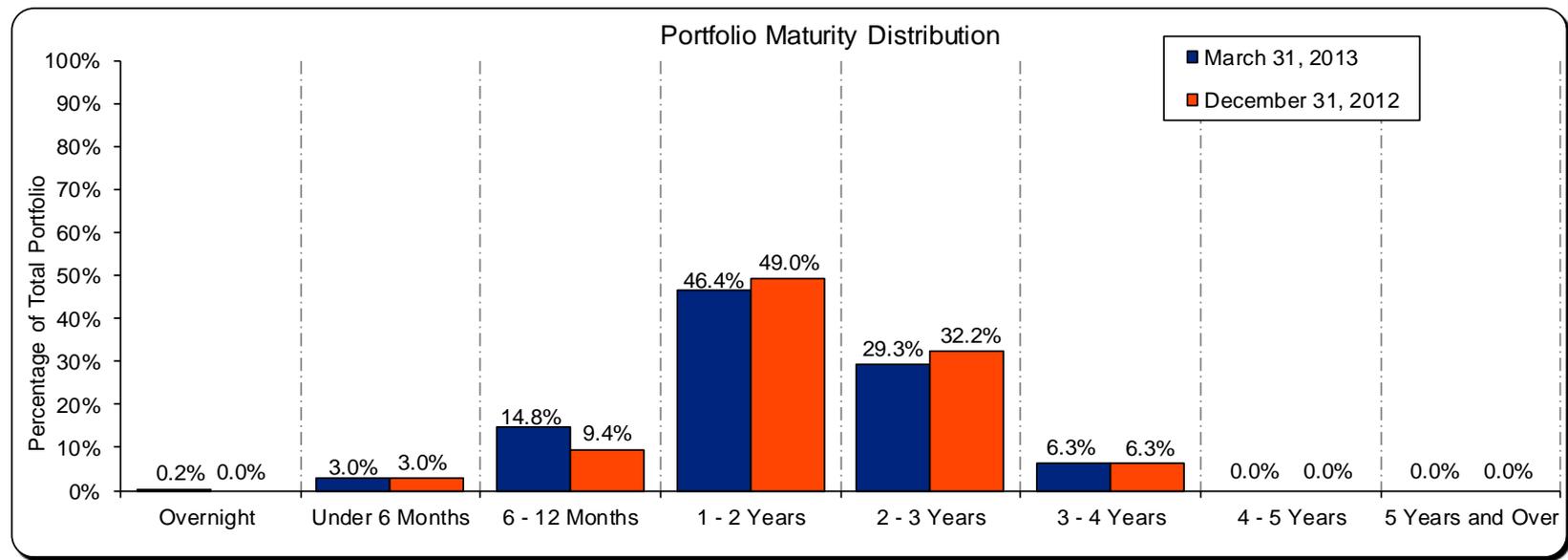


Portfolio Characteristics: Maturity

Sample Portfolio Maturity Distribution

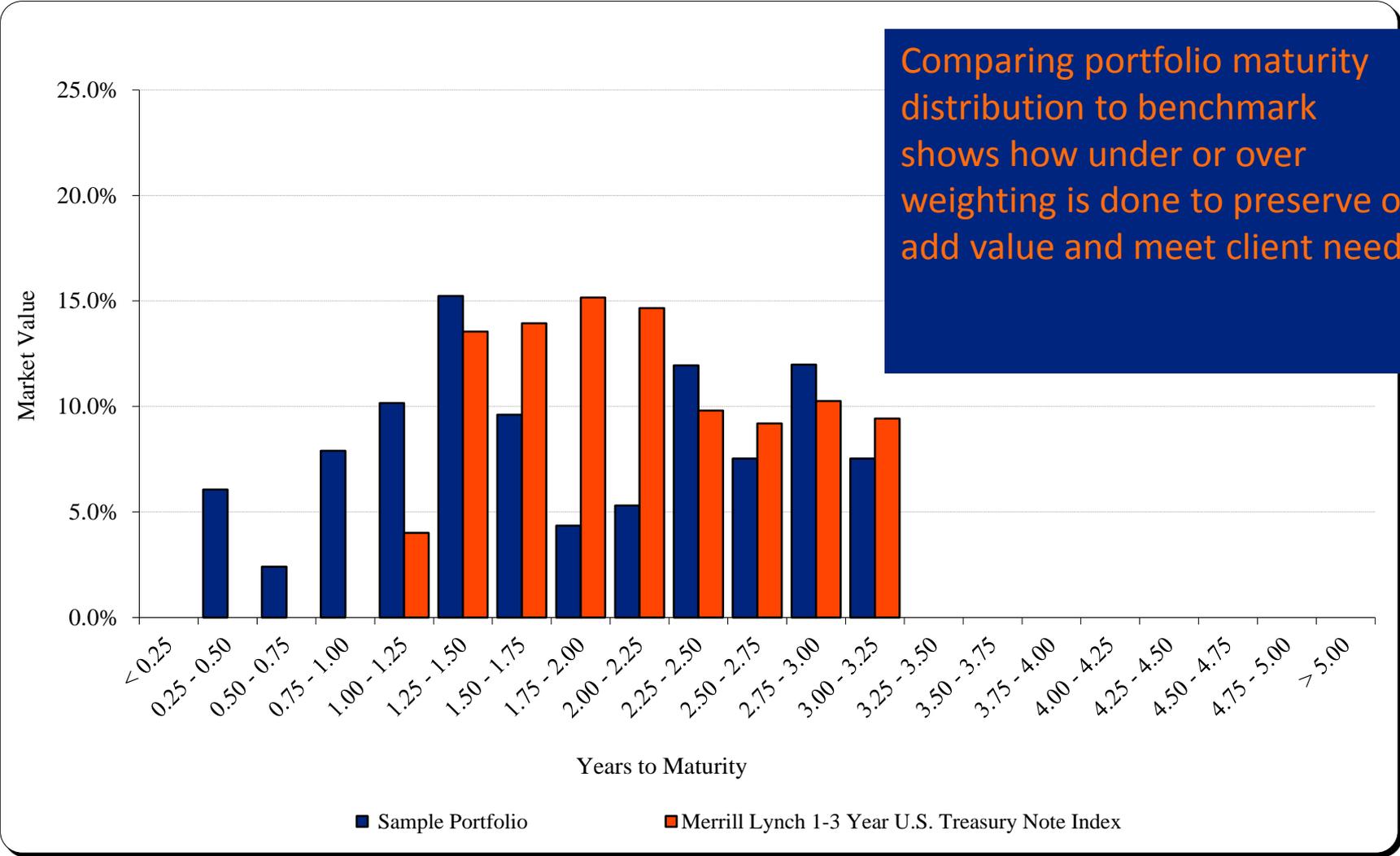
<u>Maturity Distribution</u>	<u>March 31, 2013</u>	<u>December 31, 2012</u>
Overnight (Money Market Fund)	\$143,453.66	\$0.00
Under 6 Months	2,529,592.67	2,527,697.70
6 - 12 Months	12,417,368.46	7,797,277.82
1 - 2 Years	38,961,822.55	40,893,268.20
2 - 3 Years	24,627,655.00	26,875,337.30
3 - 4 Years	5,248,806.57	5,287,931.63
4 - 5 Years	0.00	0.00
5 Years and Over	0.00	0.00
Totals	\$83,928,698.91	\$83,381,512.65

Comparing current to prior maturity distribution shows how portfolio is being changed to reflect markets and client needs



Portfolio Maturity vs Benchmark

Comparing portfolio maturity distribution to benchmark shows how under or over weighting is done to preserve or add value and meet client needs



Investment Policy Compliance

Security Type	Balance	Percent Allocation	Permitted by Policy
United States Treasury Securities	113,756,971.02	59.92%	100%
Federal Instrumentalities	28,727,002.90	15.13%	80%
Commercial Paper	2,527,880.42	1.33%	35%
Corporate Notes	10,811,781.85	5.70%	15%
State and/or Local Government Debt	2,510,750.00	1.32%	20%
Fixed Income Money Market Mutual Funds	10,429,120.83	5.49%	75%
Intergovernmental Investment Pools	21,071,859.05	11.10%	25%

Individual Issuer Breakdown	Balance	Percent Allocation	Permitted by Policy
FNMA	11,337,406.74	5.97%	50%
FHLMC	17,389,596.16	9.16%	50%
Commercial Paper Issuer A	2,527,880.42	1.33%	10%
Corporate Notes Issuer A	3,677,218.15	1.94%	5%
Corporate Notes Issuer B	2,013,093.28	1.06%	5%
Corporate Notes Issuer D	2,494,987.93	1.31%	5%
Corporate Notes Issuer E	2,626,482.49	1.38%	5%
Municipal Bond Issuer F	2,510,750.00	1.32%	20%
Money Market Fund – G	10,429,120.83	5.49%	25%

Disclaimer

This material is based on information obtained from sources generally believed to be reliable and available to the public, however PFM Asset Management LLC cannot guarantee its accuracy, completeness or suitability. This material is for general information purposes only and is not intended to provide specific advice or recommendation. The information contained in this report is not an offer to purchase or sell any securities.