



INVESTING IN TODAY'S MARKET

Prudent Man Advisors, Inc.
Wisconsin GFOA Conference

April 2016

SECTOR PRIMER

U.S. TREASURY SECURITIES

- What are they?
 - Debt instruments issued by the Federal Government
 - Backed by full faith and credit of the U.S. Government
 - Treasury bills, notes and bonds
- What are the risks?
 - Market value affected by changes in interest rates
 - Political dysfunction / debt ceiling
- How big is the U.S. Treasury market?
 - Massive. \$13.2T. Total Bond Market close to \$40T
 - Market Cap of U.S. Equities \$22.2T

GOVERNMENT AGENCIES AND INSTRUMENTALITIES

- What are they?
 - Financing entities to fund loans to certain groups of borrowers
 - Federal National Mortgage Association (FNMA) (Fannie Mae)
 - Federal Home Loan Mortgage Corporation (FHLMC) (Freddie Mac)
 - Federal Home Loan Bank (FHLB)
 - Federal Farm Credit System (FFC)
 - Discount notes and coupon paying bonds with fixed maturities (bullets)
 - Unsecured debt obligations with implied guarantee of the U.S. Government
 - \$2T market size and shrinking
- What are the risks?
 - No guarantee the U.S. Government will provide financial support when not obligated to do so
 - Market value affected by changes in interest rates
 - Mortgage finance reform

COMMERCIAL PAPER

- What is it?
 - Unsecured debt issued by corporations to finance short-term liquidity needs
 - Statutes allow for purchase of top-tier paper (A1/P1 or higher) maturing in 365 days
 - \$2.8T market and shrinking. \$4.3T in 2007
- What are the risks?
 - Default risk
 - Ratings downgrade risk
 - Headline risk
 - Liquidity risk

CERTIFICATES OF DEPOSIT

- What are they?
 - Time deposits offered by banks and thrift institutions
 - Fixed term investment with specified maturity date
 - FDIC insurance up to \$250,000
 - Collateralized deposits can be offered for amounts over \$250,000
- What are the risks?
 - Penalties for early withdrawal
 - Perfected collateral agreements?
 - Type and amount of collateral does not meet investment policy
 - Double placements
 - Interest rate risk

CORPORATE BONDS

- What are they?
 - Unsecured debt issued by corporations to finance business
 - Statutes allow for purchase of companies maturing in less than 7 years rated AA or higher.
 - \$8.2T market and growing. \$5.2T in 2007
- What are the risks?
 - Default risk
 - Ratings downgrade risk
 - Headline risk
 - Liquidity risk

AGENCY MORTGAGE BONDS

- What are they?
 - Debt issued by Government Agencies secured by residential or commercial properties
 - Statutes allow for purchase with certain limitations
 - Mortgage related market totals \$8.7T
- What are the risks?
 - Prepayment risk

MUNICIPAL SECURITY

- What is it?
 - Obligation of a state, county, city, village, school district or other special purpose district
 - General Obligation (GO)
 - Not all GO bonds are the same
 - Limited versus Unlimited Tax
 - Some GO bonds have no separate tax levy
 - Revenue
 - Essential service revenue bonds (water & sewer)
 - Other revenue generating entities including toll roads, airports, parking and many others
- \$3.7T total size of municipal market. Stable
- What are the risks?
 - Default risk
 - Ratings downgrade risk
 - Headline risk
 - Liquidity risk
 - Interest rate risk

REPURCHASE AGREEMENT

- What is it?
 - The sale of securities with an agreement for the seller to buy back the securities at a specified date
 - Effectively, the security being sold by the borrower (seller) serves as collateral for the investor in the repurchase agreement
 - Collateral is of U.S. Treasury or Government agency quality
 - Terms of the repurchase agreement are defined in a tri-party agreement including:
 - Custodian (such as: Bank of New York)
 - Counterparty (securities dealer/seller/borrower)
 - Investor (lender)

REPURCHASE AGREEMENT

- Typical collateral
 - U.S. Treasury securities
 - Government agency securities
- What are the risks?
 - Default of the counterparty (securities dealer)
 - Insufficient collateral (price movement)
 - Default of the collateral
 - Legal / Operational
- Important considerations
 - Is the counterparty investment grade?
 - Is there a tri-party repurchase agreement?
 - What type of collateral is pledged? Is it liquid?
 - How much collateral is required? (102%, 105%)

MONEY MARKET FUNDS & LGIPs

- What are they?
 - Investors own shares of the fund/pool
 - Not a bank deposit
 - Not insured or guaranteed by the FDIC or other government agency
 - Net Asset Value (NAV)
 - Stable NAV (\$1.00 NAV – money market funds/pools)
 - Floating NAV (bond funds/pools)
- What are the risks?
 - “Break the buck”
 - Credit risk
 - Interest rate risk
 - Floating NAV bond funds hold increased interest rate risk relative to Stable NAV funds
 - Rules are changing for registered money market funds
 - Floating NAVs
 - Redemption “gates” in periods of stress

MONEY MARKET FUNDS & LGIPs

- Not all money market funds and LGIPs are the same
 - Government funds invest only in U.S. Government securities and government agency securities
 - Prime funds invest in additional asset classes such as corporate obligations
 - Stable NAV (money-market) versus Variable NAV (bond) funds
 - Not all funds are rated by S&P or other rating agencies

- **Asset Backed Securities:**
 - Bonds are backed by a variety of consumer loans such as auto receivables and credit card receivables. In addition to the underlying collateral, the senior secured bonds are typically supported by subordinated bonds
- **Commercial Paper:**
 - Unsecured short-term (less than 1 year) debt obligation of a Corporation used to meet short-term liabilities
- **Equity Securities:**
 - Stocks of publicly owned corporations where dividends and price changes provide the sources of return
- **High Yield Investments:**
 - Corporate debt rated BB, B, CCC or below
- **International Securities:**
 - Stocks and bonds of non-U.S. corporations, and foreign currency denominated securities of U.S. domestic corporations
- **Investment Grade Corporate Bonds:**
 - Corporate debt rated AAA, AA, A or BBB
- **Mortgage Backed Securities:**
 - Typically issued by GNMA, FNMA or FHLMC, these “pass-through” securities are used to finance residential or commercial mortgages. Pooled mortgage payments are passed through to the bondholder producing interest and principal payments
- **Municipal Bonds:**
 - School Districts, Cities, Counties, States and other local government authorities which typically have taxing power to service their debt
- **Treasury/Agency Securities:**
 - U.S. T-bills, Notes and Bonds
 - U.S. Agencies that carry the explicit or implicit backing of the U.S. Government. Examples include Federal Home Loan Bank, Federal Home Loan Mortgage Corp., Federal Farm Credit Bank, Federal National Mortgage Association and Overseas Private Investment Corp

UNDERSTANDING WISCONSIN INVESTMENT STATUTES

WISCONSIN STATE STATUTE

- Municipal Law (66.0603)
- Authorized Investments
 - Time Deposits <3 years in
 - Credit Union
 - Bank
 - Savings Bank
 - Trust Company
 - Savings and Loan Association
 - Bonds or securities issued or guaranteed by the federal government or instrumentality
 - U.S. Government and Agency securities
 - FNMA / FHLMC / FHLB / FFCEB

WISCONSIN STATE STATUTE

- Authorized Investments (continued)
 - Municipal securities
 - County, city, drainage district, technical college, village, town or school district of this state
 - Local exposition district
 - Local professional baseball park district
 - Local professional football stadium
 - Univ. of Wisconsin Hospitals and Clinics Authority
 - Local cultural arts district
 - Wisconsin Aerospace Authority
 - Any Security that matures or may be tendered ... <7 years
 - Rated in highest or 2nd highest rating category by S&P, Moody's or other agency (AAA/AA)

WISCONSIN STATE STATUTE

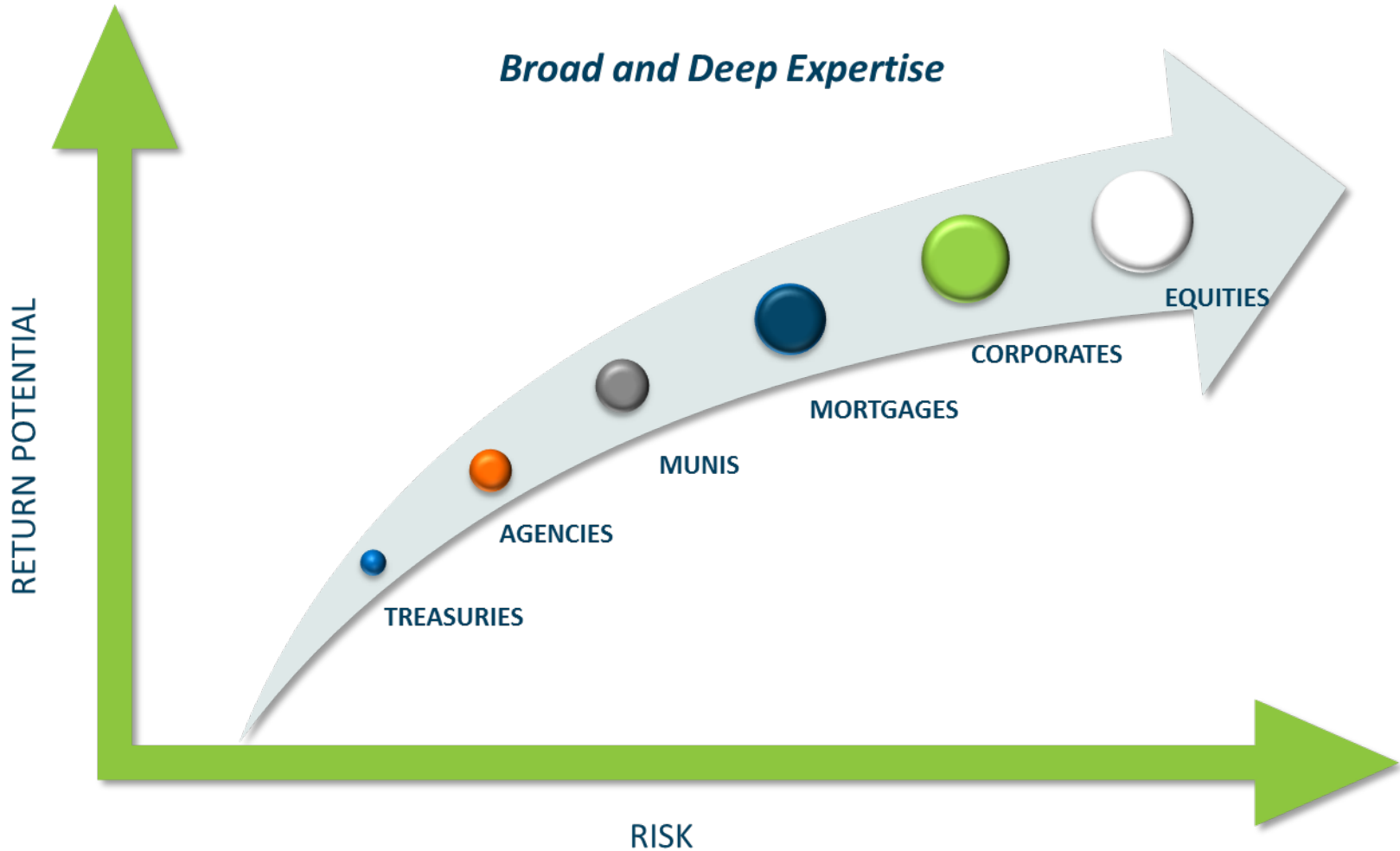
- Authorized Investments (continued)
 - No-load open-end management investment company or trust if registered and portfolio is limited to:
 - U.S. Treasuries or Agencies
 - Repurchase Agreements collateralized by U.S. Treasuries or Agencies
 - Delegation of Investment Authority
 - State or National Bank or Trust Company authorized to transact business in this state
 - Governing Board must review annual performance and renew authority annually
 - Registered Investment Adviser

WISCONSIN STATE STATUTE

- Trust Fund Investments (Chapter 881)
 - Prudent Investor Rule
 - Fiduciary responsibility: Suitable investments with reasonable level of risk for purpose
 - Standard of Care
 - Invest and manage asset as a prudent investor considering
 - Purposes
 - Terms
 - Distribution requirements
 - Portfolio as a whole and part of a portfolio strategy reasonably suited to the trust
 - General economic conditions, effect of inflation and tax consequences

INVESTMENT PLAN

PRUDENT MAN ADVISORS | RESEARCH SECTORS



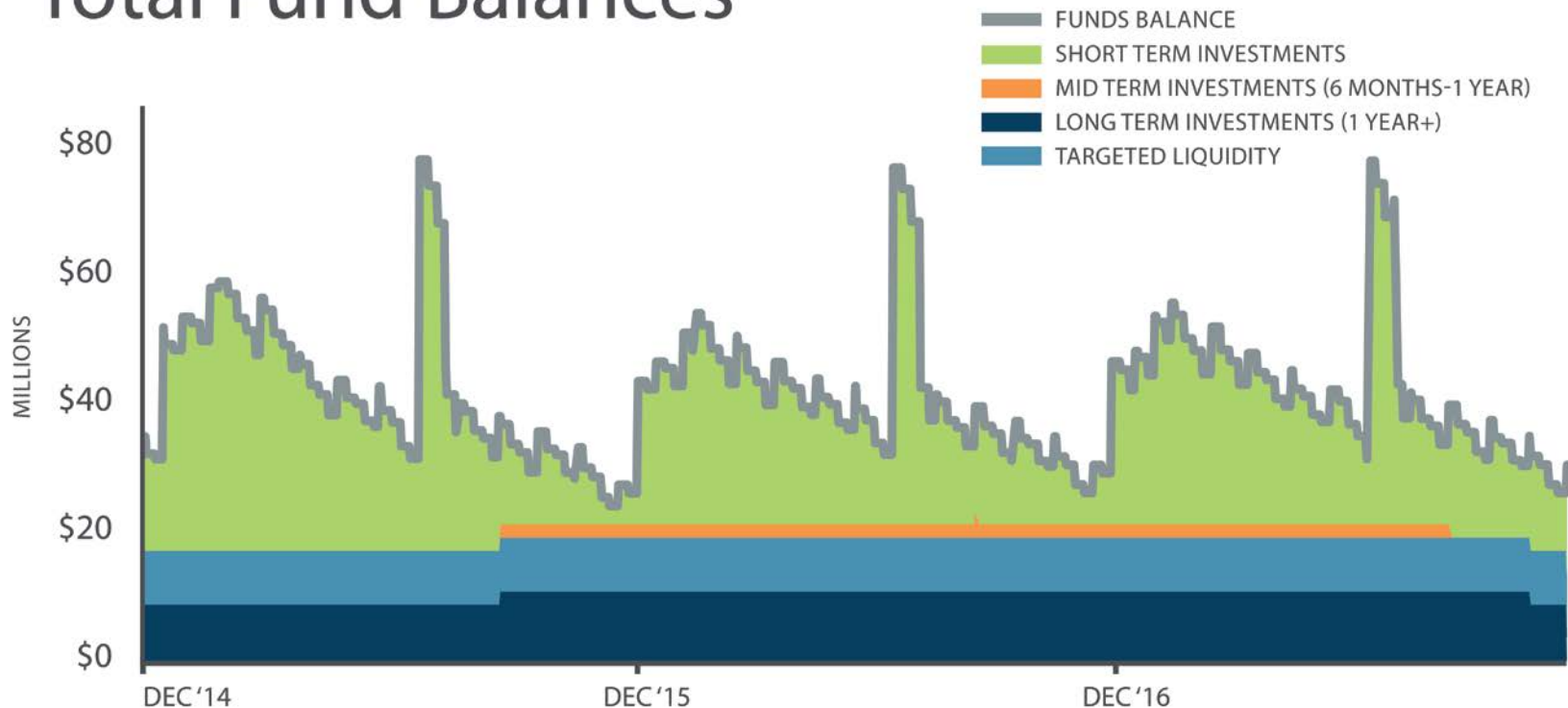
Successful Investment Plan Aligns Appropriate Strategy for Purpose

- **Immediate Reserves: <12 months**
 - T-bills/Agency discount notes/CD's
 - Commercial Paper
 - Local Government Investment Pools
- **Semi-Permanent Reserves: 1-5 Years**
 - Treasury Notes/Agency Notes
 - Investment Grade Corporate Bonds
 - Taxable Municipal Bonds
 - Agency Mortgage Securities
- **Permanent Reserves: 5+ Years**
 - Investment Grade Corporate Bonds
 - Mortgage Pass Thru Bonds
 - Taxable Municipal Bonds
 - Treasury Notes / Agency Notes
- **Pension / OPEB : Long Horizon**
 - Corporate Bonds
 - Zero Coupon Treasury/Agency Bonds
 - Equities / Stocks

SAMPLE CASH FLOW ANALYSIS

PRUDENT MAN ADVISORS | CUSTOMIZED SOLUTION

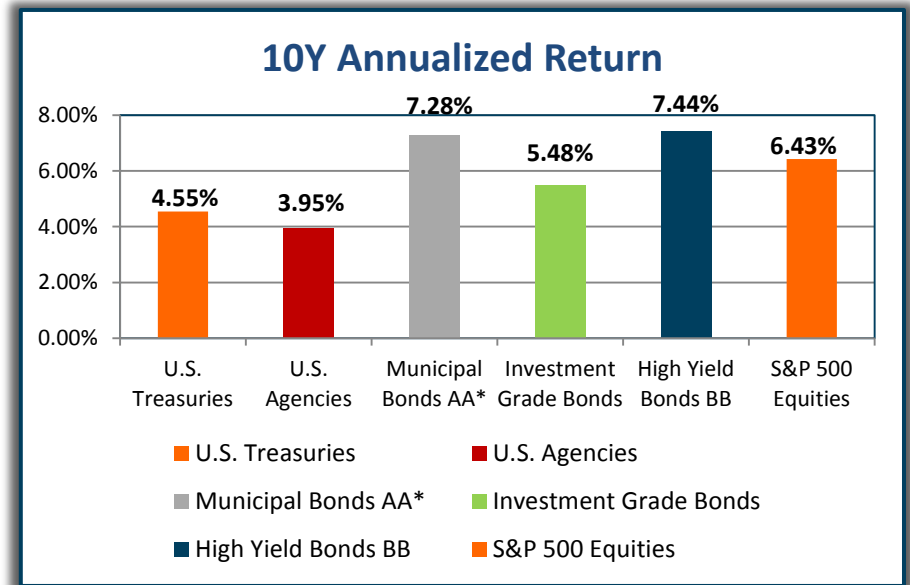
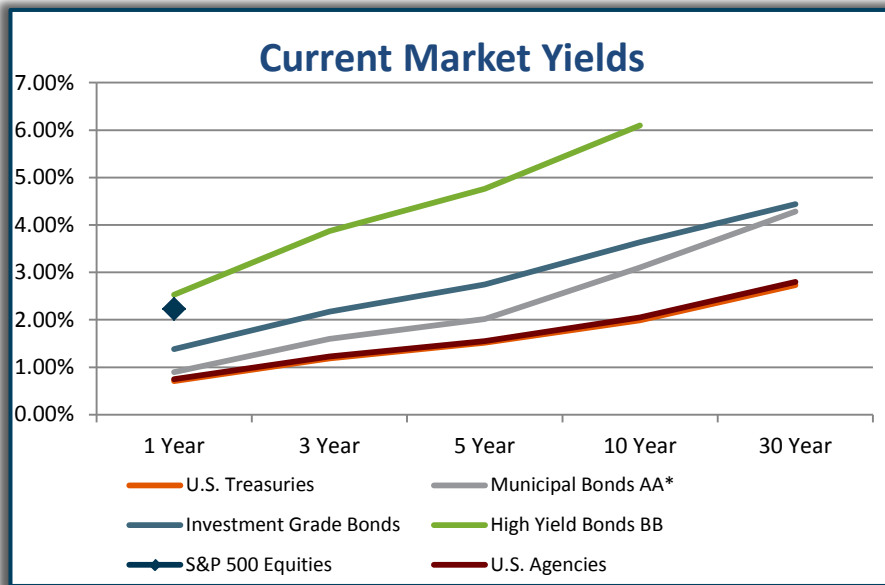
Total Fund Balances



The analysis or information presented here is based on hypothetical projections and/or past performance that have certain limitations. No representation is made that it is accurate or complete or that any results will be achieved.

INVESTMENT ENVIRONMENT

CURRENT MARKET YIELDS					
SECTOR	1 YEAR	3 YEAR	5 YEAR	10 YEAR	30 YEAR
U.S. Treasuries	0.71%	1.19%	1.52%	1.99%	2.73%
U.S Agencies	0.75%	1.23%	1.55%	2.05%	2.80%
Municipal Bonds (AA)	0.90%	1.60%	2.02%	3.10%	4.28%
Investment Grade Bonds (A/BBB)	1.38%	2.17%	2.74%	3.63%	4.44%
High Yield Bonds (BB)	2.53%	3.87%	4.76%	6.10%	
S&P 500 Equities	2.23%				

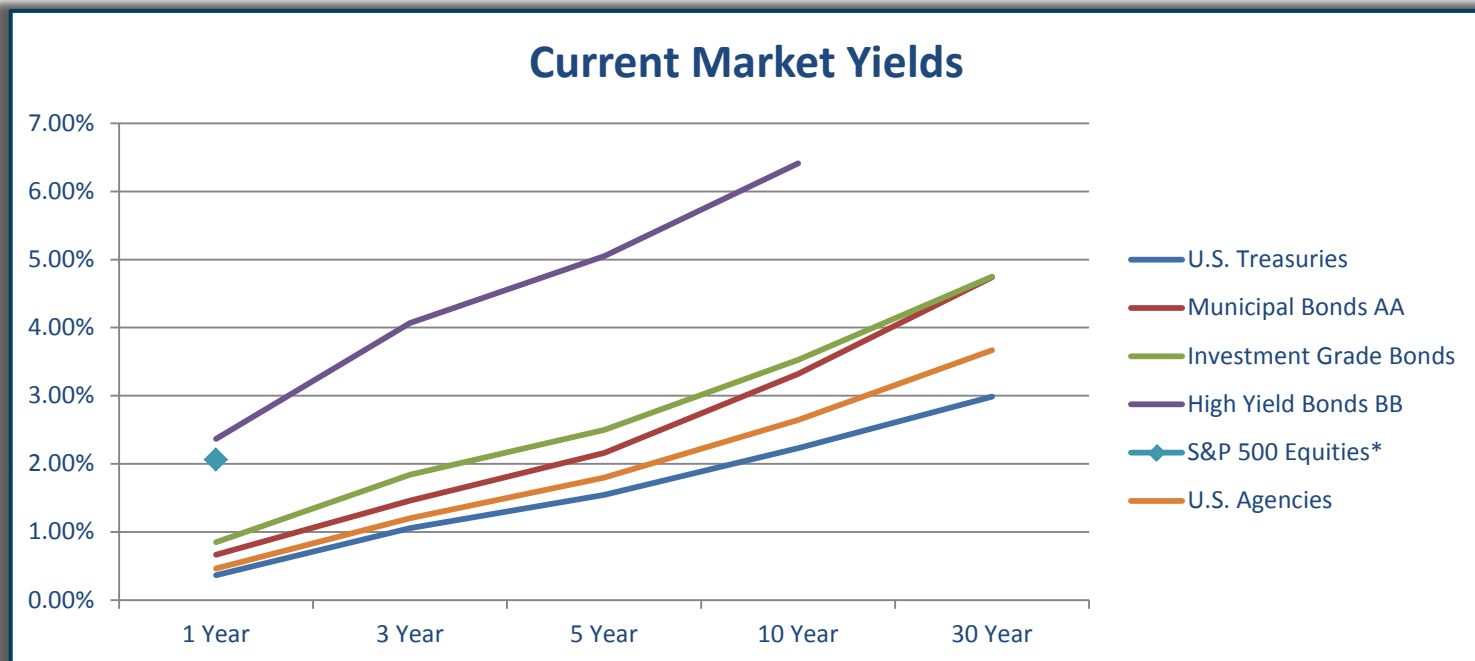


Note: Equity return assumes dividend reinvested in the S&P 500. Data as of 03/14/16.

Source: Bloomberg

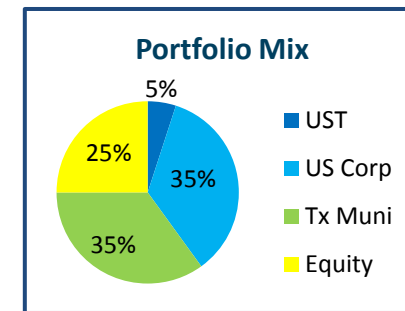
CURRENT MARKET YIELDS						
Sector	1 Year	3 Year	5 Year	10 Year	30 Year	10 year Average Return
U.S. Treasuries	0.37%	1.06%	1.55%	2.23%	2.99%	4.18%
U.S. Agencies	0.47%	1.20%	1.80%	2.65%	3.67%	3.76%
Municipal Bonds AA	0.67%	1.46%	2.16%	3.32%	4.74%	6.97%
Investment Grade Bonds	0.85%	1.84%	2.50%	3.53%	4.75%	5.13%
High Yield Bonds BB	2.37%	4.07%	5.05%	6.41%		7.40%
S&P 500 Equities*	2.06%					7.14%

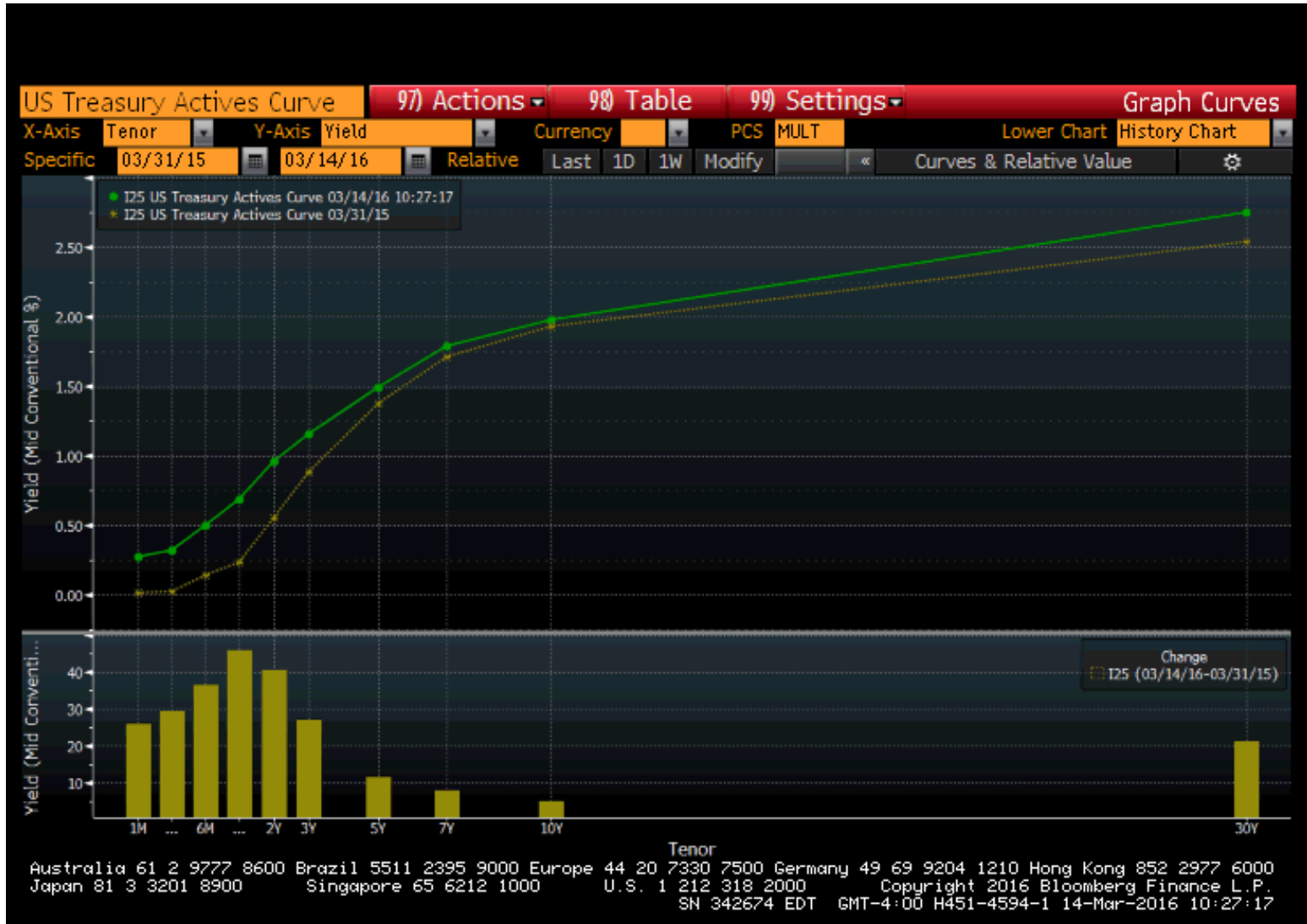
*Dividend Yield



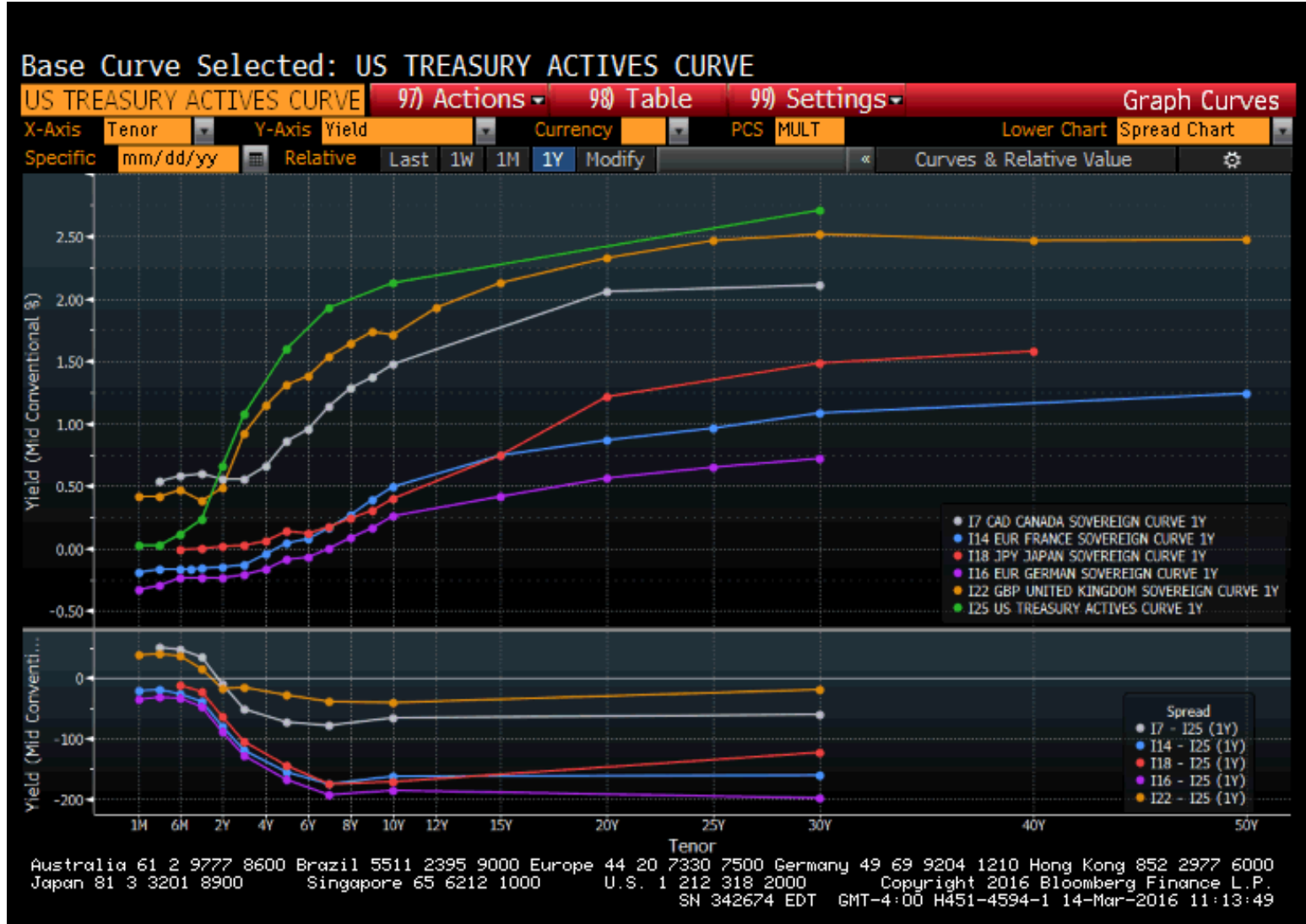
DIVERSIFICATION REDUCES VOLATILITY

2010	2011	2012	2013	2014
High Yield Bonds BB 14.93%	Taxable Municipal Bonds 20.91%	High Yield Bonds BB 14.36%	S&P 500 Stocks 34.10%	Taxable Municipal Bonds 16.29%
S&P 500 Stocks 13.84%	Portfolio Mix 11.13%	S&P 500 Stocks 14.05%	Portfolio Mix 5.95%	S&P 500 Stocks 15.75%
Portfolio Mix 9.64%	US Treasury Bonds 9.79%	Portfolio Mix 11.13%	High Yield Bonds BB 5.19%	Portfolio Mix 12.57%
Inv Grade Corp Bonds 9.52%	Inv Grade Corp Bonds 7.51%	Taxable Municipal Bonds 11.08%	Inv Grade Corp Bonds (1.46%)	Inv Grade Corp Bonds 7.51%
Taxable Municipal Bonds 7.31%	High Yield Bonds BB 6.12%	Inv Grade Corp Bonds 10.37%	US Treasury Bonds (3.35%)	US Treasury Bonds 6.02%
US Treasury Bonds 5.88%	S&P 500 Stocks 2.79%	US Treasury Bonds 2.16%	Taxable Municipal Bonds (5.42%)	High Yield Bonds BB 5.34%





Source: Bloomberg

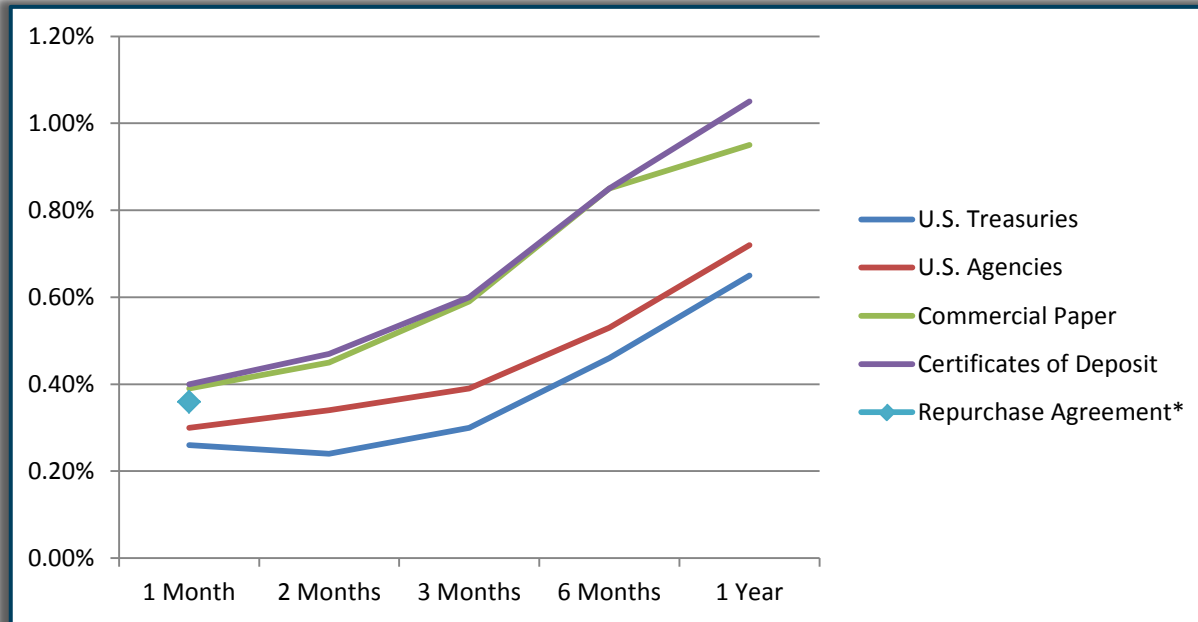


Source: Bloomberg

SHORT-TERM MARKETS – ATTRACTIVE RELATIVE VALUE

	1 Month	2 Months	3 Months	6 Months	1 Year
U.S. Treasuries	0.26%	0.24%	0.30%	0.46%	0.65%
U.S. Agencies	0.30%	0.34%	0.39%	0.53%	0.72%
Commercial Paper	0.39%	0.45%	0.59%	0.85%	0.95%
Certificates of Deposit	0.40%	0.47%	0.60%	0.85%	1.05%
*Repurchase Agreement	0.36%				

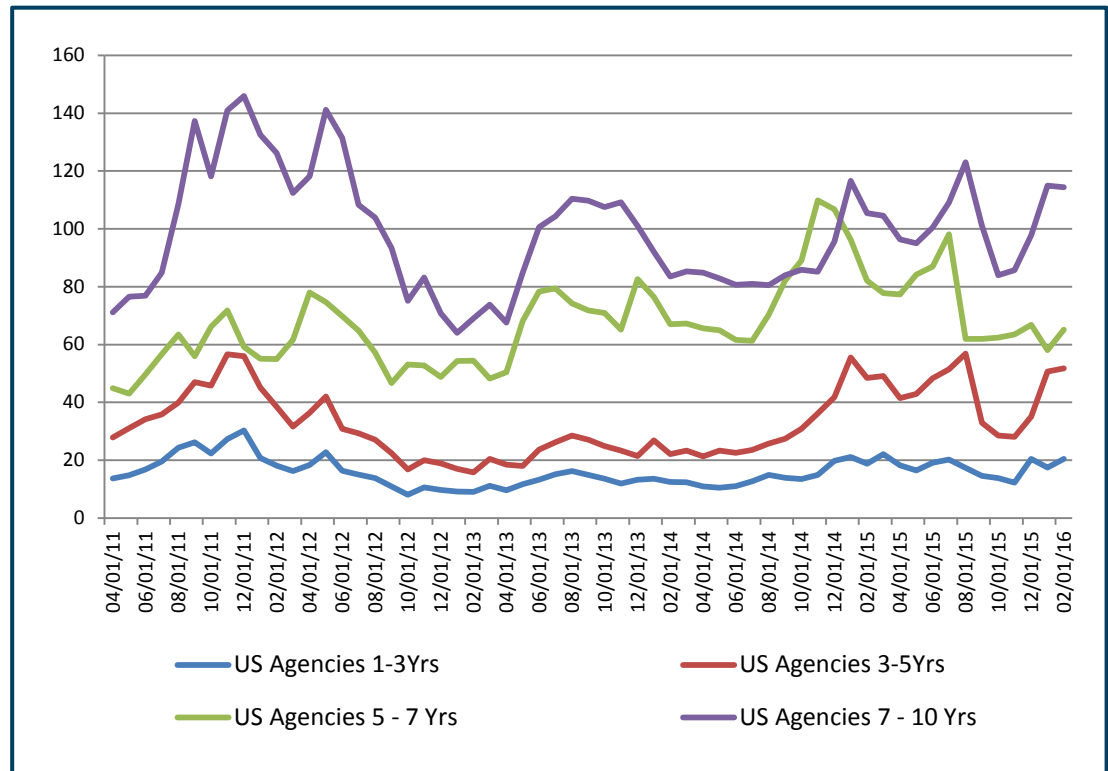
*(Overnight)



Source: Bloomberg. As of 3/9/16.

AGENCY SPREADS – LIMITED RELATIVE VALUE

- Global bullet agency supply limited
- Short-term spreads remain at tight levels
- Most new issuance coming in callable agencies
- Term issuance 5yrs and longer very limited
- Most recent 10yr FNMA Global Agency issued in September 2014



CALLABLE AGENCIES – PROCEED WITH CAUTION

- Agencies prefer issuing callable debt
- Must value embedded options
- OAS of -33bps
- Underperforms if rates decline
- Performs in line with bullet in sell off
- Liquidity can be constrained

	Bullet	Callable
Duration	4.77	1.85
Convexity	0.26	(2.98)
Yield	1.62	2.00
Call Feature	Non Call	Continuous Par Call

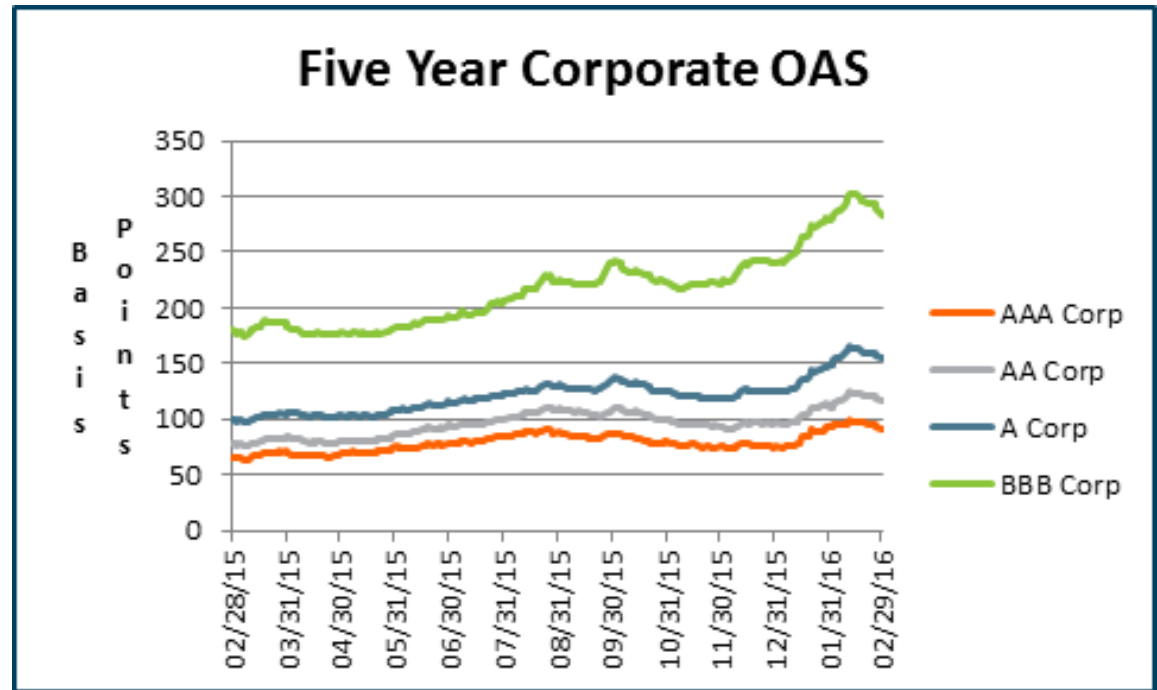
Expected Return (1yr Horizon)	-100	-50	0	50	100	200
Bullet Agency	6.65	4.13	1.62	-0.89	-3.41	-8.43
Callable Agency	Called	Called	2.00	-0.42	-2.83	-7.66



Source: Bloomberg

IG CORPORATE BONDS – UNDER PRESSURE

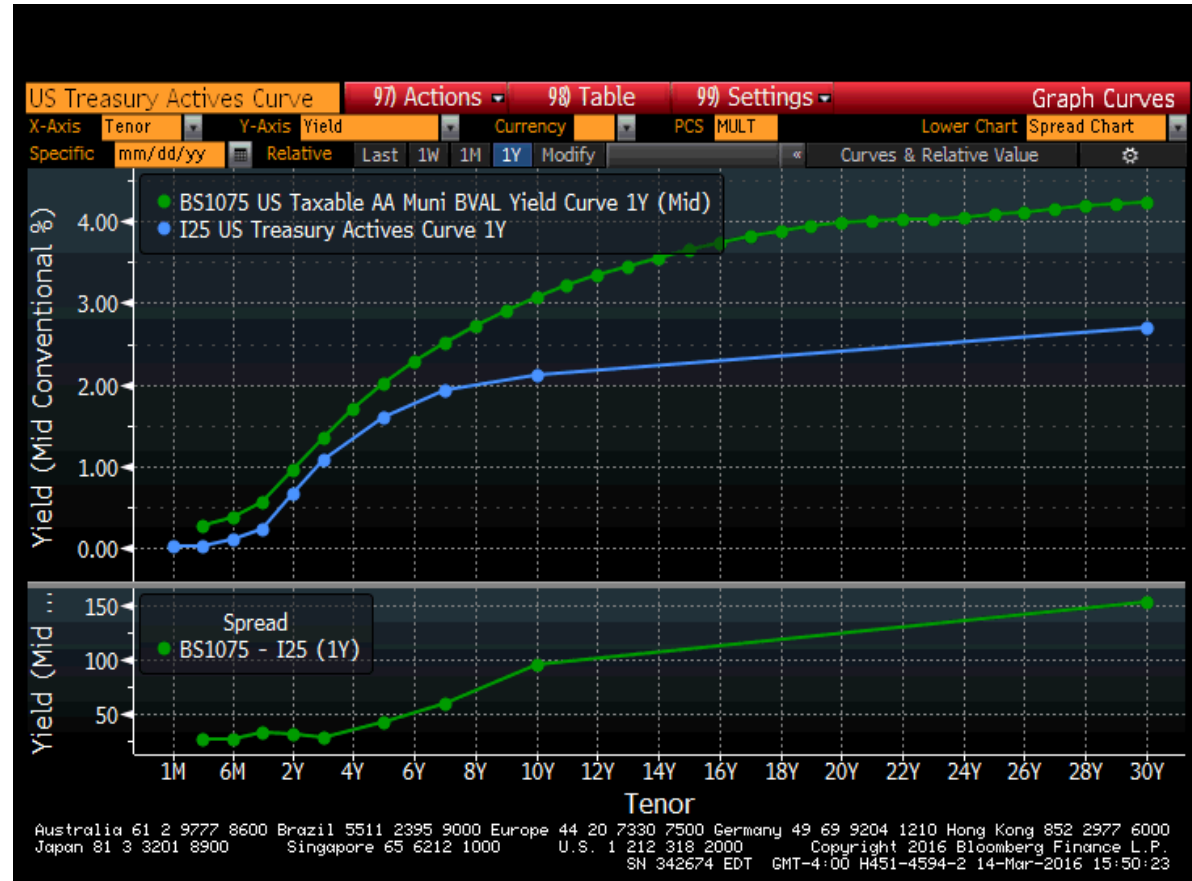
- Spreads wider
- Significant pick up in yield between ratings
- Slightly above long-term averages
- Selective relative value
- Mature Bull Stage Credit Cycle



Source: Bloomberg

TAXABLE MUNICIPALS – DO YOUR RESEARCH

- Spreads tight
- Troubled states cheap for a reason
- < 5yr Quality Paper spread < 40bps
- Demand > Supply
- Be careful about liquidity
- Good time to issue



Source: Bloomberg

EQUITY VOLATILITY INCREASING

1 Year Performance

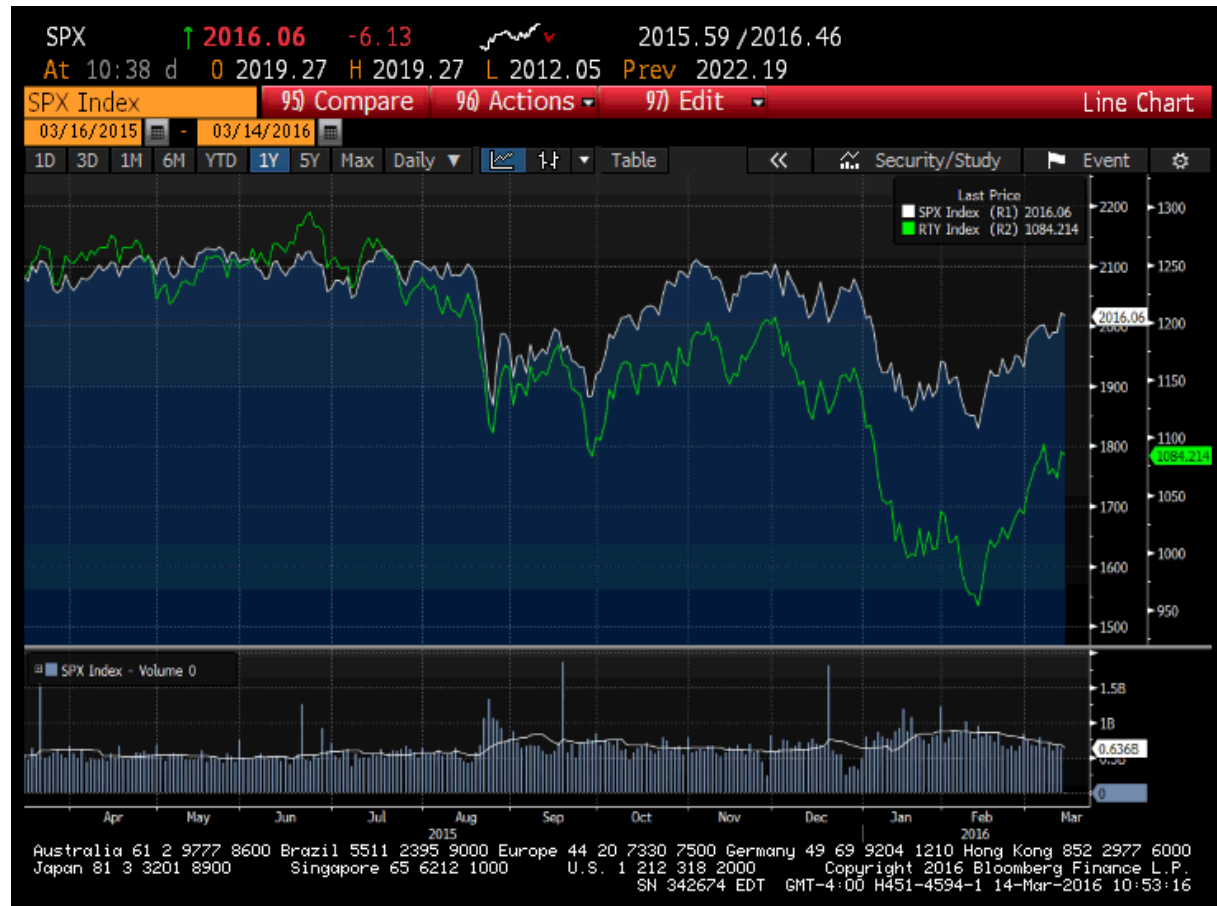
(through Feb 2016)

- S&P 500 -6.19%
- Russell 2000 -14.98%
- MSCI World Index -10.42%

5 Year Performance

(annualized)

- S&P 500 +10.10%
- Russell 2000 +6.10%
- World Index +5.57%



Source: Bloomberg

FED POLICY AND IMPACT

WHAT HAPPENS WHEN FED RAISES RATES?

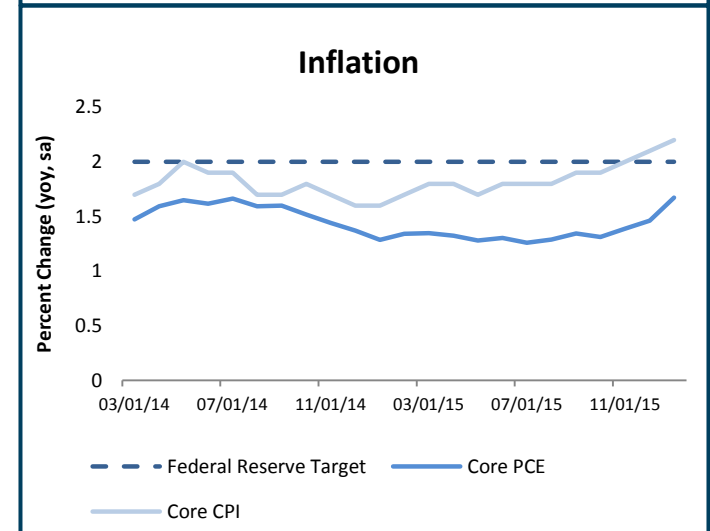
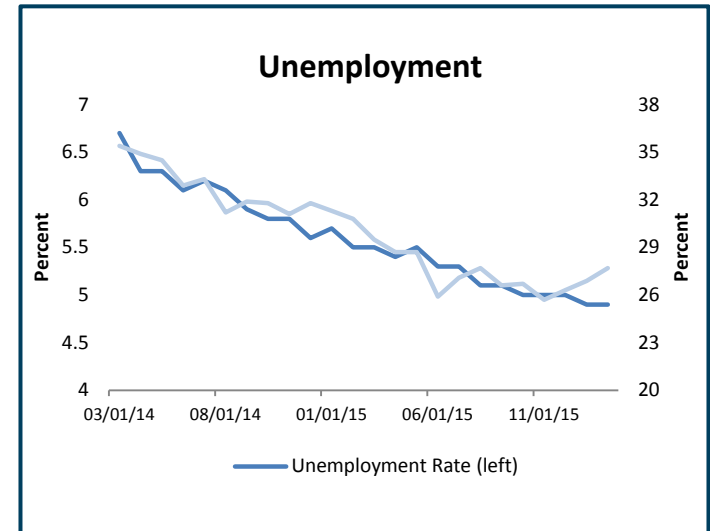
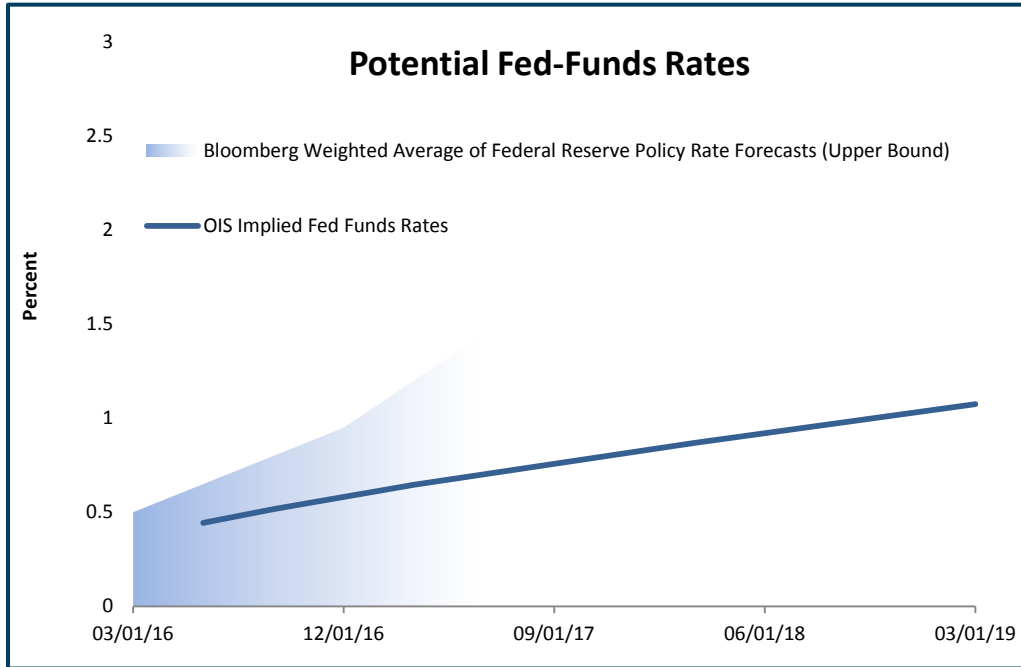
- **Leading**

- Variable rate loans
- Credit card rates
- Short-term investments
- Bond and stock markets anticipate changes

- **Lagging**

- Savings/Checking Deposit rates
- Long-term rates

WHERE ARE SHORT-TERM RATES HEADED?



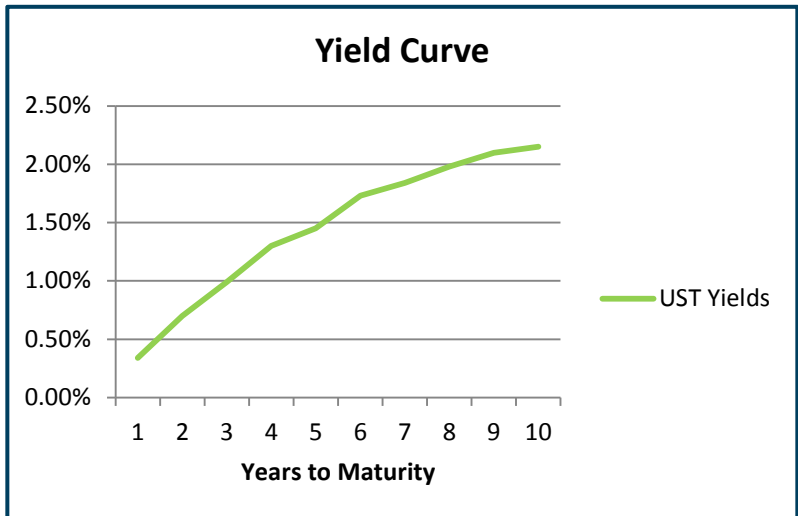
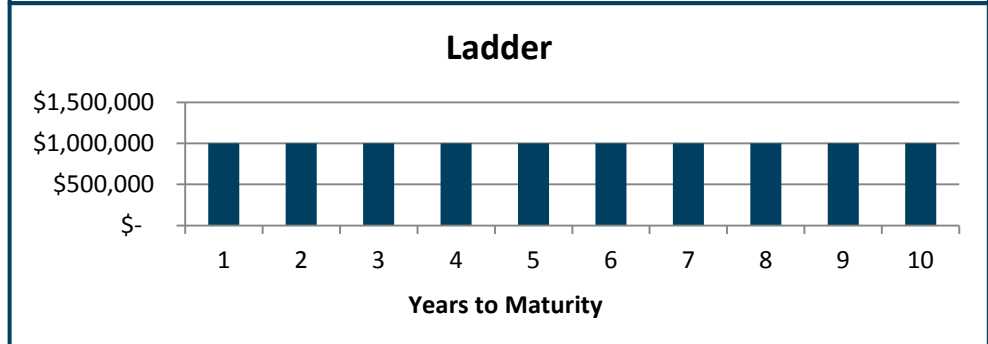
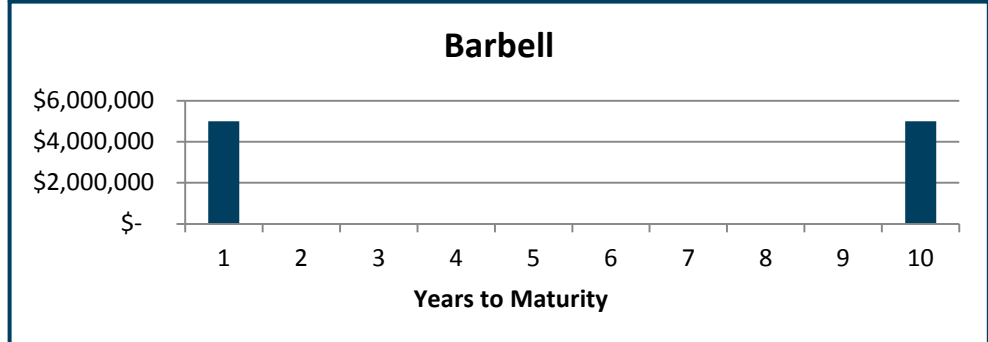
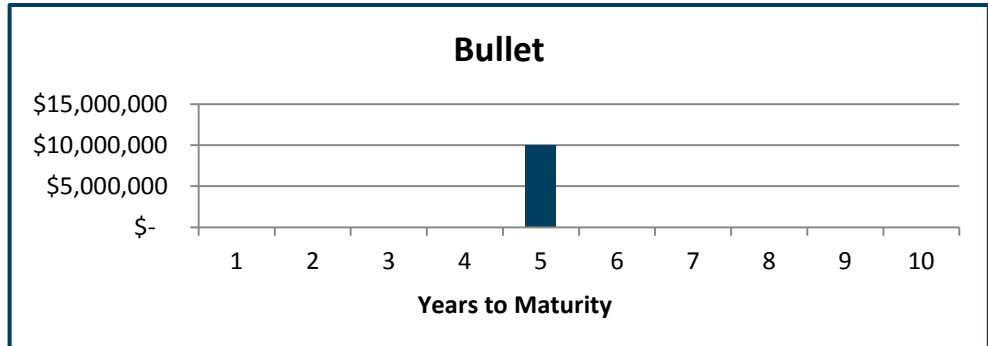
INVESTMENT STRATEGIES AND EXECUTION

INVESTMENT DECISIONS AND EXECUTION

- Periodically Review & Update Your Investment Policy
 - Authorized investments
 - Diversification
 - Maturity
 - Asset class

YIELD CURVE STRATEGIES

- \$10 Million Portfolio
- Average Maturity: 5 Years
- Portfolio Yield:
 - Bullet: 1.45%
 - Barbell: 1.24%
 - Ladder: 1.46%



INVESTMENT STRATEGY

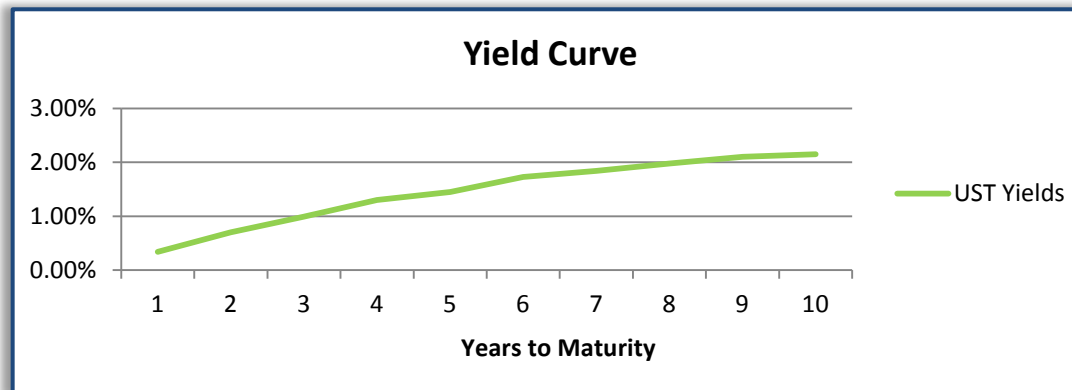
1. Power of a Ladder

- Reinvest over time
- Similar to dollar cost averaging in stocks
- Works in all rate environments
 - Rates Fall: Locked in higher yields in longer maturities
 - Rates Stable: Longer maturities will enhance yield
 - Rates Rise: Reinvest at higher yields as bonds mature

INVESTMENT STRATEGY

2. Rolling Down the Yield

- In a positively sloped yield curve environment, as the bond ages, it will be re-priced at a lower yield which leads to a higher price
- This enhances the price component of return leading to a total return that is greater than the purchase yield
 - Example: 5-year UST yield 1.45% Price: 99.68
 - Next year this bond will be a 4-year yielding 1.30% Price: 100.29
 - Price change: +.61 Total return: +1.98%
- Find the steepest part of the yield curve to maximize the roll-down strategy



INVESTMENT STRATEGY

3. Evaluate Call Risk

- Typically seen in Agency Securities and Municipal Bonds
- Issuer has right to redeem the security on a given date or dates - call date(s)
- The value of the “call option” varies depending on the following factors:
 - Current market rates relative to the security’s coupon rate
 - Time remaining to the call date
 - Call type
- What are the risks?
 - Issuers exercise call options in periods of declining interest rates
 - Issuers do not exercise call option when rates rise reducing your ability to reinvest at higher yields

INVESTMENT STRATEGY

4. Assess Your Needs

- Determine your objectives
- Assess your expertise
- Consider your time
- Utilize investment professionals

INVESTMENT STRATEGY

5. Protect Principal

- Do your homework
- Work with people you trust
- Do your due diligence

INVESTMENT STRATEGY

6. Maintain Liquidity

- Cash flow analysis
 - Keep it simple
 - Be realistic
- Remember unusual expenditures

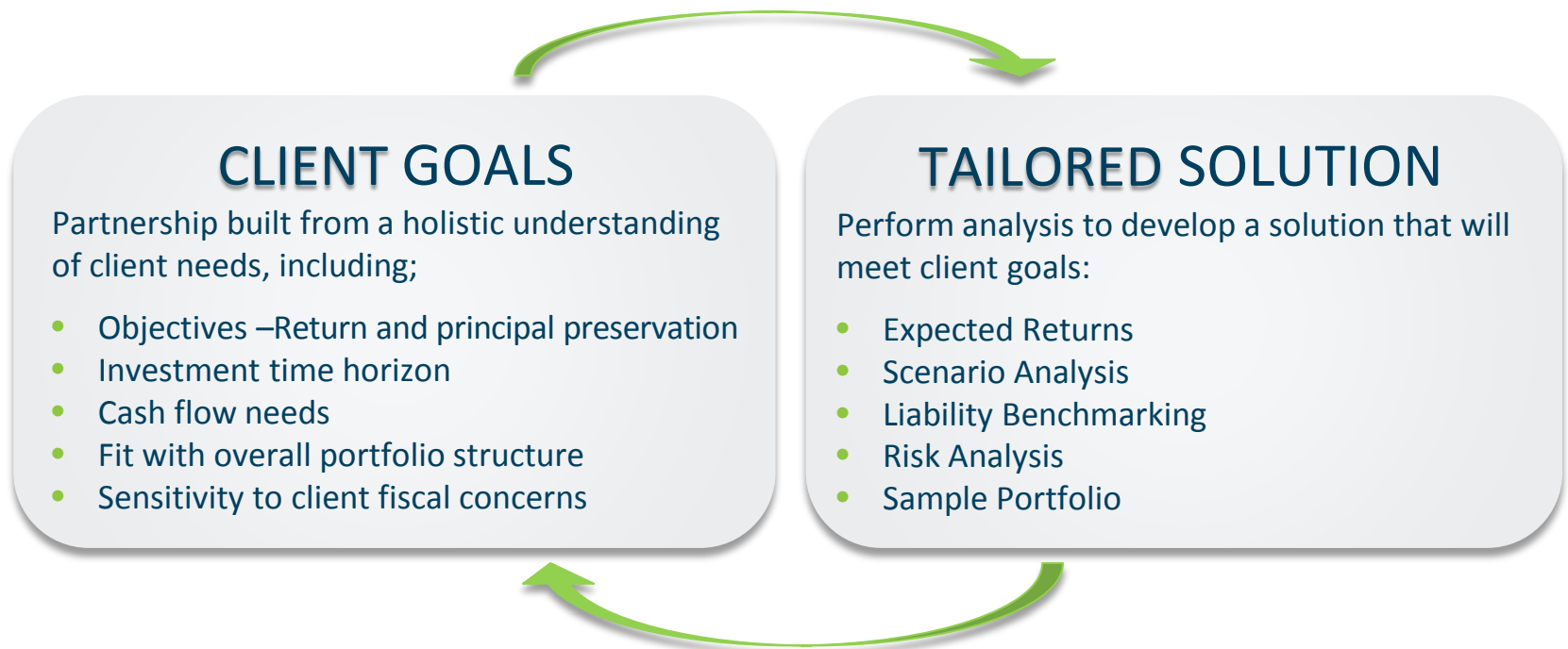
INVESTMENT STRATEGY

7. Generate Income

- Understand market realities
 - You can't "beat" the market over time
 - Extending maturity increases yield and interest rate risk
 - Match assets and liabilities to reduce risk and provide efficient investing
 - Remember, the market is efficient
- Seek best execution through competitive bids

HOW INVESTMENT PROFESSIONALS CAN HELP

INVESTMENT ADVISOR | CUSTOMIZED TO CLIENT



REGULAR MEETINGS:

- Client Feedback
- Review goals and policies
- Is this solution still meeting client needs?

INVESTMENT RISK FACTORS

- Be aware of risks and do your homework
 - Credit risk
 - Will the investment be repaid by the issuer?
 - Will the investment be downgraded?
 - Are there potential administrative or headline risks?
 - Liquidity risk
 - Is there an active secondary market for the investment?
 - Could the secondary market be affected by economic or market developments?
- What other factors should be considered?
 - What is the nature of the collateral or guarantee?
 - Can I explain this investment in less than 1 minute?

TYPES OF INVESTMENT PROVIDERS

- **Broker-Dealer – Self-directed investments**
 - You make all investment decisions
- **Investment Advisor – Discretionary management**
 - Separately managed accounts
 - Investment funds/pools

INVESTMENT PROFESSIONALS CAN PROVIDE:

- Investment knowledge
- Market insights
- Assistance defining investment strategy
- Best execution
- Portfolio risk management

INVESTMENT APPROACH

- *Invest only in allowable investments*
- *Tailor strategy to meet investment goals*
- *Invest with a disciplined investment plan*
- *Thoroughly understand each investment*

IN SUMMARY...

- *Safety, liquidity and then yield*
- *Invest with a plan*
- *Do your due diligence*

QUESTIONS?



Disclaimer

Prudent Man Advisors, Inc. ("Prudent Man") is an investment adviser registered with the U.S. Securities and Exchange Commission. The information presented herein is for general information purposes only and is not a specific/buy sell recommendation. The analysis or information presented in this presentation is based upon hypothetical projections and/or past performance that may have certain limitations and is solely intended to suggest/discuss potentially applicable financing applications or investment strategies with you. Any terms discussed herein are preliminary until confirmed in a definitive written agreement.

Investment in securities involves risks, including the possible loss of the amount invested. In addition, past performance is no indication of future performance and the price or value of investments may fluctuate. Asset allocation does not assure or guarantee better performance and cannot eliminate the risk of investment losses.

You should consider certain economic risks (and other legal, tax, and accounting consequences) prior to entering into any type of transaction with Prudent Man Advisors, Inc. Prudent Man and its employees do not offer tax or legal advice. You should consult with your tax and/or legal advisors before making any tax or legal related investment decisions.

Securities, public finance and institutional brokerage services are offered through PMA Securities, Inc. PMA Securities, Inc. is a broker-dealer and municipal advisor registered with the SEC and MSRB, and is a member of FINRA and SIPC. Prudent Man Advisors, Inc., an SEC registered investment adviser, provides investment advisory services to separately managed accounts and local government investment pools. All other products and services are provided by PMA Financial Network, Inc. PMA Financial Network, Inc., PMA Securities, Inc. and Prudent Man Advisors (collectively "PMA") are under common ownership. Securities and public finance services offered through PMA Securities, Inc. are available in CA, CO, FL, GA, IL, IN, IA, KS, MI, MN, MO, NE, OH, OK, PA, SD, TX and WI. This document is not an offer of services available in any state other than those listed above, has been prepared for informational and educational purposes and does not constitute a solicitation to purchase or sell securities, which may be done only after client suitability is reviewed and determined.