

Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee

December 1, 2016



Public Agenda Item #1

Review and Approval of the Minutes to the August 16, 2016 Joint Meeting of the Board of Trustees and Investment Advisory Committee

December 1, 2016

Public Agenda Item #2a

Review and Discussion of ERS' Asset Allocation Study Featured Speaker on Asset Allocation

December 1, 2016

Michael Hood, Managing Director
JP Morgan Asset Management

Economic and Market Outlook

December 1, 2016

Michael Hood

JPMorgan Asset Management Multi-Asset Solutions

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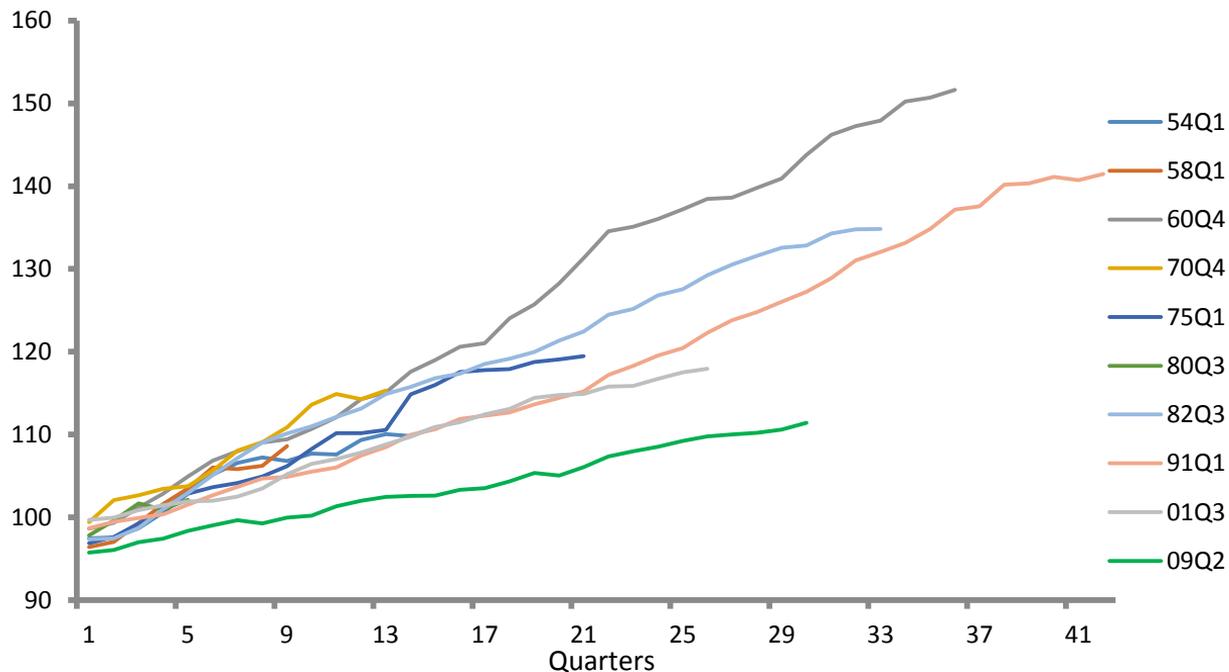
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Short-term optimism, long-term caution

- The U.S. business cycle expansion is aging...
- ...but does not yet seem ripe for recession
- A near-term tilt toward risk assets still makes sense
- Credit appears to lie at the sweet spot given current conditions
- Long-term growth prospects are muted, largely because of demographics
- Capital market return expectations have correspondingly slid
- Traditional balanced portfolios will likely struggle to meet return targets

The level of activity is low given the length of the current cycle

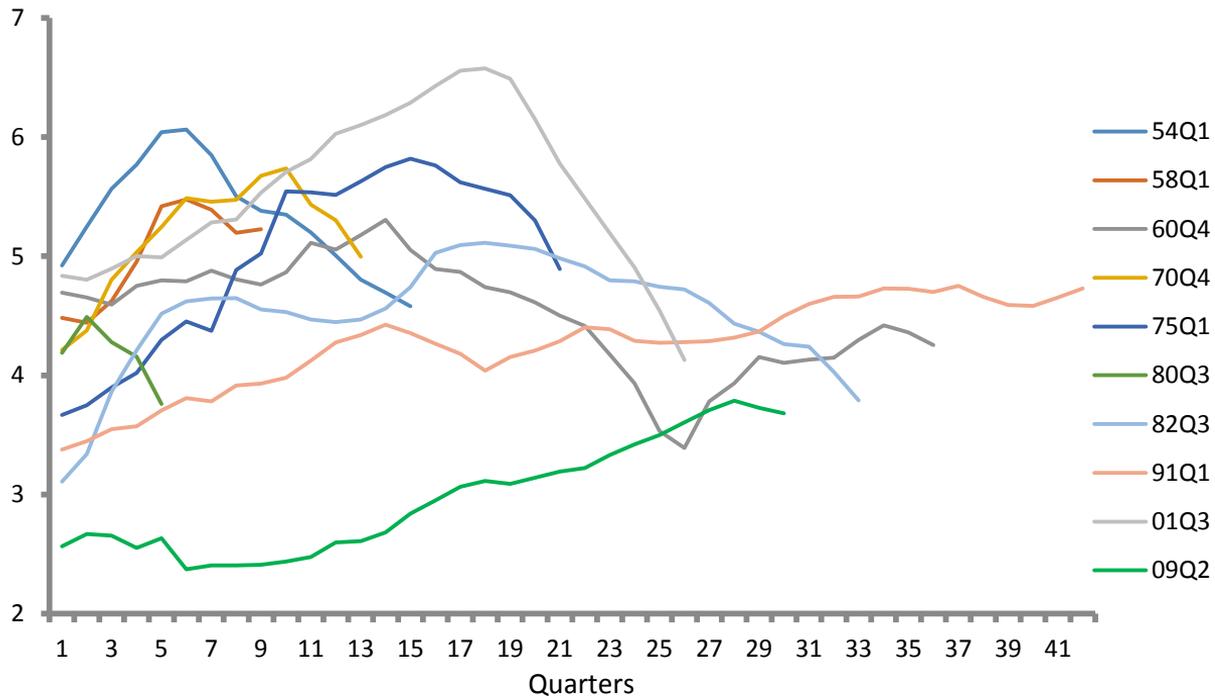
US real GDP by business cycle (previous peak = 100)



Source: JPMSL, JPMAM GIM Multi-Asset Solutions; data as of September 2016

Cyclical activity also remains subdued

US residential construction by business cycle (% of GDP)



Source: JPMSL, JPMAM GIM Multi-Asset Solutions; data as of September 2016

A business cycle scorecard suggests few traditional vulnerabilities

US cyclical economic activity graded by likely cycle phase

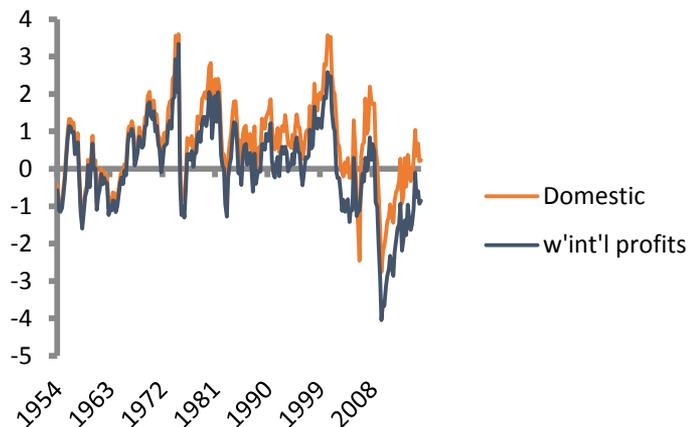
		Early Cycle	Mid Cycle	Late Cycle	Recession
Economic metric	Overall economic output	Below potential, rising	Near potential, rising	Above potential, rising	Contracting
	Consumption	Low, lagging income	Recovering	High, ahead of income	Falling
	Capital investment	Low as % of GDP	Rising, moderate as % of GDP	High as % of GDP	Falling
	Residential investment	Low as % of GDP	Rising, moderate as % of GDP	High as % of GDP	Contracting
	Price inflation	Below central bank target, stable	Below CB target, rising	Above CB target	Falling
	Wage inflation	Low, stable	Moderate, rising	High	Falling
	Private credit formation	Low, starting to rise	Rising in line with output	Rising faster than output	Falling
	Personal saving rate	High relative to income	Starting to decline	Low relative to income	Rising vs. income (excl. deep recession)
	Unemployment	Well above NAIRU	Above NAIRU	Around or below NAIRU	Rising sharply
	Consumer confidence	Low	Recovering	Exuberant	Falling

Source: JPMAM GIM Multi-Asset Solutions; assessments as of November 2016

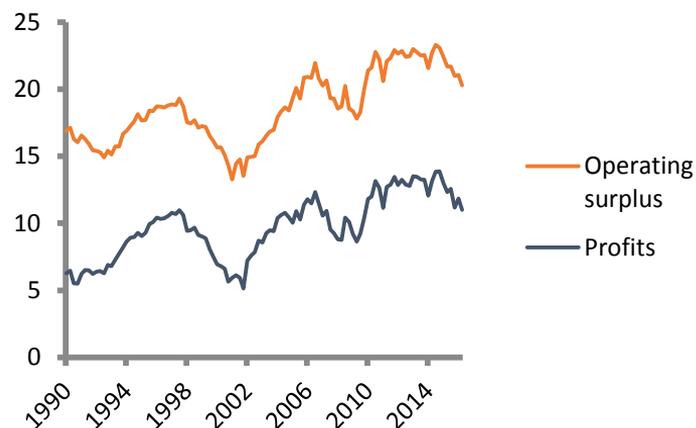
Context: U.S. business vulnerability had lessened somewhat

- Business behavior still looked like the Achilles heel for the economy, but risks had eased since 2015
- Adjustment to capex spending has improved the corporate financing gap, although downward pressure on margins has continued

U.S. corporate financing gap (% of GDP)



U.S. nonfinancial corporate margins (% of business value added)

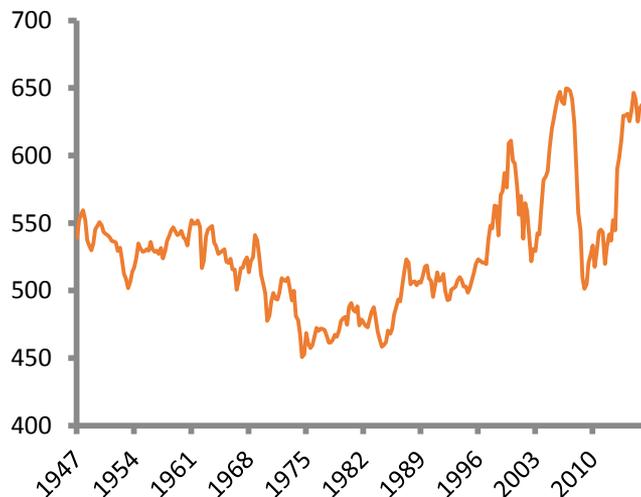


Source: Haver Analytics, BEA, JPMAM GIM Multi-Asset Solutions; data as of June 2016

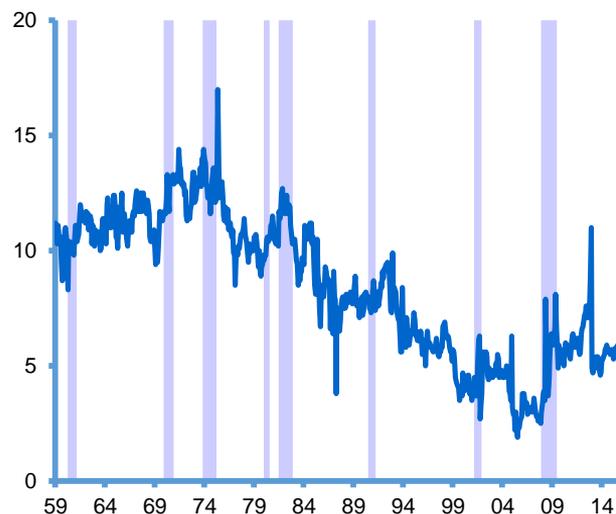
Context: U.S. consumer spending looks well-supported

- Household balance sheets have fully recovered from the financial crisis, and net worth stands at an elevated level by long-term standards
- Amid month-to-month volatility (and large revisions), the saving rate has held steady during the gasoline price plunge, and it looks fairly high relative to balance sheet conditions

U.S. household net worth (% of disposable income)



US personal saving rate (% of disposable income)

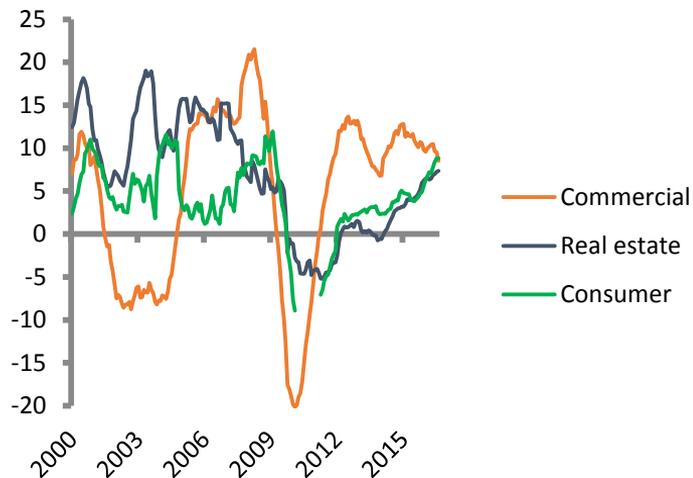


Source: JPMSL, Federal Reserve, Haver Analytics, JPMAM Multi-Asset Solutions; data and forecasts as of June 2016 (left), September 2016 (right)

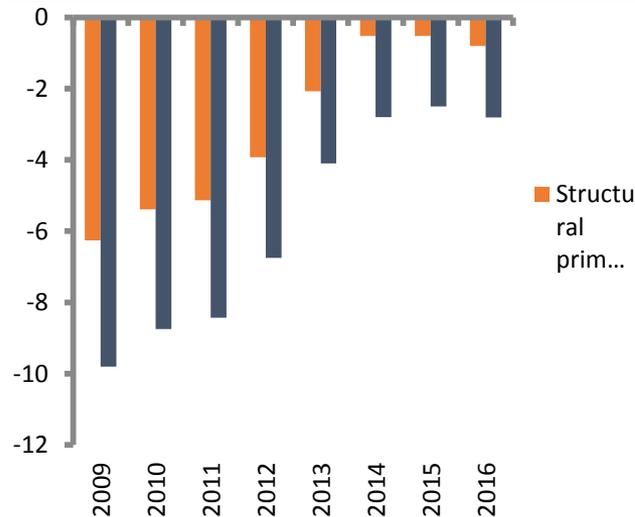
Context: U.S. policy already stimulative

- Easy monetary policy manifests itself in a variety of ways, including via strong bank credit growth, especially to corporates, with mortgage and consumer lending now also picking up
- The intense fiscal drag of 2012-14 has turned into a slightly easy stance, ahead of possible additional stimulus after the presidential election

U.S. bank credit (% y/y)



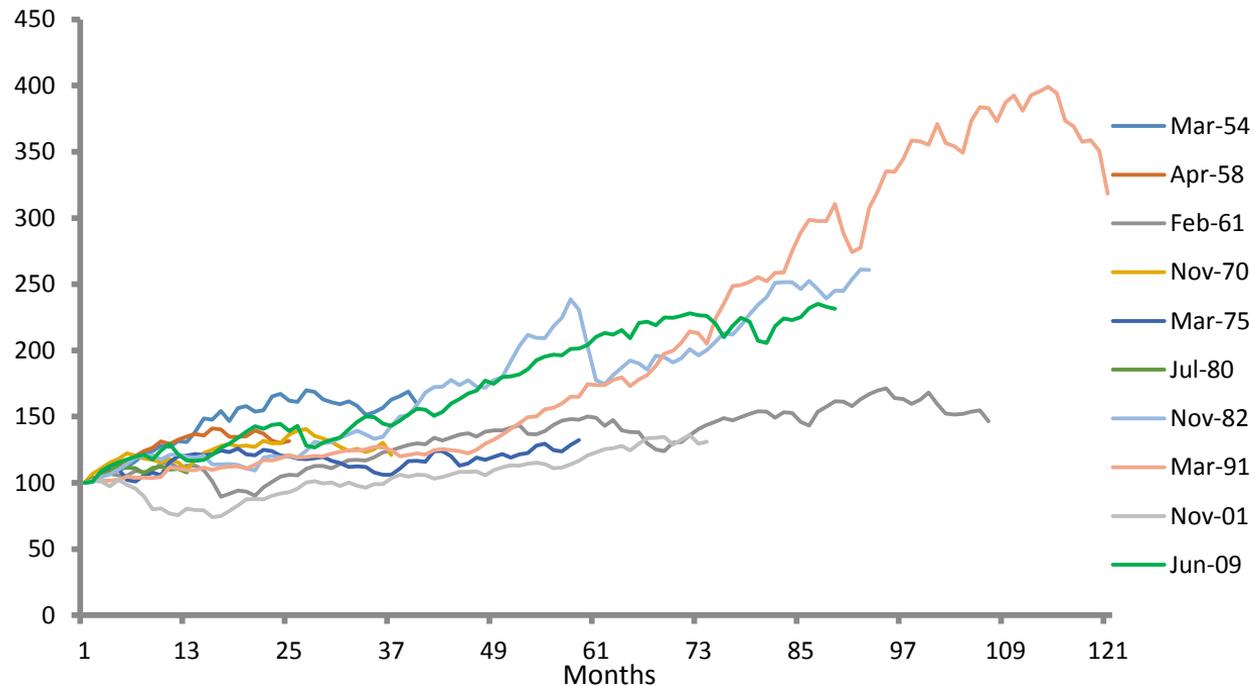
U.S. federal government balance (% of GDP, fiscal years)



Source: JPMSL, Congressional Budget Office, JPMAM Multi-Asset Solutions; data as of September 2016 (left), data and forecasts as of June 2016 (right)

Market cycles end when business cycles do

S&P 500 index by business cycle (first month of expansion = 100)



Source: JPMSL, JPMAM GIM Multi-Asset Solutions; data as of October 2016

Equities not cheap in absolute terms, but fine relative to government bonds...

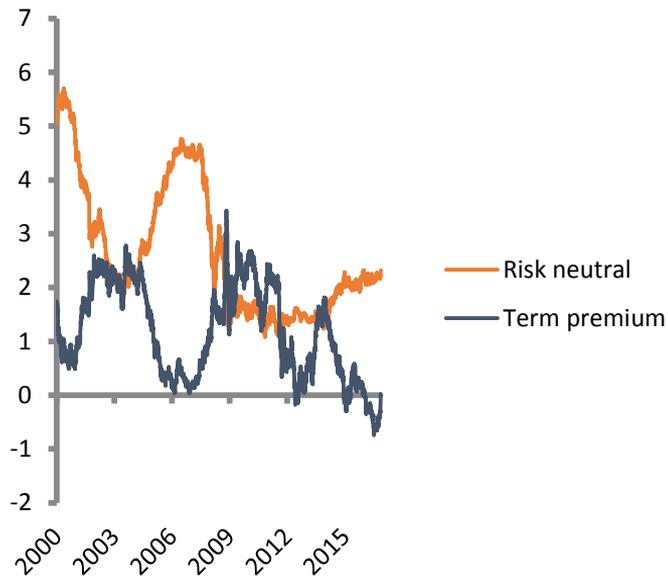
Developed market equity risk premia (equity earnings yield minus government bond yield)



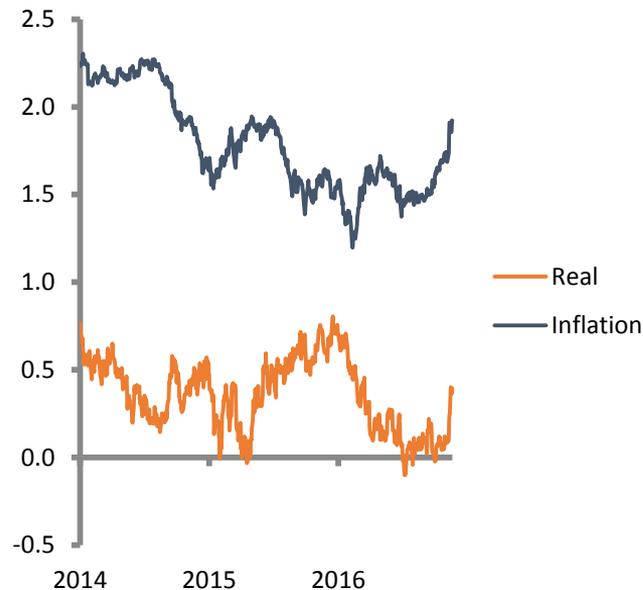
Source: Thomson Reuters Datastream, JPMAM GIM Multi-Asset Solutions; data as of September 2016

...which look expensive by any measure, if less so than a few weeks ago

U.S. Treasury 10-year risk-neutral rate and term premium (%)



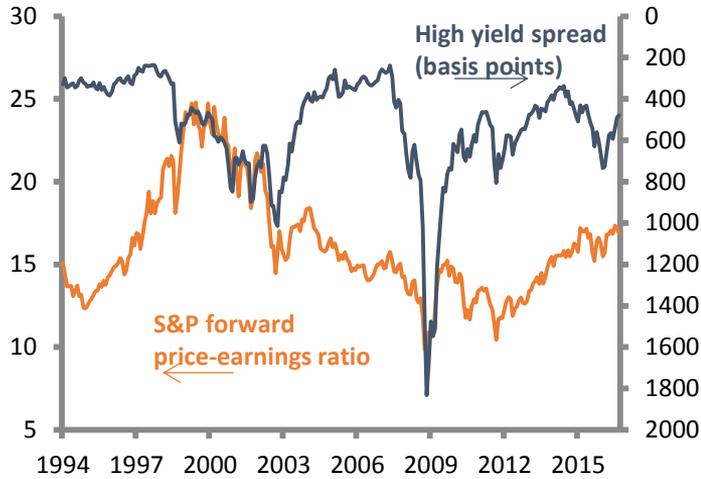
U.S. Treasury 10-year real yield and implied inflation (%)



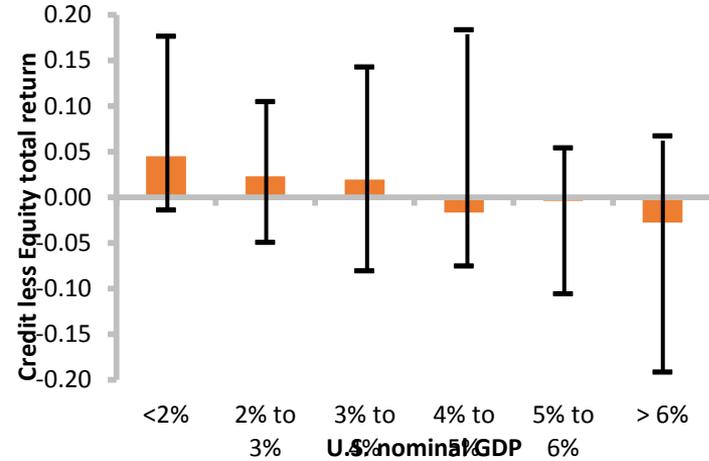
Source: Haver Analytics, Bloomberg, JPMAM GIM Multi-Asset Solutions; data as of November 2016

Credit looks like the sweet spot given the moderate economic expansion

Equity and credit valuations



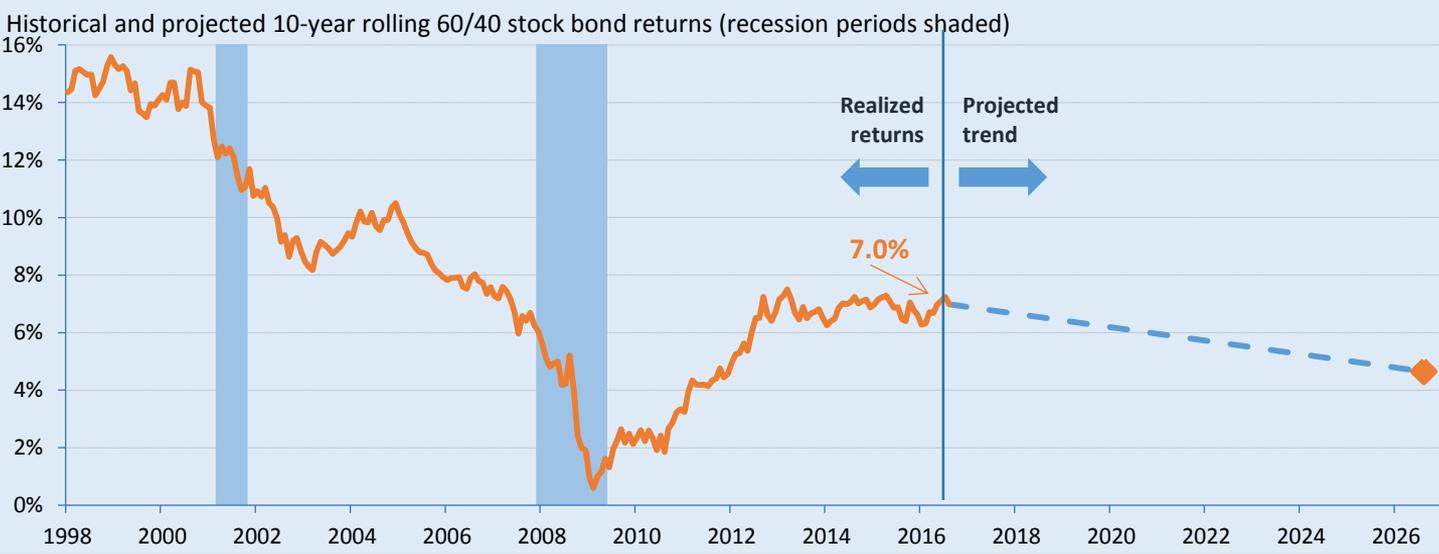
Credit vs. equity return by nominal GDP environment



Source: Bloomberg, Haver Analytics, Datastream, JPMAM GIM Multi-Asset Solutions; data as of October 2016

Full valuations, low yields set a long-term challenge

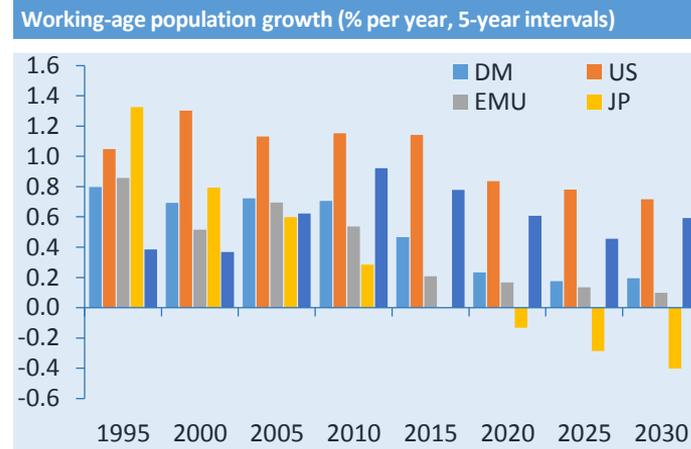
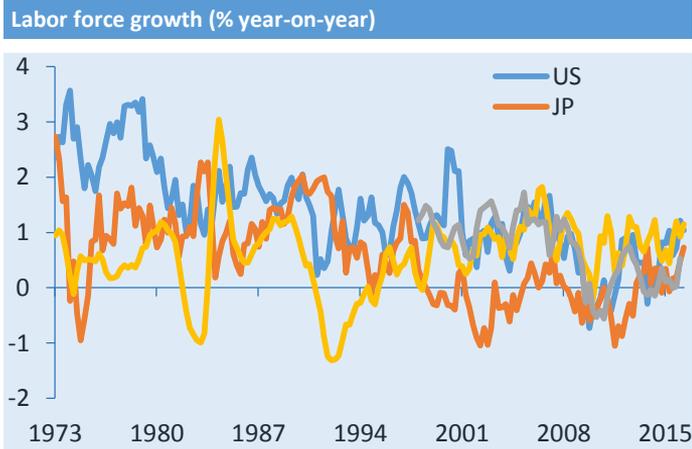
Ten-year rolling returns (CAGR) from a balanced 60/40 U.S. stock-bond portfolio are meaningfully lower post-GFC



Source: Bloomberg, J.P. Morgan Asset Management; data as of October 14, 2016; CAGR = Compound Annual Growth Rate. Opinions and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. There can be no guarantee they will be met.

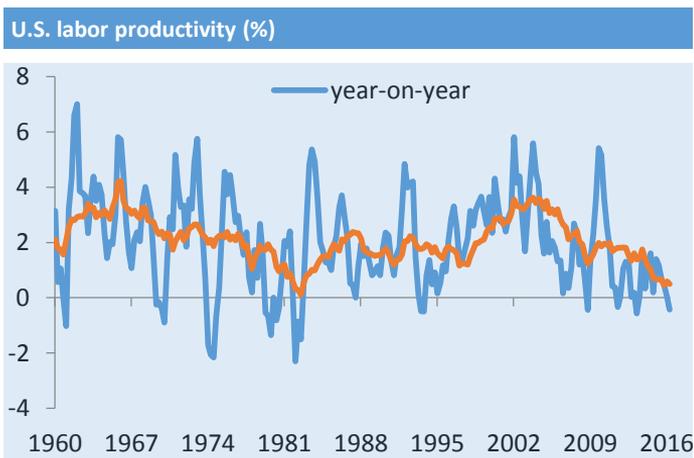
Economic assumptions: Demographics weigh on growth

- Labor force growth has generally displayed a slowing trend in developed economies over the past few decades as populations have aged, though cyclical swings and policy changes also drive shorter-term fluctuations
- Population projections suggest that this demographic dial will continue turning gradually against DM growth



Economic assumptions: The productivity question

- Very weak productivity gains have weighed on DM growth since the global financial crisis; we expect some improvement, as happened following previous dry spells, but the extended nature of the slump suggests a structural component
- Euro area productivity growth has lagged, and the region may benefit from ongoing reform efforts



Economic assumptions: 2017 vs. 2016

Compound 10–15 Year GDP Growth and Inflation (%)

	DM	U.S.	Europe	U.K.	Japan
2017 LTCMAs					
Real GDP	1.50	1.75	1.25	1.25	0.50
Inflation	1.75	2.25	1.50	2.00	1.00
2016 LTCMAs					
Real GDP	1.75	2.25	1.50	1.50	0.50
Inflation	2.00	2.25	1.50	2.25	1.50

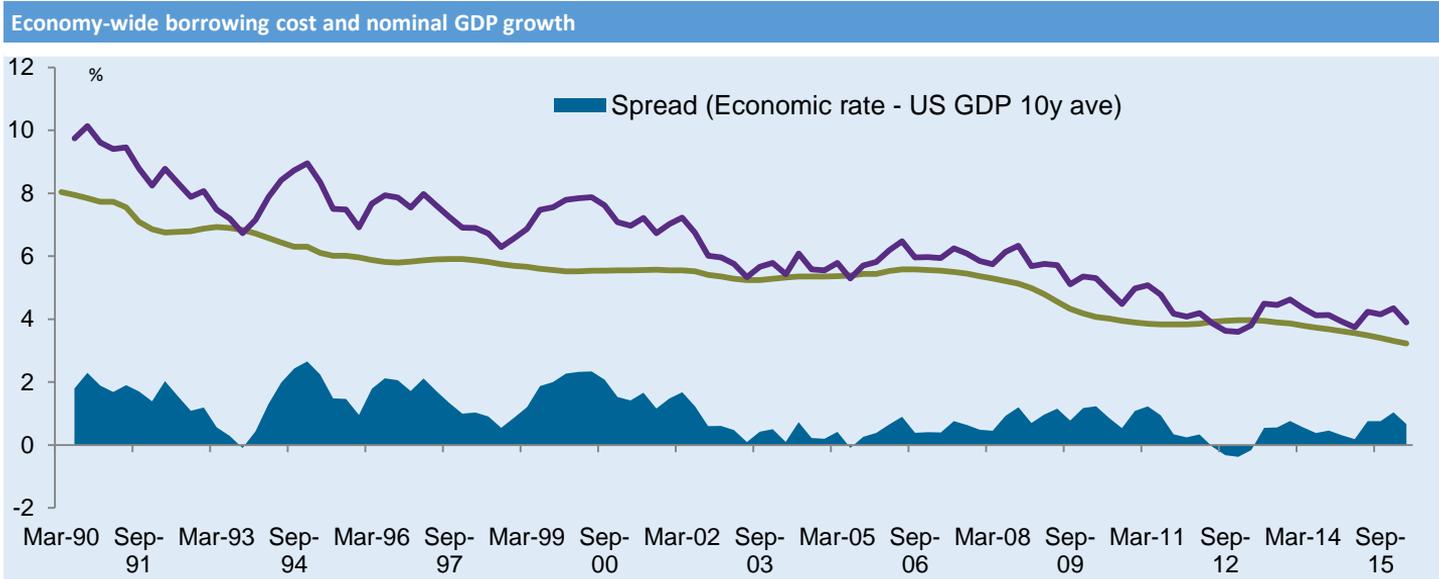
	EM	China	India	Brazil	Russia
2017 LTCMAs					
Real GDP	4.50	5.25	7.00	2.75	2.25
Inflation	3.75	3.00	5.00	5.25	5.50
2016 LTCMAs					
Real GDP	5.00	6.00	7.25	3.00	2.75
Inflation	3.75	3.00	5.00	5.25	5.50

Source: J.P. Morgan Asset Management, as of September 30, 2016.

GROWTH FORECASTS TRIMMED AGAIN

- **Population** – aging populations continue to weigh on the growth potential across most developed market economies
- **Productivity** – persistently weak global productivity creates further downside pressure on growth
- **Inflation** – we expect most central banks to come close to hitting inflation targets, but normalization will be slow – especially in Europe and Japan

Equilibrium interest rates will continue to track nominal GDP



Source: Bloomberg, Haver Analytics, *Estimated borrowing cost is approximated from 0.2 *Treasury yield + 0.4 * mortgage rate + 0.4 * corporate yield; GDP = Gross Domestic Product

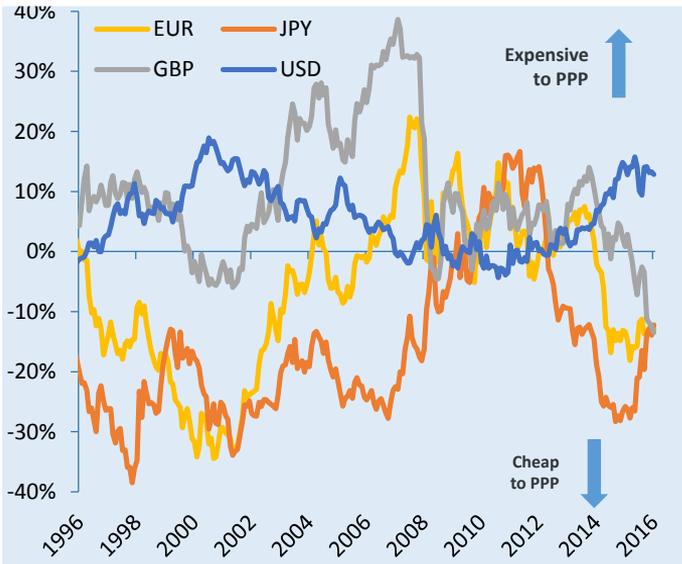
Relatively overvalued USD to weaken, currency is key

LTCMA foreign exchange assumptions, 2017 vs. 2016

	EUR	JPY	CHF	GBP	CAD	AUD	BRL	MXN
Spot vs. USD on Sept 30, 2016	1.12	101	0.97	1.30	1.31	0.77	3.26	19.44
2017 LTCMA FX forecast								
% annual change from current level	+1.25%	-1.00%	-0.75%	+1.25%	-1.25%	-0.25%	+1.50%	-1.25%
Terminal spot rate assumption (10-15 yr)	1.31	89	0.88	1.52	1.12	0.74	3.94	16.65
2016 LTCMA FX forecast								
	1.34	110	0.92	1.60	1.15	0.70	4.13	18.00

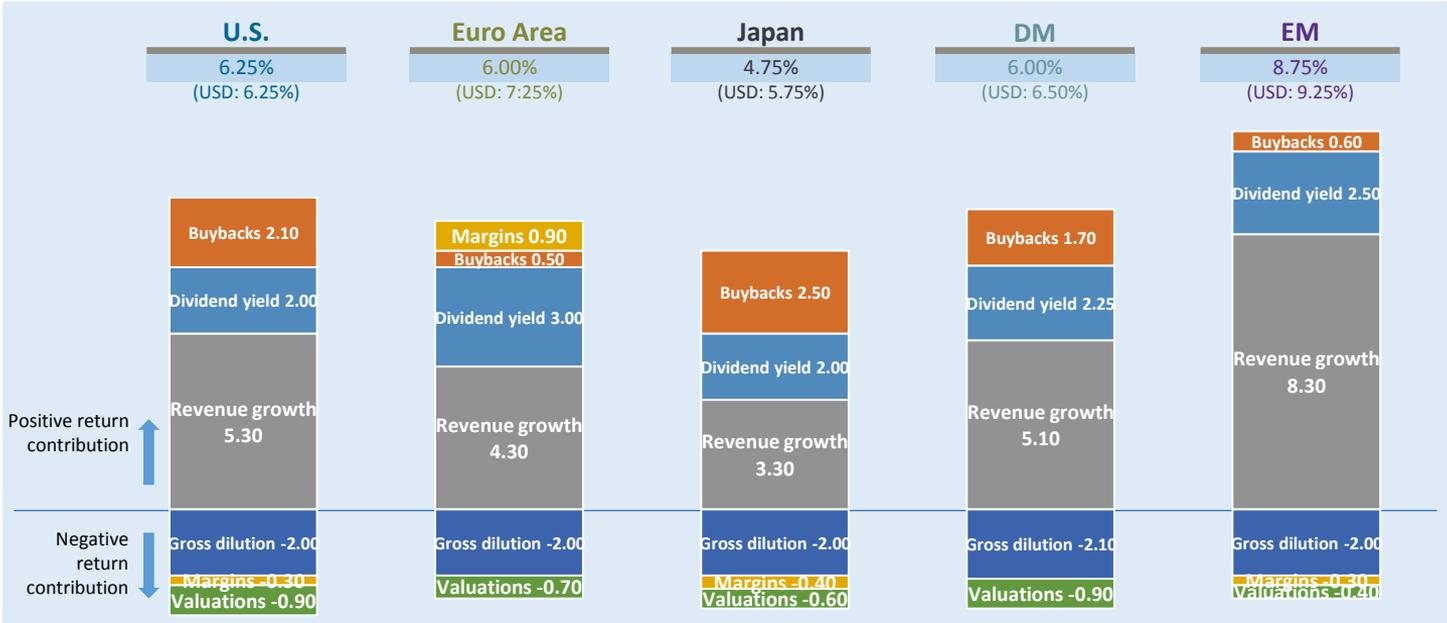
Source: J.P. Morgan Asset Management; estimates as of September 30, 2015 and September 30, 2016.

U.S. dollar is expensive relative to other major currencies on a purchasing power parity basis



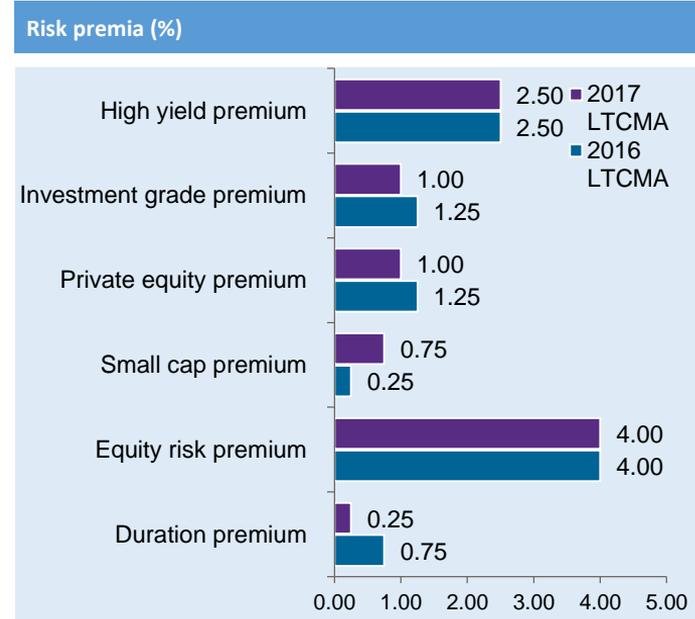
Equities: Building blocks

Local currency total returns; rounded to nearest 25bps*



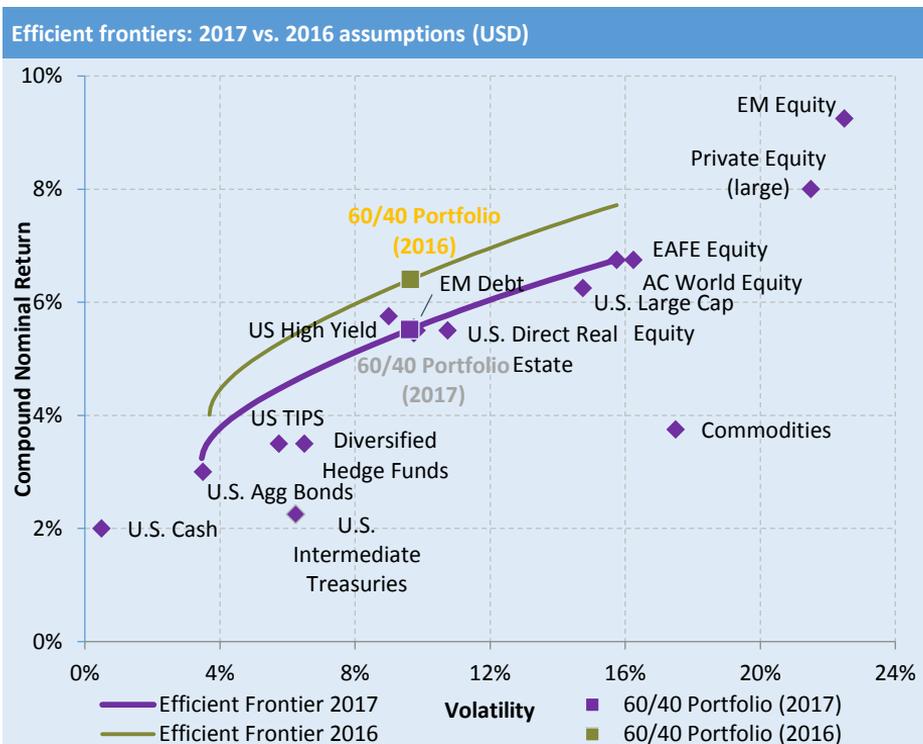
Source: J.P. Morgan Asset Management as of September 2016. Note that final return assumptions are rounded to nearest 25bps, and sum of building blocks will therefore differ slightly. Opinions, estimates, forecasts, projections and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. There can be no guarantee they will be met. * Note: totals may not sum due to rounding

Risk premia: Little change from 2016



Source: J.P. Morgan Asset Management; estimates as of September 30, 2016.

Slow growth and vanishing term premium to weigh on returns



KEY PORTFOLIO CONSIDERATIONS

- 60/40 stock-bond returns down 75 basis points – static balanced allocation has run out of road
- Credit and TIPS are bright spots in fixed income
- Emerging markets equity, high yield bonds and EM debt still attractive
- Real assets relatively more attractive than last year
- Currency a key driver of returns as US dollar overvaluation reverses

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Questions?

Public Agenda Item #2b

Review and Discussion of ERS' Asset Allocation Study
Presentation of Risk Survey Results

December 1, 2016

Tom Tull, CFA, Chief Investment Officer

Sharmila Kassam, CPA, Deputy Chief Investment Officer

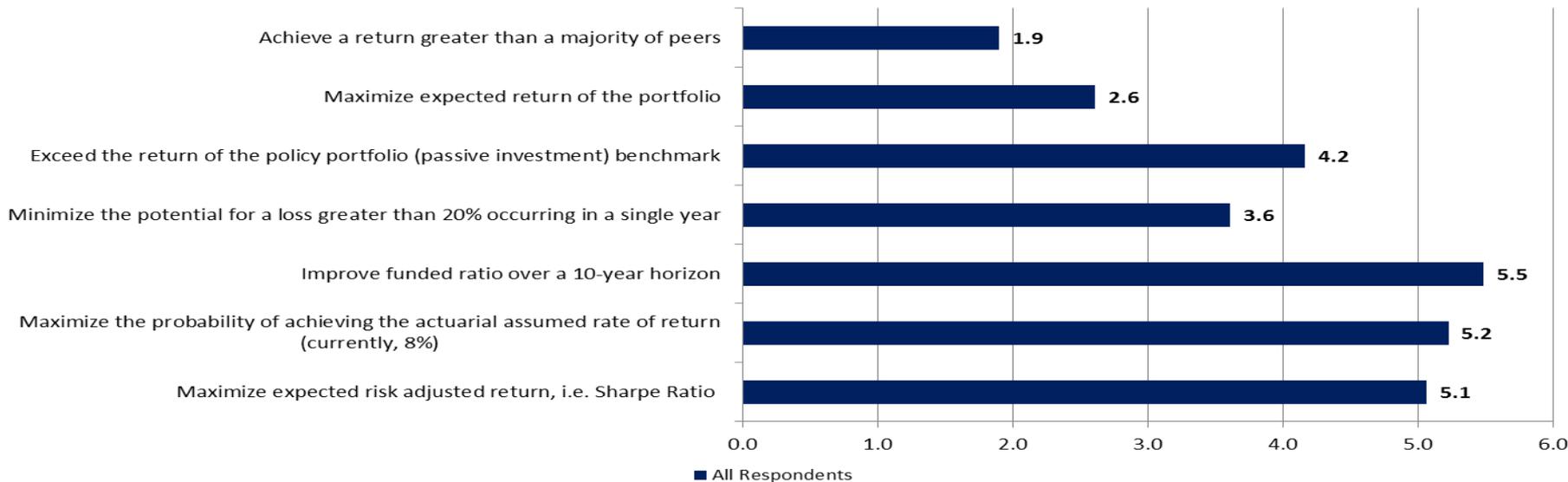
Steve Voss and Kristen Doyle, Aon Hewitt

Agenda

- We are in the early stages of the 2016 Asset Liability Study. So far we have:
 - Developed a detailed work plan
 - Completed survey of the Board, IAC, and Senior Staff (Thank you!)
 - Agreed upon capital markets assumptions with Staff
- The goal of the survey was to:
 - Ensure participation and fulfillment of fiduciary duty
 - Gauge risk preferences and objectives
 - Obtain critical feedback
- Goal for today:
 - Provide an overview of the survey
 - Discuss the various perspectives

Investment Objectives : Average Rankings – Aggregate Responses

Question #1

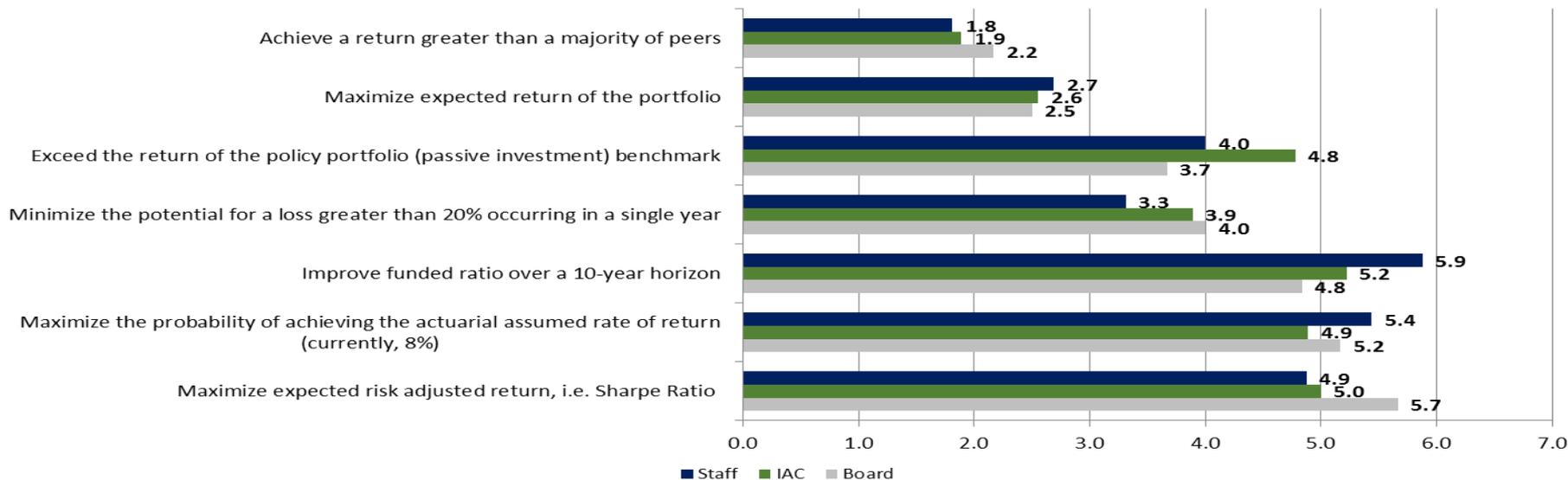


Observations:

- Recall that a high rating indicates “most important”
- In aggregate, improving the funded ratio over a 10-year period received the highest ranking
- Performance relative to peers remains the lowest priority

Investment Objectives: Average Rankings – By Group

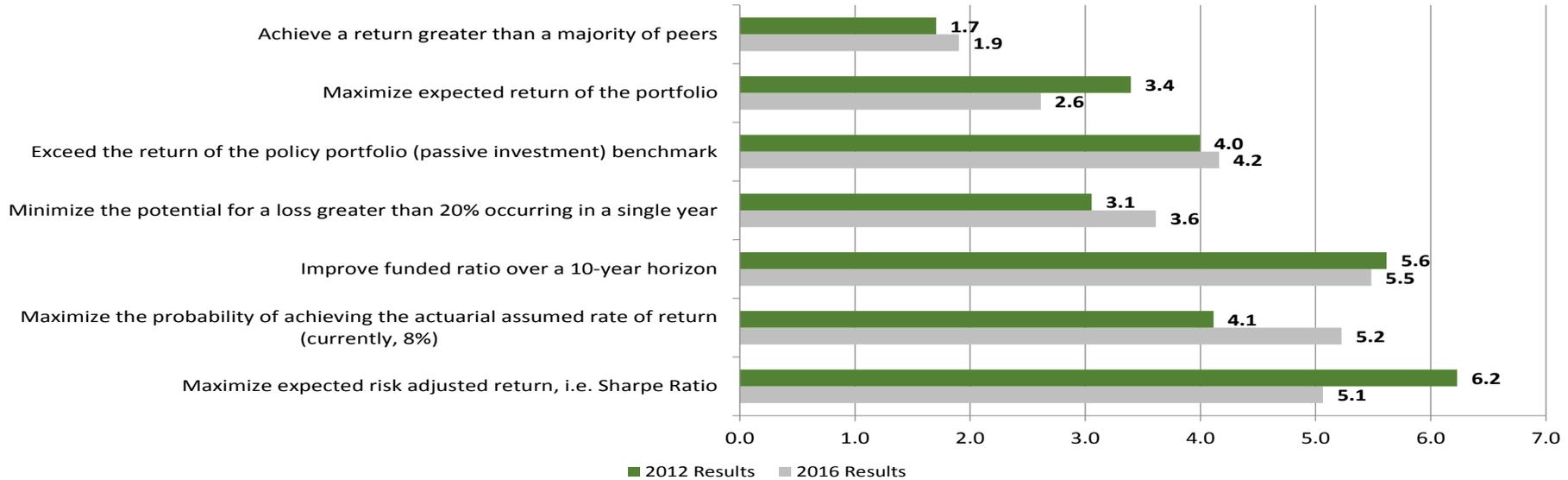
Question #1



Observations:

- Strong support for maximizing risk adjusted returns and increasing the probability of meeting the actuarial rate of return

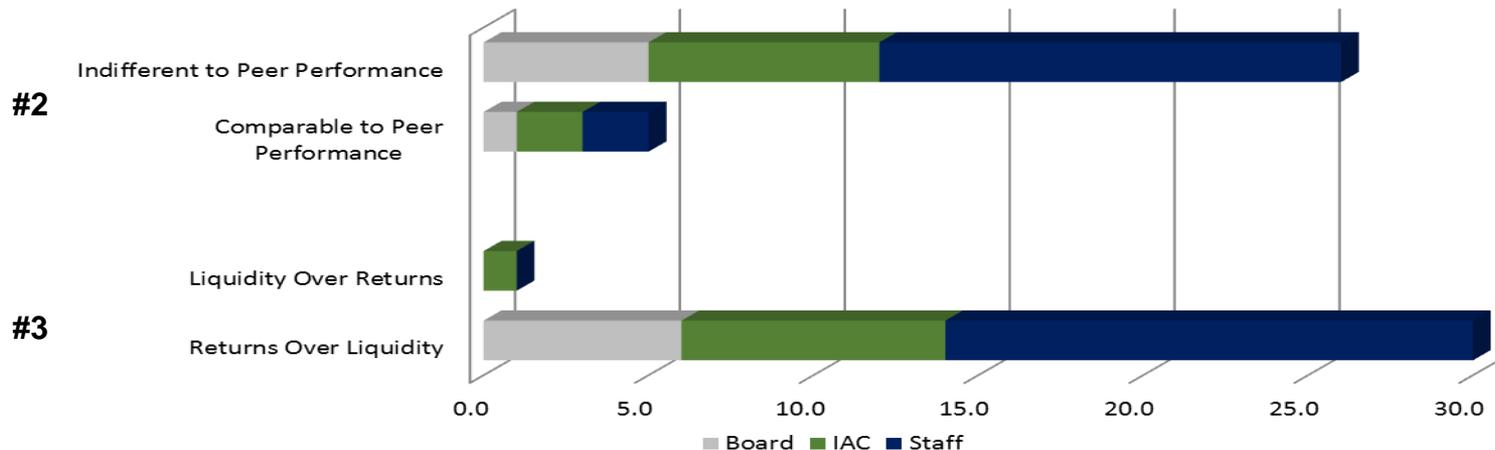
Investment Objectives : Average Rankings – 2012 vs 2016



Observations:

- The largest changes since 2012 are a reduction of 1.1 from the desire to maximize expected risk adjusted return and a corresponding 1.1 increase in maximizing the probability of achieving the actuarial rate of return; however, both remain high priorities
- Improving the funded ratio over a 10-year horizon continues to be a high priority as well

Trade-Off Results – Questions 2 & 3

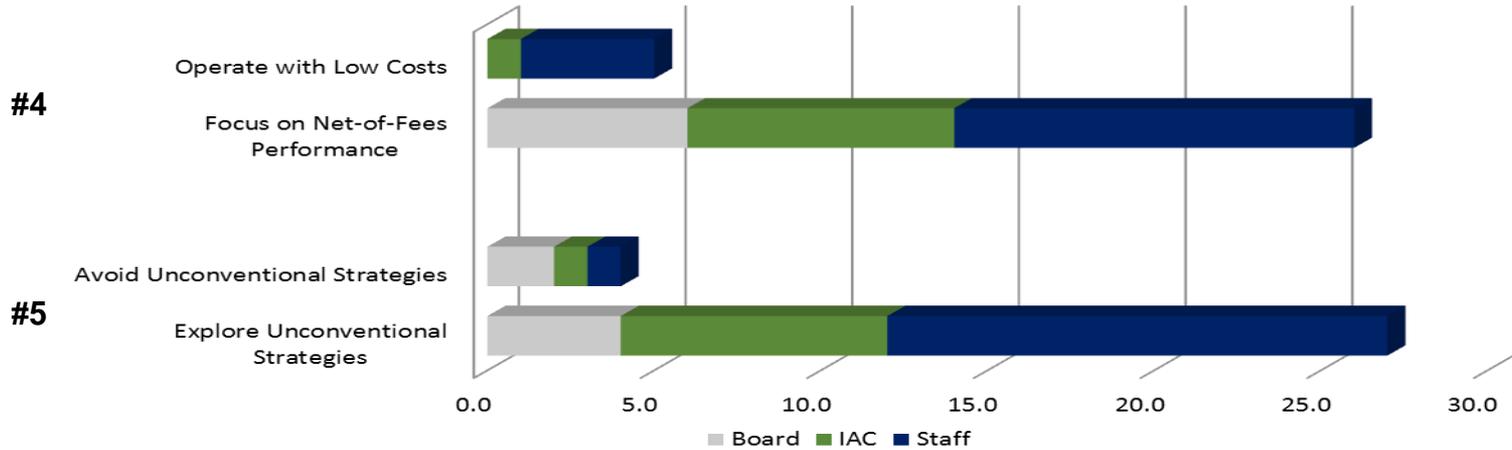


Observations:

#2: As is the case with the rank order exercise, few participants place much importance on peers

#3: Clear (nearly unanimous) feedback that ERS can withstand some elements of illiquidity as it seeks investment return

Trade-Off Results – Questions 4 & 5

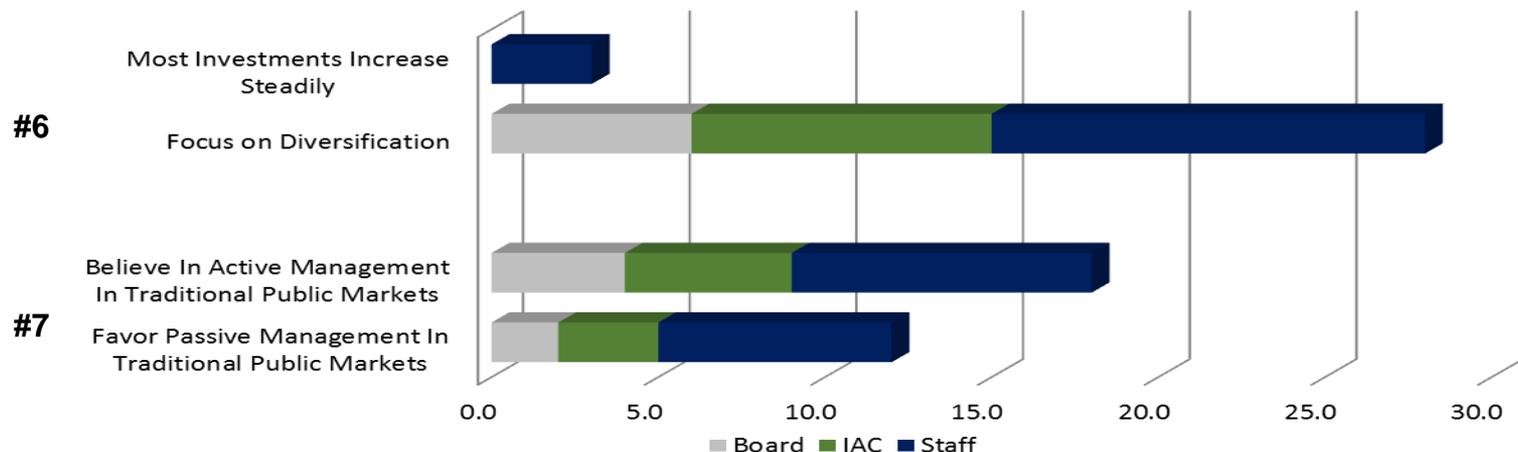


Observations:

#4: There is strong support for monitoring and maximizing net-of-fee performance instead of simply seeking the lowest cost option

#5: There is a clear appreciation of the complexity of investments and the ability to enhance returns through unconventional strategies

Trade-Off Results – Questions 6 & 7

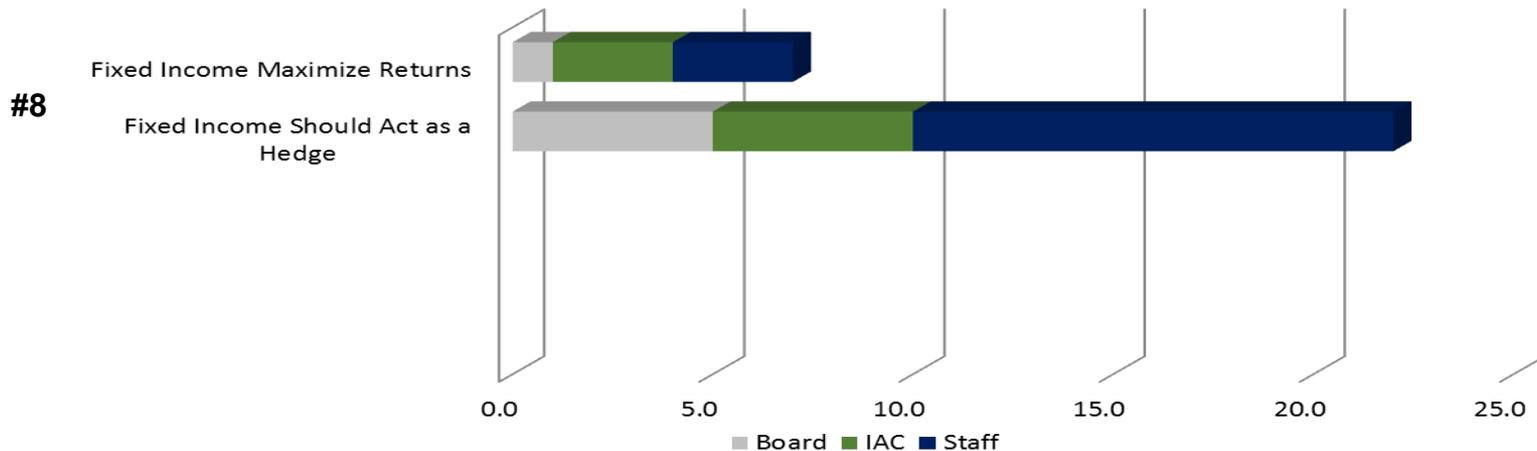


Observations:

#6: Strong perspective that there are benefits to diversification

#7: Results indicate a moderate willingness to accept active risk in order to achieve enhanced returns in the public markets

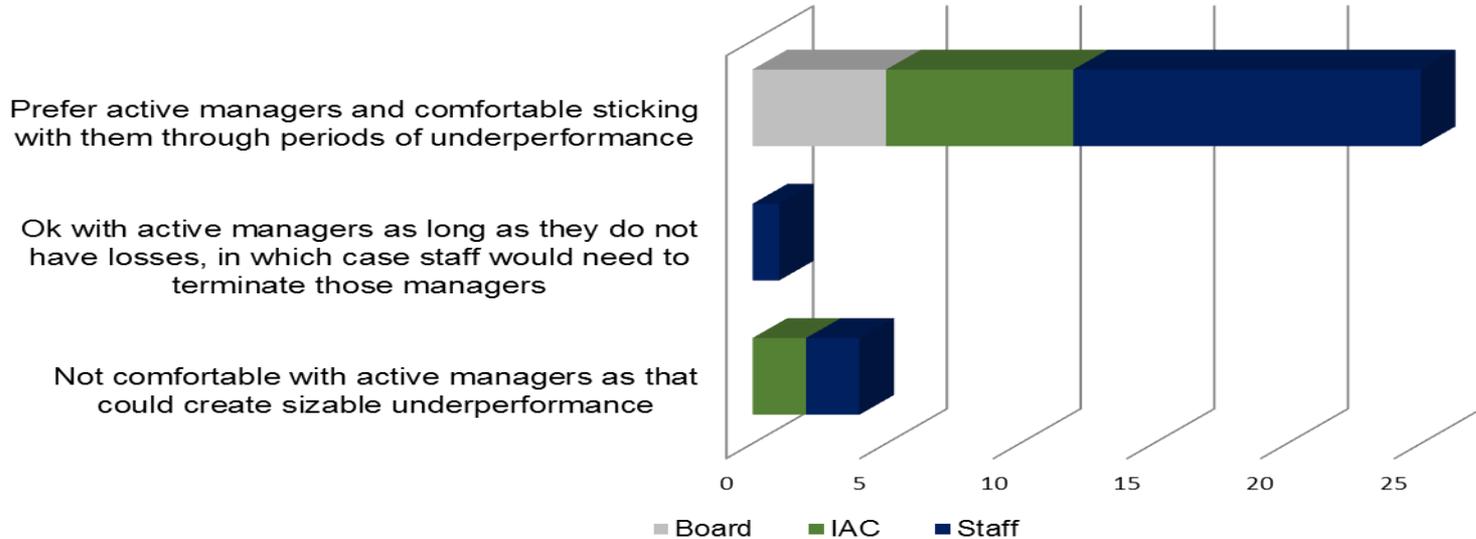
Trade-Off Results – Questions 8



Observations:

#8: 3 to 1 participants believe that the fixed income portfolio should represent a hedge in the overall asset allocation

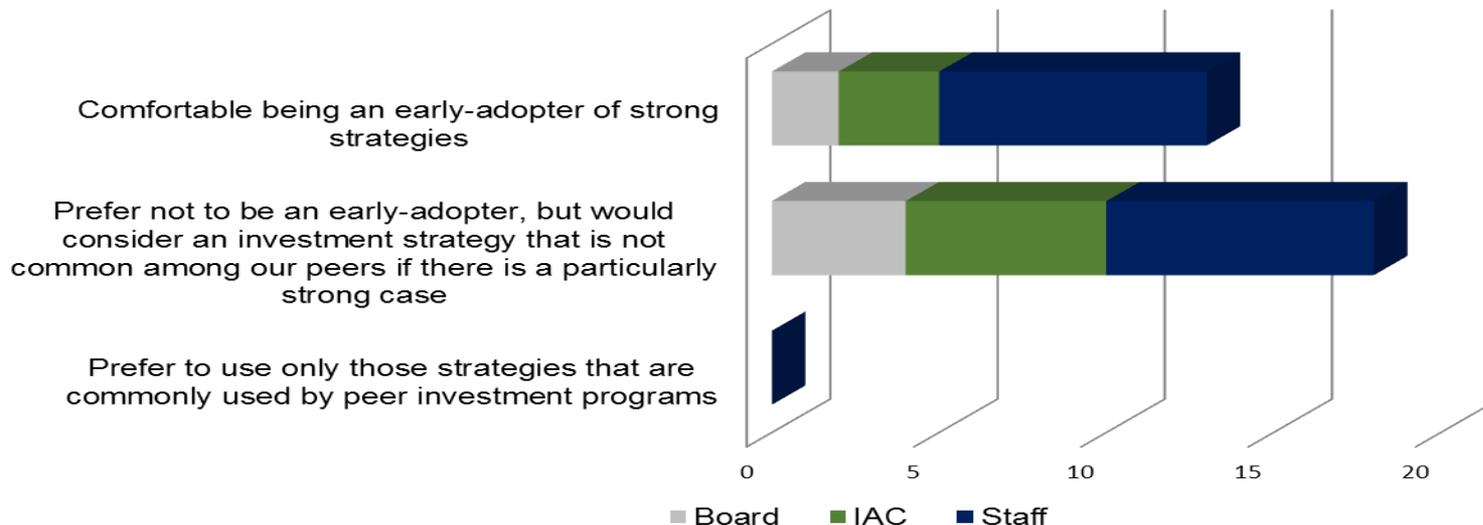
Active Managers – Question 9



Observation:

#9: There appears to be a broad level of comfort with active investment managers and periods of underperformance, as long as Staff believes in the team and process of the managers

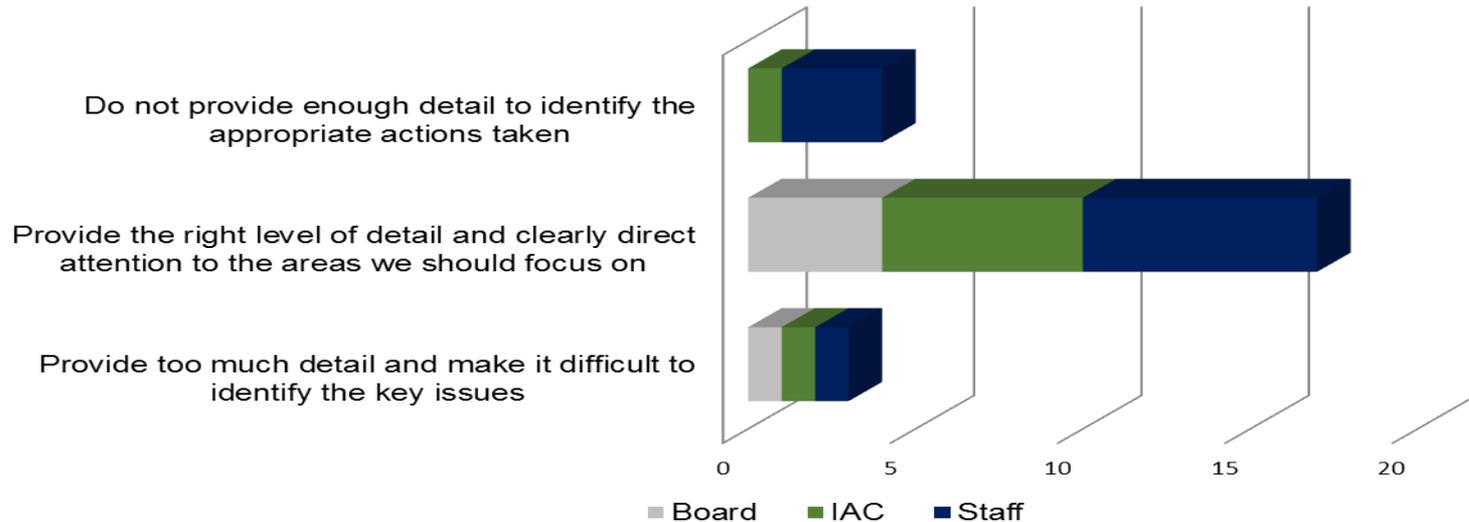
Investment Strategies – Questions 10



Observations:

#10: There are mixed views on the willingness to be an early adopter with an edge toward not being an early adopter

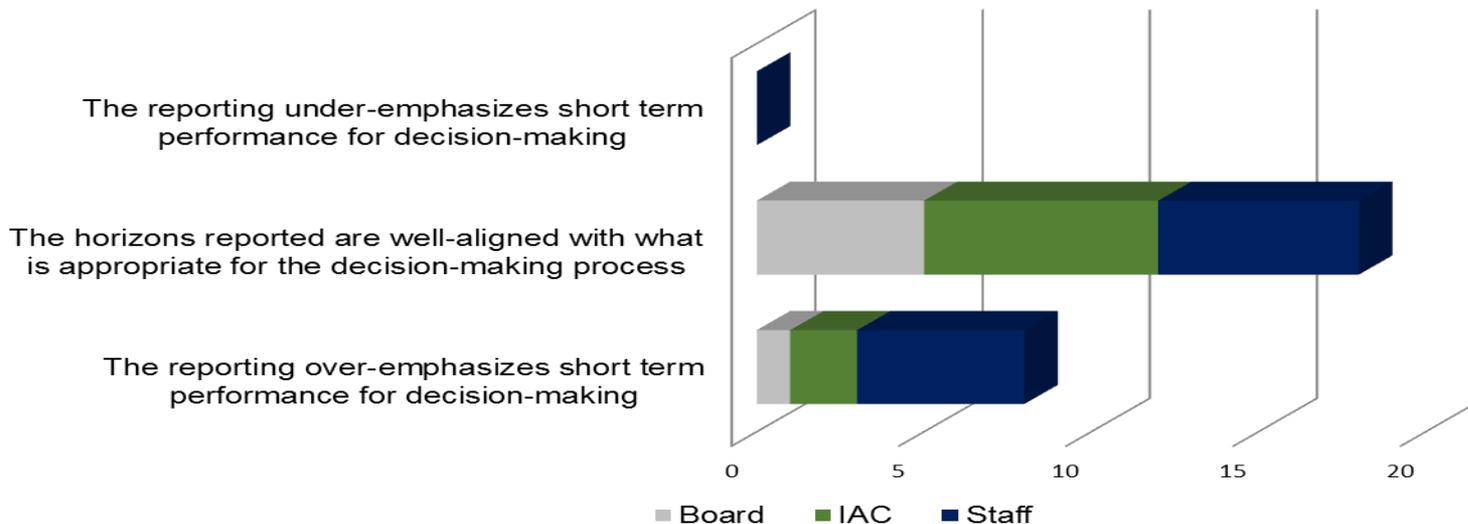
Performance Reporting – Questions 11



Observations:

#11: Most respondents believe the performance reports received from the consultant provide the right level of detail, with some preferring more or less detail

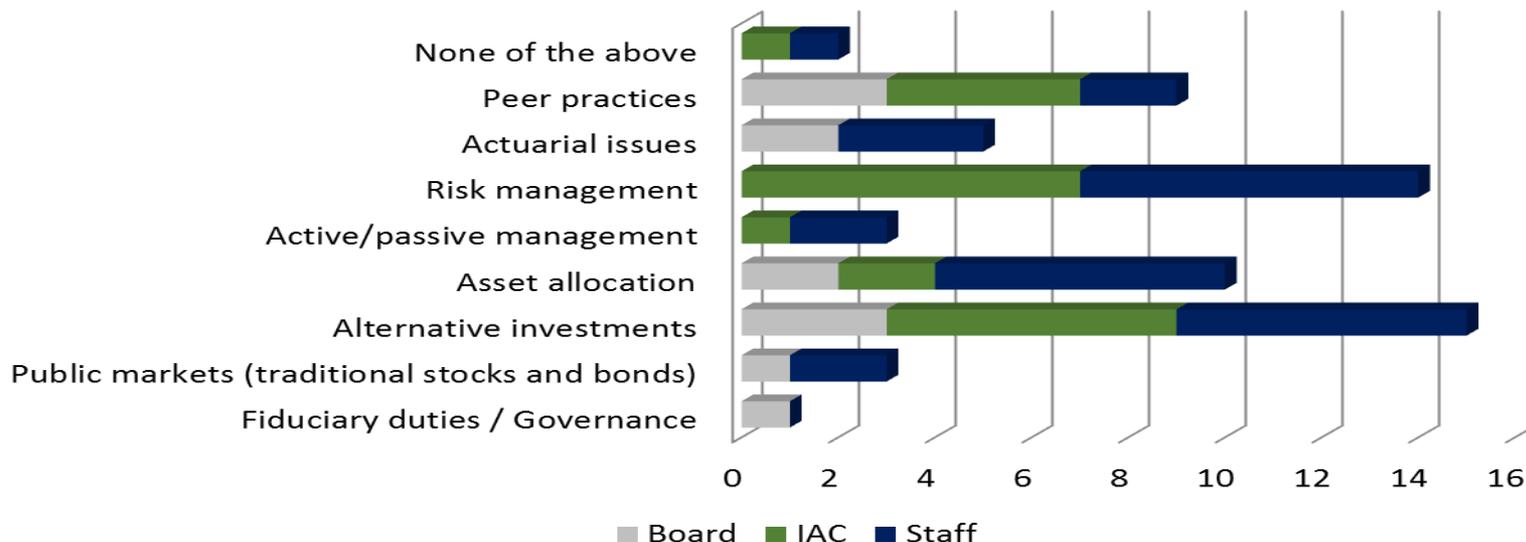
Time Horizons – Questions 12



Observations:

#12: Most respondents believe the time horizons in the performance reports are well aligned with the decision making process, with some individuals believing the horizon is too short

Future Education Areas– Questions 13



Observations:

#13: Alternative investments, asset allocation, risk management, and peer practices are all areas that the Board, IAC, and Staff continue to be interested in learning more

Additional Comments and Feedback

1. Belief that strong investment results and governance will help maintain financial health of the system
2. Several comments across respondents related to a risk/reward framework for investment decision making:
 - **Active Management** – “should be used where there is the greatest inefficiencies”
 - **Early Adoption** – “early adoption should be seen as an opportunity versus risk”
 - **Performance Objective** –
 - “state the objective as maximizing our return for a given (chosen) level of risk”
 - seek to “minimize large drawdowns/losses”
 - “it's important to focus on the long term funded status of the trust, with strong risk adjusted returns as a framework”
3. Openness to exploring innovative investment strategies but recognizing there is no free lunch
4. Desire for a robust process associated with manager selection and new investment ideas

Summary of Survey Results

- Survey results are generally consistent with the 2012 survey and responses did not include any “surprises” or deviations from what we expected to see
- In summary, what appears to be most important to the Board, IAC, and Staff are:
 - Achieving strong returns but at a reasonable level of risk
 - Utilizing diversification as an important component of achieving objectives
 - Allowing illiquidity in seeking to enhance returns
 - Keen interest in new strategies that will increase the probability of maximizing the risk-adjusted return and improving the funded ratio
- Comments associated with each question set and additional detail on question #1 are provided in the appendix

Questions?

Public Agenda Item #2c

Review and Discussion of ERS' Asset Allocation Study Capital Market Assumptions

December 1, 2016

Tom Tull, CFA, Chief Investment Officer

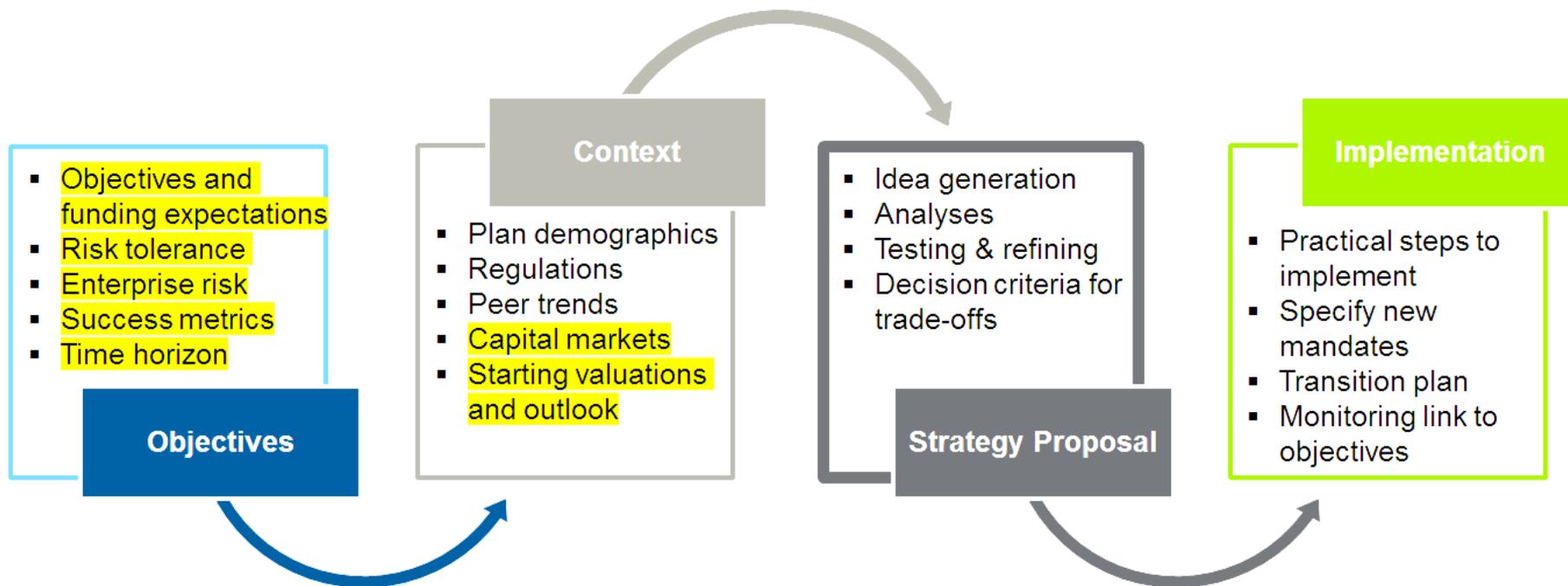
Sharmila Kassam, CPA, Deputy Chief Investment Officer

Steve Voss, Kristen Doyle and Jas Thandi, Aon Hewitt

Agenda

- Review of Asset Liability Process
- Introduction of Capital Market Assumptions Methodology
- Review of Current Capital Market Assumptions
- Discussion on Presidential Elections
- Review of Asset Liability Process Timeline

Asset Liability Process Overview



Capital Market Assumption Method Alternatives

Method	Pros	Cons
Historical	<ul style="list-style-type: none"> Based on true history of capital market events Readily explainable 	<ul style="list-style-type: none"> Generally a poor predictor of future outcomes Tends to project increased returns following outperformance and vice versa
Equilibrium (CAPM)	<ul style="list-style-type: none"> Grounded in finance theory Transparent Consistent relationship between risk and return across asset classes 	<ul style="list-style-type: none"> Theory relies on assumptions that may not always hold Assumptions highly sensitive to inputs
Judgment-Driven	<ul style="list-style-type: none"> Incorporates the knowledge and experience of the developer of the assumptions 	<ul style="list-style-type: none"> May not result in fully consistent return and risk assumptions Not fully transparent Not easily reproducible
Building Block	<ul style="list-style-type: none"> Incorporates the primary drivers of return in each asset class Transparent Consistent relationship between risk and return across asset classes 	<ul style="list-style-type: none"> Generally assumes less-than-perfect market equilibrium More complex than other methods

Capital Market Assumptions

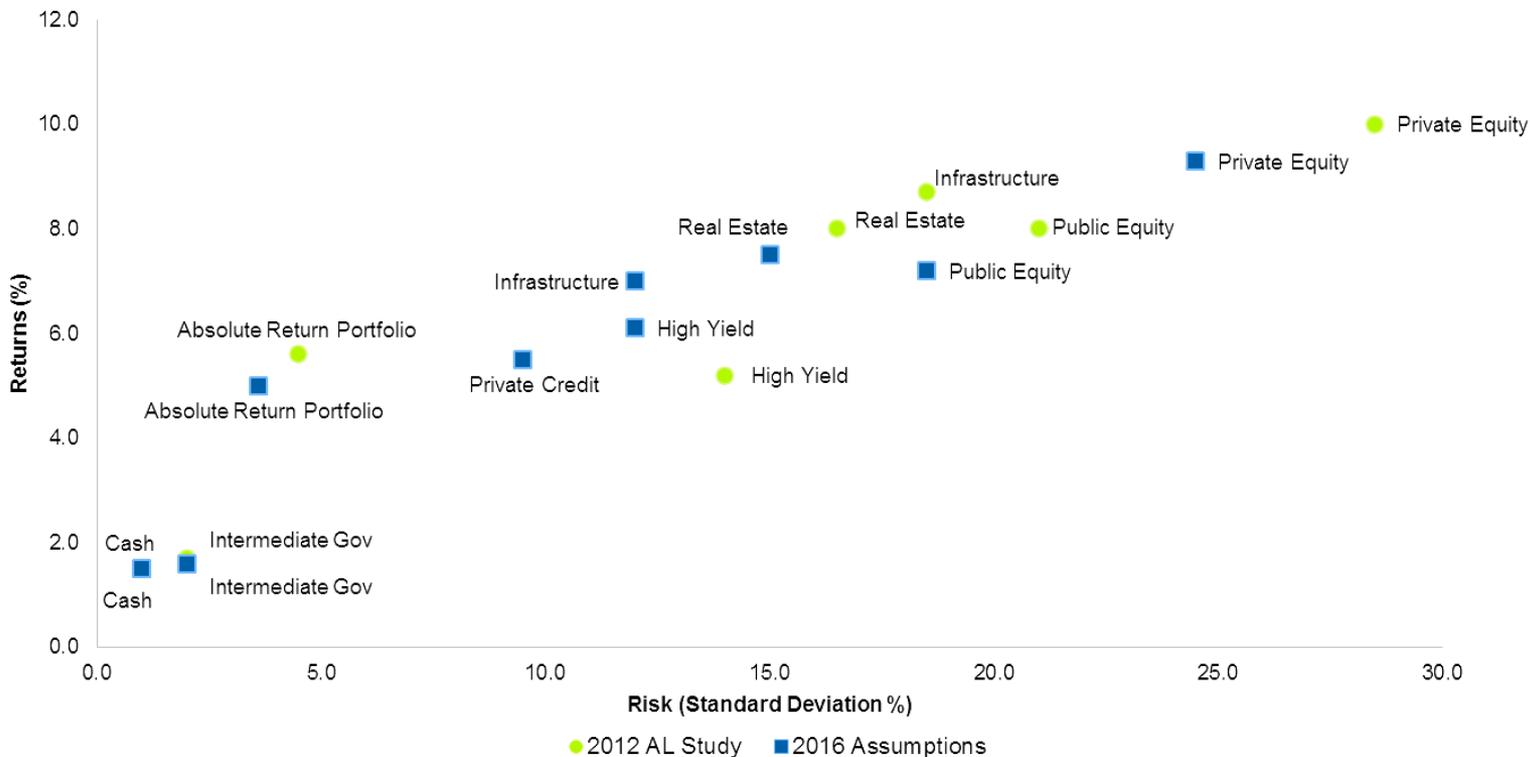
2012 Asset Liability Assumptions vs. 2016 Assumptions (10-Year)

	Policy	2012 AL Study		2016 Assumptions	
	Weight	Return	Risk	Return	Risk
Return Seeking Assets:	79%				
Global Equity	55%				
Public Equity	45%	8.0%	21.0%	7.2%	18.5%
Private Equity*	10%	10.0%	28.5%	9.3%	24.5%
Global Credit	10%				
High Yield	10%	5.2%	14.0%	6.1%	12.0%
Private Credit	0%	--	--	5.5%	9.5%
Real Assets	14%				
Real Estate*	10%	8.0%	16.5%	7.5%	15.0%
Infrastructure*	4%	8.7%	18.5%	7.0%	12.0%
Risk Reduction Assets:	21%				
Absolute Return	5%				
Absolute Return Portfolio*	5%	5.6%	4.5%	5.0%	3.6%
Rates	15%				
Intermediate Treasuries	15%	1.7%	2.0%	1.6%	2.0%
Cash	1%				
Cash	1%	1.5%	1.0%	1.5%	1.0%
Inflation*		3.0%		2.5%	
Estimated Return (Nominal)		7.5%		6.8%	
Estimated Risk		12.9%		12.0%	
Sharpe Ratio		0.469		0.444	

*Custom assumption of ERS Staff and AHIC

Capital Market Assumptions

2012 Asset Liability Assumptions vs. 2016 Assumptions (10-Year)



Asset-Liability Process Update

Capital Market Assumptions (CMAs) – What Are They?

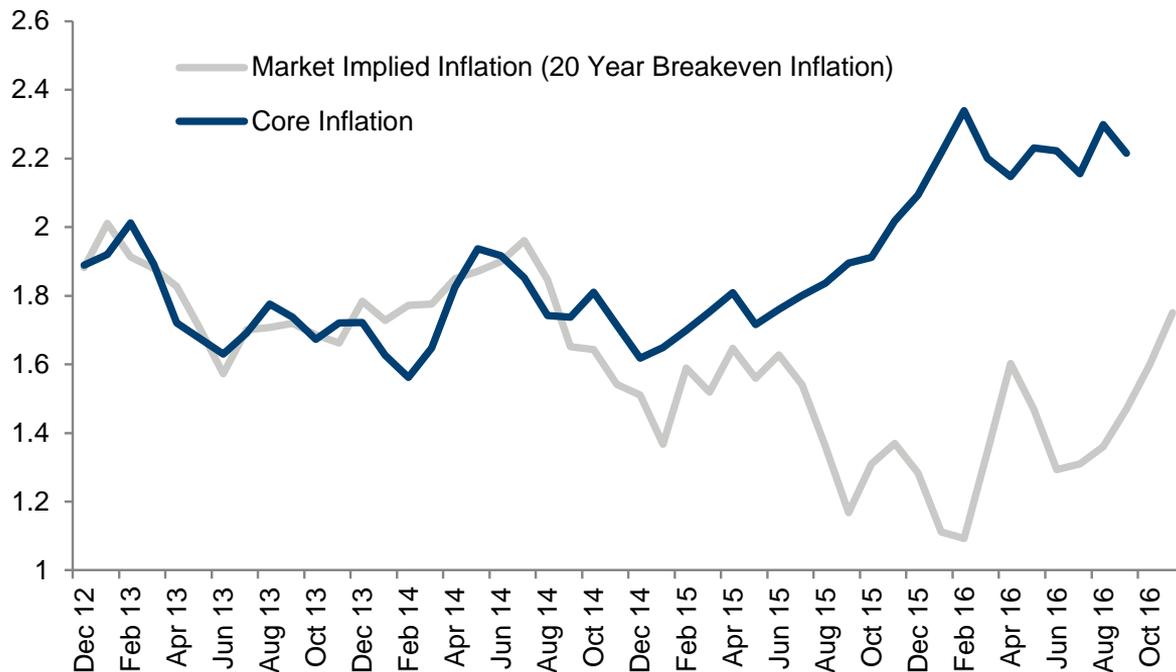
- Aon Hewitt's asset class return, volatility and correlation assumptions
- Long-term (10-year), forward-looking assumptions
 - These are separate from our Medium Term views
- Best estimates (50/50 probability of better or worse long-term results than expected)
- Market returns: no active management value added or fees (other than hedge funds and private equity, where traditional passive investments are not available)
- Produced quarterly by Global Asset Allocation Team

Asset-Liability Process Update

CMAs: Inflation

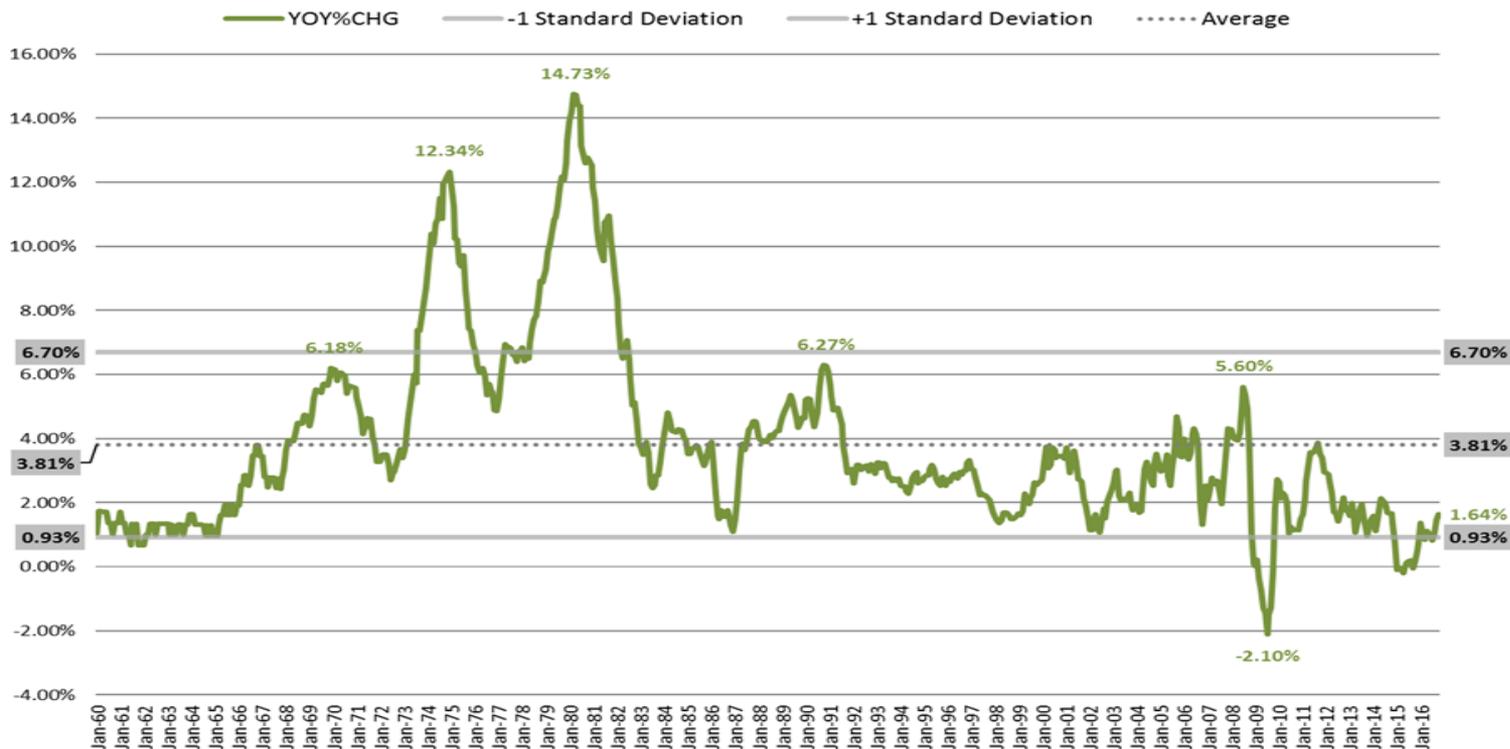
- Common approach is to use market implied break-even inflation rates (the difference between yields on nominal and inflation-linked government bonds of equivalent maturity or duration)
- We do not believe that Break-Even Inflation is a good estimator of future inflation
 - Break-even inflation = Expected Inflation + Inflation Risk Premium (IRP)
 - Inflation is a risk for many investors and therefore a premium is demanded to protect against it. Therefore, **we would expect IRP > 0** in the long-term
 - Break-even is affected by lots of things unrelated to inflation expectations
- Aon Hewitt Inflation assumption **based on consensus forecasts**
 - Principal source is Consensus Economics
 - Supplement with other sources (e.g., Philadelphia Fed)
- **Current Aon Hewitt 10-year Inflation forecast = 2.1%**
 - Unchanged from the level in the previous quarter (Q1 2016)

Break-Even Inflation vs. Core Inflation



- Break-even inflation is susceptible to market distortion as we have seen over the last couple of years.

Rolling 1-Year Non-Seasonally Adjusted All Urban Consumer Price Index



Incorporating Short & Long-Term Market Views

Our capital market assumptions incorporate the shorter term outlook in a number of different ways:

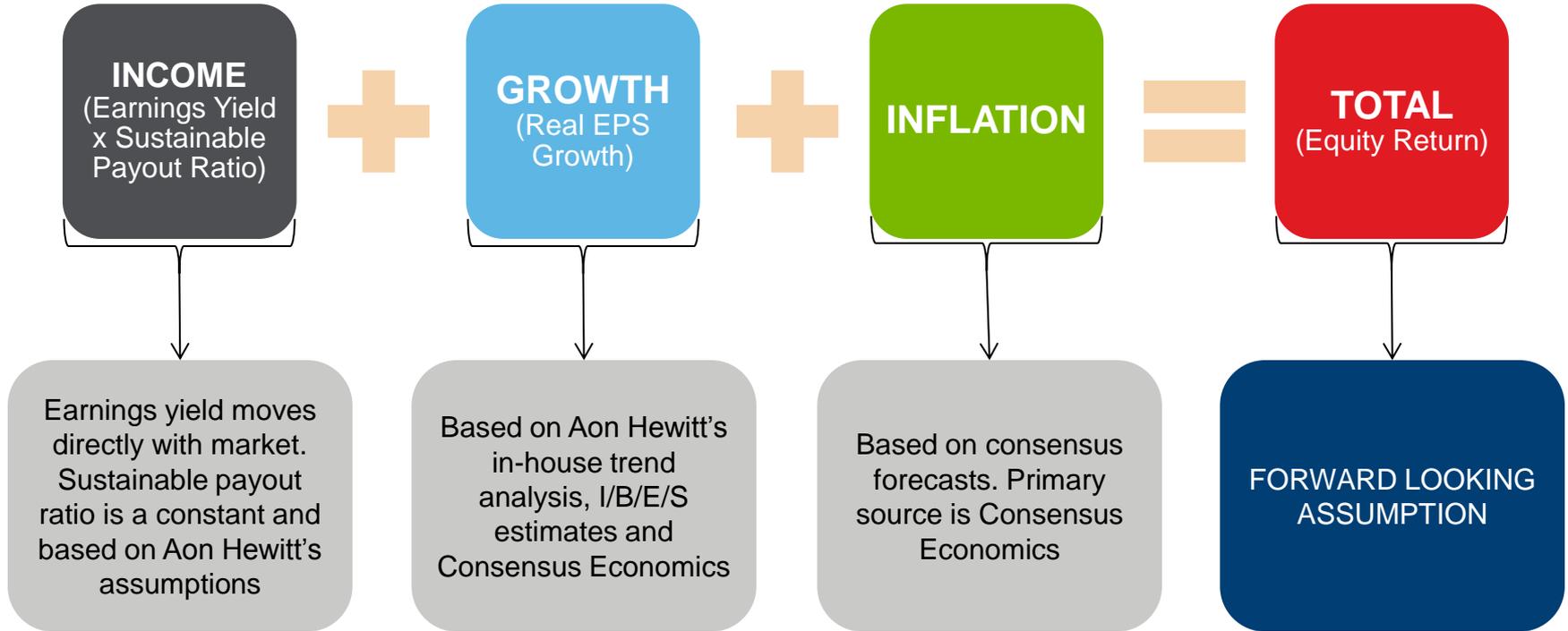
- **Initial Yields:** Most of our assumptions are built using a starting initial yield. To the extent that market pricing reflects short-term outlooks, our assumptions will capture this.
- **Specific Economic Variables:** Our growth (GDP and asset income growth) and inflation estimates incorporate the short term by combining it with our long-term steady state expectations. We weight long-term estimates more heavily than the short term.

Example Only – US Inflation



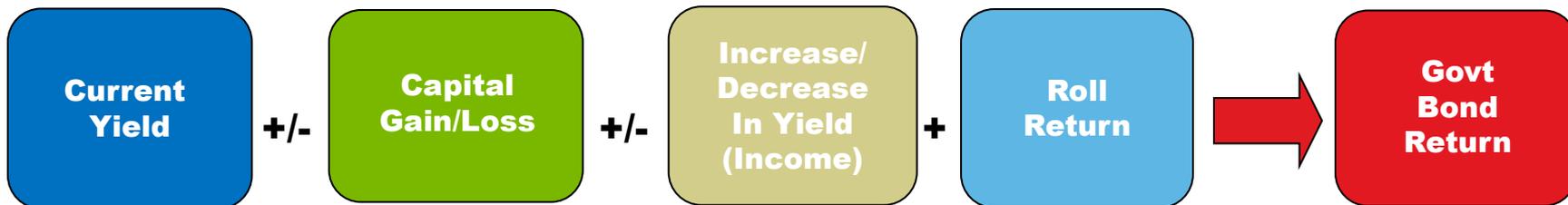
Asset-Liability Process Update

CMA: Equities



Asset-Liability Process Update

CMAs: Government Bonds



- We **start from the current yield curve** for government bonds
- Using a simulation model, we combine the current yield curve with an assumption on the long-term behavior of the yield curve to **derive how yields are expected to evolve over time**
 - Dominant driver of government returns is what is priced into the yield curve
- **Total return assumptions** are then derived from the forward looking yield curves
- A similar methodology is followed for **inflation-linked bonds** but based on real yields and incorporating our inflation assumptions

Asset-Liability Process Update

CMAs: Corporate Bonds and Aggregate Index

- Corporate bond expected return is made up of three components: **Government yield, corporate spread, and expected losses from defaults and downgrades**
- All three are modeled using a wide range of simulation scenarios
- We assume that credit risk premiums revert over time from current levels to long-term historical averages
- Expected losses from defaults and downgrades are modeled using a forward-looking probability transition matrix*

Broad bond market returns are modeled as a combination of government and corporate bonds



* Based partly on historical default rates (Source: Moody's) and partly on Aon Hewitt's subjective views

Asset-Liability Process Update

CMAs: Real Estate

- Methodology similar to equities:

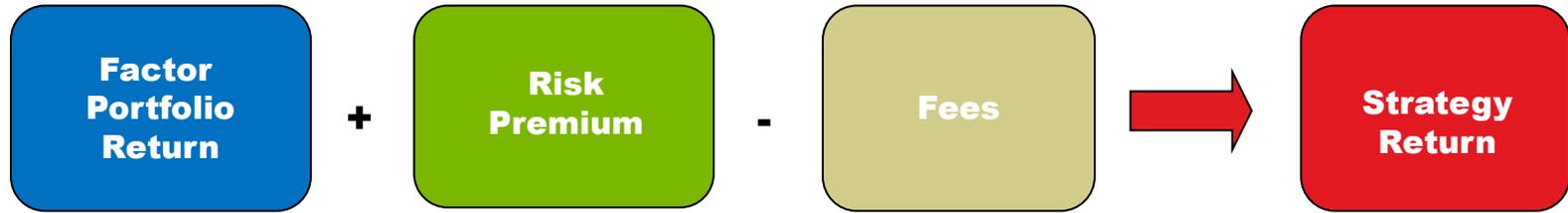


- Starting point is the **rental yield** each market is offering
- Real rental growth** incorporates both a short term cyclical and long term aspect
 - We assume rents increase in line with consensus expectations over short term. In the long-term we assume rents grow in line with inflation
- Allow for unavoidable **costs** of direct real estate investment
- A real return assumption is calculated as the internal rate of return (IRR) of the projected cash flows (**discounted cash flow analysis similar to equities**)
- Nominal return is then calculated using our expected **inflation**
- No manager alpha** as return assumption represents the real estate property market (and not real estate funds)

Asset-Liability Process Update

CMA: Private Equity

- Return assumptions are **formulated for each strategy (sub-sector)** based on an analysis of the **exposure of each strategy to various market factors** with associated **risk premiums**
- Explicit **fee assumptions are subtracted** from expected returns; including base and performance-based fee/carry as appropriate
- Strategies include leveraged buyouts (LBOs), venture capital, mezzanine, and distressed investments



- Assumptions for a diversified (broad) private equity portfolio **is aggregation of assumptions for these underlying strategies**

Asset-Liability Process Update

CMA: Hedge Funds

- Granular modeling of hedge funds at the individual hedge fund strategy level. Assumptions exist for 7 single-strategy hedge funds, Fund of Hedge Funds, and Broad Hedge Funds (diversified portfolio of direct hedge funds)
- Unlike most other asset classes, manager skill (**alpha**) is allowed. We also make allowance for **fees**
- Assumptions are developed in a three step process:
 - **“Beta” component** returns and risks formulated by **factor analysis**¹ of underlying building blocks of 7 individual hedge fund strategies. For example, equity long/short has net long position in equity markets
 - **“Alpha” component** returns and risks set with reference to **total future volatility levels** (of hedge fund strategy) **and information ratios**² (ratio of excess returns to excess volatility relative to a benchmark)
 - Explicit **fee assumptions are subtracted** from expected returns; including base and performance-based fee/carry as appropriate

¹ A multivariate regression analysis procedure to identify exposures to different factors. Hedge Fund strategy returns are used as dependent variable and asset class returns are used as the independent variables

² Incorporates both historical analysis and Aon Hewitt's forward-looking views of information ratios relative to factor portfolios

Asset-Liability Process Update

CMA: Infrastructure



- Returns are formulated using a cash flow based approach that projects cash flows on a diversified portfolio of assets over a 10 year period, using IRR method
- We assume **income (initial yield)** that grows at inflation over the 10 year period
- **Capital** is assumed to grow in line with inflation
- **Leverage** is assumed at 55%
- **Debt financing costs** are set at market interest rates with appropriate credit spreads (no refinancing is assumed)
- **Fees** are assumed to be fund level – 1.5% management fee + 20% performance fee payable over 8% hurdle rate
- **Taxes** are assumed to be the standard U.S. corporate tax rate of 35%
 - While infrastructure funds will be structured tax efficiently, the earnings of project companies will be taxable

Asset-Liability Process Update

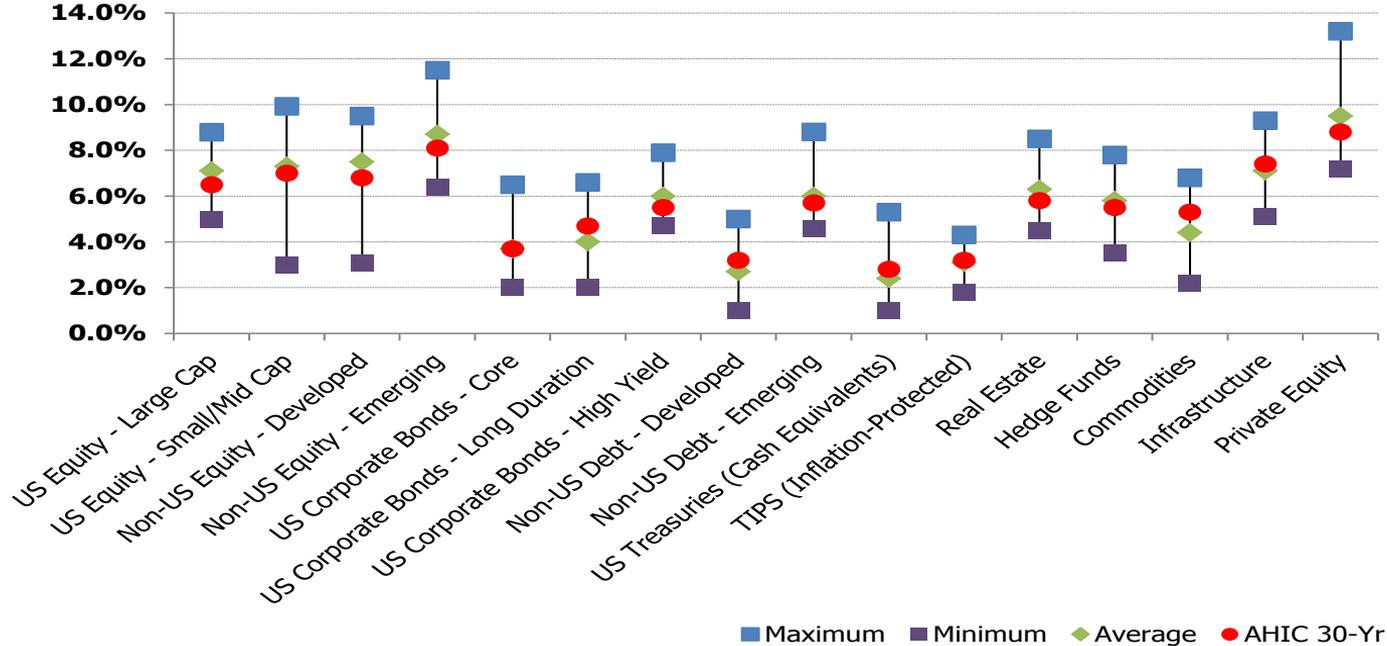
CMAs: Volatility and Correlation

- We take a **forward-looking view** when setting volatility assumptions as opposed to using purely historic averages. The credit crisis demonstrated the dangers of relying solely on historical values
- We consider:
 - **Implied volatilities** priced into option contracts of various terms
 - **Historical volatility** levels
 - The broad **economic/market environment**
- We assume that **volatilities are not constant over time**; we assume that the volatility of "risky" asset classes such as equities will be at historically high levels in the next few years before declining over time
- For illiquid asset classes such as real estate, desmoothing techniques are employed when assessing historic volatility levels
- Correlation assumptions are formulated with reference to historic experience over different time periods and during different economic conditions
 - We take into account the fact that **correlations are highly unstable over time** and, in particular, we take into account the fact that correlations are very different in stressed environments

Asset-Liability Process Update

CMAAs: AHIC Versus Peers (2015 Horizon Survey)

Expected Geometric Returns by Asset Class



SOURCE: Horizon Actuarial survey of 2015 capital market assumptions from 29 independent investment advisors. Expected returns of the survey are annualized over 10-20 years (geometric). Returns are 'blended,' using 10-year assumptions when 20-year assumptions are not available. AHIC expected returns are annualized over 30-years.

Recent Presidential Election Results: Key things to watch

Tax and spending plans:

- The bipartisan think tank, The Committee for a Responsible Federal Budget, has estimated that President-Elect Trump's tax and spending plans will add \$5.3trn to the national debt over 10 years. The main proposals of these plans include a simplification of the personal income tax rules, which will result in a significant tax cut for wealthy individuals, a reform of business taxes and \$450bn of extra defense spending. The reform or repeal of the Affordable Care Act could be an offset and add to the US budget.
- These estimates are forecast to increase US debt as a percentage of GDP to 105% by 2026 but, crucially, this number does not include any adjustment to GDP growth as a result of the boost from tax cuts and defense spending.
- There will be many arguments about the likely boost and it will depend on the actual details of the policies enacted. We will comment on these projections further as more information comes in over the coming months.
- **Nonetheless, the markets have decided, at least initially, that the fiscal position of the government will worsen, implying a greater supply of Treasuries over time, thus reducing their attraction.**

The opinions referenced are as of the date of publication and are subject to change due to changes in the market or economic conditions and may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Past performance is not a guarantee of future results.

What now? Key things to watch

Trade and Immigration:

- President-Elect Trump has been highly skeptical regarding free trade deals and immigration, stating that he would be much more inward looking and would reject or repeal many of the current deals, such as NAFTA or the Trans-Pacific Partnership.
- Economic theory overwhelmingly suggests that less free trade results in lower GDP growth over time and if trade restrictions are adopted, global growth will be weaker. Against that, if fiscal stimulus is delivered, there is a partial offset to the broader growth impact.
- Again, we will need to see actual policies before taking a view on this and, while the Republican party controls Congress, many of them are in favor of free trade (and conservative fiscal policies), so it is not necessarily true that protectionist (or fiscally expansionary) policies will come into law easily. We will have to wait and see. **For the time being, the possibility of trade and migration restrictions is being interpreted negatively for Mexico and China.**

The Federal Reserve and Monetary Policy:

- Federal Reserve Chair, Janet Yellen, may not be reappointed when her 4 year term ends in February 2018. In the meantime, it is unclear what the short term economic impact will be and **we still expect an interest rate increase in the mid-December meeting, but the risk of a delay has also risen. This would provide a boost to markets in the short term.**

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Aon Hewitt | Retirement and Investment

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Portfolio Considerations

- Political and policy uncertainty is generally higher
- We believe higher uncertainty will be reflected in risk premiums for asset classes
- Greater policy uncertainty is an added reason why our broad asset class views have become more cautious after Brexit and US elections
- Policy shifts that might follow are still very unclear, actual market impact over time is still not particularly predictable
- Diversified portfolios that have managed the risks from different economic scenarios sufficiently remain our recommended approach
- **We will review capital market assumptions as we have more certainty about the new administration**

Asset Liability Process Overview

Asset Allocation Study	Dates	Completion Status
Orientation with staff and distribution of risk survey to Board and IAC	August - October 2016	Presented
Presentation of risk survey results; Presentation on macroeconomic view and capital market assumptions	December 2016 Board Meeting	Presented
Conduct Asset Allocation Working Session #1 - General Discussion	February 2017 Board Meeting	
Conduct Asset Allocation Working Session #2	May 2017 Board Meeting	
Conduct Asset Allocation Working Session #3	August 2017 Board Meeting	
Conduct Asset Allocation Working Session #4	December 2017 Board Meeting	
Present Asset Allocation and Investment Policy Changes for Board Consideration	February 2018 Board Meeting	

Questions?

Public Agenda Item #3

Discussion and Training regarding Ethics and Fiduciary Responsibility

December 1, 2016

Paula A. Jones, Deputy Executive Director and General Counsel
Kelley Bender, Chapman and Cutler LLP

Ethics and Fiduciary Responsibility



- ERS works diligently to maintain and promote an ethical work environment
- ERS policy requires employees to perform their duties in an ethical manner

Ethics and Fiduciary Responsibility



- Survey of Employee Engagement reflected staff's belief that:
 - Employees at all levels of ERS are held accountable for adhering to ethical standards
 - Employees feel comfortable reporting ethics violations
 - Employees feel that ERS leadership regularly shows that it cares about ethical issues and concerns
 - Employees demonstrate high ethical standards in their work

Ethics and Fiduciary Responsibility

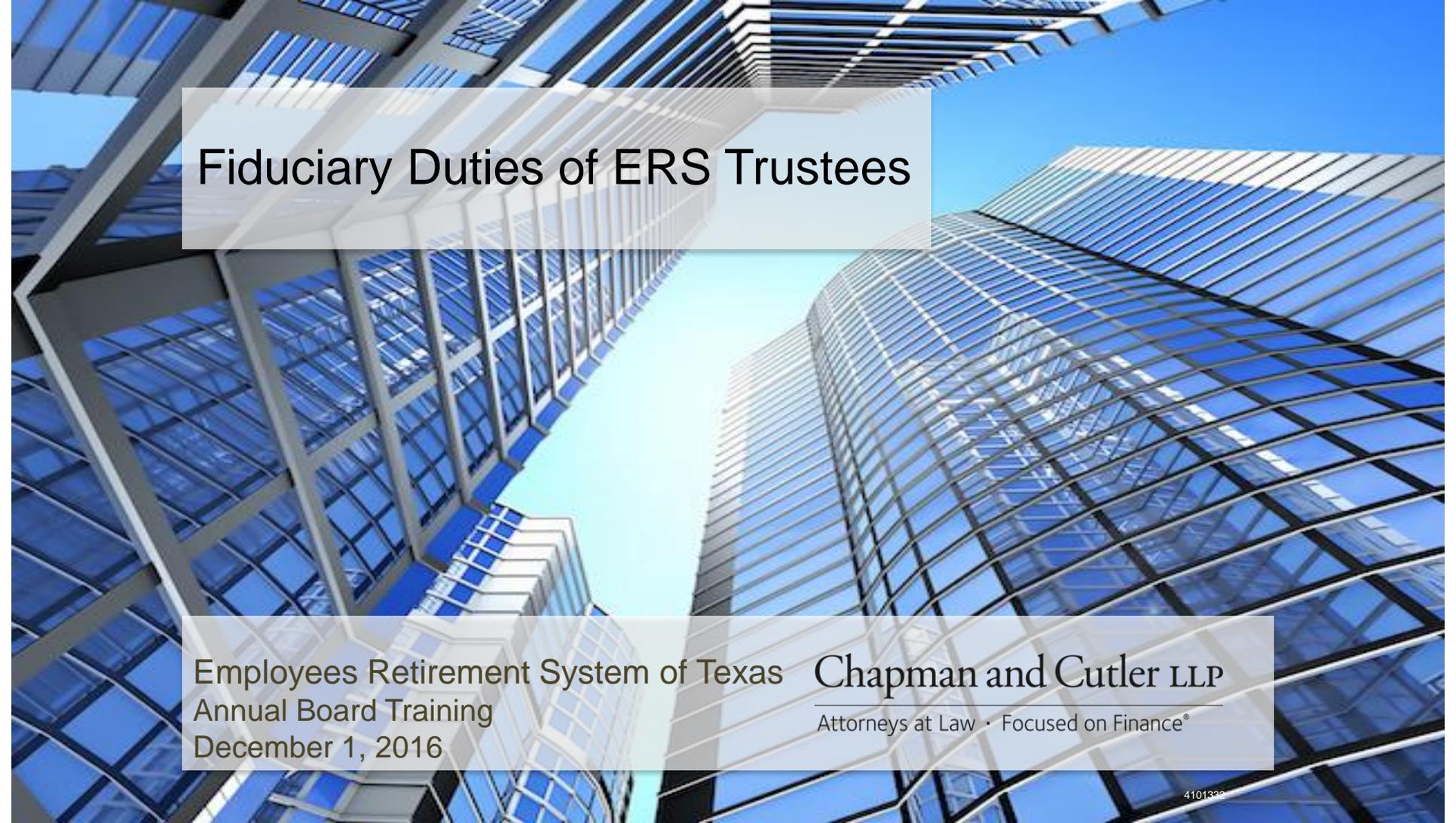


- Employees are encouraged to take ethics-related questions to the Deputy Executive Director and General Counsel (DED&GC) or Director of Human Resources
- Employees may also use ERS' Intranet or external website to anonymously report any alleged ethics violations
- Reports go to DED&GC and Directors of Human Resources and Internal Audit. All reports are investigated

Ethics and Fiduciary Responsibility - Training



- ERS' personnel policy requires all staff to complete annual ethics training
- ERS' Investment Policy requires all Board and IAC members and certain ERS investment-related staff to receive ethics training annually
- Kelley Bender, partner at Chapman and Cutler LLP, will present fiduciary and ethics training



Fiduciary Duties of ERS Trustees

Employees Retirement System of Texas
Annual Board Training
December 1, 2016

Chapman and Cutler LLP
Attorneys at Law • Focused on Finance®

Areas of Discussion

- What is a fiduciary?
- Who are ERS fiduciaries?
- As an ERS Trustee, what are your fiduciary duties?
- As a fiduciary of ERS, what should you avoid doing?
- What happens if you breach your duties as an ERS fiduciary?
- Application of fiduciary duties in context: Investment of Trust Assets
- Discussion

What is a fiduciary?

- Generally, a person who is required to act for the benefit of another person on all matters within the scope of their relationship
- One who owes to another the duties of good faith, trust, confidence and candor; one who must exercise a high standard of care in managing another's money or property (*Black's Law Dictionary*)
- The identification of a fiduciary and the duties of a fiduciary will vary depending on the law applicable to a specific situation

What is a fiduciary?

- ERISA: A person is a fiduciary of a plan if that person
 - exercises discretionary authority or control over plan management or disposition of plan assets,
 - renders investment advice to the plan for compensation, or
 - has any discretionary authority or responsibility in the administration of the plan.
- Remember that as a governmental plan, ERS and its Board are not subject to ERISA, but its provisions may provide useful guidance

What is a fiduciary?

- Under common law trust principles, a “trust” is a fiduciary relationship with respect to property, arising from a manifestation of intention to create that relationship and subjecting the person who holds title to the property to duties to deal with it for the benefit of one or more persons

What is a fiduciary?

- Other types of fiduciary roles with which you may be familiar
 - Director of a corporation
 - Director of a charitable organization
 - Trustee of a family trust
 - Attorney
 - Registered Investment Advisor
- Your role as an ERS fiduciary is different because...

Who are ERS's fiduciaries?

- ERS is a constitutional trust fund administered by the ERS Board of Trustees
- The Texas Constitution and Texas Government Code provide that the Board is the trustee of all ERS assets (trust fund)
- Because the Board holds legal title to the trust fund in trust for the exclusive benefit of all beneficiaries, the Board members are each fiduciaries of the trust fund

Who are ERS's fiduciaries?

- In addition to the members of the Board, the following are fiduciaries of ERS
 - Investment Advisory Committee
 - Executive Director and Deputy Executive Director
 - Staff
 - Those responsible for investing trust assets
 - Others as dictated by their roles and responsibilities
 - Service providers and vendors
 - Some may be fiduciaries by statute
 - Others may agree contractually to owe fiduciary duties

As an ERS Trustee, what are your fiduciary duties?

- Duty to administer the plan in accordance with the “plan documents” (the Texas Constitution, statutes and Texas Administrative Code)
- Duty of prudence/care
- Duty of loyalty
- Other duties
- The sources of duties for ERS fiduciaries are:
 - Texas Constitution
 - Texas statutes and rules
 - Common law (i.e., case law)

As an ERS Trustee, what are your fiduciary duties?

- Duty of Prudence/Care
 - Describes the manner in which fiduciaries carry out their duties
 - Duty to exercise reasonable effort and diligence
 - Texas Constitution (Art. 16, Section 67(a)(3))
 - In making investments, a board shall exercise the judgment and care under the circumstances then prevailing that persons of ordinary prudence, discretion, and intelligence exercise in the management of their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income therefrom as well as the probably safety of their capital.

As an ERS Trustee, what are your fiduciary duties?

- Duty of Prudence/Care
 - Tex. Gov't Code Ann. § 815.307
 - Prudence with respect to an investment decision must be made taking into consideration the investment of all assets of the trust... rather than considering the prudence of a single investment of the trust
 - Encompasses a duty to seek the advice of experts and consultants, but also related to the duty to delegate where the fiduciary does not have the requisite expertise

As an ERS Trustee, what are your fiduciary duties?

- Duty of Loyalty
 - Utmost good faith, fair dealing and candor
 - Act only in the interest of members and retirees *as a whole*
 - Exclusive benefit
 - The assets of a system are held in trust for the benefit of members and may not be diverted. (Texas Constitution, Art. 16, Section 67(a)(1))
 - Prohibited from self-dealing or engaging in transactions involving a conflict of interests

As an ERS Trustee, what are your fiduciary duties?

- Duty of Loyalty
 - Hang up any other hats [you] may wear and act solely in the best interest of the collective membership of trust fund members and retirees – not on behalf of individual members or member groups, employers, lawmakers, taxpayers, private businesses or anyone else who might have an interest in the outcome of the decision.

As an ERS Trustee, what are your fiduciary duties?

- Other duties
 - Impartiality; income productivity
 - With respect to co-trustees
 - Furnish information to members and retirees
 - Keep records and provide reports
 - Segregate and identify trust property
- Duty to comply with Code of Ethics
 - As required by statute, the Board has adopted an investment policy that includes a code of ethics

As a fiduciary of ERS, what should you avoid doing?

- Don't act in your own interests or the interests of anyone other than the trust and its beneficiaries
 - May seem obvious, but there is a lot of gray
 - Consider examples from other government pension funds
- Don't violate the ERS Investment Policy
 - This includes the Code of Ethics
- Don't repeatedly neglect your duties to attend to the trust's business
- Don't permit breaches of duties by co-fiduciaries (i.e., other Trustees, Executive Director, staff)

What happens if you breach your duties as an ERS fiduciary?

- Personal liability unless official immunity applies
 - Requires bad faith or actions outside of a Trustee's scope of authority
- Discipline, including reprimand, censure or other measures
- Headline risk
- Note that delegating a duty does not relieve you from all responsibility or liability for breach of that duty

Application of fiduciary duties in context: Investment of Trust Assets

- One of the Board's purposes and responsibilities is the protection and investment of the assets of the trust
- As fiduciaries, each of you is tasked with carrying out the responsibilities of the Board
- How can you carry out the investment authority of the Board consistent with your fiduciary duties?

Application of fiduciary duties in context: Investment of Trust Assets

- The Board may establish advisory committees as it considers necessary to assist it in performing its duties
 - The Board established the Investment Advisory Committee
 - The statute provides that the IAC shall “assist the board of trustees in carrying out the board’s fiduciary duties” with regard to the investment of assets
 - IAC members are also ERS fiduciaries

Application of fiduciary duties in context: Investment of Trust Assets

- The Board may specifically delegate any right, power or duty imposed on the Executive Director to any other person; if not so specifically delegated, then the Executive Director may delegate any such right, power or duty to another member of the staff
 - The Board has delegated its investment authority to the Executive Director and qualified ERS investment staff

Application of fiduciary duties in context: Investment of Trust Assets

- The Board shall develop and implement policies that clearly define the respective responsibilities of the Board and staff
 - The Board approved and adopted the ERS Investment Policy

Application of fiduciary duties in context: Investment of Trust Assets

- The ERS Investment Policy includes the Private Equity Policies and Procedures in Addendum I
- Section I.D.6 sets forth specific lines of responsibility
 - Board
 - IAC
 - Executive Director
 - ERS internal PE Investment Committee
 - ERS PE portfolio management staff
 - PE Non-Discretionary consultant

Application of fiduciary duties in context: Investment of Trust Assets

- ERS internal PE Investment Committee has been granted the following authority:
 - Approving PE portfolio investments recommended by Staff up to the lesser of \$200 million or 0.75% of the trust's assets in the case of partnerships that invest in companies
 - Approving PE portfolio investments recommended by Staff up to the lesser of \$300 million or 1.5% in the case of partnerships that invest in other partnerships (i.e., funds-of-funds)
 - For co-investments with new relationships, the Committee will approve the GP as well as the investment

Application of fiduciary duties in context: Investment of Trust Assets

- As fiduciaries, part of your duty is to assess when changes might be required to existing policies and procedures
 - The Investment Policy is required to be reviewed at least annually by ERS staff, who are also required to recommend changes to the policy
- As part of this assessment, reviewing changes in law and gathering information from peers can help determine prudence of existing policies and procedures.

Questions?

Public Agenda Item #4

Review and Discussion of ERS Retirement Plans and Actuarial Valuation Reports for Funding as of August 31, 2016

December 1, 2016

Jennifer Jones, Senior Program Specialist
Joe Newton, Consulting Actuary, Gabriel Roeder Smith



Actuarial Valuations of the ERS Retirement Funds as of August 31, 2016 December 1, 2016

Joe Newton, FSA, EA, MAAA

GRS

Gabriel Roeder Smith & Company
Consultants & Actuaries
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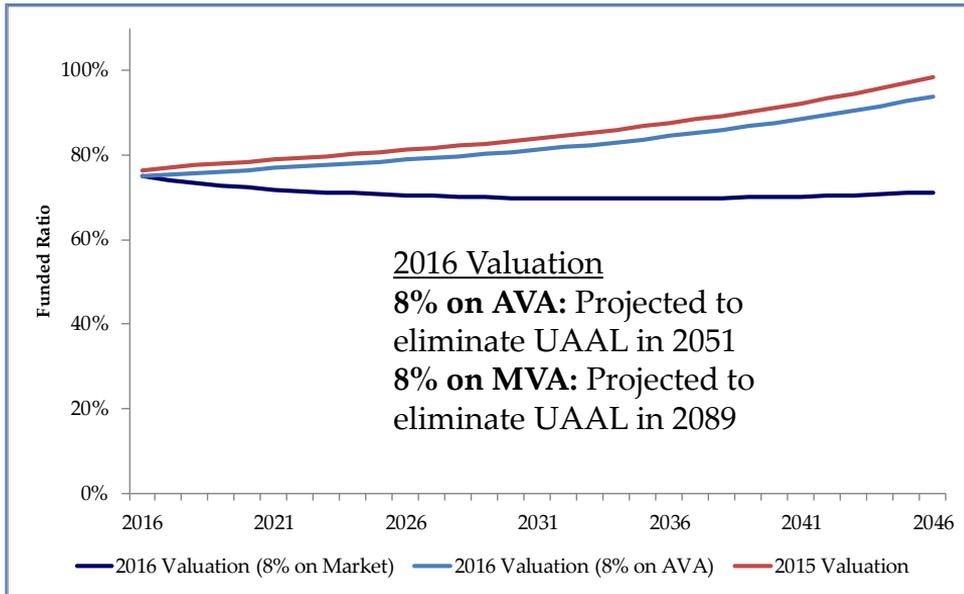


Agenda

- ◆ Purpose of Actuarial Valuation
- ◆ Impact of Asset Returns
- ◆ ERS Funding Valuation Results
- ◆ LECOSRF and JRS2 Funding Valuation Results
- ◆ Accounting Results at August 31, 2016

Where are we headed now?

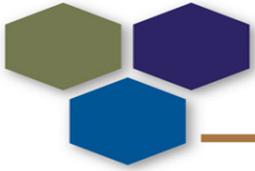
- ◆ ERS projections stepped back slightly
 - ▶ Still on a path to eliminating unfunded liability
- ◆ Short term decrease in 2016 projection from deferred assets losses and negative amortization before trending upward



2015 Valuation

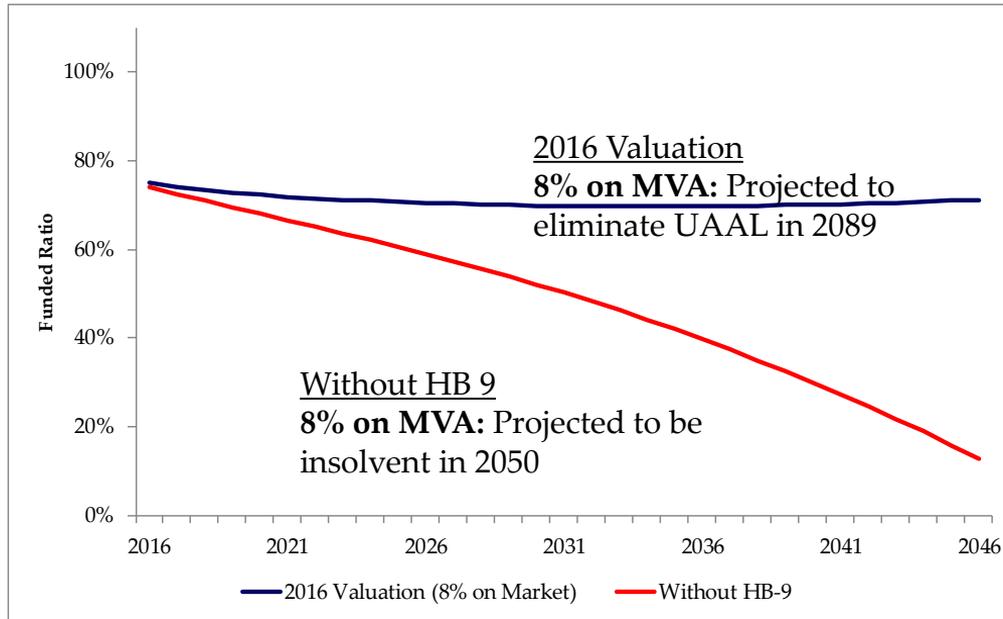
8% on AVA: Projected to eliminate UAAL in 2048

Projections assume that all assumptions are met, including an 8% return on the market value of assets (unless otherwise noted), and future contributions continue at current levels.



2015 Legislative Impact

- Without contribution increases resulting from HB 9, ERS plan would be projected to be insolvent in 2050 on a market value basis

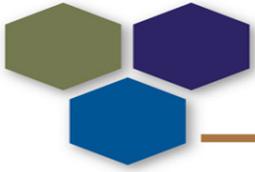


Projections assume that all assumptions are met, including an 8% return on the market value of assets (unless otherwise noted), and future contributions continue at current levels (unless otherwise noted).



Purpose of Actuarial Valuation

- ◆ Prepared as of August 31, 2016 using member data, financial data, benefit and contribution provisions, actuarial assumptions and methods as of that date
- ◆ Purposes:
 - Measure the actuarial liabilities and funding levels
 - Determine adequacy of current statutory contributions
 - Provide other information for reporting
 - GASB 67/68, Consolidated Annual Financial Report
 - Explain changes in actuarial condition of the plans
 - Track changes over time
 - Analyze future outlook



Impact of Asset Returns



Asset Experience

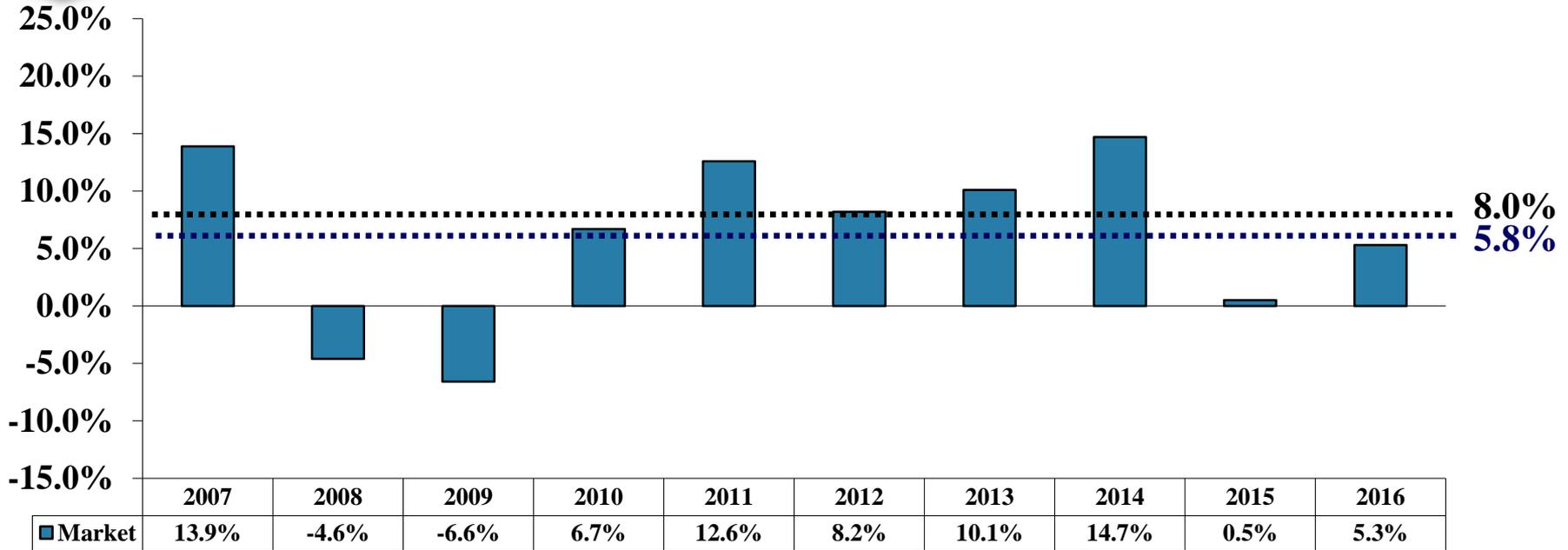
- ◆ Asset returns
 - ▶ Market Value: 5.3%
 - ▶ Actuarial (or smoothed) Value: 5.9%
 - Less than 8.0%, thus creates a loss on the unfunded liability
- ◆ Losses on the Market Value during the current year in addition to outstanding unrecognized losses from prior valuation
 - ▶ \$2.1 billion outstanding loss for ERS in 2016, versus
 - ▶ \$1.9 billion outstanding loss for ERS in 2015



Asset Experience

- ◆ Actual investment returns delayed the projected time until full funding
 - ▶ 2089, assuming 8% market returns
 - ▶ 2051, assuming 8% on actuarial (smoothed) returns
 - 8% market returns plus additional returns of \$2.1 billion (approximately 8.50%)

Estimated Yields Based on Market Value of Assets



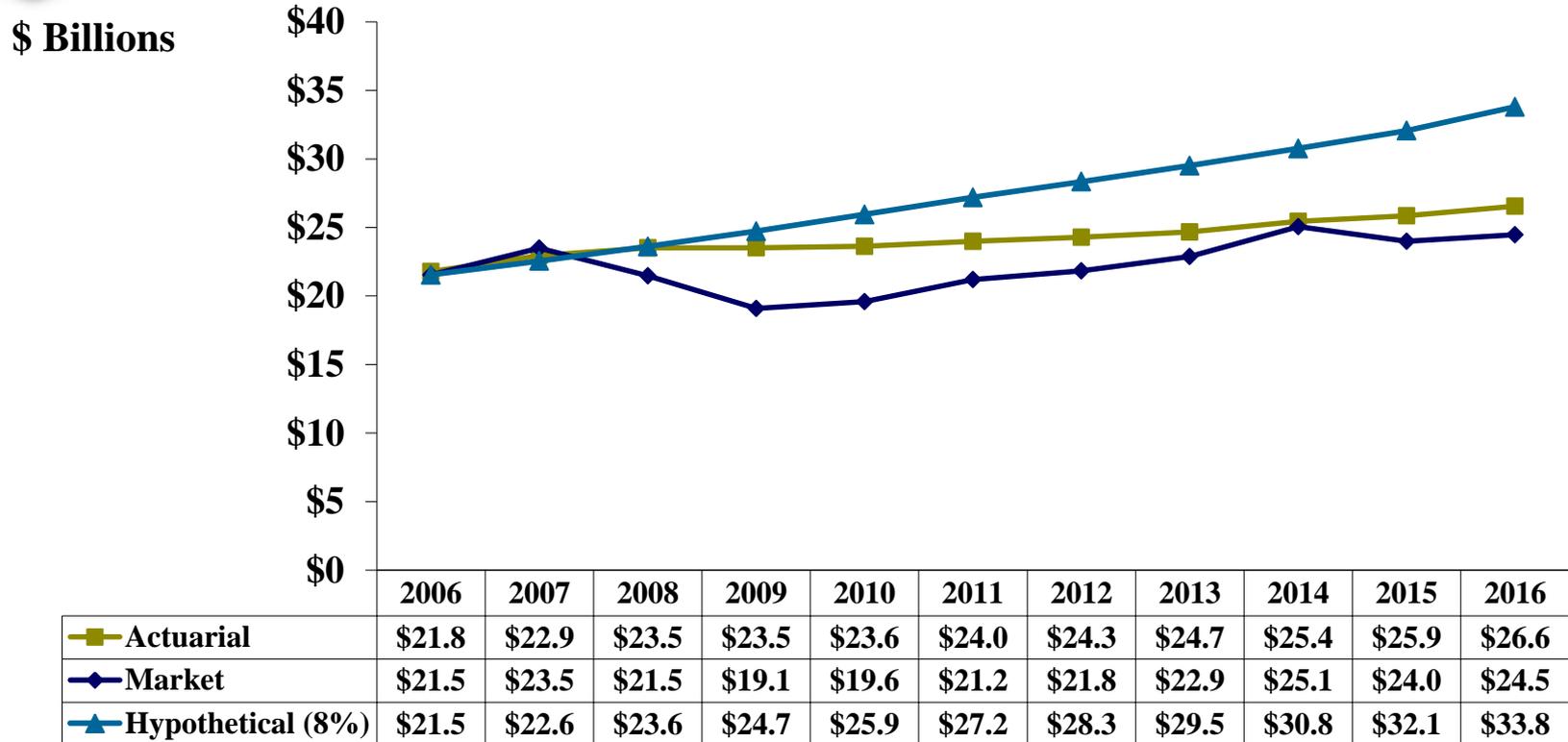
7.7% average compound return (on market value) over last 5 years.

5.8% average compound return (on market value) over last 10 years.

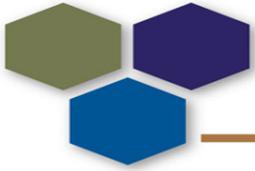
7.4% average compound return (on market value) over last 25 years.



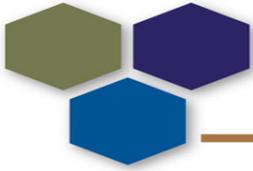
Actuarial, Market and Hypothetical* Values of Assets for ERS



* Hypothetical uses 2006 market value and projects forward using actual cash flows and 8.0% investment returns



ERS
Funding Valuation Results
at August 31, 2016

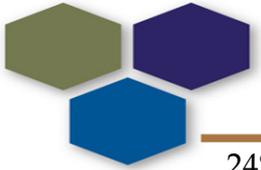


Funded Status

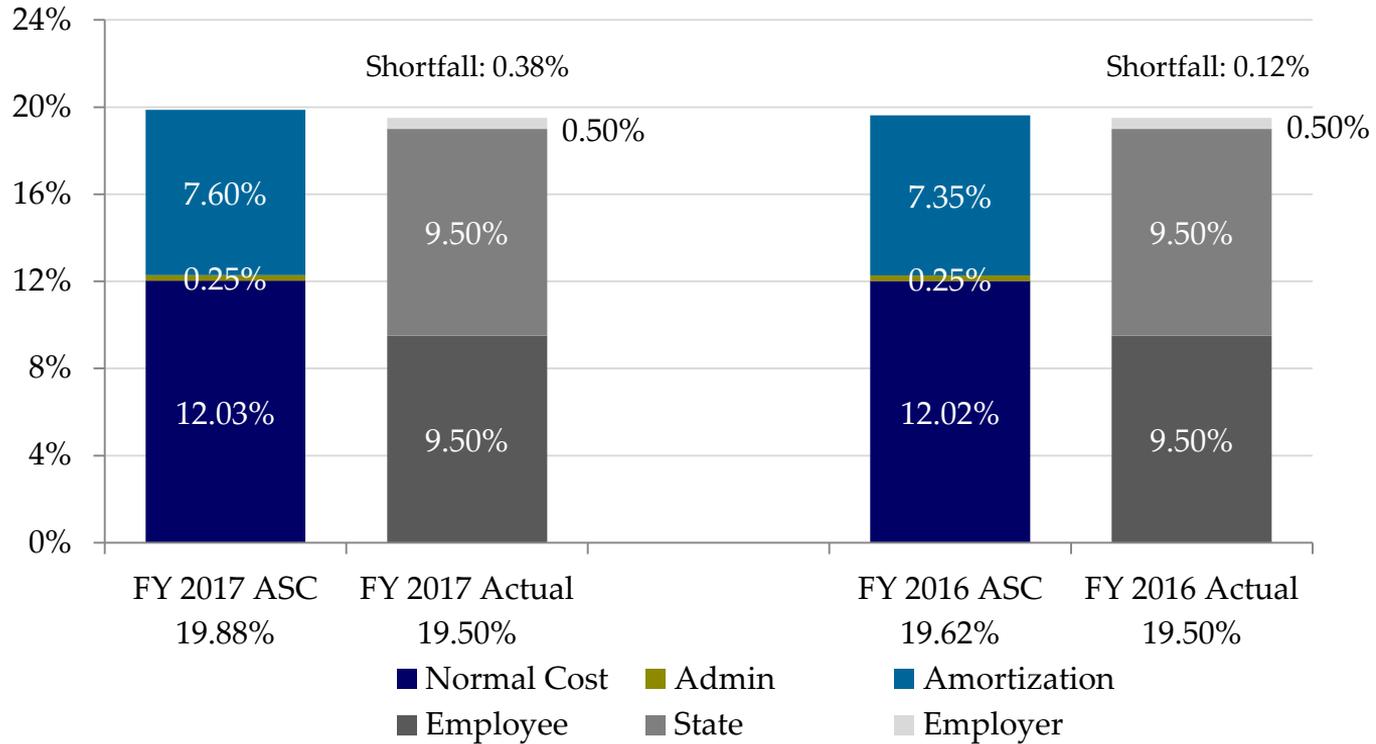
(\$ in millions)

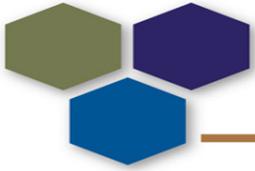
Actuarial Valuation as of August 31, 2016	
ERS	
Actuarial Accrued Liability	\$35,303
Actuarial Value of Assets	<u>26,557</u>
Unfunded Accrued Liability	\$8,746
Funded Ratio	75.2%
Funding Period	35

Actuarial Valuation as of August 31, 2015	
ERS	
Actuarial Accrued Liability	\$33,868
Actuarial Value of Assets	<u>25,851</u>
Unfunded Accrued Liability	\$8,018
Funded Ratio	76.3%
Funding Period	33

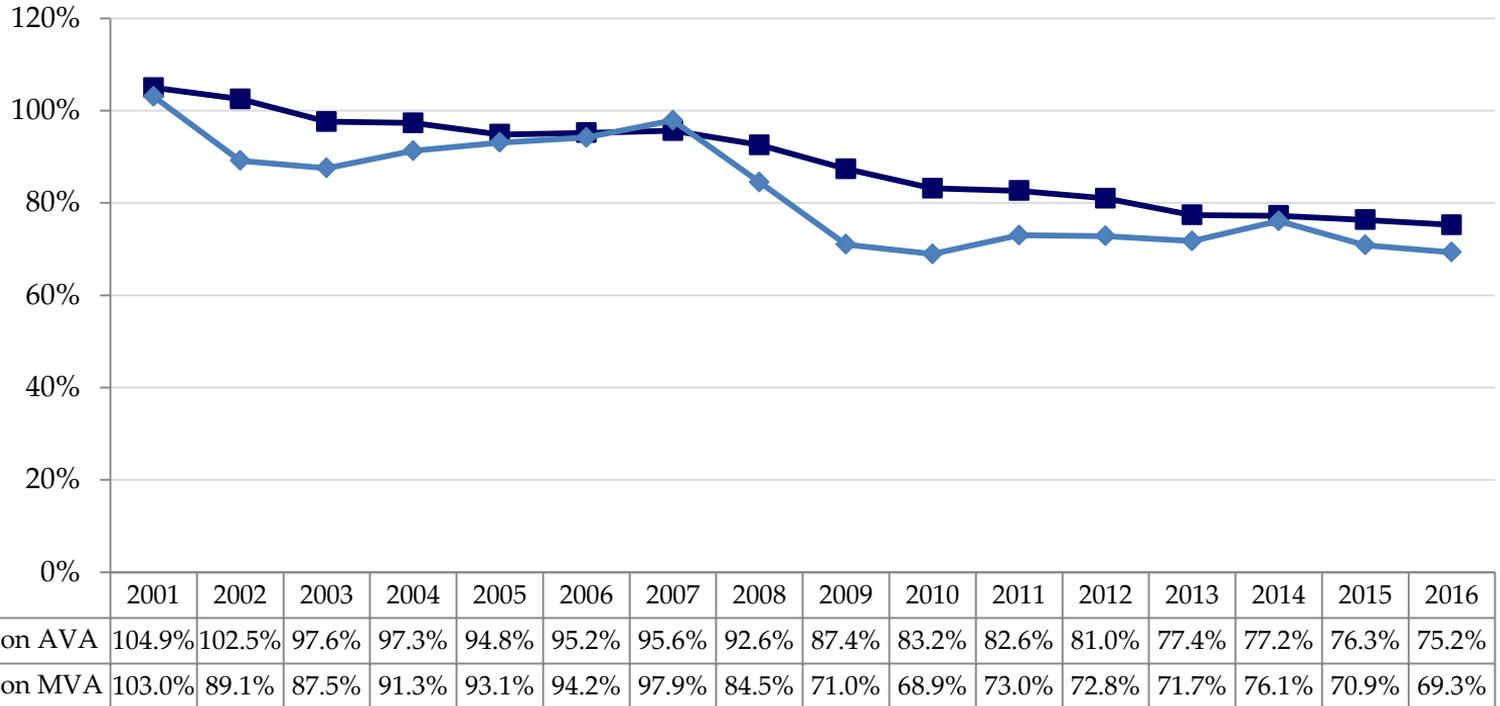


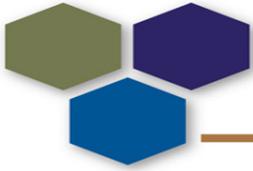
Actuarially Sound Contribution (ERS)





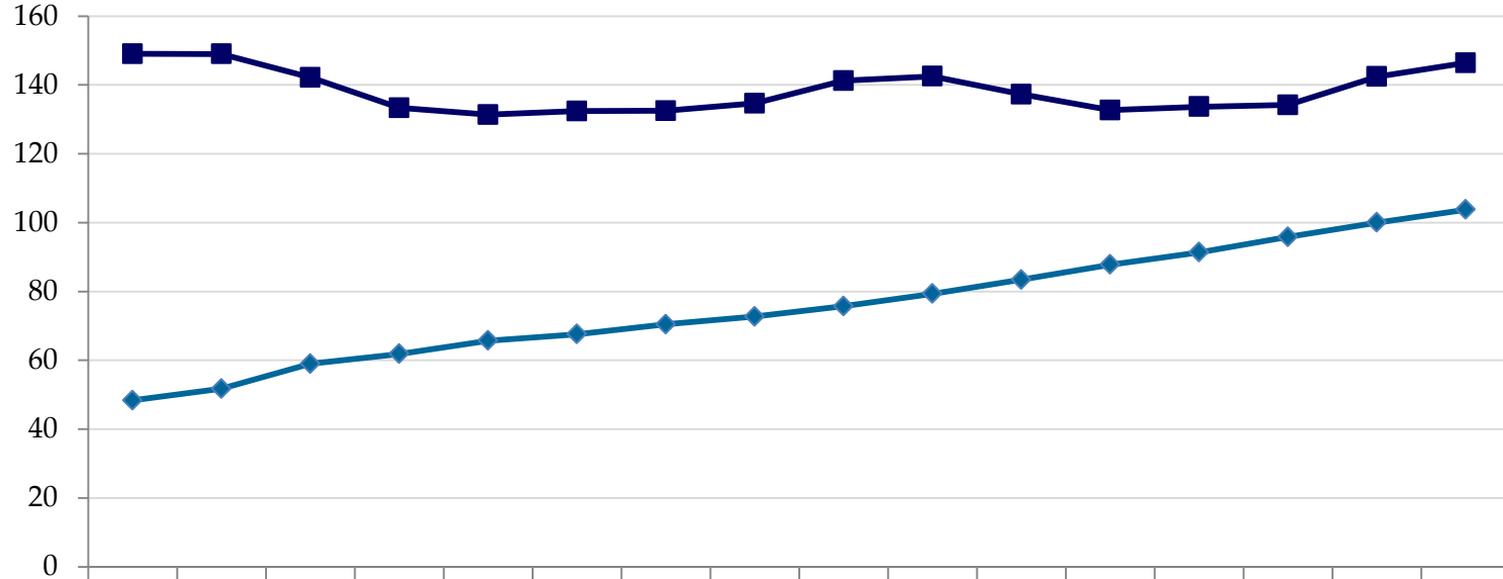
Funded Ratio History (ERS)





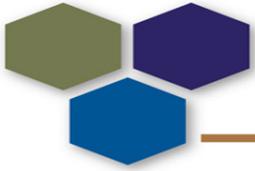
Membership (ERS)

(counts in 1000's)



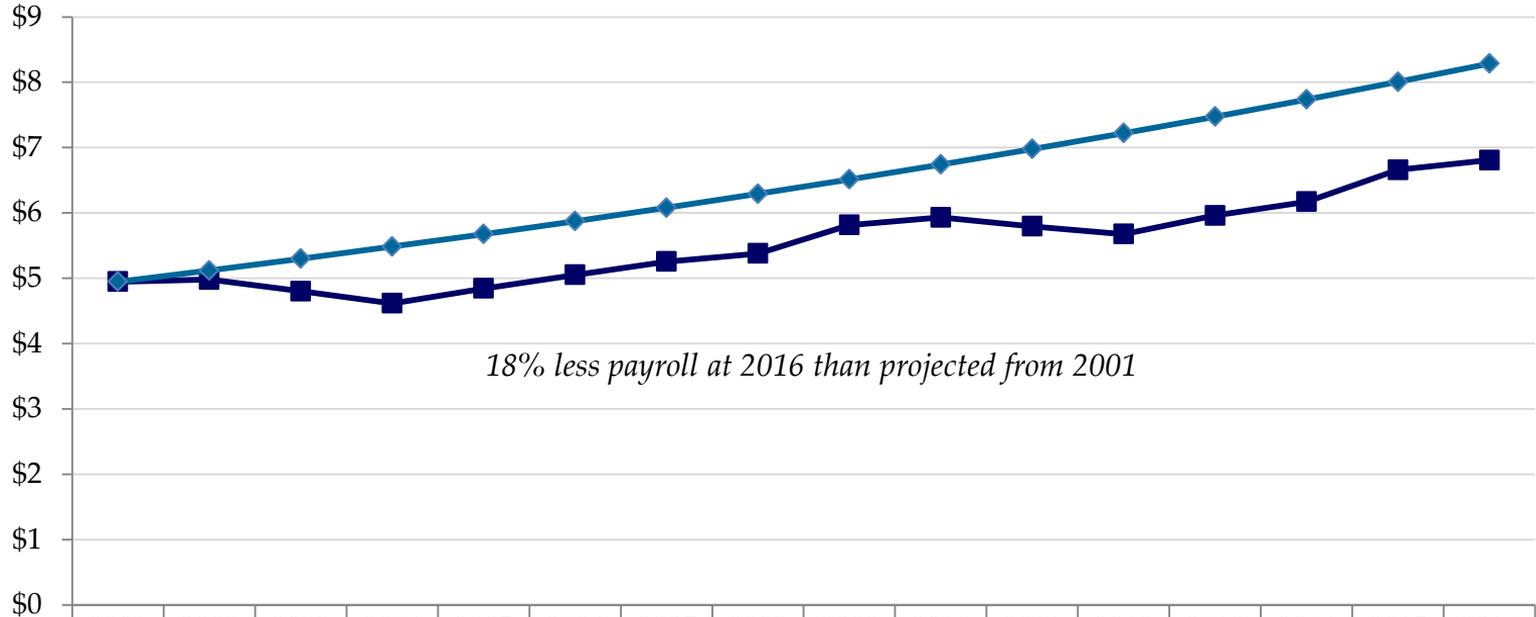
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
■ Actives	149	149	142	133	131	132	132	135	141	142	137	133	134	134	142	146
◆ Payees	48	52	59	62	66	68	70	73	76	79	83	88	91	96	100	104

Active membership increase in 2015 includes approximately 7,000 new members from the elimination of the 90-day wait on September 1, 2015.



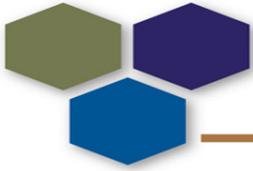
Payroll – Actual vs. Expected*

(\$ in billions)



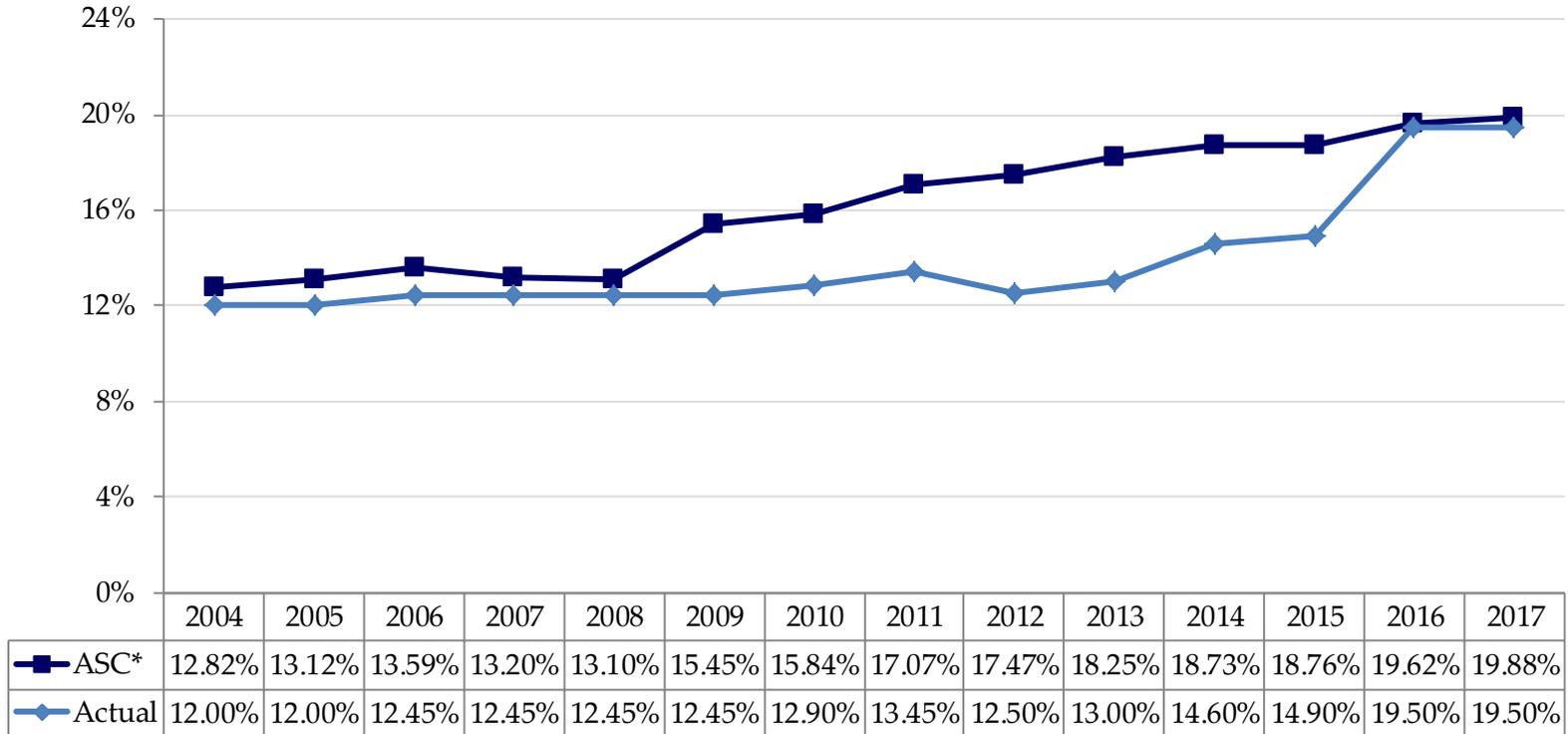
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Actual Payroll	\$4.9	\$5.0	\$4.8	\$4.6	\$4.8	\$5.1	\$5.3	\$5.4	\$5.8	\$5.9	\$5.8	\$5.7	\$6.0	\$6.2	\$6.7	\$6.8
Projected Payroll	\$4.9	\$5.1	\$5.3	\$5.5	\$5.7	\$5.9	\$6.1	\$6.3	\$6.5	\$6.7	\$7.0	\$7.2	\$7.5	\$7.7	\$8.0	\$8.3

*Projected from 2001 assuming 3.5% increase



Actual vs. Actuarial Contributions (ERS)

(% of Payroll, by Fiscal Year)



*Actuarially Sound Contribution defined as normal cost plus 31-year amortization of unfunded

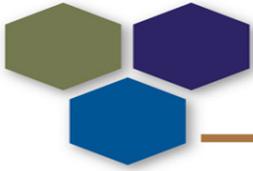


Short-term Projections Using Alternate One-Year Investment Returns (ERS)

	August 31, 2016	Market Return for 12 month period ending August 31, 2017				
	Results	-8%	0%	8%	16%	24%
UAAL (\$ in billions)	\$8.7	\$10.2	\$9.9	\$9.5	\$9.1	\$8.7
Funded Ratio on AVA	75.2%	71.9%	73.0%	74.0%	75.0%	76.1%
ASC	19.88%	20.81%	20.49%	20.17%	19.86%	19.54%
Funding Period on AVA	35	48	43	38	35	32
Funded Ratio on MVA	69.3%	58.6%	63.8%	69.0%	74.3%	79.5%
Funding Period on MVA	73	N/A	N/A	72	37	24

Projections assume that all assumptions are met (except asset returns, as noted) and future contributions continue at current levels.

Under 8.0% scenario, the \$0.8 billion increase in UAAL is due to recognition of deferred asset losses.



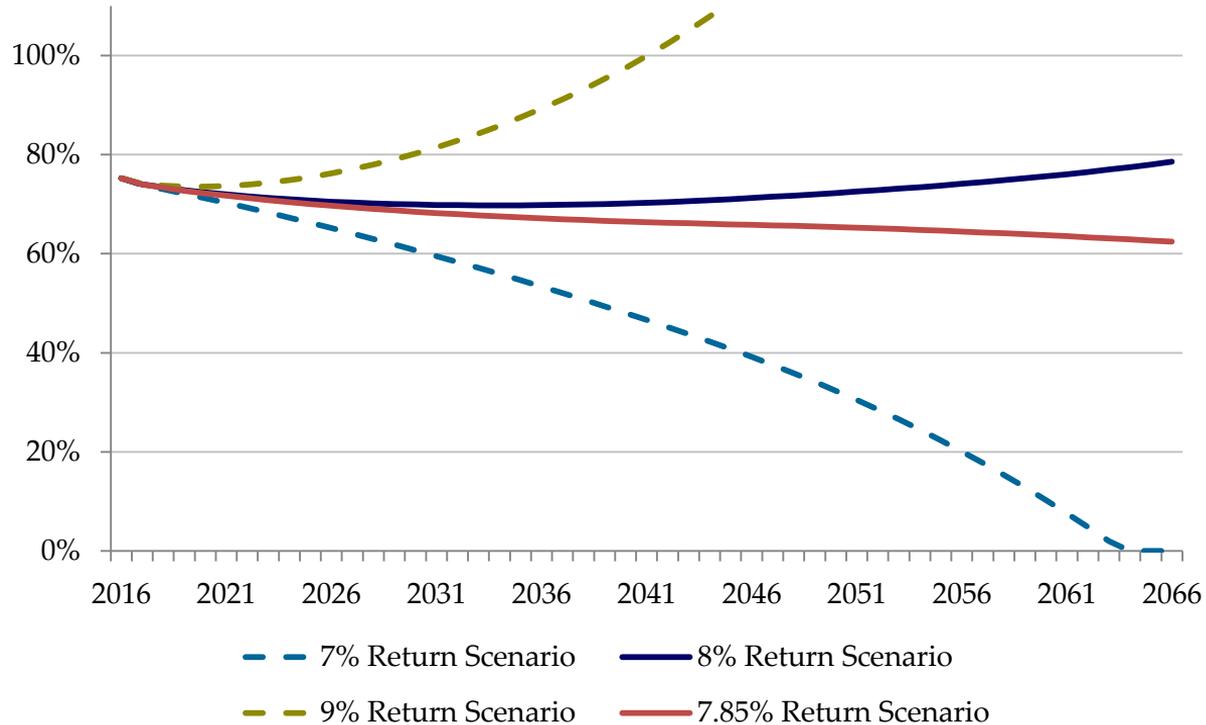
5-Year Funded Ratio and ASC Projections (ERS)

Projection Assuming 8% Investment Returns			
Actuarial Valuation as of August 31,	Funded Ratio on AVA	ASC	Funding Period on AVA
2016	75.2%	19.88%	35
2017	74.0%	20.17%	38
2018	73.4%	20.35%	41
2019	72.8%	20.47%	44
2020	72.4%	20.58%	46

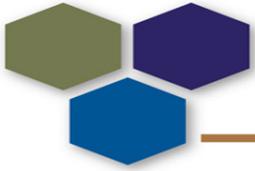
Projections assume that all assumptions are met, including an 8% return on the market value of assets, and future contributions continue at current levels.



Funded Ratio Projections (ERS)



Projections assume no changes to current assumptions and except actual asset returns, as noted, all other assumptions are met and future contributions continue at current levels.

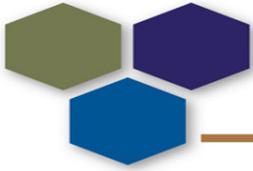


LECOSRF and JRS2
Funding Valuation Results
at August 31, 2016



LECOSRF and JRS2 Results

- ◆ LECOSRF had a reduction in funded status
 - ▶ Contributions are not sufficient to sustain the plan
- ◆ JRS2 had a slight improvement in funded status
 - ▶ Demographic gains outweighed the shortfall in investment returns
 - ▶ Based on smoothed plan assets, the current statutory rates sufficient to sustain the plan
 - However, this will not be true after deferred losses have been recognized
- ◆ Although steps have been made to improve the projected funded status of these two plans, further steps are needed



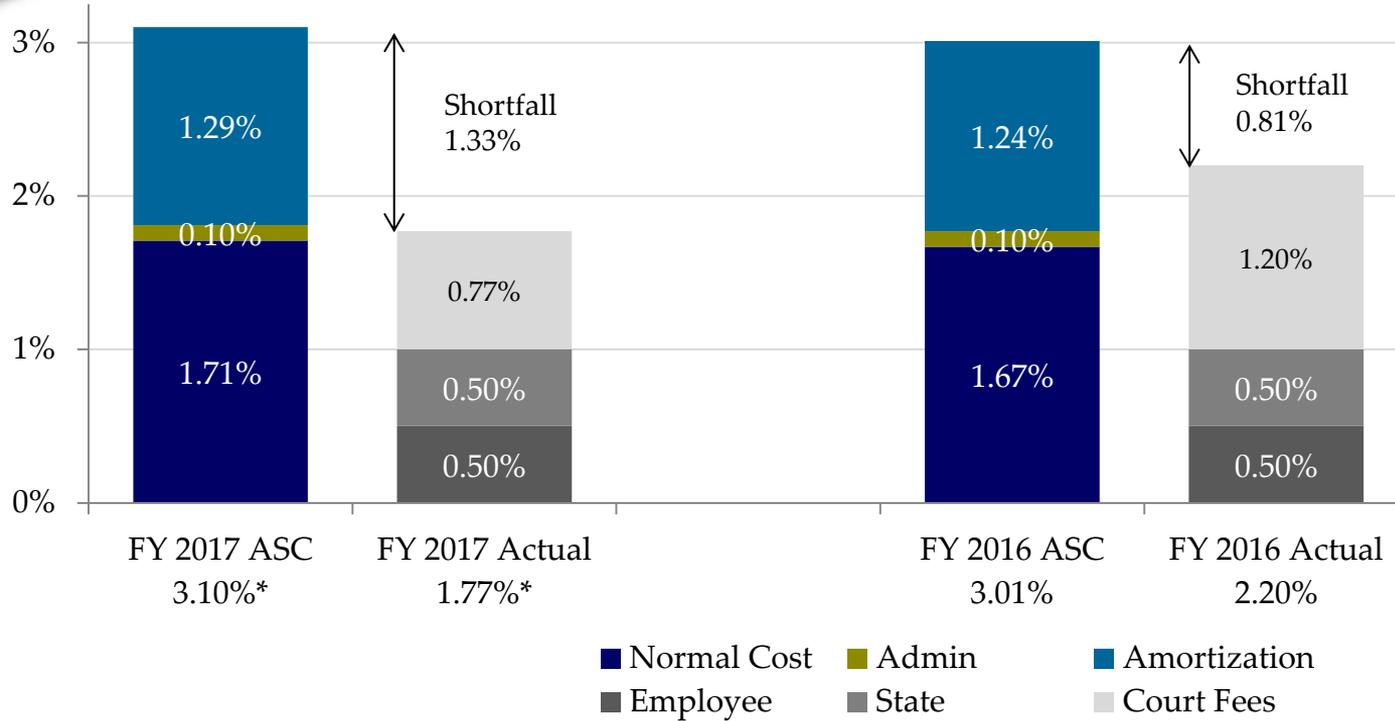
Funded Status

(\$ in millions)

Actuarial Valuation as of August 31, 2016		
	LECOSRF	JRS2
Actuarial Accrued Liability	\$1,312	\$426
Actuarial Value of Assets	<u>933</u>	<u>396</u>
Unfunded Accrued Liability	\$379	\$30
Funded Ratio	71.1%	92.9%
Funding Period	Never	49

Actuarial Valuation as of August 31, 2015		
	LECOSRF	JRS2
Actuarial Accrued Liability	\$1,262	\$404
Actuarial Value of Assets	<u>909</u>	<u>373</u>
Unfunded Accrued Liability	\$353	\$31
Funded Ratio	72.0%	92.2%
Funding Period	Never	Never

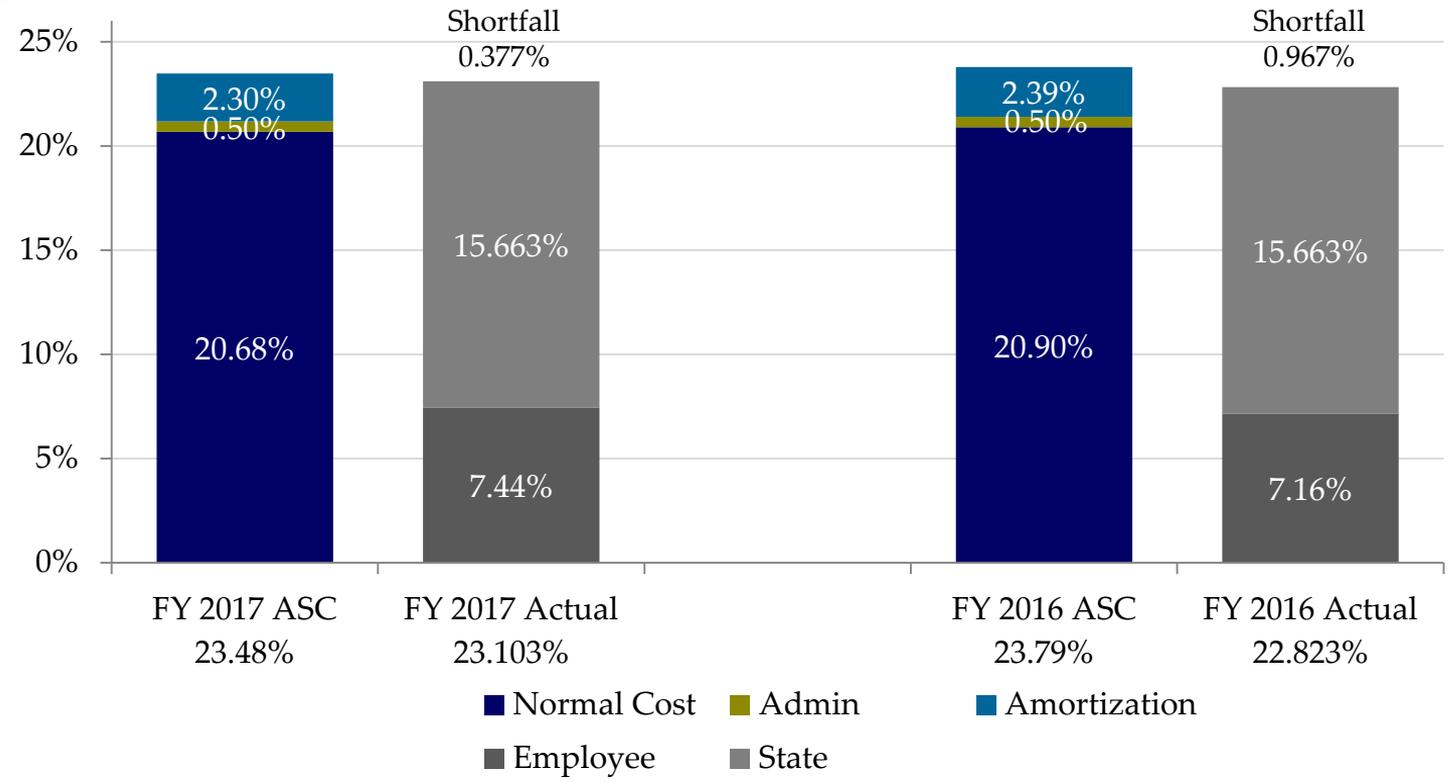
Actuarially Sound Contribution (LECOSRF)



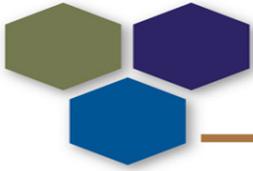
* Stated rate is include the court fees remitted to LECOSRF. In FY 2016 valuation, LECOSRF revenue from court fees was assumed to grow with inflation each year. For FY 2017, after further research, court fees assumed to remain level at \$19.2 million each year.



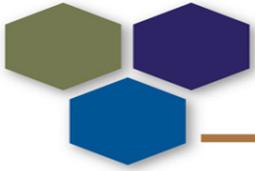
Actuarially Sound Contribution (JRS2)



Normal cost rate decrease between FY 2016 and 2017 is due to demographic changes in active membership.

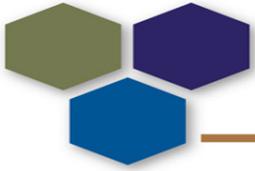


Accounting Valuation Results at August 31, 2016



Accounting Valuation Results

- ◆ ERS adopted GASB 67 for plan year ending August 31, 2014
- ◆ GASB 68 measures will be included in Texas state reporting for fiscal year ending August 31, 2016
 - ▶ Net Pension Liability (similar to Unfunded Accrued Liability) will reside on the balance sheet of the State as of August 31, 2016
 - ▶ State has elected to utilize one year reporting lag
 - GASB 67/68 valuation as of August 31, 2015 used for August 31, 2016 State reporting



Determining the Discount Rate

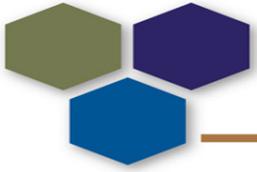
- ◆ Discount rate used in determining the Total Pension Liability (TPL) is a blend of two rates
 - ▶ Long-term expected rate of return on pension plan investments (8.00% based on current investment policy)
 - Can be used to discount plan obligations as long as there are projected assets sufficient to pay projected plan benefits
 - ▶ Yield or index rate for a 20-year, tax-exempt general obligation municipal bond (2.84% as of August 31, 2016)
 - Used to discount plan obligations after the projected assets have been extinguished



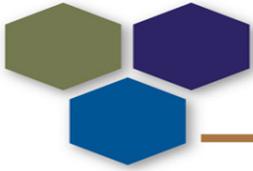
Accounting Valuation Results

◆ (\$ in millions)

August 31, 2016	ERS	LECOSRF	JRS2
Single Discount Rate (SDR)	5.73%	3.69%	6.53%
Total Pension Liability	\$44,223	\$2,214	\$486
Plan Fiduciary Net Position	<u>24,466</u>	<u>860</u>	<u>381</u>
Net Pension Liability (NPL)	19,757	1,354	105
August 31, 2015			
Single Discount Rate (SDR)	6.86%	5.00%	7.06%
Total Pension Liability	\$37,265	\$1,765	\$440
Plan Fiduciary Net Position	<u>23,998</u>	<u>844</u>	<u>365</u>
Net Pension Liability (NPL)	13,266	921	75



Summary



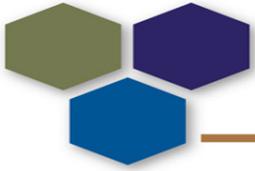
Upcoming Asset Allocation Study and Actuarial Experience Study

- ◆ Over the next 12-15 months ERS will be conducting a thorough review of its investment and actuarial strategies, including the asset allocation and assumed rate of investment return.
 - ▶ Capital market forecasts from investment consultants and other market data show lower expected inflation and expected investment returns
 - ▶ Growth in aggregate member payroll has been less than assumed
 - Assumed 3.5% per year and actual has been closer to 2%
 - Drives expected revenue from future payroll contributions
 - ▶ Mortality studies continue to show improvement in life expectancy
 - Studies have shown varied expectations for rate of future improvement
 - Paying the same benefits for longer periods costs more



Summary

- ◆ Contribution rates and current level of plan benefits are sufficient to sustain the ERS and JRS2
 - ▶ However, there is no margin for adverse deviation or response to additional cost pressures
- ◆ For LECOSRF, current contribution level is not sufficient to sustain the system
 - ▶ Without an increase of contributions over the current schedule, or a reduction of benefits, the funded status will continue to decline



Disclaimers

- ◆ This presentation is intended to be used in conjunction with the actuarial valuation reports issued in November 2016. This presentation should not be relied on for any purpose other than the purpose described in the valuation reports.
- ◆ Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this presentation concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.
- ◆ This presentation shall not be construed to provide tax advice, legal advice or investment advice.

Questions?

Public Agenda Item #5a

Review, Discussion and Consideration of
the Investment Performance of the System's Assets:

Fiscal Year 2016 Investment Performance

December 1, 2016

Betty Martin, CPA, Director of Investment Services
Tom Heiner, BNY Mellon

Fiscal 2016 Performance Update



	Market Value 8/31/2016	1 Year Ending 8/31/2016	3 Year Ending 8/31/2016	5 Year Ending 8/31/2016	10 Year Ending 8/31/2016
Total Fund	\$ 25,499,105,144	5.28	6.61	7.54	5.70
Total Fund Policy Benchmark ^c		7.23	6.87	7.64	5.40
Variance		(1.95)	(0.26)	(0.10)	0.30
Return Seeking	19,578,911,607	6.02	7.72	9.01	
Global Equity	14,668,983,686	5.03	7.69	9.65	
MSCI All Country World Index		7.24	6.74	8.32	
Variance		(2.21)	0.95	1.33	
Global Public Equity	12,111,394,524	4.77	6.68	9.14	4.87
Global Public Equity Floating Benchmark ^a		7.73	7.01	9.14	4.76
Variance		(2.96)	(0.33)	(0.00)	0.11
Domestic Public Equity	5,661,463,713	8.43	10.99	13.87	7.23
S&P 1500/S&P 500 Blended Index		12.54	12.19	14.65	7.60
Variance		(4.11)	(1.20)	(0.78)	(0.37)
International Public Equity	5,327,370,919	1.29	1.90	3.76	2.12
MSCI EAFE/MSCI ACWI ex US Blended Index ^b		2.92	2.03	3.31	1.51
Variance		(1.63)	(0.13)	0.45	0.61
Global Public Equity Special Situations	719,798,273	12.22			
Directional Growth Portfolio	322,755,168	2.29			
Global Equity Tactical	80,006,451	(5.41)			
Private Equity	2,557,589,162	5.82	12.40	11.20	
Global Private Equity Benchmark ^j		8.03	13.47	12.65	
Variance		(2.21)	(1.07)	(1.45)	
Global Credit	1,984,512,205	8.08	5.84		
Barclays U.S. High Yield 2% Issuer Cap Index		9.12	5.41		
Variance		(1.04)	0.43		

Fiscal 2016 Performance Update



	Market Value 8/31/2016	1 Year Ending 8/31/2016	3 Year Ending 8/31/2016	5 Year Ending 8/31/2016	10 Year Ending 8/31/2016
Return Seeking (continued)					
Real Assets	2,823,485,288	10.10	10.27	10.34	
Real Estate - Public	720,685,319	15.49	9.25	9.35	3.41
Total Public RE Blended Benchmark ^d		16.83	10.60	10.18	3.16
Variance		(1.34)	(1.35)	(0.83)	0.25
Real Estate - Private	1,757,317,432	12.80	13.11	12.03	
Private RE Custom Benchmark ^h		10.80	9.34	8.71	
Variance		2.00	3.77	3.32	
Private Infrastructure	345,482,537	(16.35)	(2.92)		
Special Situations	101,930,428				
Risk Reduction	5,920,193,537	2.69	2.69	1.99	
Rates	4,055,950,593	3.34	2.65		
Barclays Treasury Intermediate Index		3.11	2.41		
Variance		0.23	0.23		
Cash	676,342,152	0.76	1.58	0.41	
91 Day Treasury Bill		0.23	0.10	0.09	
Variance		0.53	1.48	0.32	
Absolute Return	1,187,900,792	1.47	4.04		
Hedge Fund custom benchmark ⁱ		4.23	4.10		
Variance		(2.76)	(0.06)		
Texas Employees Group Benefits Program (TEGBP)	431,924,144	3.82	2.12	1.56	3.12
Group Benefits Program Policy Benchmark ^o		2.49	1.80	1.35	2.80
Variance		1.33	0.32	0.21	0.32

Fiscal 2016 Performance Update

Internally vs. Externally Managed



	Market Value 8/31/2016	1 Year Ending 8/31/2016	3 Year Ending 8/31/2016	5 Year Ending 8/31/2016	10 Year Ending 8/31/2016
Global Public Equity	12,111,394,524	4.77	6.68	9.14	4.87
Global Public Equity Floating Benchmark		7.73	7.01	9.14	4.76
Variance		(2.96)	(0.33)	(0.00)	0.11
<i>Global Public Equity - Internal**</i>	8,963,147,961	6.02	7.63	9.89	5.61
<i>Internal Global Public Equity Benchmark ^f</i>		8.81	7.63	9.80	5.24
<i>Variance</i>		(2.79)	(0.00)	0.09	0.37
<i>Global Public Equity - External**</i>	3,148,246,563	2.08	4.65	7.50	
<i>External Global Public Equity Benchmark ^g</i>		4.60	5.33	7.55	
<i>Variance</i>		(2.52)	(0.68)	(0.05)	
<i>Domestic Public Equity - Internal</i>	4,876,136,342	8.49	11.13	13.95	7.71
<i>Domestic Public Equity - External</i>	785,327,371	8.17	10.37	13.61	5.39
<i>International Public Equity - Internal</i>	3,287,206,895	2.25	1.94	2.98	1.70
<i>International Public Equity - External</i>	2,040,164,024	(0.19)	1.79	4.65	2.46
Global Credit	1,984,512,205	8.08	5.84		
Barclays U.S. High Yield 2% Issuer Cap Index		9.12	5.41		
Variance		(1.04)	0.43		
<i>Global Credit - Internal</i>	1,658,820,405	9.42	6.31		
<i>Barclays U.S. High Yield 2% Issuer Cap Index</i>		9.12	5.41		
<i>Variance</i>		0.30	0.90		
<i>Global Credit - External</i>	325,691,800	1.63	4.51		
<i>Barclays U.S. High Yield 2% Issuer Cap Index</i>		9.12	5.41		
<i>Variance</i>		(7.49)	(0.90)		

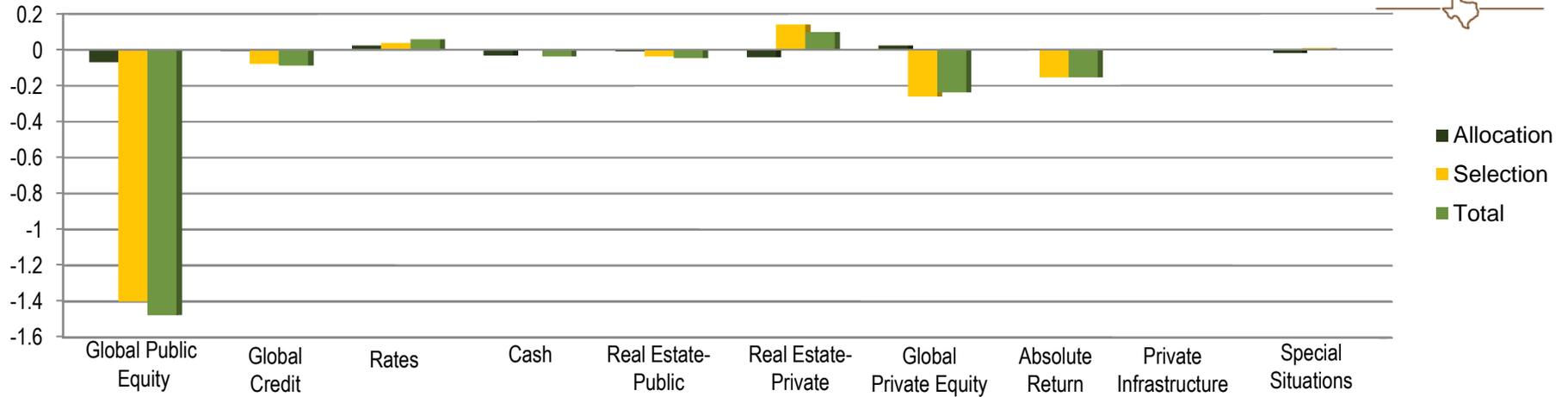
Fiscal 2016 Performance Update



Footnotes

- ^a The Global Public Equity Benchmark consists of the S&P 1500 and MSCI ACWI ex US Net using actual portfolio weights through 8/31/14 and the MSCI All Country World Net from 9/1/14 through 8/31/15. Starting 9/1/15 the benchmark is the MSCI ACWI IMI USA*
- ^b The Total International Public Equity Benchmark consists of the MSCI EAFE Net January 1999 through August 2008 and the MSCI ACWI ex US Net thereafter.*
- ^c The Total Fund Policy Benchmark is currently comprised of the MSCI ACWI IMI USA Gross, Barclays US High Yield 2% Issuer Cap, FTSE EPRA/NAREIT Blend, NCREIF ODCE NET (1 month in arrears), Barclays Intermediate Treasury, BofA Merrill Lynch 3 Month Treasury Bill + 4% (lagged 1 month), BofA Merrill Lynch 3 Month Treasury Bill, MSCI ACWI IMI USA Gross + 300 bps, and the actual return for Private Infrastructure.*
- ^d The Total Public Real Estate Blended Benchmark consists of the MSCI REIT from March 2005 - March 2007, a floating weight benchmark comprised of the EPRA/NAREIT US and EPRA/NAREIT US Global ex US from April 2007 through December 2007, the EPRA NAREIT Global Index from January 2008 through August 2013, the FTSE EPRA/NAREIT Developed Net from September 2013 through August 2014, and a MV weighted blend of the Total Internal Public RE Benchmark and the Wells St. Partner custom benchmark from September 2014 through March 2016. Effective April 2016, the benchmark is 100% FTSE EPRA/ NAREIT Developed Net.*
- ^e The Group Benefits Program Policy benchmark is comprised of 40% Barclays Capital Aggregate and 60% 91 Day T-Bill.*
- ^f The Total Internal Global Public Equity Benchmark utilizes actual portfolio market value weights against associated member indices through 8/31/14, the MSCI All Country World Net from 9/1/14 through 8/31/15 and then reverts back to using the market value weighted process effective 9/1/15.*
- ^g The Total External Global Public Equity Benchmark utilizes actual portfolio market value weights against associated member indices through 8/31/14, the MSCI All Country World Net from 9/1/14 through 8/31/15 and then reverts back to using the market value weighted process effective 9/1/15.*
- ^h The Private RE Custom Benchmark consists of the 91 Day T-Bill + 4% RE benchmark from 9/1/2012 through 8/31/14 and the NCREIF NFI-ODCE Net 1 month lagged beginning 9/1/14.*
- ⁱ The Hedge Fund Custom Benchmark consists of the 91 Day T-Bill + 4% through 8/31/14 and the 91 Day T-Bill + 4% 1 month lagged beginning 9/1/14.*
- ^j The Global Private Equity Benchmark is the actual gross of fees return of the Global Private Equity Composite from 9/1/11 through 8/31/15. Beginning 9/1/15, the benchmark is the MSCI ACWI IMI USA Gross Index plus 300 bps.*

Fiscal 2016 Performance Attribution

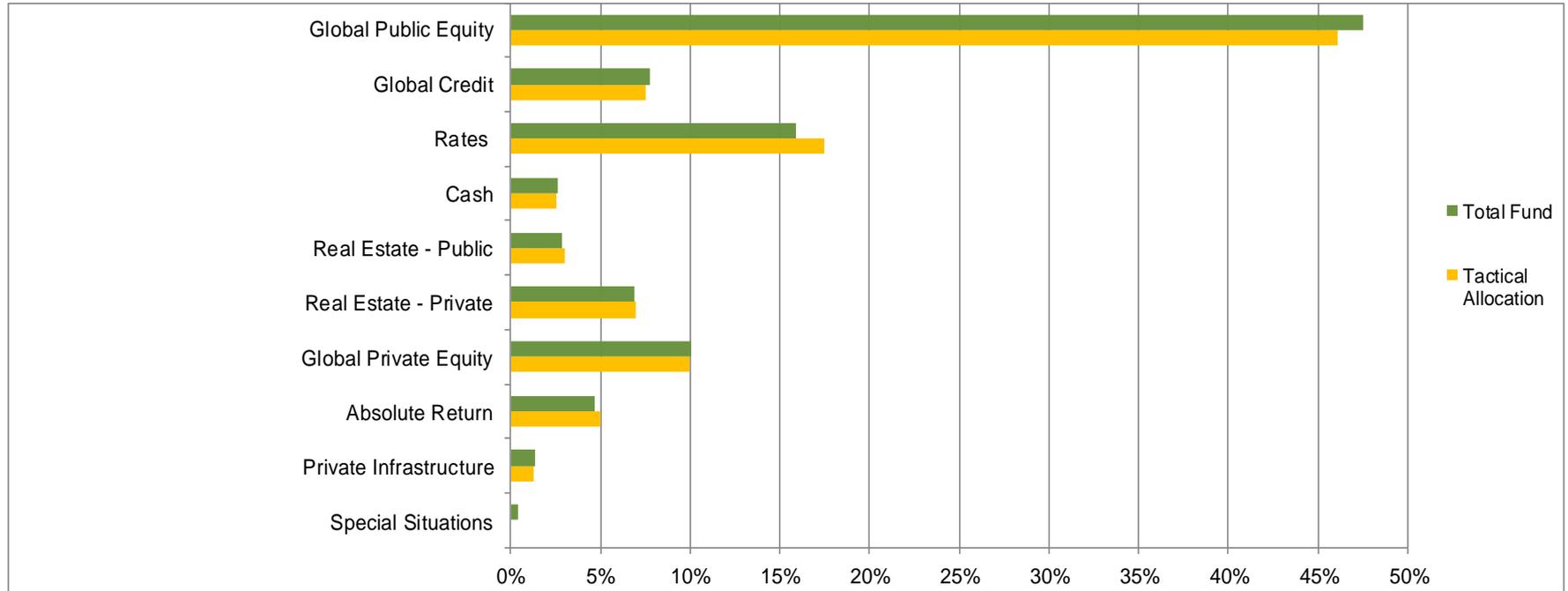


Asset Class	Portfolio		Benchmark		Attribution Effects		
	Weight	Return	Weight	Return	Allocation	Selection	Total
Global Public Equity	48.05%	4.77%	47.74%	7.73%	-0.07%	-1.40%	-1.47%
Global Credit	6.95%	8.08%	6.75%	9.12%	-0.01%	-0.08%	-0.09%
Rates	16.61%	3.34%	18.25%	3.11%	0.02%	0.04%	0.06%
Cash	1.16%	0.76%	1.09%	0.23%	-0.03%	-0.01%	-0.04%
Real Estate – Public	2.94%	15.49%	3.00%	16.83%	-0.01%	-0.04%	-0.05%
Real Estate - Private	7.04%	12.80%	7.00%	10.80%	-0.04%	0.14%	0.10%
Global Private Equity	10.93%	5.82%	10.00%	8.03%	0.02%	-0.26%	-0.24%
Absolute Return	5.05%	1.47%	5.00%	4.23%	0.00%	-0.15%	-0.15%
Private Infrastructure	1.17%	-16.35%	1.17%	-16.35%	0.00%	0.00%	0.00%
Special Situations	0.10%	1.93%	0.00%	0.00%	-0.02%	0.01%	-0.01%
Transition Effects**		-0.06%				-0.06%	-0.06%
Total Fund w RM!	100.00%	5.28%	100.00%	7.23%	-0.14%	-1.81%	-1.95%

Fiscal Year End Asset Allocation



Asset Allocation as of 8/31/16



Questions?

Public Agenda Item #5b

Review, Discussion and Consideration of
the Investment Performance of the System's Assets:

Fiscal Year 2016 Global Investment Performance Standards Report

December 1, 2016

Betty Martin, CPA, Director of Investment Services

GIPS Standards

What are they?



The Global Investment Performance Standards (GIPS standards) are voluntary, ethical standards for the calculation and presentation of an investment firm's performance results.

The GIPS standards were advanced to encourage investment managers to present their performance history in a fair and comparable way. The GIPS standards help create both a level playing field on which managers can compete and an environment in which investors can reinforce the governance of their manager selection decisions.

GIPS Standards

Verification



Verification assesses whether:

- (1) the firm has complied all the composite construction requirements of the GIPS standards on a firm-wide basis and
- (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards

Verification does not ensure the accuracy of any specific composite presentation

GIPS Standards

Fund Composite



Total Fund Composite September 1, 2009 through August 31, 2016

Fiscal Year	Net of External Costs Only ¹ (%)	Net of Fees ² (%)	Benchmark Return (%)	As of August 31, 2016		3-Year Annualized Standard Deviation	
				Externally Managed Assets (%)	Total Composite Assets (\$ millions)	Total Fund (Net) (%)	Benchmark (%)
2010	6.48	6.40	6.80	19	20,389.8		
2011	12.36	12.28	12.02	22	22,118.6		
2012	8.04	7.95	8.11	28	22,772.1		
2013	9.87	9.78	9.52	33	23,858.8	8.37	8.66
2014	14.58	14.48	15.00	37	26,131.6	7.43	7.67
2015	0.44	0.34	(1.03)	38	25,177.9	5.32	5.51
2016	5.28	5.17	7.23	37	24,499.11	6.01	6.77

^[1] Returns net of external costs are net of transaction costs and investment management fees only. These returns are also reported by ERS custodian as “net of fees”

^[2] Returns net of fees as defined by GIPS are net of transactions costs, investment management fees and internal Investment Division and other agency overhead costs

Questions?

Public Agenda Item #5c

Review, Discussion and Consideration of
the Investment Performance of the System's Assets:
Third Calendar Quarter of 2016 Investment Performance

December 1, 2016

Sharmila Kassam, Deputy Chief Investment Officer
Steve Voss and Kristen Doyle, Aon Hewitt

ERS Trust Fund Dashboard

Performance

Fund	<u>CYTD</u>	<u>FYTD</u>
Performance:	5.4%	0.6%
Benchmark:	6.8%	0.5%
Excess Return:	-1.4%	0.1%
3-Yr Tracking error		1.37

Largest Contributors (quarter):

- Outperformance of the absolute return portfolio
- Outperformance of the private real estate component

Largest Detractors (quarter):

- Underperformance of the strategies within the domestic equity and directional growth portfolio
- Underperformance of the private equity portfolio

Profile

Market Value at 9/30/16:
\$25.6 Billion

Actuarial Accrued Liability 8/31/15:
\$33.9 Billion

Retirees and Beneficiaries 8/31/15:
100,716

Retirement Payments Annually 8/31/15:
\$2.1 Billion

ERS Trust Funding Ratio 8/31/15:
76.3%

Compliance

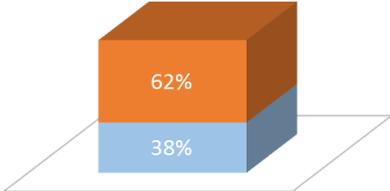
Asset Allocation Compliance: Yes

Tracking Error Compliance: Yes

Investment Policy Compliance: Yes

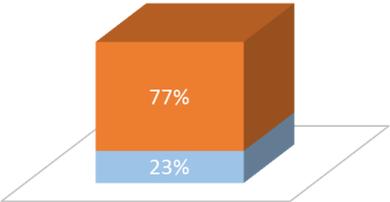
MANAGEMENT

External Internal



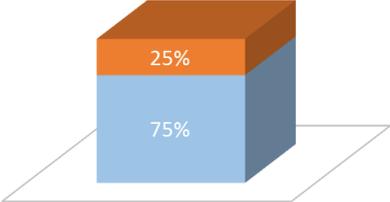
ALLOCATION

Risk Reducing Return Seeking



LIQUIDITY

Liquid Illiquid

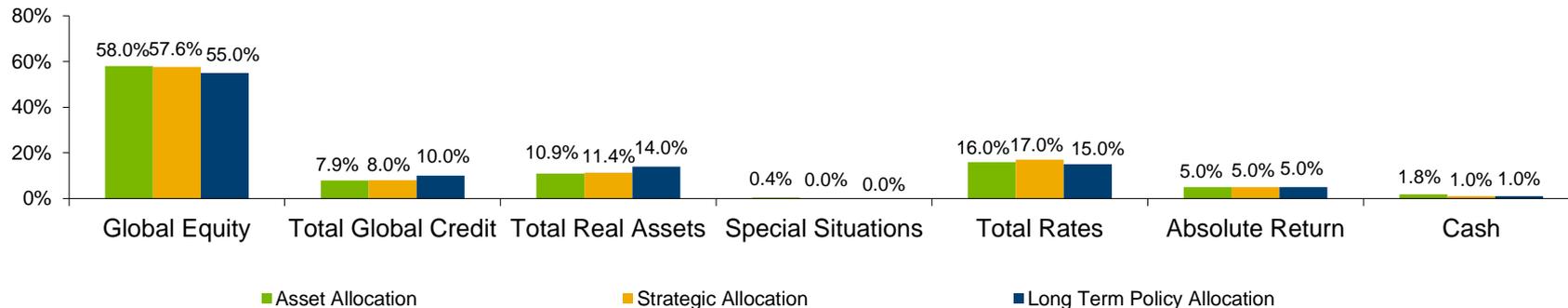


Total Fund: Asset Allocation

Summary of Cash Flow

	1 Quarter	Fiscal YTD	1 Year
Total Fund			
Beginning Market Value	24,685,204,418	25,499,105,144	24,533,633,307
+ Additions / Withdrawals	-219,154,046	-80,485,950	-893,842,755
+ Investment Earnings	1,104,336,602	151,767,780	1,930,596,422
= Ending Market Value	25,570,386,973	25,570,386,973	25,570,386,973

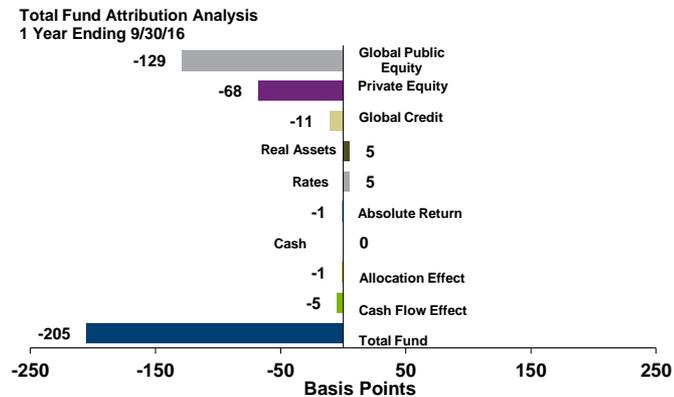
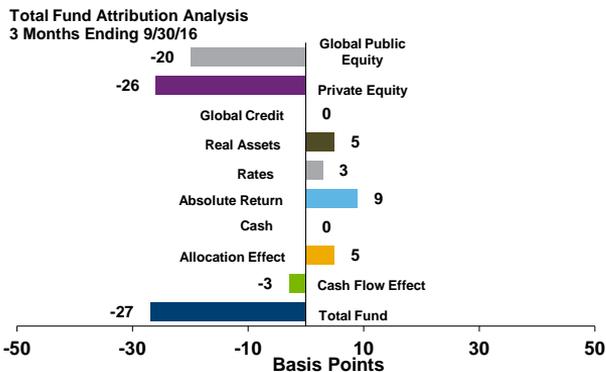
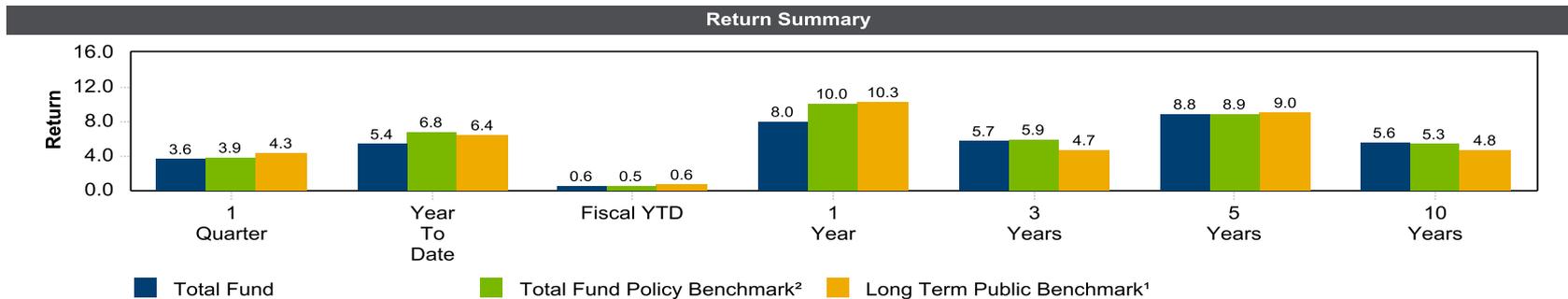
Employees Retirement System of Texas - Quarterly Asset Allocation Including Risk Management vs. Policy Target as of 9/30/2016



¹ All returns contained in this report are shown net of investment management fees. All returns longer than 1-year are annualized.

² Source data can be found on pages 31 and 40 of full report.

Total Fund: Performance

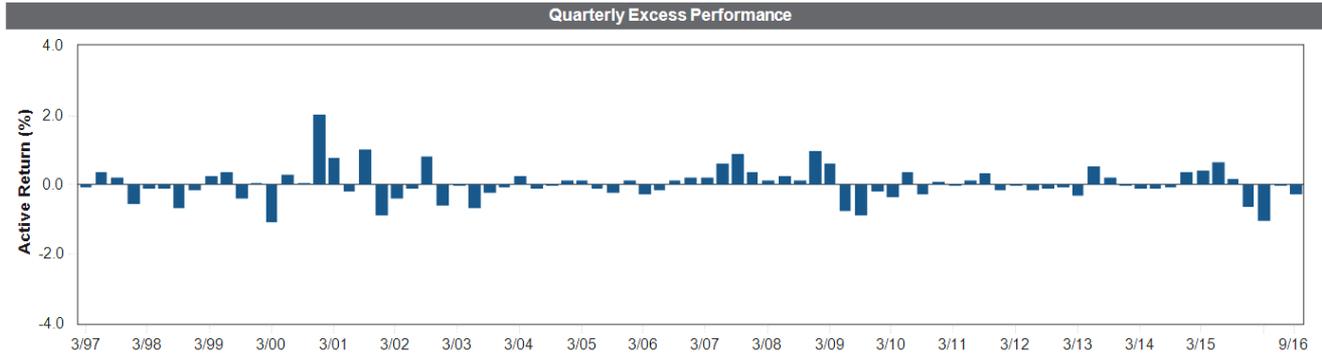
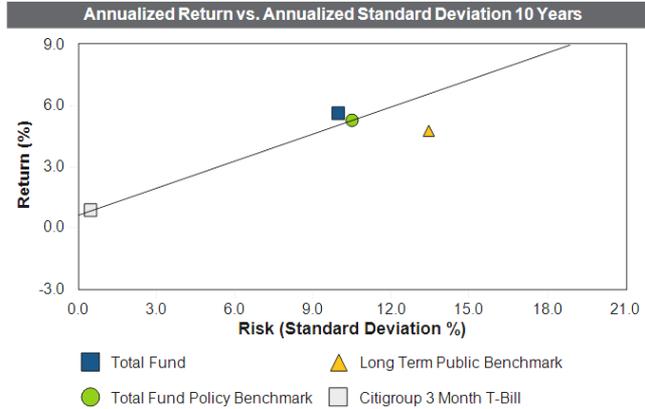
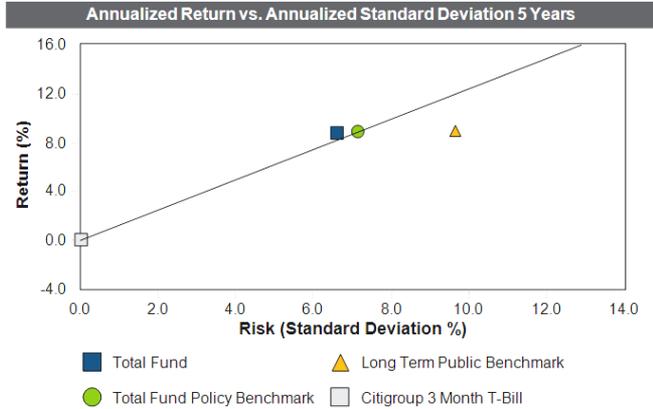


¹The Long Term Public Benchmark is a combination of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index.

²A detailed description of the Policy Index as of 9/30/2016 is provided in the appendix of the full report.

³Source data can be found on pages 30 and 32 of full report.

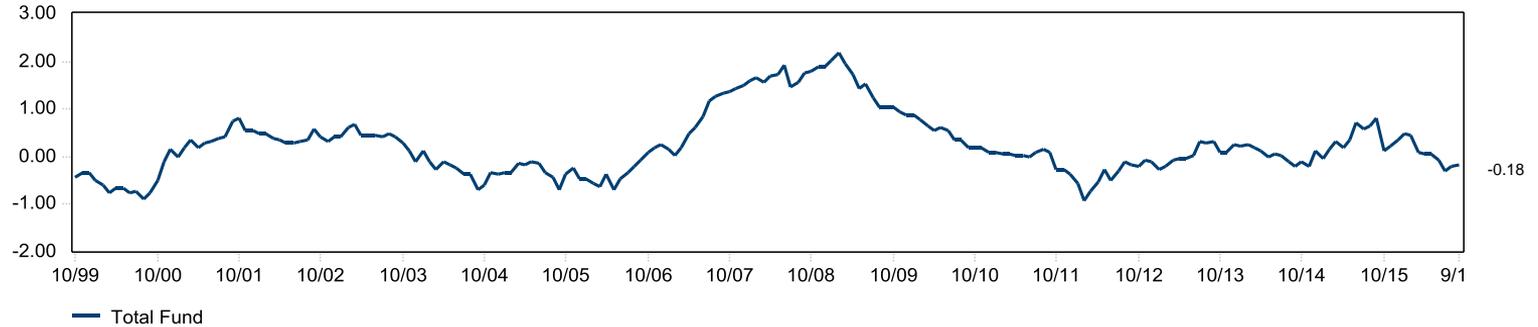
Total Fund: Risk



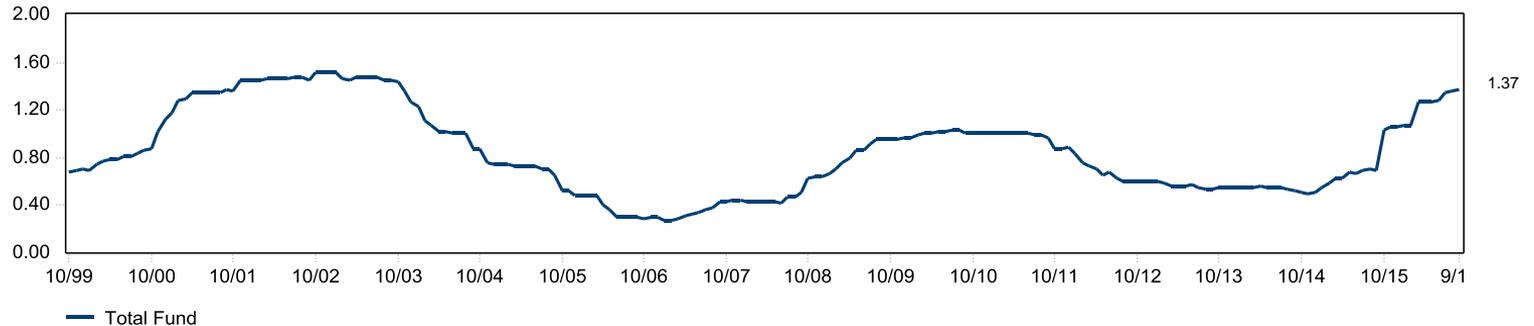
¹ Source data can be found on page 32 and 39 of full report.

Total Fund: Rolling Information Ratio and Tracking Error (36 months)

Information Ratio (Excess Return Ratio¹)



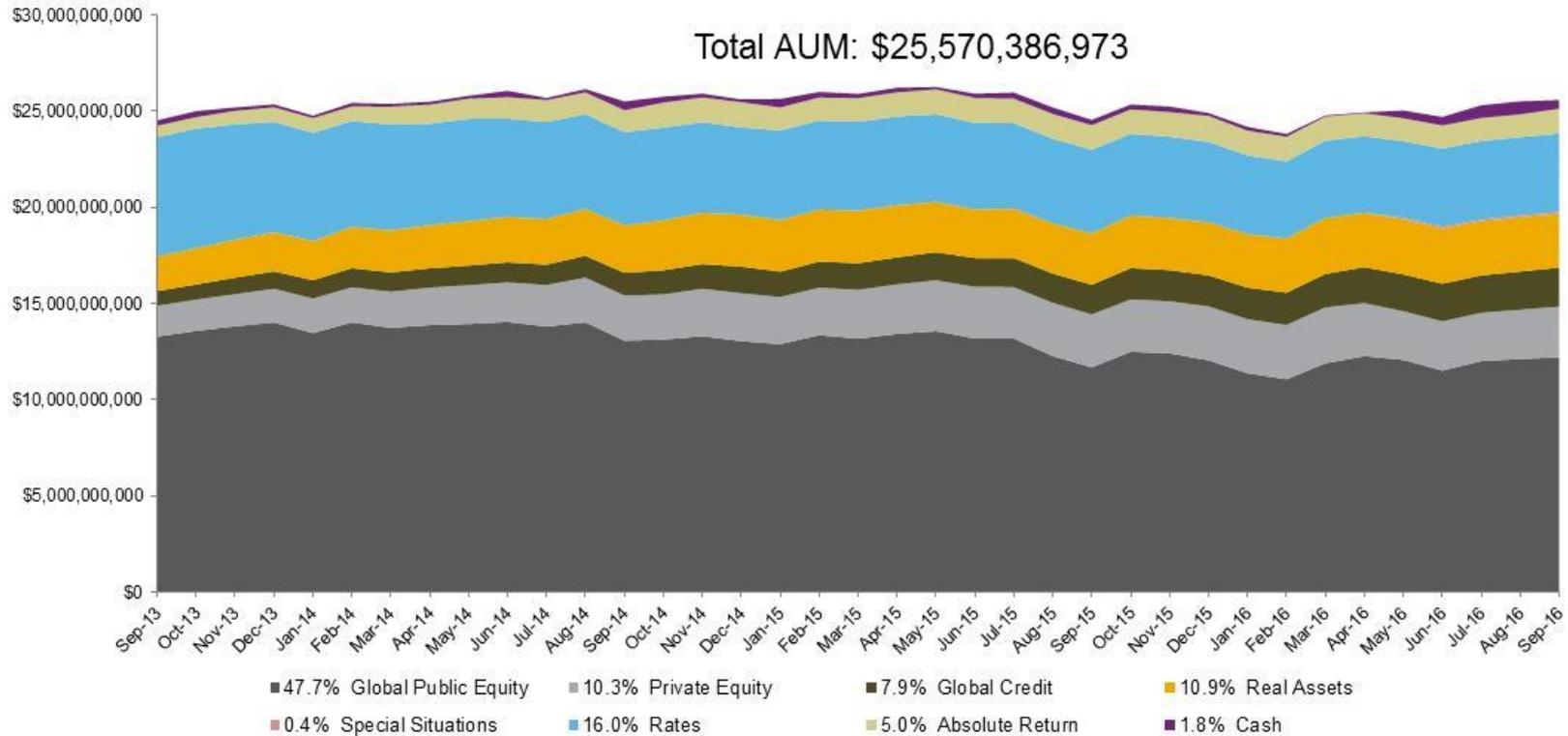
Tracking Error²



¹ Measured by dividing the active rate of return by the tracking error. The higher the Information Ratio, the more value-added contribution by the manager.

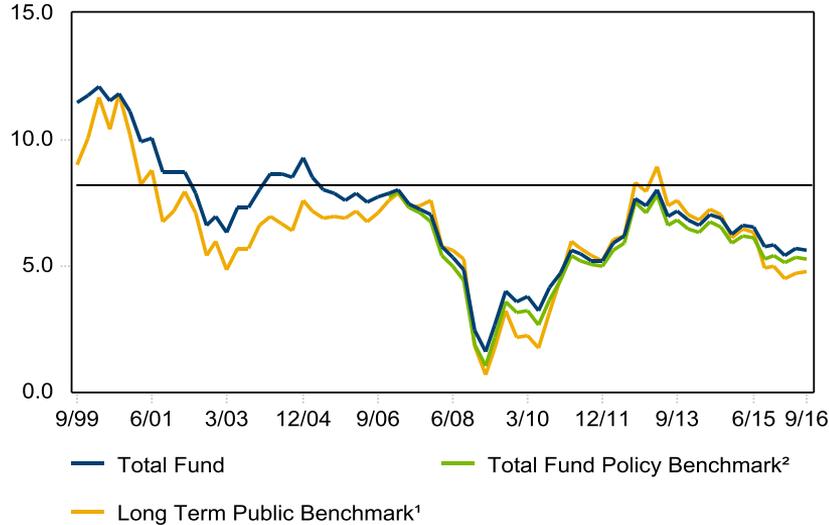
² A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

ERS Asset Allocation Evolution

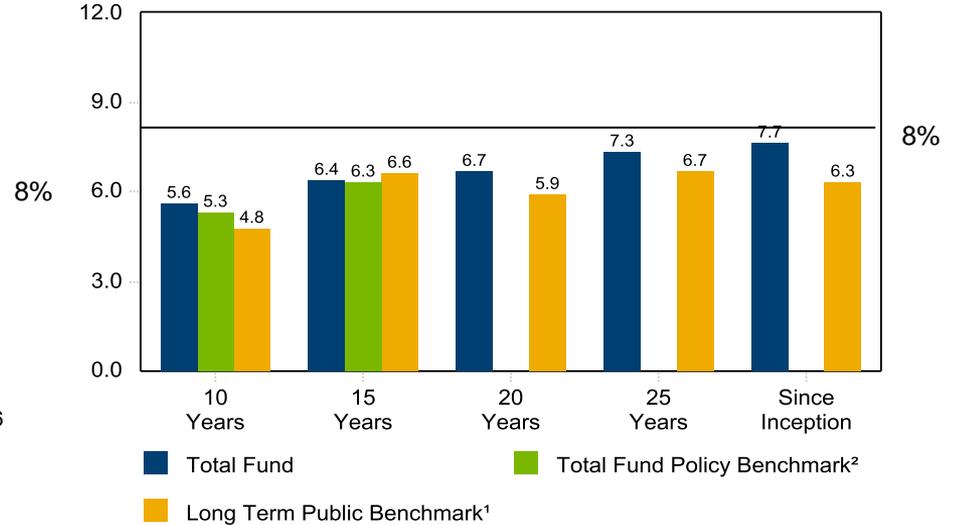


Long Term Investment Results

Rolling 10 Year Return



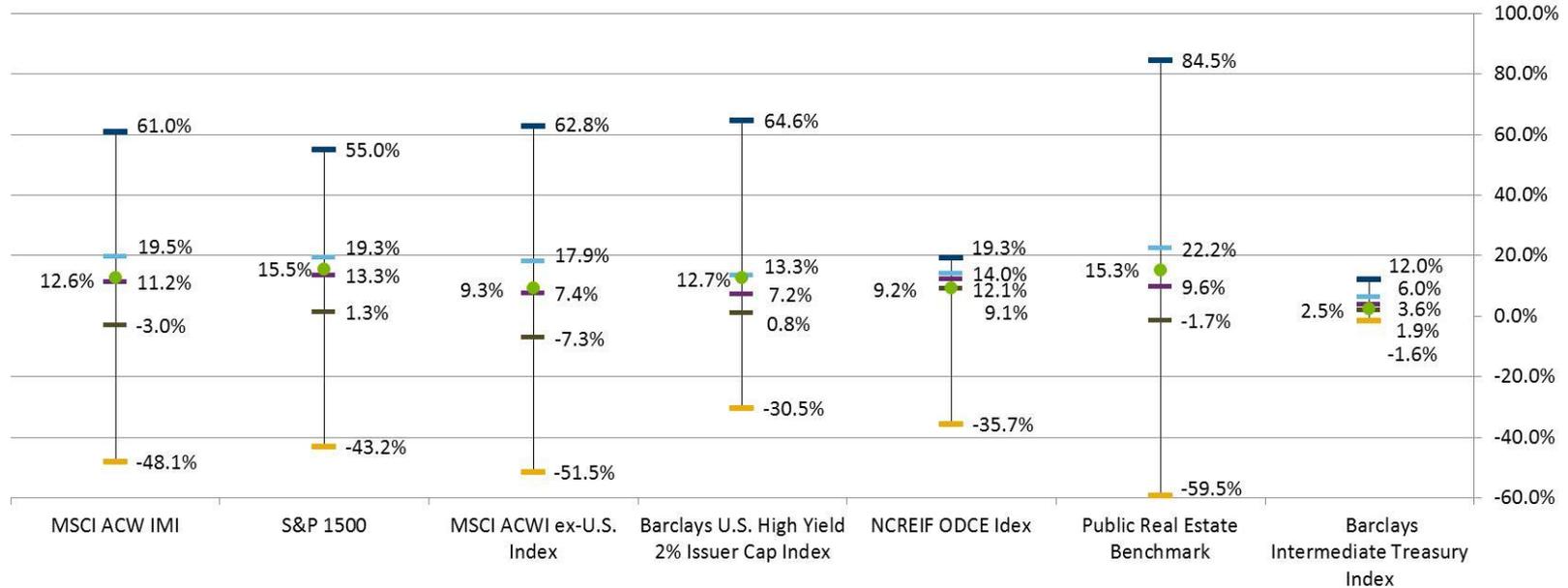
Return Summary



¹The Long Term Public Benchmark is a combination of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index.

²The Total Fund Policy Benchmark has an inception date of 11/30/1996.

Rolling 12-Month Capital Market Returns (10 Years ending 9/30/16)



- The chart above depicts the dispersion of rolling 12 month returns of various capital markets over the last 10 years.

Recent Success of Active Investment Management

Percentage of Active Managers that Outperformed Benchmarks

Fund Category	Benchmark	1-Year	3-Year	5-Year	10-Year
All Multi-Cap Funds	S&P Composite 1500	8	14	5	10
All Large-Cap Funds	S&P 500	15	19	8	15
All Mid-Cap Funds	S&P Mid Cap 400	12	16	12	9
All Small-Cap Funds	S&P Small Cap 600	11	6	2	9
International Funds	S&P 700	45	45	40	20
Global Equity Funds	S&P Global 1200	25	23	18	19
Inter Gov't Bond Funds	Barclays Int Government	36	41	29	20
High Yield Bond Funds	Barclays High Yield	25	20	11	3

Source: S&P Index Versus Active (SPIVA) Scorecard: Mid-Year June 2016

- S&P analyzes performance of mutual funds based on the Lipper database
 - Free from survivorship bias
 - Appropriate comparison of funds to relevant style / capitalization benchmark
- Data depicts the difficulty associated with adding value net of investment management fees
 - Over ten years the benchmark would be in the top quartile of each category
 - Over recent periods international equity and intermediate government bonds have been areas where active management has been able to add value

Summary Analysis

- Public equity underperformance has been the largest detractor from Total Fund results during the trailing 12 month period.
 - Public equity accounted for 129 bps of Total Fund underperformance (-205 bps).
 - U.S. equity contributed 74 bps of public equity underperformance.
 - Over the trailing 12 months ending June 2016, the S&P 1500 outperformed 92% of the managers in the active management universe (SPIVA® U.S. Scorecard).
- Actual allocations were in line with policy at the end of the period.
- Longer term investment results have been generally positive, the Total Fund has produced risk adjusted returns superior to the benchmark and the Long Term Public Benchmark over the five and ten year period.
 - The Total Fund underperformed the benchmark in nominal terms by 0.1% over the trailing five year period.
- The Total Fund has meaningfully outperformed the Long Term Public Benchmark over most longer-term periods.
- Diversification has been effective, the Total Fund Policy Benchmark has produced a return superior to the Long Term Public Benchmark at a meaningfully lower level of risk (volatility) over the trailing five and ten year period.

Questions?

Public Agenda Item #6

Review and Discussion of the Risk Management and Applied Research Program(RMAR)

December 1, 2016

Carlos Chujoy, CFA, Sr. Risk Management Portfolio Manager

Stuart Williams, CFA, Risk Management Portfolio Manager

Risk Management and Applied Research Program



“Investing in the capital markets brings with it an uncertainty of returns”

Risk refers to the distribution of these uncertainty of returns

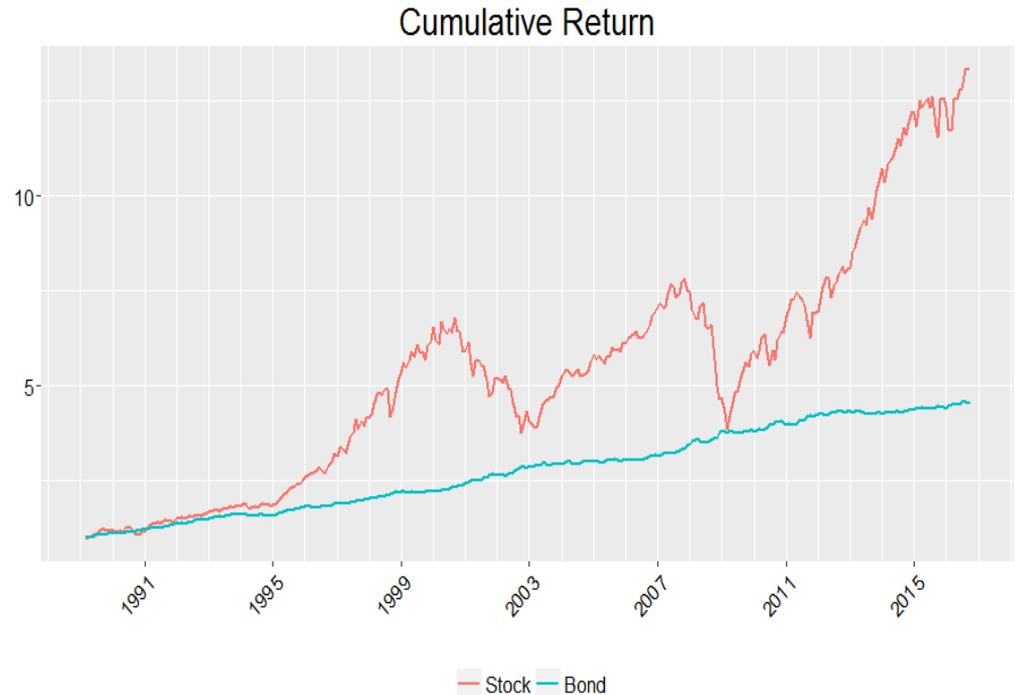
- A high risk investment is more volatile than a low risk investment
- A measure of the estimation of this risk is the standard deviation
- The standard deviation measures the size of these fluctuations

Diversification - potential losses can be mitigated by investing in assets that do not move in the same direction at the same time “Do not put all your eggs in one basket”

Risk Management and Applied Research Program



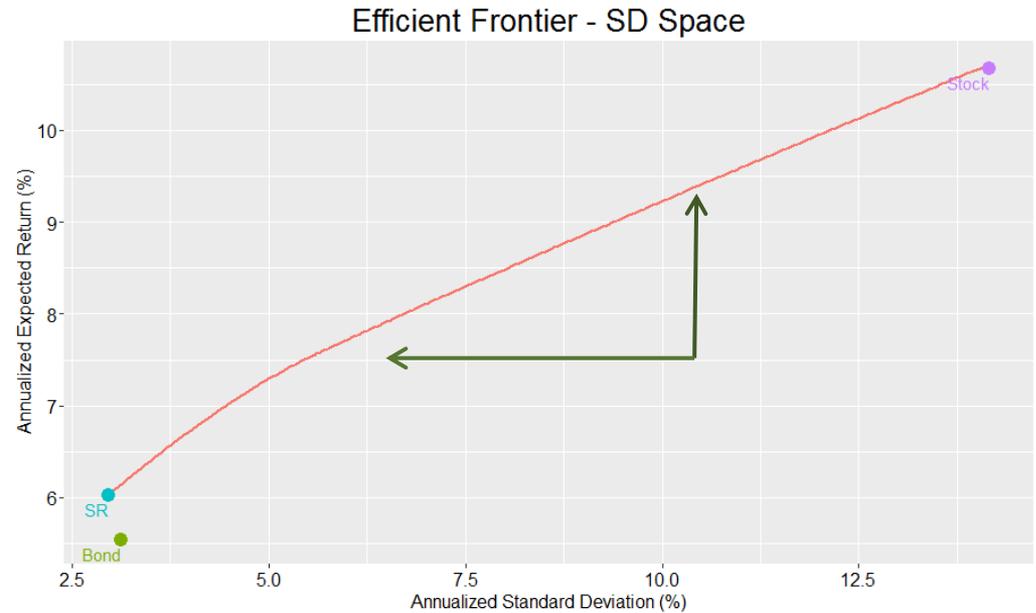
- Red line = risky asset
- Green line = riskless asset
- Do not move in the same direction at the same time
- We have the potential to diversify and mitigate risk



Risk Management and Applied Research Program



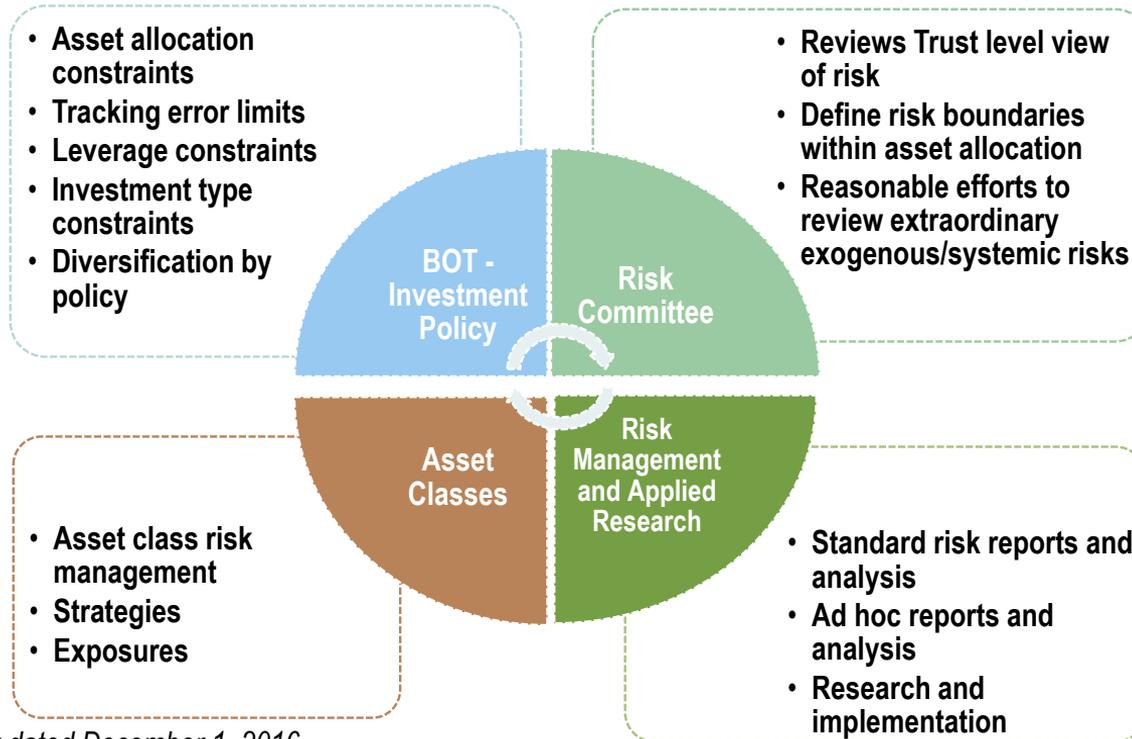
- Efficient frontier depicts a trade off between risk and returns
- Higher expected returns are associated with higher risk
- Diversification can be achieved by the combination of risky and riskless assets
 - Helps to balance the amount of return per unit of risk



Risk Management and Applied Research Program



Integrated Aspects of Risk Management



RMAR Team

- **Carlos Chujoy, CFA** - Sr. Portfolio Manager
- **Stuart Williams, CFA** - Portfolio Manager
- **Joy Seth** - Investment Analyst
- **Satitpong Chantarajirawong** - Investment Analyst
- **Yu Tang** - Intern

Risk Management and Applied Research Program



Risk Committee Members

Voting Risk Committee Members

- Tom Tull, CFA,
Chief Investment Officer
- Sharmila Kassam, Esq., CPA,
Deputy Chief Investment Officer
- Carlos Chujoy, CFA,
Portfolio Manager
- Leighton Shantz, CFA,
Director of Fixed Income
- John Streun, CFA, CPA,
Director of Public Equities
- Anthony Curtiss, CFA,
Interim Director of Hedge Funds

Non Voting Risk Committee Members

- Wesley Gipson
Director of Private Equity
- Robert Sessa, CFA,
Director of Real Estate

Risk Management and Applied Research Program

Asset Class and Trust Risk Monitoring



	Asset Allocation	Active Risk	Tail Risk	Sector/ Factor Risk	Currency	Stress Test	Financial Leverage	Derivatives	Counterparty	Liquidity
Global Equity										
Public Equity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Private Equity	✓			✓	✓		✓		✓	
Fixed Income										
Global Credit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rates	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cash	✓				✓				✓	✓
Real Assets	✓	✓		✓	✓		✓		✓	✓
Absolute Return	✓	✓	✓	✓		✓	✓		✓	✓
Overall Trust	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓

✓ Risk is currently measured and monitored
 ✗ Tools and standards under development
 Not currently monitored or available

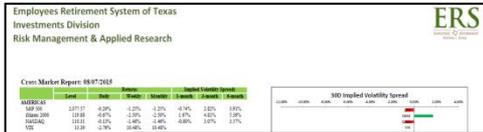
Risk Management and Applied Research Program

FY2016 in review

- Continued to address plan-wide investment risk – Monthly Risk Committee Meetings
- Enhanced and expanded analytical capabilities of the group
- Developed tools for the equity team that enable a disciplined evaluation of companies' financial ratios
- Led research efforts in equity derivative strategies
 - Developed framework to generate relative volatility equity option ideas
 - Research paper published by CBOE on the use of options-based strategies
 - Launch of a Tactical Asset Allocation Quantitative driven fund with options overlay

Risk Management and Applied Research Program

FY2016 in review



Appendix 2

Employees Retirement System of Texas
Investments Division
Risk Management & Applied Research

Definitions

Call An option is a financial contract between two parties. The buyer of an option has the right, but not the obligation, to buy a specified quantity of a particular security or financial instrument (the underlying) at a fixed or floating price (the strike price) on or before a certain date (the maturity date). The seller of an option has the obligation, but not the right, to sell the underlying to the option buyer at the strike price on or before the maturity date.

Put The option contract obligates the seller to sell the underlying security or financial instrument at the strike price.

Delta The Delta measures the sensitivity of the option's price to a change in the price of the underlying security.

Gamma Gamma measures the rate of change in the Delta of an option.

Theta Theta measures the change in the price of an option over time.

Rho Rho measures the sensitivity of the option's price to a change in the risk-free rate of interest.

Vega Vega measures the sensitivity of the option's price to a change in the volatility of the underlying security.

Mathematics

$$\text{Price Delta} = \frac{SN(d_1) - Ke^{-rt}N(d_2)}{N(d_1)} \quad \text{Call} \quad \frac{Ke^{-rt}N(-d_2) - SN(-d_1)}{-N(-d_1)} \quad \text{Put}$$

$$\text{Gamma} = \frac{Ke^{-rt}N(d_1)}{S\sigma\sqrt{t}}$$

$$\text{Theta} = -Ke^{-rt}\left[\sigma N(d_1) + \frac{S\sigma^2}{2}t\right] \quad \text{Call} \quad -Ke^{-rt}\left[\sigma N(-d_2) - \frac{S\sigma^2}{2}t\right] \quad \text{Put}$$

$$\text{Rho} = rKe^{-rt}N(d_1) \quad \text{Call} \quad -rKe^{-rt}N(-d_2) \quad \text{Put}$$

$$\text{Vega} = \sqrt{t}Ke^{-rt}N(d_1)$$

• $d_1 = \frac{\ln(S/K) + (r + \frac{1}{2}\sigma^2)t}{\sigma\sqrt{t}}$

• $d_2 = d_1 - \sigma\sqrt{t}$

- Custom publication for equity derivatives
- Assess opportunities across multiple markets
- Display assets that look attractive/unattractive
- Added flexibility through Excel for Option ideas

Ticker	Current Price	Skew	Spread_3M	PE	Percentile	ZScore	Recommended Trade	Delta	Premium
CAT	72.25	8.10		12.68	1.00	1.460609	4.16	0.57	2.20
JNO	93.50	9.71		15.96	1.00	1.129046	4.13	0.54	1.51
BROM	52.81	8.81		22.27	0.98	0.406211	4.05	0.35	-0.05
PFE	32.86	8.57		17.91	0.96	3.883546	3.88	0.39	0.32
AAPL	114.39	7.99		13.02	0.94	3.706621	3.71	0.56	1.13
CA	27.80	7.60		15.18	0.93	3.660508	3.66	0.43	0.25
BA	136.17	7.52		15.97	0.92	3.602386	3.60	0.53	0.56
SBUX	57.50	6.14		34.88	0.92	3.596255	3.60	0.49	0.36
CSCO	25.63	6.76		14.57	0.92	3.548146	3.55	0.42	0.18
F	14.35	6.49		10.72	0.91	3.524656	3.52	0.42	0.20
MKX	51.69	6.76		30.38	0.89	3.372660	3.37	0.55	1.33
MZ	116.17	5.99		30.20	0.89	3.335212	3.34	0.43	1.10
GS	182.99	7.68		9.48	0.89	3.328619	3.33	0.48	1.27
CHK	8.54	11.68		56.51	0.88	3.305043	3.31	0.88	0.22
COF	74.48	8.83		10.67	0.88	3.301429	3.30	0.43	0.61

Motivation for the Tactical Quantitative Portfolio with Options Overlay

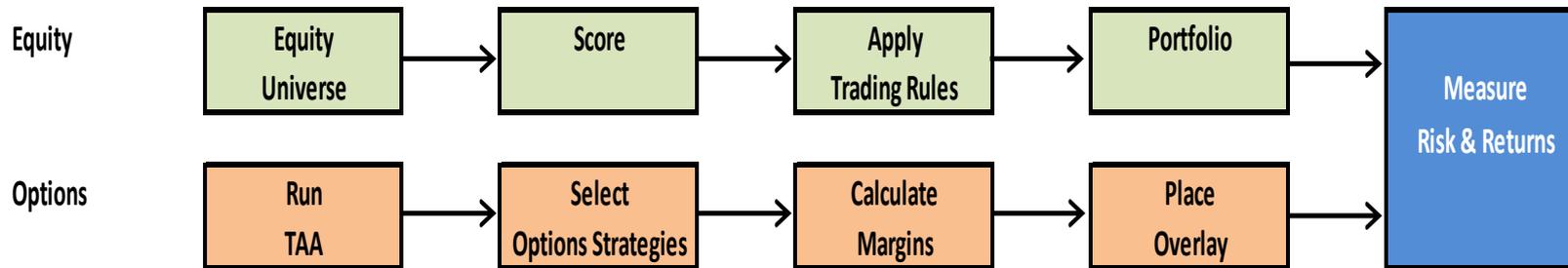
- **Economic** model predicts the near-term economic environment, then picks industries based on how they performed in similar environment in the past
- **Industry** financial statement model predicts industry performance using financial statement ratios and stock price and sentiment indicators
- **Company** financial statement model picks stocks within each industry
- **Derivative** models improve returns and reduce risk

Risk Management and Applied Research Program

FY2016 in review



Investment Process - Tactical Quantitative Portfolio with Options Overlay



Risk Management and Applied Research Program

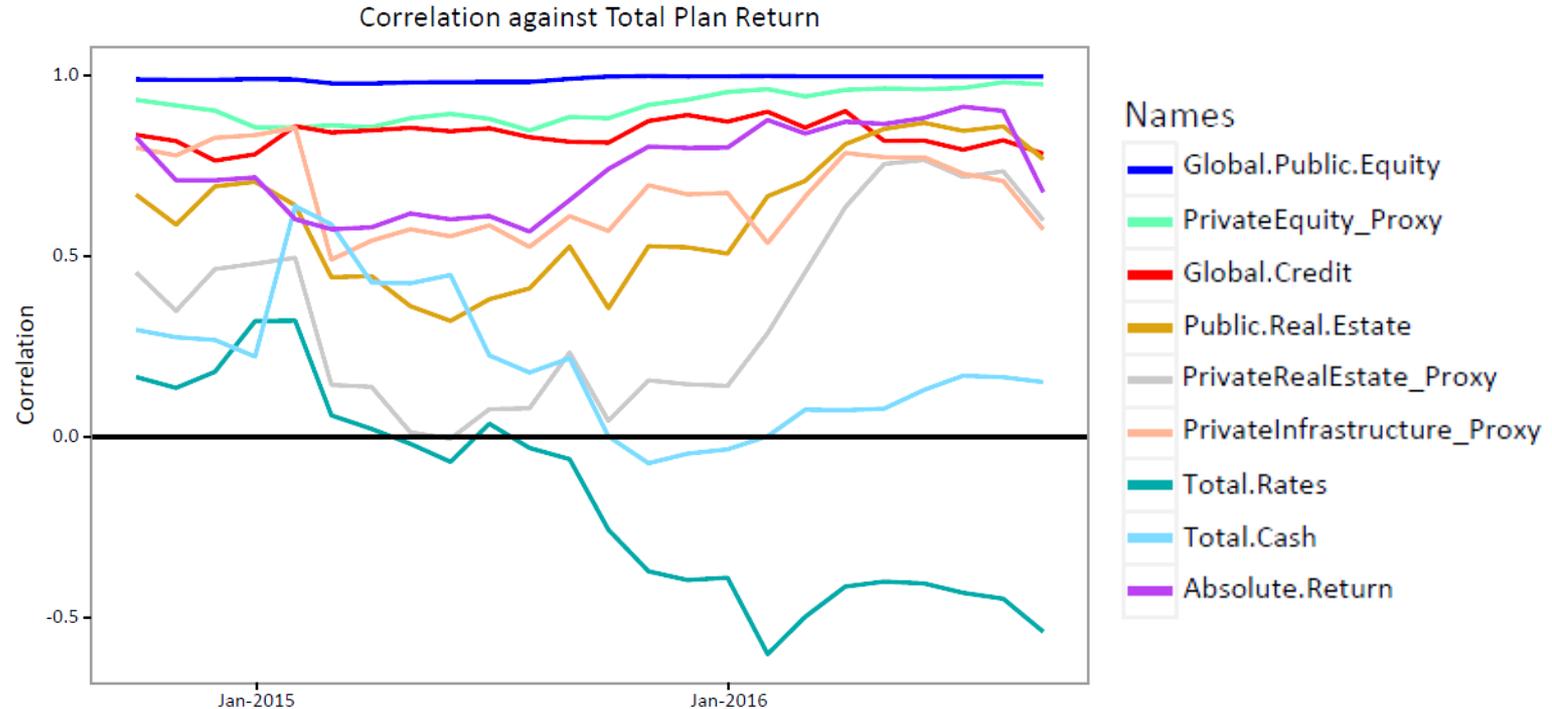
FY2016 in Review



- Improve upon reporting requirements (Ongoing)
- Asset Class Reviews
- Risk Committee Response to Exogenous/Systematic Risks
 - November 2015, analysis of Total Plan's sensitivity to the market (Beta)
 - March 2016, effect of negative interest rates and probability of default in energy oil companies
 - July 2016, effect of Brexit on world markets
 - August 2016, valuation of currency market risk and drivers of diversification/concentration risk
 - September 2016, drivers of tracking error and review of market signals

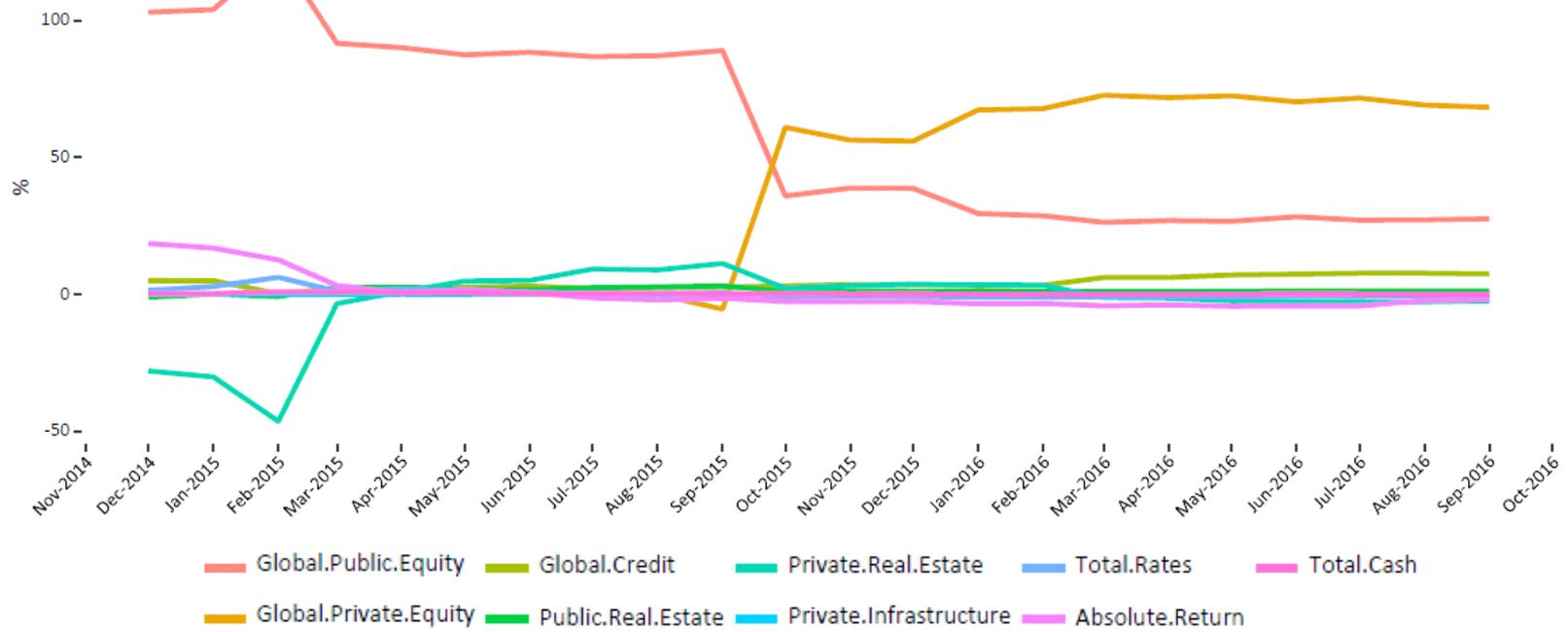
Risk Management and Applied Research Program

FY2016 in Review



Risk Management and Applied Research Program

FY2016 in Review – Rolling 12M % Contribution to Tracking Error



Risk Management and Applied Research Program

FY2016 in Review



Risk Management and Applied Research Program

Outlook – FY 2017



- Measure / Monitor / Manage
 - Continued emphasis measurement development
- Expand the risk management capabilities
 - Systemic Risk and Financial Contagion Risk
 - Measure exposures at factor and position level
 - Relative Value Trades
 - Systematic investment strategies for risk and exposure management
 - Currency Overlay

Questions?

Public Agenda Item #7

Review, Discussion and Consideration of ERS' Emerging Manager Program

December 1, 2016

Sharmila Kassam, CPA, Deputy Chief Investment Officer

Amy Cureton, Real Estate Portfolio Manager

Emerging Manager Program

Agenda



- Background
- Investments and Commitments as of September 30, 2016
- Calendar Year 2016 Highlights
- Calendar Year 2017 Initiatives

Emerging Manager Program

Background



Emerging managers, as defined by Texas Legislature, are private professional investment managers with assets under management of \$2 billion or less

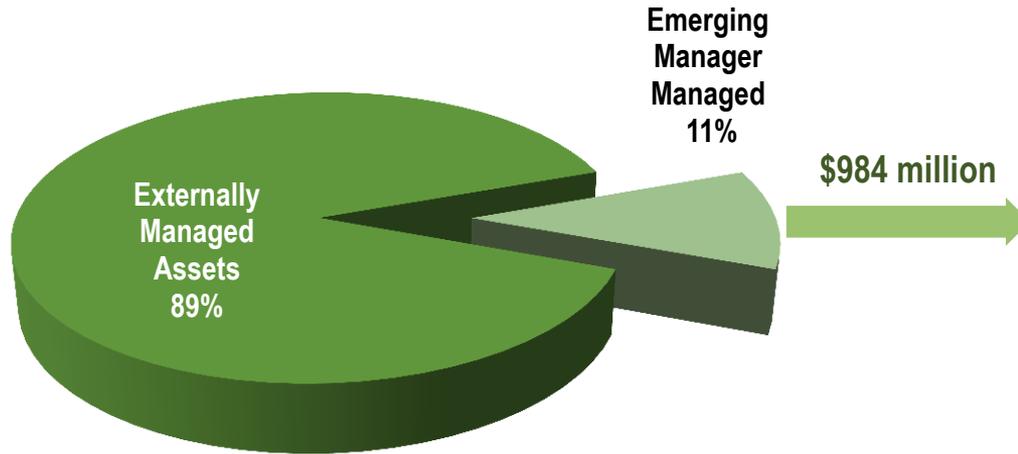
Staff has determined that, over the long term, inclusion of emerging managers should enhance and diversify ERS' portfolio and complement ERS' internal investment management

Emerging Manager Program

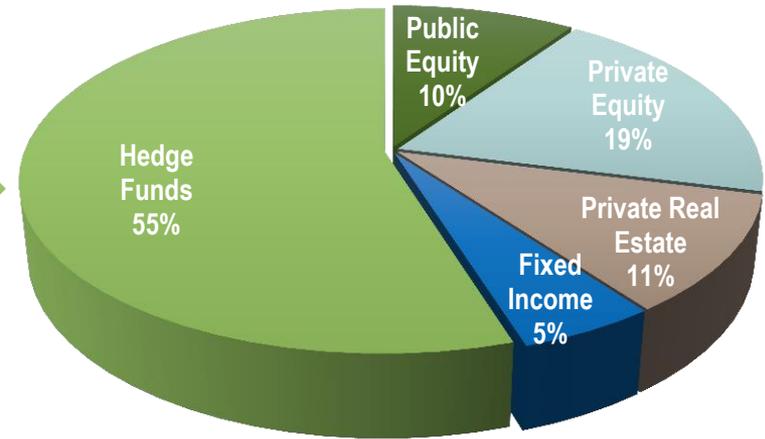
Investments and Commitments as of September 30, 2016



ERS' Total Externally Managed Assets \$8.6 billion



Current Allocation by Asset Class



- Public Equity
- Private Equity
- Private Real Estate
- Fixed Income
- Hedge Funds

Emerging Manager Program

Calendar Year 2016 Highlights



- Evolution to an ERS Emerging Manager Team
- Enhanced utilization of the ERS External Advisor Website
- Leveraged partnerships with Managers of Emerging Managers – Legato, Oak Street and GCM Grosvenor
- Continued industry outreach and exposure at conferences
- Maintain 10% target allocation

Emerging Manager Program

Calendar Year 2017 Initiatives



- Continue to refine the process for emerging managers with access to ERS
- Continue to develop and enhance the ERS *External Advisor Website*
- Continue ERS' participation at industry conferences to expand ERS' network of emerging managers and to promote emerging manager program best practices
- Focus on relevant direct relationships with emerging managers in ERS portfolios
- Promote emerging manager program best practices by working with other investors

Real Estate Program Highlight

Emerging Manager Program: Private Real Estate

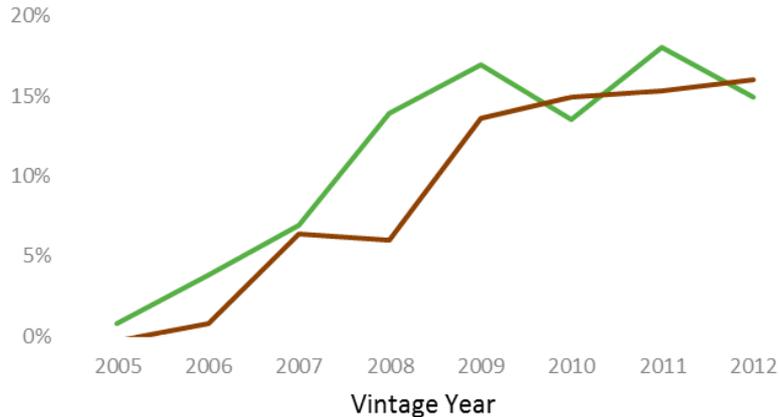
Program Benefits of Emerging Manager Investing



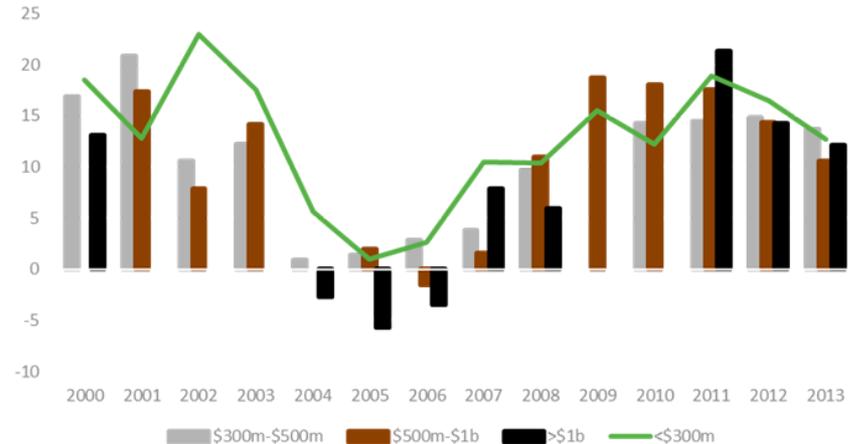
- Investing in emerging managers provides diversification and alpha to the broader real estate portfolio

Potential For Outperformance vs. Larger Funds

U.S. Private Real Estate Median Net IRR*



U.S. Private Real Estate Median Net IRR**



— First- or Second-Time Fund Managers — All Other Funds

Emerging Manager Program: Private Real Estate

Program Structure and Initiatives



- Fund of one structure provides diversification, expertise, and oversight
- ERS' program seeks to promote the growth and proliferation of best in class institutional quality emerging manager platforms through capital and non-economic initiatives:
 - Financial Viability and Alignment of Incentives
 - Relationship/Network Building:
 - Peer to Peer Relationship Building: ERS/ Oak Street Annual Fund meeting
 - Industry Relationship Building: ERS, TRS, and Oak Street have co-hosted the successful biannual Real Estate Emerging Manager Conference since 2012

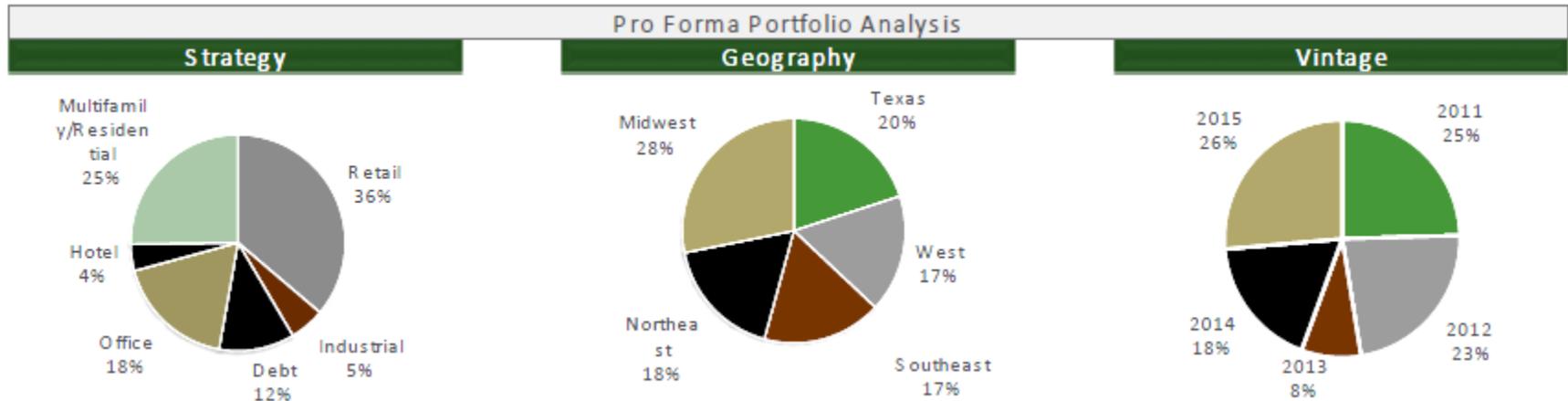


Emerging Manager Program: Private Real Estate

Fund I & Side Cars: Portfolio Update as of June 30th, 2016



- Portfolio Composition: The Fund is fully committed to date in a diversified portfolio of 11 underlying funds



- Performance: The Fund is tracking upper-quartile results and has produced a 1.45x multiple to date in the main fund, and a 1.85x in the side cars. 196 underlying deal realizations have produced a 35% Gross IRR, 2.1x gross multiple

Emerging Manager Program: Private Real Estate *Fund II and Direct Follow-on Fund Investments Update*



- ERS EM FOF II:
 - \$50 million commitment January 2016/ \$17ml in three underlying funds committed to date
 - Investment Strategy:
 - Seeks alpha through investments with early stage/ small cap managers
 - Frequent anchor for first-time funds and creative structures offering reduced fees
 - Focused, operationally intensive strategies
- Direct Follow-on Fund Investments:
 - Three fund and one co-investment to date
 - One additional follow-on investment in underwriting

Questions?

Public Agenda Item #8

Chief Investment Officer's Report

December 1, 2016

Porter Wilson, Executive Director

Tom Tull, CFA, Chief Investment Officer

Chief Investment Officer Report

Agenda



- Objective and Philosophy
- Investment Challenges for FY2017
- Investment Opportunities for FY2017
- Major Initiatives for FY2017
- Staffing changes
- Process

Chief Investment Officer Report

Objective and Philosophy



Objective:

Investment staff continues to work with the Executive Director, Board of Trustees (Board), Investment Advisory Committee (IAC) and other divisions within the Agency to build a premier and competitive investment organization in the best interest of the Trust and its beneficiaries

Philosophy:

- Position the Trust for the future for the sole benefit of its members and retirees
- Establish investment policies, objectives, and strategies for the purpose of earning a competitive risk-adjusted rate of return at a reasonable cost

Chief Investment Officer Report

Investment Challenges for FY2017



- Expect higher interest rates
- Increased risk of political uncertainties
- Strong US dollar exporting inflation and challenging trade exports
- Brexit
- Energy prices
- Implications of honeymoon period after election cycle
- Geopolitical risk

Chief Investment Officer Report

Investment Opportunities for FY2017



- Credit
- Secondaries
- GTAA (Global Tactical Asset Allocation)
- Infrastructure

Chief Investment Officer Report

Major Initiatives for FY2017



- Asset liability study to target future asset allocation mix
- Support legislative initiatives, such as ERS Sunset Review and alternatives for addressing unfunded pension liabilities
- Continue to advance derivative program
- Assess current and future savings through diligent negotiation of best economic terms
- Leverage internal investment resources to assist investment product monitoring in the Texa\$aver Program and continue discussions on management of customized Texa\$aver fund offerings

Chief Investment Officer Report

Staffing



Continue development of the Investment Division career path, succession planning, team dynamics, and intra-agency communication

Promotions: 10	
Global Equities:	3
Operations:	4
Risk Management:	1
Real Estate:	1
Admin:	1
Other: 9	
New Employees:	4
Retirements:	2
Separations:	3

Chief Investment Officer Report

Process



Asset Allocation Implementation:

- Transition to the new asset allocation is almost completed except for Credit and Infrastructure
- Private Real Estate and Private Equity met asset allocation guidelines as targeted in CY2015
- Realized savings from negotiations of fee and terms for calendar year 2016 are approximately **\$28 million**

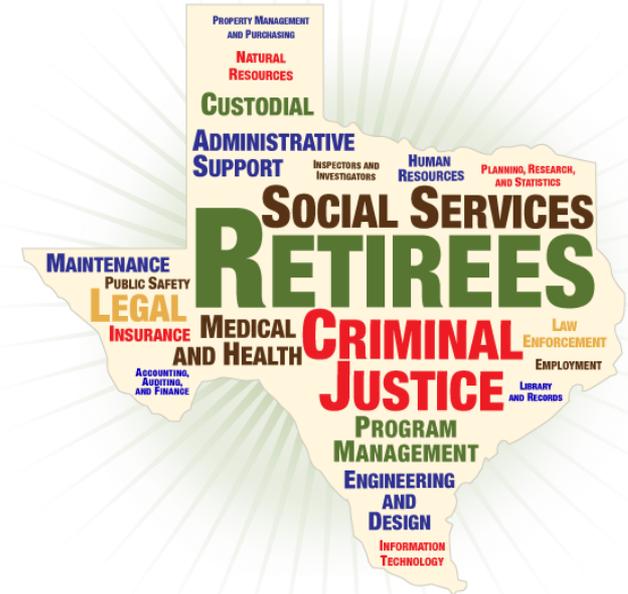
Tactical Asset Allocation Opportunities in FY 2016:

- Reduced the Trust's UK exposure
- Utilized options in both fixed income and equities to enhance trade execution - **Net Profit: \$3.5 million**
- Increased use of Exchange Traded Funds as placeholder until capital could be deployed effectively

Sunset Review Update – New Recommendations



1. **Experience Study:** Require adoption of the experience study and actuarial assumptions every four years. (Statutory Change)
2. **Investment Governance Audit:** Direct the ERS 2017 internal audit review of investment governance to consider industry best practices. (Management Action)
3. **Alternative Investment Approval:** Require **Board** approval of investments over \$100 million. (Statutory Change)



Questions?

Public Agenda Item #9

Adjournment of the Joint Meeting of the Board of Trustees
and Investment Advisory Committee and Recess of the
Board of Trustees

December 1, 2016

Meeting of the ERS Board of Trustees Audit Committee

December 2, 2016



Public Agenda Item #10

Review and Approval of the Minutes to the
August 16, 2016 ERS Audit Committee

December 2, 2016

Questions?

Internal Audit Quality Assessment External Peer Review

Tony Chavez, Director, Internal Audit Division

Amy Barrett, Chief Audit Executive, Teacher Retirement System

Rene Valadez, Director Internal Audit, Office of the Governor

External Peer Review



Objective: To determine whether the Internal Audit (IA) function is in compliance with professional auditing standards, Texas Internal Auditing Act, and auditor codes of ethics.

Results: **Generally Conforms (highest rating)**

ERS Internal Audit's system of quality control has been suitably designed and complied with to provide the audit organization with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects.

Public Agenda Item #11a

Presentation, Discussion and Consideration of
Audit Committee Agenda items:

Internal Audit Reports

December 2, 2016

Tony Chavez, Director, Internal Audit Division

Incentive Compensation Audit

Tony Chavez, Director, Internal Audit Division
Beth Gilbert, Internal Auditor

Incentive Compensation Audit



Audit Objective: To determine if recommended incentive compensation awards were in accordance with ERS' Incentive Compensation Plan ("ICP" or "Plan")

Scope: Plan Year 2016 incentive compensation awards recommended to ERS' executive office for approval.

Scope Area	Sub-Objective(s)
ICP Participant and Development	<ul style="list-style-type: none">• Are controls present to ensure participants are eligible and meet minimum requirements to receive the award?• Are controls present to ensure performance goals developed in accordance with ICP guidelines?
ICP Award Calculations	<ul style="list-style-type: none">• Are controls present to ensure the accuracy of recommended awards?• Are controls present to ensure recommended awards align with ICP directives?

Plan Year 2016 Award Highlights



\$2.58 million – Awards submitted for approval

\$6.15 million – Maximum awards possible

69 – Participants recommended to receive ICP

Plan Year 2016 Key Changes



Plan Development:

- Human Resources Division primary owner for Plan implementation
- All participants have a discretionary goal weight of 25%
- All participants have a minimum Total Trust Fund weight of 25%

Award Calculations:

- Finance Division performs award calculations
- Investments implemented a qualitative scoring tool for discretionary goals earned

Incentive Compensation Audit



Overall Assessment		Satisfactory
Scope Area	Result	Rating
ICP Award Calculation	Based on audit scope areas reviewed internal controls are effective to ensure accuracy of award calculations.	Satisfactory
ICP Participation and Development	Observation 1: Continue to ensure sufficient and relevant information provided to executive management in a timely manner. (Significant)	Needs Improvement

Hedge Funds Absolute Return Directional Growth Audit

Tony Chavez, Director, Internal Audit Division
Jonathan Puckett, Internal Auditor

Hedge Funds Audit



Audit Objective: *To determine whether the Hedge Fund investment program is effectively designed and operating to meet ERS' investment goals and objectives.*

Background:

- The program's value added return is **primarily derived from strategy selection**
- Three portfolios: Absolute Return (risk reduction), Direction Growth (return-seeking), Special Situations (return-seeking)
- Hedge fund managers are compensated through management and performance fees

Audit Objectives / Scope Areas:

- Investment Selection
- Ongoing Operations
- Performance Reporting

Related Audit:

- 2015 Financial Opinion Audit—Performed by the State Auditors Office, which covered valuation of hedge funds.

Investment Selection



Sub Objective: Are individual investments aligned with the hedge fund strategic plan?

- *Determined if details of approved hedge fund strategies aligned with strategic plan*
- *Identified sub-strategies and target range allocations that are essential to program execution*

Sub Objective: Are investment fees competitive with industry standards?

- *Reviewed fee structures of funds versus industry standard rates – 2% management fee and 20% incentive fee*

Sub Objective: Is investment liquidity consistent with hedge fund management's targets?

- *Program identified liquidity target since policy not specific. Audit reviewed actual liquidity profile versus target.*

Ongoing Operations



Sub Objective: Are quantitative risk characteristics of hedge funds monitored at both the fund and portfolio level?

- *Observed risk committee meeting and materials*
- *Reviewed the program's monitoring activities of key performance metrics*

Sub Objective: Do hedge fund investments remain within the parameter constraints and allocations as set by the Board of Trustees?

- *Reviewed performance for any indication of style drift*

Sub Objective: Are investment fees managed in accordance with contractual rates?

- *Recalculated fees to determine if third party administrator charged the correct fees*

Performance Reporting



Sub Objective: Do benchmarks reflect the goals and objectives of the hedge fund program?

- *Reviewed current goals and benchmarks vs best practices*
- *Met with Albourne (hedge fund consultant) and obtained survey of other pension funds' benchmarks*

Sub Objective: Is hedge fund performance accurately provided to stakeholders?

- *Reviewed August 2015 and August 2016 board meeting slides and noted issues with accuracy of data*
 - *No material differences noted*

Hedge Funds Audit



Overall Assessment		Satisfactory
Scope Area	Result	Rating
Investment Selection	Based on the audit scope areas reviewed, internal controls are effective, efficient and sustainable, and fully address significant risks related operational execution and regulatory compliance.	Satisfactory
Performance Reporting	Observation #1: Certain information provided to key decision makers and stakeholders is not accurate. (Moderate)	Satisfactory
Ongoing Operations	Observation #2: Monitoring of performance versus peer group hedge funds not performed. (Moderate)	Satisfactory

Prescription Drug Program Audit

Tony Chavez, Director, Internal Audit Division
Karen Norman, Internal Auditor

Prescription Drug Program – Information Flow



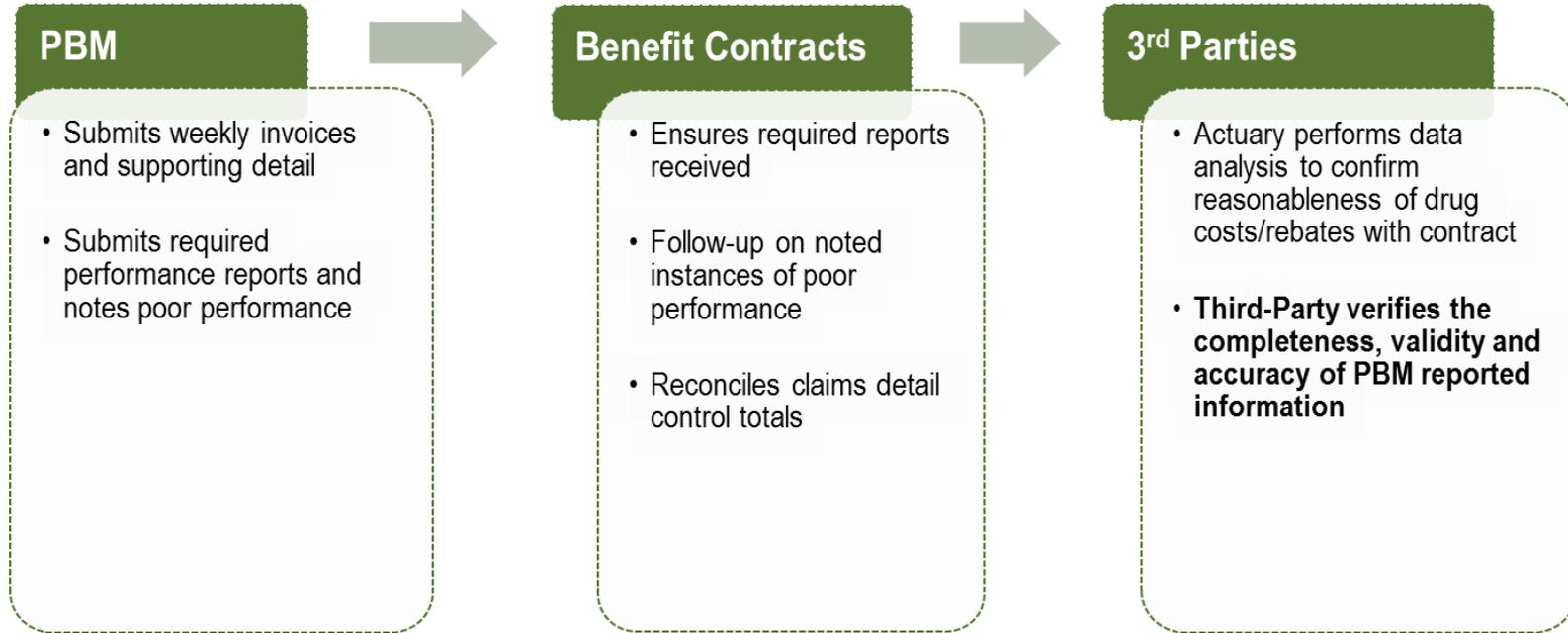
Audit Objective: *To determine if contract administration and oversight of the Prescription Drug Program ensures member benefits are properly delivered.*

Scope Area	Sub-Objectives
Financial	<ul style="list-style-type: none">• Are drug claims processed in accordance with Plan design?• Are drug costs accurately submitted for reimbursement?• Are financial guarantees determined and received in accordance with contract provisions?
Performance	<ul style="list-style-type: none">• Are members receiving benefits in accordance with the Master Benefit Plan Document?• Are deliverables submitted timely and accurately in accordance with contract provisions?• Is vendor performance accurately reported?• Is vendor performance appropriately evaluated and communicated to key stakeholders?

Contract Management Overview



Prescription Drug Program – Oversight



Summary Results



Overall Assessment		Needs Improvement
Scope Area	Result	Rating
Financial	Observation 1: Controls over accuracy of key information used to manage and evaluate the PBM are not effective. (Significant) Observation 3: Consider additional division control activities to enhance third-party review work. (Moderate)	Needs Improvement
Performance	Observation 1: Controls over accuracy of key information used to manage and evaluate the PBM are not effective. (Significant) Observation 2: PBM performance results should be consistently maintained and communicated. (Significant) Observation 3: Consider additional division control activities to enhance third-party review. (Moderate)	Needs Improvement

Controls over accuracy of information used to manage and evaluate the PBM are not effective.



Key Control – Third Party Reviewer verifies the completeness, validity and accuracy of PBM reported information

Incomplete Population

93,000 – Claims not included in the third-party review

\$4 Million – Expenses (not accounted for) paid by ERS

Limited Claims Testing

\$63,000 – Prescriptions paid by ERS for non-members

ERS Review

Performance Guarantees not tested

Performance results should be consistently maintained and communicated



- Communication of decisions
- Historical accuracy is not maintained

Monthly Administrative Performance Report (MAPR) Heat Map Summary
HealthSelect Prescription Drug Plan
Caremark Rx, L.L.C.
Fiscal Year 2015

DESCRIPTION		09-2014	10-2014	11-2014	12-2014	01-2015	02-2015	03-2015	04-2015	05-2015	06-2015	07-2015	08-2015
ACCT. MGMT.	Provide reports - Monthly, Qly, Annual	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met
	Ensure participant satisfaction												Pending
	Provide quality communication materials	Not Met	Not Met	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met
	Provide written notice of change(s)	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met	Met
	Attend annual enrollment meetings										Met	Met	
CUST. SRVC.	Respond to written correspondence	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Answer calls w/in 30 seconds	88%	87%	95%	94%	96%	94%	88%	92%	92%	93%	90%	92%
OPERATIONS	Process paper claims reimbursement	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Adjudicate pharmacy claims	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure dispensing accuracy	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure dispensing protocol Rx	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure dispensing non-protocol Rx	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Process & mail ID cards correctly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SYSTEMS & DATA MGMT.	Ensure system availability	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure website availability	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Process eligibility file timely, accurately	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Provide notification of file errors	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Resolve errors timely, accurately	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Process system and code changes	1 instance	Met	2 Instances	Met	Met							

Consider additional division control activities to enhance third-party review



Investment Compliance

July 1 – September 30, 2016

Tony Chavez, Director, Internal Audit Division
Beth Gilbert, Internal Auditor
Jonathan Puckett, Internal Auditor

Investment Compliance Procedures



Securities Lending –

- Program temporarily suspended since February 2016
- Program is restricted to only ETFs which has caused audit flags for diversification limits through September 2016.

Questions?

Public Agenda Item #11b

Presentation, Discussion and Consideration of
Audit Committee Agenda items:

Internal Audit Administrative Items

December 2, 2016

Tony Chavez, Director of Internal Audit

Internal Audit Performance Measures

Tony Chavez, Director, Internal Audit Division
Beth Gilbert, Internal Auditor

Internal Audit Performance



- The Audit Committee is responsible for reviewing the effectiveness of the internal audit function including conformance with audit standards
- Performance measures help assess the effectiveness, efficiency and sustainability of the internal audit function
- FY2016 performance measures were reviewed and discussed with the Board at the August 2015 Audit Committee meeting

Internal Audit Strategic Goals



- Enhance Professional **Practices**
- Enhance **Performance** Management and Accountability
- Develop **People** (Staffing)

Strategic Goals Capacity Model



	Description	Practice	Performance	People
Level 5 – Optimizing	<ul style="list-style-type: none"> Internal Audit recognized as key change agent Continuous Improvement Innovative recommendations 	█		
Level 4 – Managed	<ul style="list-style-type: none"> High level of understanding Audit strategy leverages division management of risk 	█	█	
Level 3 – Integrated	<ul style="list-style-type: none"> Process improvement or efficiency added Risk-based audit plans 			█
Level 2 – Infrastructure	<ul style="list-style-type: none"> Professional practices and framework Full access to information 			
Level 1 – Initial	<ul style="list-style-type: none"> Isolated single audits or reviews of documents and transactions for accuracy and completeness Not a disciplined problem solver – follows what worked before. 			

Enhance Professional Practices



Compliance With Statute And Audit Standards

Peer Review – Highest Rating

- *Demonstrates integrity*
- *Objective and free from undue influence (independent)*
- *Demonstrates competence and due professional care*
- *Demonstrates quality and continuous improvement*



Enhance performance management



Value-add And Efficiency Of Internal Audit

Providing Assurance and Insight

- *Aligns with the strategies, objectives and risks of the organization*
- *Provides risk-based assurance*
- *Promotes organization improvement*

Strategic Action Items

- *Better discussion with business teams on key objectives/risks during Planning*
- *Use audit teams for select engagements*
- *Evaluate communication process to key stakeholders and process owners*

Develop People (Staffing)



Adequate Resources and Professional Staff

Maintain and Enhance Knowledge

- *Demonstrate competence and due professional care*
- *Average ERS longevity 2.5 years*
- *All staff certified as either Certified Internal Auditor, Certified Government Auditing Professional, Certified Fraud Examiner, or Certified Risk Manager Assurance*

Strategic Action Items

- *Approval of additional FTE in FY17*
- *Training emphasis in ERS core business functions (Investments, IT, Healthcare)*
- *Perform engagements as team to provide for additional opportunities*

FY 2017 Anticipated Changes

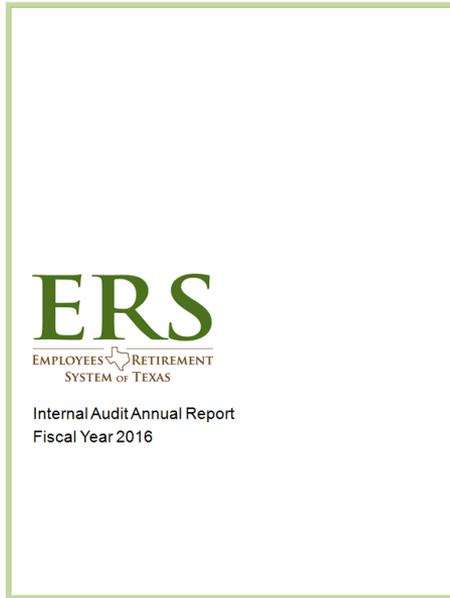


Strategic Direction	Measure	Target Goal
Performance	Percent of Audit Plan Completed	90%
Performance & Practice	Customer Service Levels	80%
Performance & Practice	Number of days from End Of Fieldwork to Draft Report sent to Executive Director	25 business days
People	Percent of Audit Staff Meeting Required CPE	100%
Performance	Percent of Time Spent on Value Added Service	75%
Performance & Practice	Percent of Recommendations Accepted by Management	85%
People	Percent of Audit Staff attending 40% of training in core business to increase business acumen	100%

Annual Internal Audit Report

Tony Chavez, Director, Internal Audit Division
Beth Gilbert, Internal Auditor

Fiscal Year 2016 Annual Internal Audit Report



- Statutorily required report
- Report guidelines established by the Texas State Auditor's Office
- Overall summary of internal audit activities for prior fiscal year

Report includes:

Compliance with House Bill 16

FY16 Internal Audit Plan Results

Consulting and Nonaudit Services Completed

FY13 External Quality Assurance Review

FY17 Internal Audit Plan

External Audit Services procured in FY16

Reporting Suspected Fraud, Waste & Abuse

Questions?

Public Agenda Item #12

Adjournment of the ERS Board of Trustees Audit Committee

December 2, 2016

Meeting of the ERS Board of Trustees

December 2, 2016



Public Agenda Item #13

Review and Approval of the Minutes to the August 16, 2016
meeting of the Board of Trustees

December 2, 2016

Public Agenda Item #14

Executive Session – In accordance with section 551.074, Texas Government Code, the Board of Trustees will meet in executive session to evaluate the duties, performance and compensation of the Internal Auditor of the Employees Retirement System of Texas. Thereafter the Board may consider appropriate action in open session.

December 2, 2016

Public Agenda Item #15

Review, Discussion and Selection of the Third-Party Administrator for HealthSelectSM of Texas, including Consumer Directed HealthSelectSM

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts

Blaise Duran, ASA, MAAA and Manager of Underwriting, Data Analysis and Reporting

Gabrielle Stokes, Director of Procurement and Contract Oversight

Philip S. Dial, FSA, MAAA, Rudd and Wisdom, Inc.

HealthSelect of Texas

Background



- HealthSelect of Texas is a self-funded, managed care, point-of-service health plan offered under the Texas Employees Group Benefits Program GBP.
 - More than 440,000 participants as of August 2016.
 - Annual plan cost in excess of \$3 billion including medical and prescription drugs.
 - Current contract for administration of the medical portion of HealthSelect:
 - Effective: September 1, 2012
 - Terminates: August 31, 2017

HealthSelect of Texas

Request for Proposal (RFP)



- RFP issued June 23, 2016 for contract covering a six-year period from September 1, 2017 through August 31, 2023.
- Requested services include, but are not limited to:
 - Administrative services;
 - Claims processing;
 - Network management; and
 - Utilization management.
- Responses were due on or before August 11, 2016.

HealthSelect of Texas

ERS received two RFP responses



- Blue Cross and Blue Shield of Texas (BCBSTX)
 - Division of Health Care Service Corporation (HCSC), a Mutual Legal Reserve Company.
 - A mutual insurance company is owned by its policyholders.
 - HCSC operates as Blue Cross and Blue Shield of Illinois, Texas, New Mexico, Montana and Oklahoma.
- United HealthCare Services, Inc. (UHC)
 - Part of UnitedHealth Group, Incorporated.
 - Publicly-traded company.

HealthSelect of Texas

Preliminary Review Evaluation



Minimum Requirements:

- Principal place of business in the United States
- Professional licensure and certifications
- Demonstrated experience as third-party administrator
- Demonstrated satisfactory provider network
- Sufficient net worth and liquidity

✓ ERS' Office of Procurement and Contract Oversight determined both Proposals met minimum requirements.

HealthSelect of Texas

Proposal Review Evaluation



- The evaluation team was comprised of subject matter experts (SMEs) throughout ERS and Rudd and Wisdom, ERS' consulting actuaries.
- The Proposal Review Evaluation included:
 - Operational Capabilities and Services – Evaluation Weight 40%; and
 - Projected Total Cost (PTC), based on Financial Requirements and Specifications and Pricing – Evaluation Weight 60%.

HealthSelect of Texas

Proposal Review Evaluation continued



- Clarifications
 - SMEs identified areas of the Proposals that required further clarification.
 - The primary objective of the clarification process is to ensure mutual understanding of each vendor's Proposal.

HealthSelect of Texas

Finalists Evaluation



- BCBSTX and UHC were both selected as Finalists.
 - The Finalists Evaluation Phase included:
 - Site visits to both entities' data and call centers;
 - Face-to-Face Interviews;
 - Submission of Best and Final Offers (BAFOs);
 - Review of Past Performance;
 - Contractibility;
 - Other Legal Requirements and Regulatory Compliance; and
 - Further Clarifications.

HealthSelect of Texas

Evaluation and Analyses of Proposal Responses



- Detailed Analysis
 - Operational Capabilities and Services
 - PTC, based on Financial Requirements and Specifications and Pricing

HealthSelect of Texas

Operational Capabilities and Services



- Operational Requirements
- Provider Network Requirements, Contracting, and Management
- Programs and Optional Services
- Communication Requirements
- Information Systems Requirements

HealthSelect of Texas

Operational Capabilities and Services



- Both Respondents demonstrated full capability of providing:
 - ✓ Core programs and services.
 - ✓ Communication services.
 - ✓ Operational services.
 - ✓ Information system services.

HealthSelect of Texas

Provider Network Requirements, Contracting, and Management



- Provider Network Access.
- Utilization and Medical Services Management.

HealthSelect of Texas

Provider Network Access



	Network Providers		Percentage of HealthSelect Participants with Access as specified in the RFP (as of 11/1/2016)	
	BCBSTX	UHC	BCBSTX	UHC
Hospitals	453	438	94.0%	96.2%
Physicians	57,529	59,107	89.1%	93.3%
Access to Both Hospitals and Physicians			87.6%	92.3%

HealthSelect of Texas

Provider Network Access



- Primary Care Physicians (PCPs).
- Out-of-network
 - BCBSTX ParPlan.
 - UHC Shared Savings Program.
- Outside of Texas: Both TPAs have comparable and adequate out-of-state networks.

HealthSelect of Texas

Evaluation of Projected Total Cost



- PTC includes plan cost and member out-of-pocket cost.
- PTC evaluation considers:
 - Administrative Fee;
 - Provider Reimbursement; and
 - Health Care Management Incentive.

HealthSelect of Texas

Evaluation of Projected Total Cost– Basis of Projection



- PTC over the six-year contract period.
- Projection based on:
 - Plan enrollment for FY16;
 - HealthSelect claims incurred for the 12-month period ending 3/31/16;
 - Assumptions concerning the combined effect of price and utilization changes; and
 - Assumptions concerning potential balance billing.

HealthSelect of Texas



Evaluation of Projected Total Cost– Administrative Fee

- Administrative Fee Analysis is based on proposed six-year guaranteed monthly fee per member.
- BCBSTX proposed administrative fee is projected to cost about \$44 million less than UHC's over the six-year term of the Contract.

Projected Administrative Fees FY 2018 - 2023

	Current	BCBSTX	UHC
Total Administrative Fees	\$332.8M	\$281.2M	\$325.5M
Savings as Compared to Current	N/A	\$51.6M	\$7.3M

HealthSelect of Texas

Evaluation of Projected Total Cost– Provider Reimbursement



- Largest potential cost differential between the Proposals is the difference in provider reimbursement.
- Comparison of provider reimbursement
 - Claims re-pricing analysis.
 - Independent third party data provided by TPAs.

HealthSelect of Texas



Evaluation of Projected Total Cost: Provider Reimbursement

- Each Respondent was required to provide the allowable charge and network provider status as of June 1, 2016 for each HealthSelect claim included in the RFP.
- This data was used to develop projected provider reimbursement over the term of the contract.
- The analysis indicated that the aggregate allowable charges for BCBSTX are projected to be lower than that of UHC's in each year of the contract.

HealthSelect of Texas

Evaluation of Projected Total Cost: Provider Reimbursement



- The lower projected allowable charges for BCBSTX are attributable to the lower reimbursement rates for providers included in a customized network created for HealthSelect.
- While the difference in reimbursement rates between the TPAs is expected to impact each year of the contract, the projections for both TPAs become less certain in later years.

HealthSelect of Texas

Evaluation of Projected Total Cost– Provider Reimbursement



- BCBSTX proposed provider reimbursement for the newly created HealthSelect network is projected to cost about \$1.05 billion less than UHC's over the six-year term of the contract.

Projected Provider Reimbursement FY 2018 - 2023		
	BCBSTX	UHC
Total Provider Reimbursement	\$25,592.8M	\$26,642.5M

HealthSelect of Texas

Evaluation of Projected Total Cost: Health Care Management Incentive



- Purpose of Health Care Management Incentive (HCMI)
 - Provides incentive for efficient and cost-effective management of health care for in-area participants.
 - Provides for an assessment against the TPA in the event of adverse experience.

HealthSelect of Texas

Evaluation of Projected Total Cost: Health Care Management Incentive



- Structure of HCMI:
 - Applicable to in-area Participants.
 - Utilizes Target Claim Cost (TCC) determined based on:
 - Actual incurred claims;
 - Guarantee formula submitted in the Proposal;
 - Guaranteed maximum trend factors.
 - Risk-sharing threshold: 102% of TCC provided in the RFP.
 - Maximum amount at risk defined by TPA in its Proposal.

HealthSelect of Texas



Evaluation of Projected Total Cost: Health Care Management Incentive

- Statistical modeling indicates that the UHC HCMI Proposal has an expected value to the GBP that is \$7 million greater than BCBSTX's over the six-year term of the contract.

Projected Value of HCMI FY 2018 - 2023		
	BCBSTX	UHC
Projected Value of HCMI	\$26.2M	\$33.6M

HealthSelect of Texas

Evaluation of Projected Total Cost– Summary



Projected Total Cost FY 2018 - 2023		
	BCBSTX	UHC
Administrative Fees	\$281.2M	\$325.5M
Provider Reimbursement	\$25,592.8M	\$26,642.5M
HCMI	<\$26.2M>	<\$33.6M>
Total	\$25,847.8M	\$26,934.4M

The BCBSTX financial proposal is projected to cost about \$1.1 billion less than the UHC financial proposal based on the evaluation of the PTC.

HealthSelect of Texas

Finalists Evaluation



- Benefits Contracts leadership and Rudd and Wisdom met with ERS' Executive Office, attorneys from the Office of the General Counsel, and the Director of Procurement and Contract Oversight to review the scoring results and discuss the recommendation.
- Both Respondents possess the sophisticated administrative capabilities required to administer HealthSelect medical benefits and manage the HealthSelect provider network in accordance with the RFP requirements.
- Both Respondents maintain provider networks that are adequate to meet the needs of HealthSelect Participants.

HealthSelect of Texas

Staff Recommendation



- The Staff Recommendation is based on the following:
 - SMEs scoring of the Proposals;
 - Clarifications;
 - Face-to-Face Interviews;
 - Site Visits;
 - BAFOs;
 - Past Performance;
 - Contractibility; and
 - Other Legal Requirements and Regulatory Compliance.

HealthSelect of Texas

Staff Recommendation



Staff recommends that the Board of Trustees of the Employees Retirement System of Texas award the contract to _____ to act as the TPA for HealthSelect, including Consumer Directed HealthSelect, under the GBP pursuant to a contract which will cover a six year term beginning September 1, 2017 through August 31, 2023.

Questions?

Public Agenda Item #16

Review and Discussion of the Deferred Compensation Program
TexaSaver 401(k) and 457 Plans and Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts

Pamela Maas, Program Account Manager and CTCM

Nora Alvarado, Manager of Account Management Team and CTCM

TexaSaverSM 401(k) / 457 Program



Program Overview

- Consists of two distinct plans:
 - TexaSaver 457 Plan
 - TexaSaver 401(k) Plan
- \$2.65 billion in assets (August 31, 2016)
- No state-appropriated funds
 - 100% funded by participants
- Flexible contribution options
- Administered by Empower Retirement

TEXA\$AVER
401(k) / 457 Program

TexaSaverSM 401(k) / 457 Program

Key Statistics



As of August 31, 2016	401(k) Plan	457 Plan
Current Assets	\$1,984.7 million	\$670.0 million
Participant Balances		
Average	\$10,950	\$21,252
Median	689	2,214
Monthly Deferrals:		
Average	\$129	\$238
Median	37	50
Total eligible to participate	151,866¹	250,837²
Participants with a balance	181,249	31,515
Contributing	92,527 51%	17,052 54%
Non-contributing	88,722 49%	14,463 46%

¹ Includes state employees only

² Includes both state and higher education employees

TexaSaverSM 401(k) / 457 Program

Administrative Fees



Plan Administrative Fees

- Cover Program recordkeeping costs
- Assessed to the 401(k) and 457 plans separately
- Assessed to before-tax and Roth after-tax contributions separately

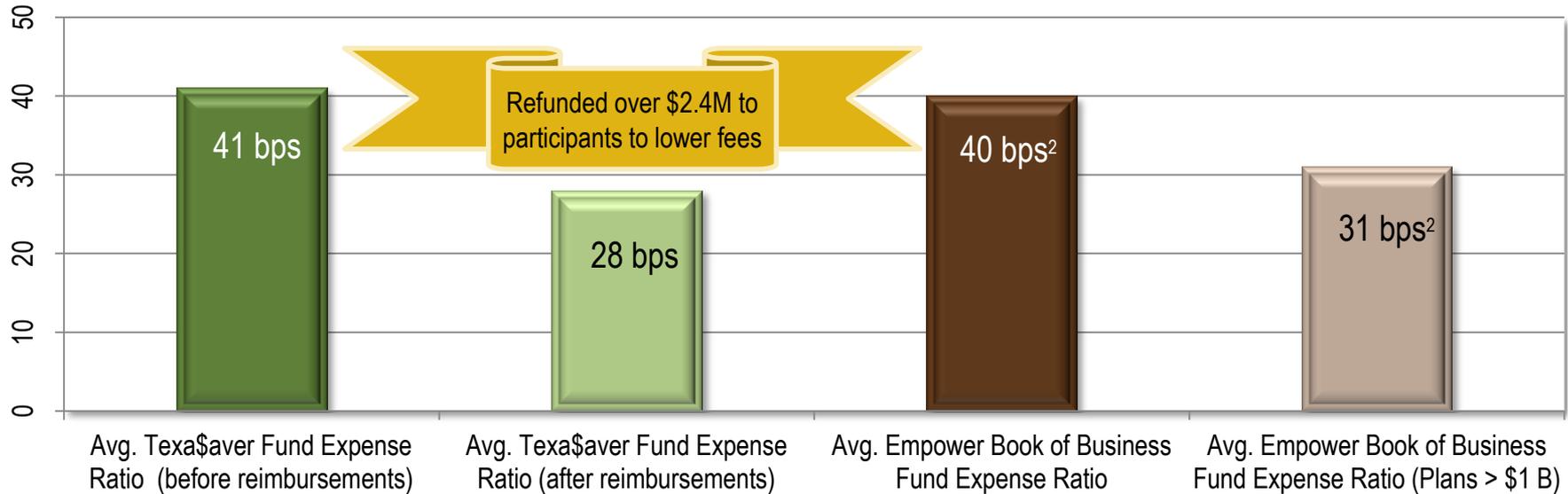
PARTICIPANT MONTHLY ADMINISTRATIVE FEES	
ACCOUNT BALANCE	AMOUNT (per account and per contribution type)
\$10.00 or less	No fees
Between \$10.01 and \$1,000.00	\$1.18
Between \$1,000.01 and \$16,000.00	\$3.99
Between \$16,000.01 and \$32,000.00	\$6.00
Between \$32,000.01 and \$48,000.00	\$8.17
Between \$48,000.01 and \$64,000.00	\$10.89
\$64,000.01 or more	\$13.62

TexaSaverSM 401(k) / 457 Program

Fund Expense Ratios & Reimbursements



Comparison of Average TexaSaver Fund Expense Ratio to Benchmarks
September 30, 2016



¹ TexaSaver works on a quarterly calendar year

² Provided by Empower Retirement

Texa\$averSM 401(k) / 457 Program

Monitoring



Monthly Monitoring Report (MMR)

- 16 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management

TEXA\$AVER

401(k) / 457 Program

Monthly Monitoring Report (MMR) Heat Map Summary

TexaSaver Deferred Compensation Program Empower Retirement

HEAT MAP COLOR LEGEND

No applicable activity.
Performance met standards.
Performance did not meet standards; PG assessment waived.
Performance did not meet standards; not a PG metric.
Performance did not meet standards; PG assessment pending.
Performance did not meet standards; PG assessed.

DESCRIPTION		Assessment Frequency	09-2015	10-2015	11-2015	12-2015	01-2016	02-2016	03-2016	04-2016	05-2016	06-2016	07-2016	08-2016
ACCOUNT MANAGEMENT	Annual participant satisfaction rate	Annually	≥ 90%											
	Written notice of changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Communication materials: quality, timeliness	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Program reporting	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Annual enrollment attendance	Any Incident												100%
CUSTOMER SERVICE	Respond to written correspondence	Quarterly	100%	100%			100%			100%			100%	
	Response online or escalated inquiries	Quarterly	100%	100%			100%			100%			100%	
	Answer calls within 30 seconds	Quarterly	100%	100%			100%			100%			100%	
OPERATIONS	Process financial transactions accurately	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Manage statement activity: accuracy, timeliness	Quarterly	100%	100%			100%			100%			100%	
	Resolve statement errors accurately, timely	Quarterly	100%	100%			100%			100%			100%	
SYSTEMS and DATA MANAGEMENT	Process eligibility files accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Provide timely notification of file or transaction errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure operational systems availability	Annual	≥ 99.5											
	Ensure website availability	Annual	≥ 99.5											
	Ensure data is maintained within the U.S.A.	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

TexaSaverSM 401(k) / 457 Program

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Business Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Business Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Business Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #17a

Review, Discussion and Consideration of the Texas Employees Group Benefits Program:

Health Insurance Financial Status Update for Fiscal Year 2016 and Outlook for Fiscal Year 2017

December 2, 2016

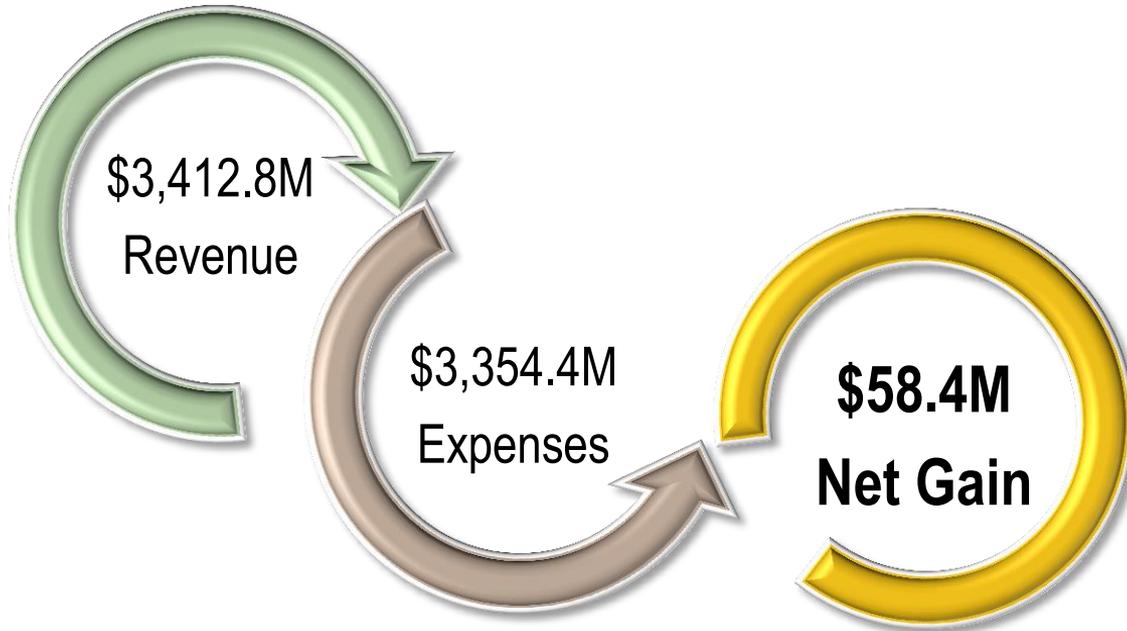
Robert P. Kukla, Director of Benefit Contracts

Blaise Duran, ASA, MAAA and Manager of Underwriting, Data Analysis and Reporting

Fiscal Year 2016 Review

Fiscal Year 2016 Review

GBP Health Plans Performance



GBP finished the plan year with **\$498.9 million** in the Contingency Fund

Includes All Health Plans

Fiscal Year 2016 Review

HealthSelectSM of Texas Performance



The self-funded program saw favorable experience in FY 2016:



Medical trend: 8.4%



Prescription drug trend: 10.9% (lower than previous years)



Network has grown 20% since 2012

In-network utilization by participants is 90.5%



Grievances increased by 264, or 69%, from FY 2015:

Member Appeals = 113; Provider-Initiated Appeals = 290

FY2016 into FY2017

Initiatives to Reduce Costs



Patient-Centered Medical Homes:

- Continue to show success.
- New clinic in Panhandle area is in the process of being added.
- Savings attributed to FY2016 will be determined in January 2017.

Dependent Eligibility Audit:

- Saved approximately \$8 million net of fees in FY2016.
- Anticipated \$8.5 million in savings for FY2017.



Fiscal Year 2017 Outlook

Fiscal Year 2017

Consumer Directed HealthSelect



- New high-deductible health plan started September 1, 2016.
- Only available for non-Medicare GBP participants.
- Health Plan administered by United HealthCare Services, Inc.
- Health Savings Account (HSA) administered by OptumBank, a subsidiary of United HealthCare Services, Inc.

CONSUMER DIRECTED
HealthSelectSM

Enrollment As of September 1, 2016	
Members	343
Dependents	326
Total	669

Outlook Fiscal Year 2017



HealthCare
Trend
consistent
at 8.5%

New PBM
effective January
1, 2017 to bring
estimated savings
of \$100 Million

Estimated
Gains: \$94.7
Million

Anticipated
Contingency
Fund
Balance:
\$593.6 Million

Amount needed to fund GBP health plan for 60 days: \$677.4 Million

Outlook Fiscal Year 2017

GBP Health Plans Financial Status



Summary of Actual & Projected Experience	FY2015	FY2016	FY2017 Projected
REVENUE			
State Contribution for State Agencies	\$1,653.1	\$1,801.5	\$1,948.1
State Contribution for Higher Education	706.9	773.7	836.7
State Contribution – Other	67.7	72.5	78.5
State Contribution – Total	2,427.7	2,647.7	2,863.3
Member Contributions	455.1	485.9	515.9
Other Revenue	219.9	279.2	367.5
TOTAL REVENUE	\$3,102.7	\$3,412.8	\$3,746.7
HEALTHCARE EXPENDITURES			
	\$3,041.5	\$3,354.4	\$3,652.0
Net Gain (Loss)	\$61.2	\$58.4	\$94.7
FUND BALANCE	\$440.5	\$498.9	\$593.6
Other Expenses Incurred Outside of GBP Fund			
Member Cost Sharing	\$480.4	\$486.6	\$492.2

Based on Experience through September 2016 (\$Millions)

Questions?

Public Agenda Item #17b

Review, Discussion and Consideration of the Texas Employees
Group Benefits Program:

GBP Medicare Plans and Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts
D'Ann DeLeon, CTCM and Program Account Manager

Medicare Plans

Program Overview



Medicare offerings under the GBP for Medicare-eligible retirees and their Medicare-eligible dependents:

- 2 Medicare medical-only plans



- 1 Medicare prescription drug plan



HealthSelect Medicare Advantage Plan

Program Overview

The logo for HealthSelect Medicare Advantage Plan. 'HealthSelect' is in a large, bold, green sans-serif font. 'of Texas' is written in a smaller, green sans-serif font to the right of 'Select'. Below 'HealthSelect' is a dark green horizontal bar with the words 'Medicare Advantage Plan' in white, italicized, sans-serif font.

HealthSelect of Texas
Medicare Advantage Plan

- State-wide Medicare Advantage Preferred Provider Organization
- Medical-only benefits
- Administered by Humana Insurance Company through December 31, 2017
- Most-effective medical benefit for Medicare-primary participants

HealthSelect Medicare Advantage Plan

Participant Enrollment



HealthSelect Medicare Advantage Plan

Participant Enrollment

Plan Years 2012 through YTD 2016

	January 2012	January 2013	January 2014	January 2015	January 2016	August 2016*
Members	37,953	38,186	42,469	46,258	50,529	52,564
Dependents	9,372	9,964	11,366	12,329	13,419	13,901
Total Participants	47,325	48,150	53,835	58,587	63,948	66,465

**Interim plan year reporting*

HealthSelect Medicare Advantage Plan

Monitoring



Monthly Administrative Performance Report (MAPR)

- 17 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management

HealthSelectSM
of Texas
Medicare Advantage Plan

Monthly Administrative Performance Report (MAPR)

Heat Map Summary

HealthSelect Medicare Advantage
Humana Insurance

HEAT MAP COLOR LEGEND	
No applicable activity.	
Performance met standards.	
Performance did not meet standards; PG assessment waived.	
Performance did not meet standards; not a PG metric.	
Performance did not meet standards; PG assessment pending.	
Performance did not meet standards; PG assessed.	

			Assessment Frequency											
DESCRIPTION			01-2015	02-2015	03-2015	04-2015	05-2015	06-2015	07-2015	08-2015	09-2015	10-2015	11-2015	12-2015
ACCOUNT MANAGEMENT	Notice of Operational changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Written notice of changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Communication materials: quality	Any Incident	100%	100%	100%	100%	83%	100%	100%	100%	100%	100%	100%	100%
	Communication materials: timeliness	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Program reporting	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Annual enrollment attendance	Any Incident											100%	100%
CUSTOMER SERVICE	Respond to written correspondence	Quarterly	100%			100%			100%	100%	100%	100%	100%	100%
	Response online or escalated inquiries	Quarterly	100%			100%			100%	100%	100%	100%	100%	100%
	Manage ID card mail-outs	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Answer calls within 30 seconds	Quarterly	83%			87%			58%			98%		
	Manage call blockage below 0.5%	Quarterly	<0.05%			<0.05%			<0.05%			<0.05%		
OPS	Total Claims Response Rate	Not a PG	99.0%	99.0%	99.0%	99.0%	99.3%	99.3%	99.0%	99.3%	99.3%	99.4%	99.1%	99.3%
	Adherence to CMS Program Parameters	Any Incident	100%	100%	100%	100%	100%	<100%	100%	100%	100%	100%	100%	100%
SYSTEM & DATA MGMT	Process eligibility files accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	<100%	<100%	100%
	Resolve file or transaction errors accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Provide timely notification of file or transaction errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	<100%	<100%	100%
	Ensure website availability	Annual	100%											

HealthSelect Medicare Advantage Plan

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

HealthSelect Medicare Rx

Program Overview



Employer Group Waiver Plan with a Wrap (EGWP + Wrap)

- Prescription drug plan for
 - HealthSelect MA PPO participants
 - KelseyCare Advantage HMO participants
 - HealthSelect of Texas Medicare-primary participants
- Administered by SilverScript Insurance Company

HealthSelect^{of Texas}
Medicare 



HealthSelect Medicare Rx

Participant Enrollment



HealthSelect Medicare Rx Participant Enrollment Plan Years 2013 through YTD 2016

	January 2013	January 2014	% Change	January 2015	% Change	January 2016	% Change	August 2016*
Total Participants	73,048	71,438	- 2.2%	80,873	13.2%	87,540	8.2%	90,118

**Interim plan year reporting*

HealthSelect Medicare Rx

Monitoring



Monthly Administrative Performance Report (MAPR)

- 24 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management



Monthly Administrative Performance Report (MAPR)

Heat Map Summary

HealthSelect Medicare Rx PBM

SilverScript Insurance Company

HEAT MAP COLOR LEGEND	
No applicable activity.	
Performance met standards.	
Performance did not meet standards; PG assessment waived.	
Performance did not meet standards; not a PG metric.	
Performance did not meet standards; PG assessment pending.	
Performance did not meet standards; PG assessed.	

DESCRIPTION		Assessment Frequency	01-2015	02-2015	03-2015	04-2015	05-2015	06-2015	07-2015	08-2015	09-2015	10-2015	11-2015	12-2015
ACCOUNT MANAGEMENT	Annual participant satisfaction rate	Annually	97%											
	Program reporting	Monthly	100%	100%	100%	100%	100%	100%	<100%	100%	100%	100%	100%	100%
	Communication materials: quality, timeliness	Any Incident	100%	<100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Written notice of changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Annual enrollment attendance	Any Incident											100.0%	100.0%
CUSTOMER SERVICE	Respond to written correspondence	Quarterly	100%				100%				100%			
	Response online and/or escalated inquiries	Quarterly	100%				100%				100%			
	Manage ID card and/or welcome kit mail-outs	Any Incident	<100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Manage replacement ID card mail-outs	Not a PG	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Manage calls to dedicated toll-free number	Quarterly	91%				91%				87%			
	Answer calls within 30 seconds	Monthly	94%	92%	81%	92%	87%	90%	86%	91%	77%	79%	76%	83%
	Manage call blockage below 0.50%	Quarterly	0.00%				0%				0%			
OPERATIONS	Process claim payments, accuracy	Annually	100%											
	Process claim payments, timeliness	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Dispensing rate, accuracy	Annually	100%											
	Dispensing rate, timeliness	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Dispensing rate, timeliness	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Adjudication of claims	Monthly	<100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SYSTEM & DATA MANAGEMENT	Ensure claims system availability	Annually	99.9%											
	Process eligibility files accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Provide timely notification of file or transaction errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Resolution of File Transfer/Transaction Errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	<100%	100%	100%	100%	100%
	Ensure website availability	Annually	99.9%											
	Data to be Restricted to the United States	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

HealthSelect Medicare Rx

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #17c

Review, Discussion and Consideration of the Texas Employees Group
Benefits Program:

Dental Insurance Plans and Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts
Angelica Torres, CTCM and Program Account Manager

Dental Benefit Plans

Program Overview



The GBP offers three dental options for participants.



HumanaDental®
Dental Health Maintenance
Organization (DHMO)

State of Texas Dental Choice PlanSM (PPO)

- Self-funded Preferred Provider Organization
- Administered by HumanaDental Insurance Company

Dental Health Maintenance Organization (DHMO)

- Fully-funded dental insurance plan
- Carrier is DentiCare, Inc., a wholly owned subsidiary of Humana, Inc.

Dental Benefit Plans

Program Overview Continued



State of Texas Dental Discount PlanSM

- Non-insurance dental discount program
- Administered by Careington International

Dental Benefit Plans

Enrollment



Dental Benefit Plans Participant Enrollment Plan Years 2012 through 2017

Dental Benefit Plans	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Dental Choice Plan	246,734	258,502	271,645	281,031	295,401	310,203
HumanaDental DHMO	151,757	145,835	142,463	135,586	128,118	125,283
Dental Discount Plan <i>non-insurance option</i>	N/A	N/A	N/A	6,627	9,300	10,418
Total	398,491	404,337	414,108	423,244	432,819	445,904

State of Texas Dental Choice Plan

Monitoring



Monthly Administrative Performance Report (MAPR)

- 23 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management



Monthly Administrative Performance Report (MAPR) Heat Map Summary

State of Texas Dental Choice Plan
HumanaDental

HEAT MAP COLOR LEGEND	
No applicable activity.	
Performance met standards.	
Performance did not meet standards; PG assessment waived.	
Performance did not meet standards; not a PG metric.	
Performance did not meet standards; PG assessment pending.	
Performance did not meet standards; PG assessed.	

Description		Assessment Frequency	09-2015	10-2015	11-2015	12-2015	01-2016	02-2016	03-2016	04-2016	05-2016	06-2016	07-2016	08-2016
ACCOUNT MANAGEMENT	Annual participant satisfaction rate	Annually	FY2016											
	Communication materials: quality, accurate, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Annual enrollment attendance	Any Incident		100%	100%								100%	100%
	Grievances and Appeals: timely acknowledgement	Annually	99%											
	Grievance and Appeals: timely processing	Annually	99%											
	Written notice of changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Program reporting	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
CUSTOMER SERVICE	Respond to written correspondence	Quarterly	97%			97%			97%			97%		
	Response online, escalated inquiries	Quarterly	100%			100%			100%			100%		
	Manage ID card mail-outs	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	96%
	Answer calls within 20 seconds	Annually	82.3%											
	Manage call blockage below 0.5%	Quarterly	0%			0%			0%			0%		
OPERATIONS	Manage provider network; ensure network access	Annually	≥ 90%											
	Process claim pymts: financial accuracy (dollar basis)	Annually	99.8%											
	Process claim pymts: financial accuracy (claim count basis)	Annually	99.8%											
	Process paper (manual) claims timely	Annually	98.9%											
	Process provider claims payments timely	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SYSTEMS AND DATA MANAGEMENT	Process eligibility files timely - weekend processing	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	<100%
	Process eligibility files timely - week day processing	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure claims system availability	Annually	≥ 99.5											
	Resolve transaction errors: accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	<100%
	Provide timely notification of file errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	<100%
Ensure website availability	Annually	99.8%												

Agenda item 17c, Meeting book dated December 2, 2016

Dental Choice Plan

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

HumanaDental DHMO

Monitoring



Monthly Administrative Performance Report (MAPR)

- 19 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management

HumanaDental®
Dental Health Maintenance
Organization (DHMO)

Monthly Administrative Performance Report (MAPR) Heat Map Summary

Dental Health Maintenance Organization
HumanaDental

HEAT MAP COLOR LEGEND
No applicable activity.
Performance met standards.
Performance did not meet standards; PG assessment waived.
Performance did not meet standards; not a PG metric.
Performance did not meet standards; PG assessment pending.
Performance did not meet standards; PG assessed.

Description		Assessment Frequency	09-2015	10-2015	11-2015	12-2015	01-2016	02-2016	03-2016	04-2016	05-2016	06-2016	07-2016	08-2016
ACCOUNT MANAGEMENT	Annual participant satisfaction rate	Annually	FY2016											
	Communication materials: quality, accurate, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Annual enrollment attendance	Any Incident		100%	100%								100%	100%
	Grievances and Appeals: timely acknowledgement	Annually	100%											
	Grievance and Appeals: timely processing	Annually	100%											
	Written notice of changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Program reporting	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
CUSTOMER SERVICE	Respond to written correspondence	Quarterly	98%			98%			98%			99%		
	Response online, escalated inquiries	Quarterly	100%			100%			100%			100.00%		
	Manage ID card mail-outs	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Answer calls within 20 seconds	Annually	82.3%											
	Manage call blockage below 0.5%	Quarterly	0%											
OPS	Manage provider network; ensure network access	Annually	≥ 90%											
SYSTEMS AND DATA MANAGEMENT	Process eligibility files timely - weekend processing	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Process eligibility files timely - week day processing	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure claims system availability	Annually	≥ 99.5											
	Resolve transaction errors: accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Provide timely notification of file errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Ensure website availability	Annually	99.8%											

Agenda item 17c, Meeting book dated December 2, 2016

Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #17d

Review, Discussion and Consideration of the Texas Employees Group Benefits Program:

Basic and Optional Term Life, Accidental Death and Dismemberment Plans
Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts
Megan Hunter, CTCM and Program Account Manager

Basic and Optional Term Life, Accidental Death and Dismemberment (AD&D) Plans



Texas Employees Group Benefits Program offers Basic and Optional Term Life, AD&D and Voluntary AD&D Insurance.

- The employer provides funding for Basic Term Life.
- Other plans are optional and solely funded by program participants.
- Plans are administered by Minnesota Life Insurance Company, an affiliate of Securian Financial Group, Inc.



Basic and Optional Term Life, AD&D Plans

Enrollment



Life and AD&D Benefit Plans Member Enrollment August 31, 2016

Coverage Plan Description		Funding	Number of Members	Cumulative Value of Benefits (\$)
Life	Basic Life	Fully Insured	321,737	\$ 1,346,652,500
Life	Optional Life & AD&D	Fully Insured	214,454	20,343,858,700
Life	Voluntary AD&D	Fully Insured	133,454	18,502,521,250
Life	Dependent Life & AD&D	Fully Insured	111,598	486,000,000

Basic and Optional Term Life, AD&D Plans



Monitoring

Monthly Administrative Performance Report (MAPR)

- 22 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management



Monthly Administrative Performance Report (MAPR)

Heat Map Summary

Basic & Optional Term Life, AD&D
Minnesota Life Insurance Company

HEAT MAP COLOR LEGEND
No applicable activity.
Performance met standards.
Performance did not meet standards; PG assessment waived.
Performance did not meet standards; not a PG metric.
Performance did not meet standards; PG assessment pending.
Performance did not meet standards; PG assessed.

		Assessment Frequency	09-2015	10-2015	11-2015	12-2015	01-2016	02-2016	03-2016	04-2016	05-2016	06-2016	07-2016	08-2016	
ACCOUNT MANAGEMENT	Written notice of changes	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Process claim payments timely	Monthly	100%	99.4%	100%	100%	100%	99.3%	99.5%	99.8%	99.7%	99.3%	100%	99.8%	
	Communication materials: approval process	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	<100%	100%	
	Communication materials: dissemination	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Communication materials: quality	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Communication materials: timeliness	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	ERS-specific website: quality	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Answer calls within 20 seconds	Monthly	99.9%	96.0%	96.6%	95.9%	94.1%	96.4%	93.0%	94.8%	97.1%	95.0%	93.0%	90.8%	
	Manage call blockage below 0.5%	Quarterly		0.0%			0.0%		0.0%		0.0%		0.0%		
	Manage EOI underwriting process	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Program reporting	Monthly	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	GBP-specific website: availability	Annually							99.8%						
	GBP-specific website: quality	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Annual enrollment attendance	Any Incident	100%	100%									100%	100%	100%
	Manage grievance process	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	SRV	Maintain a designated Customer Service Unit	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OPS.	Process claim payments accurately	Annually						100%							
	Process EOI applications accurately	Annually						98.8%							
SYSTEM & DATA MGMT.	Ensure claims system availability	Annual						100%							
	Process eligibility files accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Resolve transaction errors accurately, timely	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
	Provide timely notification of file or transaction errors	Any Incident	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Agenda item 17d, Meeting book dated December 2, 2016

Basic and Optional Term Life, AD&D Plans

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Business Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Business Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Business Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #17e

Review, Discussion and Consideration of the Texas Employees
Group Benefits Program:

Group Vision Care Program and Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts
Megan Hunter, CTCM and Program Account Manager

Group Vision Care Program

Overview



Texas Employees Group Benefit Program now offers vision care coverage.

- New, optional benefit program
- Offered to all employees, retirees and their eligible dependents
- Self-funded plan
- Administered by Superior Vision Services, Inc.



State of Texas Vision

Participant Enrollment



State of Texas Vision Plan Participant Enrollment September 1, 2016

	Participant Enrollment	Total Eligible	Percentage Enrolled (%)
Members	62,556	344,822	18.1%
Dependents	54,569	309,781	17.6%
Total Participants	117,125	654,603	17.9%

State of Texas Vision Plan

Monitoring



Monthly Administrative Performance Report (MAPR)

- 20 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management

STATE OF TEXAS
VISION 

State of Texas Vision

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #17f

Review, Discussion and Consideration of the Texas Employees
Group Benefits Program:

Disability Plan and Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts
Bernely Tharp, CTCM and Program Account Manager

Disability Plan

Texas Income Protection Plan (TIPP)



TIPP is optional insurance coverage for short-term and long-term disability.

- May increase an employee's financial security
- Provides assistance when employee is unable to work due to a medical condition
- Self-insured; funded by plan participants
- Administered by Reed Group Management, LLC



TIPP

Participant Enrollment



TIPP Participant Enrollment by Plan Type September 1, 2016

	Short Term Disability		
	Enrollment FY2016	Enrollment FY2017	% Change
Members	117,488	115,836	-1.4%
Covered Payroll	\$ 458,731,873	\$ 462,125,607	0.7%

	Long Term Disability		
	Enrollment FY2016	Enrollment FY2017	% Change
Members	90,529	89,260	-1.4%
Covered Payroll	\$ 376,627,172	\$ 379,427,567	0.7%

TIPP

Monitoring



Monthly Administrative Performance Report (MAPR)

- 22 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management



Monthly Administrative Performance Report (MAPR)

Heat Map Summary

Texas Income Protection Program
Reed Group Management, LLC

HEAT MAP COLOR LEGEND

No applicable activity.
Performance met standards.
Performance did not meet standards; PG assessment waived.
Performance did not meet standards; not a PG metric.
Performance did not meet standards; PG assessment pending.
Performance did not meet standards; PG assessed.

DESCRIPTION		Assessment Frequency	09-2015	10-2015	11-2015	12-2015	01-2016	02-2016	03-2016	04-2016	05-2016	06-2016	07-2016	08-2016
ACCOUNT MANAGEMENT	Written notice of changes	Any Incident	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Communication materials: quality, timeliness	Any Incident	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Annual participant satisfaction rate	Annually	FY2015											
	Annual enrollment attendance	Any Incident											100.0%	100.0%
	Program reporting: timely and accurately	Quarterly	92.0%			96.0%			100.0%			100.0%		
CUSTOMER SERVICE	Provide MBPDs timely, upon request (when applicable)	Not a PG					100%	100%			100%	100%		
	Manage Call Blockage Rate below 0.5%	Not a PG	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
	Manage Abandonment Rate below 5%	Not a PG	3.5%	3.9%	4.6%	2.9%	6.7%	12.5%	9.1%	5.5%	3.3%	3.3%	3.4%	2.7%
	Answer calls within 30 seconds	Quarterly	77%			69%			76%			82%		
	Resolve participant complaints timely	Not a PG				100%						100%		100%
	Resolve ERS-reported complaints timely	Not a PG	100%			100%	100%	100%	100%	100%	100.00%	100%	100%	100%
OPERATIONS	Process STD claims within 10 days	Quarterly	93%			97%			93%			85%		
	Process residual STD claims timely	Not a PG	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Process LTD claims within prescribed days	Quarterly	88%			93%			98%			100%		
	Process residual LTD claims timely	Not a PG	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Process claim payments; financial accuracy	Quarterly	78%			85%			91%			92%		
SYSTEM & DATA MANAGEMENT	Process eligibility files accurately, timely	Quarterly	100.0%			100.0%			100.0%			100.0%		
	Ensure website availability	Annually	100.0%											
	Ensure claims system availability	Annually	100.0%											
	Resolve errors, unprocessed transactions	Quarterly	100.0%			100.0%			100.0%			100.0%		
	Provide timely notification of file errors	Annually	100.0%											
	Data to Be Restricted to the United States	Any Incident	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TIPP

Performance Guarantees



Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #18

Review and Discussion of the Texas Employees Group Benefits Program:
TexFlex Program and Monitoring Strategy Overview

December 2, 2016

Robert P. Kukla, Director of Benefit Contracts
Angelica Torres, Program Account Manager and CTCM

TexFlex Program

Program Overview



The TexFlex program offers four reimbursement plans:

TEXFLEX



Health care reimbursement plan



Limited purpose health care reimbursement plan



Dependent care reimbursement plan



Commuter reimbursement plan

TexFlex Program

Program Overview



- Pre-tax contributions reimburse participants for qualified expenses
- Premium conversion programs generated approximately \$42 million in FICA tax savings to the state in FY2016
- Plans are administered by ADP, LLC



TexFlex Program

Participant Enrollment



TexFlex Program

Participant Enrollment by Reimbursement Plan Type

Fiscal Years 2016 through 2017

	Health Care Reimbursement Plan			Dependent Care Reimbursement Plan		
	Enrollment FY2016	Enrollment FY2017	% Change	Enrollment FY2016	Enrollment FY2017	% Change
Members	46,877	50,031	6.73%	3,640	3,785	3.98%
Elections*	\$ 65,658,055	\$ 65,151,516**	-0.77%	\$ 14,796,849	\$ 14,305,860**	-3.32%

* Elections are pledges into the program and are reported commitments for the applicable fiscal year.

** Annual enrollment elections for FY2017 are annualized based on September 2016 payroll data.

TexFlex Program

Participant Enrollment



TexFlex Program Limited Purpose Health Care and Commuter Reimbursement Plans Participant Enrollment by Reimbursement Plan Type Fiscal Year 2017

	Limited Purpose Health Care Reimbursement Plan	Commuter Reimbursement Plan	
		Parking	Transit
Members	40	22	149
Elections*	4,343**	1,586**	10,622**

*Based on September 2016 payroll data

**Pledges into the limited plan are reported commitments for the applicable fiscal year. Pledges reported for the commuter plan are monthly commitments.

TexFlex Program

Monitoring



Monthly Administrative Performance Report (MAPR)

- 22 Criteria are monitored for contractual compliance
- Criteria are organized into four major categories:



Account Management



Customer Service



Operations



Systems and Data Management

TEXFLEX

Monthly Administrative Performance Report (MAPR) Heat Map Summary

TexFlex Program
ADP, LLC

HEAT MAP COLOR LEGEND
No applicable activity.
Performance met standards.
Performance did not meet standards; PG assessment waived.
Performance did not meet standards; not a PG metric.
Performance did not meet standards; PG assessment pending.
Performance did not meet standards; PG assessed.

DESCRIPTION		Assessment Frequency	09-2015	10-2015	11-2015	12-2015	01-2016	02-2016	03-2016	04-2016	05-2016	06-2016	07-2016	08-2016	
ACCOUNT MANAGEMENT	Fiscal year forfeiture report	Annually	100%												
	Annual participant satisfaction rate	Annually	Pending												
	Program reporting	Monthly	100.0%	<100%	<100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Communication materials: quality	Any Incident	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	<100%	100.0%	< 100%	
	Communication materials: timeliness	Any Incident	100.0%	100.0%	100.0%	<100%	<100%	<100%	100.0%	100.0%	<100%	100.0%	< 100%	< 100%	
	Written notice of changes	Any Incident	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	<100%	100.0%	100.0%	100.0%	
	Annual enrollment attendance	Any Incident	<100%												
CUSTOMER SERVICE	Respond to written correspondence	Quarterly	100.0%					100.0%		100.0%			100.0%		
	Response online or escalated inquiries	Quarterly	100.0%					100.0%		100.0%			100.0%		
	Response research requests	Quarterly	100.0%					100.0%		100.0%			100.0%		
	Answer calls within 30 seconds	Quarterly	71.0%					49.0%		87.4%			53.6%		
	Manage call blockage below 0.5%	Quarterly	0.0%					0.0%		0.0%			0.0%		
OPERATIONS	Process paper claim reimbursements	Monthly	99.0%	99.0%	99.0%	100.0%	99.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	Manage debit card mail-outs	Monthly	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	Process claim payments accurately	Monthly	100.0%	99.8%	99.4%	100.0%	100.0%	100.0%	100.0%	99.8%	99.0%	100.0%	100.0%	100.0%	
	Process claim payments timely	Monthly	99.9%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	99.5%	99.0%	100.0%	100.0%	100.0%	
SYSTEM & DATA MANAGEMENT	Interface with GBP Vendors	Not a PG	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	Ensure claims system availability	Annual	100.0%												
	Ensure website availability	Annual	100.0%												
	Process eligibility files accurately, timely	Any Incident	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	Provide timely notification of file or transaction errors	Any Incident	<100%	<100%	<100%	<100%	<100%	<100%	<100%	100.0%	100.0%	100.0%	100.0%	100.0%	<100%
	Resolve file errors accurately, timely	Any Incident	<100%	<100%	<100%	<100%	<100%	<100%	<100%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Agenda item 18, Meeting book dated December 2, 2016

Level of Severity	Definition	Allocation of Risk
Severity 1 Emergency	<ul style="list-style-type: none">• Mission critical systems are down• Substantial loss of service• Operations have been severely disrupted	50% of the aggregate annual amount at risk
Severity 2 Critical	<ul style="list-style-type: none">• Major functionality is severely impaired• Operations can continue in a restricted fashion	25% of the aggregate annual amount at risk
Severity 3 Moderate	<ul style="list-style-type: none">• Operations are adversely impaired• Temporary work-around, acceptable to ERS, is immediately available	Occurrence 1: 3% Occurrence 2: 5% Occurrence 3: 6% Occurrence 4: 9%
Severity 4 Minor	<ul style="list-style-type: none">• Operations have been adversely affected in a limited manner• Modification of current policies and/or processes is required	2% of the aggregate annual amount at risk

Questions?

Public Agenda Item #19

Review, Discussion and Consideration of the
Texas Employees Group Benefits Program:
Actuarial Valuation of Retiree Health Insurance Benefits
as of August 31, 2016

December 2, 2016

Machelle Pharr, Chief Financial Officer
Philip S. Dial, Rudd & Wisdom, Inc.
Mitchell L. Bilbe, Rudd & Wisdom, Inc.

Employees Retirement System of Texas

Texas Employees Group Benefits Program

**Actuarial Valuation of GBP
Retiree Insurance Benefits (OPEB)
for Fiscal Year 2016**

**Board of Trustees
December 2, 2016**

**Philip S. Dial
Mitchell L. Bilbe**



Rudd and Wisdom, Inc.
CONSULTING ACTUARIES

FY 2016 GBP OPEB Valuation

General Information

- ❑ The valuation is conducted in order to provide the information required under Governmental Accounting Standards Board Statement No. 43 (GASB 43).
- ❑ This is the tenth valuation of GBP OPEB.
- ❑ The GBP provides OPEB to the retirees of state agencies, certain higher education institutions and “other” employers.
- ❑ OPEB provided through the GBP are:
 - Health
 - Basic Life
- ❑ OPEB does not include retirement benefits
- ❑ Retirees have access to other optional benefits, but those benefits are fully funded by member contributions and, therefore, do not generate employer obligations under GASB 43.

FY 2016 GBP OPEB Valuation

Application of GASB Reporting Standards

- ❑ The information required under GASB 43 is reported by ERS in the notes and supplementary information contained in the CAFR.
- ❑ ERS provides the information to the Texas Comptroller of Public Accounts (Comptroller).
- ❑ The Comptroller obtains similar information from TRS.
- ❑ The Comptroller does not report GASB expense and liability information for ERS and TRS in the financial statements in the State's CAFR. Instead, certain information regarding both plans is disclosed in the notes to the financial statements.
- ❑ GASB 43 requires disclosure of the Annual Required Contribution (ARC), but the employer is not actually required to contribute the ARC each year.

FY 2016 GBP OPEB Valuation

Impact of SB 1459

- ❑ SB 1459 adopted by the 83rd Texas Legislature amended Article 1551 of the Insurance Code.
- ❑ SB 1459 requires insurance contribution rates for retirees to vary based on length of service (LOS) at retirement.
- ❑ Amendment applies only to:
 - Employees with less than five years of service on September 1, 2014,
 - Who retire on or after September 1, 2014.

LOS (Years)	State Contribution		Retiree Contribution	
	Retiree	Dependents	Retiree	Dependents
20 or more	100%	50%	0%	50%
15-19	75%	37.5%	25%	62.5%
10-14	50%	25%	50%	75%

FY 2016 GBP OPEB Valuation

Impact of SB 1459

- ❑ This is the fourth valuation to reflect the impact of SB 1459.
- ❑ SB 1459 has only a small impact on the FY 2016 OPEB liabilities and costs, since it applies to only a small segment of the membership, most of whom will not be eligible to retire for many years.
- ❑ But the impact of the bill will gradually grow for many years:
 - As employees to whom the requirements do not apply are replaced by those to whom they do, and
 - As employees to whom the requirements apply get closer to and eventually retire.
- ❑ The requirements of SB 1459 will:
 - Reduce the state's liability and cost for applicable employees who retire with less than 20 years of service.
 - Discourage some applicable employees and vested terminated members with less than 20 years of service from enrolling for insurance upon retirement.

FY 2016 GBP OPEB Valuation

Actuarial Cost Method and Assumptions

- Actuarial cost method
 - Entry age normal (EAN)
 - Same method used since inception of the GASB reporting requirements.
 - Same method used for ERS retirement plan valuation.
 - Normal cost and 30 year amortization amounts are determined as level percentages of pay.

- Actuarial assumptions
 - Demographic and pay-related assumptions are the same as those used in valuing the retirement plans.
 - Investment return assumption for a plan funded on a PAYGO basis is based on the rate of return on the employer's assets.
 - Health plan benefit cost trend has been established consistent with other economic assumptions as required by GASB.

FY 2016 GBP OPEB Valuation

Demographic Assumptions

- Demographic assumptions include:
 - Mortality
 - Disability
 - Termination
 - Withdrawal
 - Retirement

- State agency employees and retirees:
 - Same demographic assumptions as those utilized by ERS for its retirement plan valuation for FY 2016

- Higher education employees and retirees:
 - Same demographic assumptions as those utilized by TRS for its retirement plan valuation for FY 2016

FY 2016 GBP OPEB Valuation

Economic Assumptions

- Economic assumptions include:
 - Inflation
 - Payroll growth and inflationary salary increases
 - Salary increases for merit, promotion and longevity

- State agency employees and retirees:
 - Same economic assumptions as those utilized by ERS for its retirement plan valuation for FY 2016

- Higher education employees and retirees:
 - Same economic assumptions as those utilized by TRS for its retirement plan valuation for FY 2016, with an adjustment to the inflation assumption to be consistent with the GASB 43 inflation assumption.

FY 2016 GBP OPEB Valuation

Economic Assumptions - Investment Return Assumption

- ❑ Since the OPEB benefits provided under the GBP are funded on a PAYGO basis, GASB 43 requires that the investment return assumption be based on the expected yield of the “*assets of the employer*”.
- ❑ For the State of Texas, the “*assets of the employer*” are the assets held in the Treasury Pool and managed by the Comptroller.
- ❑ The average annual real rate of return (return in excess of inflation) for the Treasury Pool has been approximately 2.0% over the last 30 years.
- ❑ Based on this analysis and the inflation assumption adopted by the Board for purposes of the retirement plan valuation (3.5%) we have selected an investment return assumption of 5.5% in the OPEB valuation.
- ❑ This is the same investment return assumption as was used for the FY 2008 - FY 2015 valuations.

FY 2016 GBP OPEB Valuation

Economic Assumptions – FY 2017 Per Capita Health Benefit Costs

- The OPEB valuation is based on projected Per Capita Health Benefit Costs for FY 2017
 - By gender
 - By age

- Prior to the FY 2011 valuation, the Per Capita Health Benefit Costs represented the projected cost of HealthSelect coverage since the great majority of retirees participate in HealthSelect.

- With the addition of the Medicare Advantage PPO option (HealthSelect Medicare Advantage) effective January 1, 2012, it became necessary to have two sets of Per Capita Health Benefit Costs:
 - HealthSelect (for participants for whom Medicare is not primary and for Medicare-primary participants who elect to remain in HealthSelect).
 - HealthSelect Medicare Advantage (for Medicare-primary participants who elect HealthSelect Medicare Advantage).

FY 2016 GBP OPEB Valuation

Economic Assumptions – FY 2017 Per Capita Health Benefit Costs

- HealthSelect (medical and prescription drug)
 - The retiree population is such that a great deal of credible data exists.
 - Extensive historical data allows us to examine both current cost as well as evolving cost trends.
 - HealthSelect experience data through FY 2016 is used to establish current gender/age-specific costs for HealthSelect.

- HealthSelect Medicare Advantage
 - Per capita medical costs are based on the HealthSelect Medicare Advantage premiums applicable to the fully insured medical benefits and the associated Health Insurance Provider Fee as required under the Affordable Care Act (ACA).
 - Per capita prescription drug costs are the same as those applicable to HealthSelect participants since HealthSelect Medicare Advantage participants have the same prescription drug coverage as HealthSelect participants.

FY 2016 GBP OPEB Valuation

Economic Assumptions – Health Plan Benefit Cost Trend

- ❑ A select and ultimate trend assumption is used which begins at the levels we are using for the next biennium.
- ❑ The trends have been revised to reflect updated projections for FY 2018 – FY 2023.
- ❑ The trend is expected to be 8.5% through FY 2019 and then decline over the next five years to a “sustainable” ultimate level.
- ❑ The ultimate level is two percent in excess of the assumed rate of inflation (5.5% = 3.5% + 2.0%).
- ❑ The ultimate level is the same as that used in previous OPEB valuations.

FY 2016 GBP OPEB Valuation

Economic Assumptions – Health Plan Benefit Cost Trend

Fiscal Year	FY 2015 Valuation	FY 2016 Valuation
2018	8.0%	8.5%
2019	7.5%	8.5%
2020	7.0%	7.5%
2021	6.5%	7.0%
2022	6.0%	6.5%
2023	5.5%	6.0%
2024 and beyond	5.5%	5.5%

FY 2016 GBP OPEB Valuation

GBP Membership

Category	Members	Covered Spouses	Covered Dependent Children	Total
Actives	235,108 ¹	41,564 ²	126,597	403,269
Deferred Vested	11,329	0 ²	0 ²	11,329²
Retirees and Nominees	113,430 ³	29,153	9,757	152,340
Total - August 31, 2016	359,867	70,717	136,354	566,938
Total - August 31, 2015	350,777	70,108	134,794	555,679
Change	9,090	609	1,560	11,259

¹ Includes (a) return-to-work retirees and (b) employees who have not yet satisfied the waiting period.

² Rather than use current spouse/dependent child coverage information, actuarial assumptions are used to estimate the future number of spouses and dependent children that will be covered at retirement.

³ Includes 3,968 retirees who receive the Opt-Out Credit in lieu of health benefits.

FY 2016 GBP OPEB Valuation

Results (See page II-3 of the Actuarial Valuation Report.)

Member Class	UAAL	NC	Amortization	ARC
Actives	\$15,008M	\$1,123M	\$652M	\$1,775M
Vested Non-Contributing	1,363M	NA	59M	59M
Retirees	10,720M	NA	465M	465M
Total	\$27,091M	\$1,123M	\$1,176M	\$2,299M

- Actual Employer Contributions for FY 2016 (including Federal Retiree Drug Subsidy revenue) = \$666M which is 29.0% of ARC.
- Terminology
 - UAAL = Unfunded Actuarial Accrued Liability = APVTPB – PVFNC – Net Assets
 - NC = Normal Cost
 - Amortization = UAAL amortized over 30 years as a level % of payroll
 - ARC = Annual Required Contribution = NC + Amortization
 - APVTPB = Actuarial Present Value of Total Projected Benefits
 - PVFNC = Present Value of Future Normal Costs

FY 2016 GBP OPEB Valuation

Reconciliation with FY 2015 (See page II-5 of the Actuarial Valuation Report.)

OPEB Measure	Actual FY 2015	Expected FY 2016 Based on FY 2015 Assumptions	Change Attributable to			Actual FY 2016
			Differences in Actual vs Expected	Assumption Changes	Plan Change	
UAAL	\$25,741M	\$27,432M	(\$311M)	(\$30M)	0	\$27,091M
NC	\$1,044M	\$1,080M	\$31M	\$12M	0	\$1,123M

- a) Year-to-year increases will occur if actual and expected experience are the same:
 - UAAL: Since OPEB is funded on a PAYGO basis, the excess of NC plus interest over the PAYGO amount increases the UAAL.
 - NC: NC is determined as a level percentage of payroll; therefore the dollar amount increases due to growth in active employment and/or inflationary increases in salaries.
- b) Gains/losses from differences in actual vs expected will occur to the extent that the assumptions are too pessimistic/optimistic; e.g., fewer retirements than were expected would create a gain.
- c) Gains resulting from changes in Per Capita Health Benefit Costs have been partially offset by losses resulting from changes in the demographic assumptions and the Health Benefit Cost Trend.
- d) SB1459 has resulted in liabilities and costs that are lower than they would have otherwise been. The impact of SB 1459 will grow over time.

FY 2016 GBP OPEB Valuation

Comparison of FY 2015 and FY 2016 Results

OPEB Measure	FY 2015	FY 2016
Normal Cost - % Payroll	9.3%	9.5%
Amortization - % of Payroll	10.0%	10.0%
ARC - % Payroll	19.3%	19.5%

FY 2016 GBP OPEB Valuation

GASB 74

- ❑ GASB 74 replaces GASB 43 effective for FY 2017.

- ❑ GASB 74 will require significant changes in the OPEB valuation.
 - For unfunded plans like the GBP OPEB, the investment return assumption will be based on yields of 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. If GASB follows the mark-to-market approach required for retirement plans under GASB 67/68, the expected investment return assumption for FY 2017 could be lower than the current investment return assumption depending on the yields of these tax-exempt bonds at that time.

 - The Net OPEB Liability will be equal to the difference between the Actuarial Accrued Liability (determined using the new investment return assumption) and the fair value of plan assets, which are currently \$0 since the plan uses a PAYGO approach.

 - There will also be increased note disclosures and supplementary information including a sensitivity analysis of the Net OPEB Liability to $\pm 1\%$ changes in the investment return assumption and changes in the healthcare trend rate.

FY 2016 GBP OPEB Valuation

GASB 74

- ❑ GASB 74 may require significant changes in presentation of the OPEB expense and liability information.
 - Under GASB 43 OPEB expense and liability information is reported by ERS in the notes and supplementary information contained in the CAFR. GASB 74 may require this information to be reported in the Statements of Fiduciary Position and Changes in Fiduciary Position.
 - Under GASB 45 the Comptroller reports OPEB expense and liability information for ERS and TRS in the notes to the financial statements in the State's CAFR. GASB 75 may require this information to be presented in the financial statements.
 - GASB 74/75 may require increased reporting by GBP participating employers.

- ❑ ERS will conduct discussions with the Comptroller during 2017.

Appendix

GBP OPEB Valuation - Key OPEB Measures

See Section IX of the Actuarial Valuation Report for the definitions of certain terms used in this presentation.

Questions?

Public Agenda Item #20

Review, Discussion and Consideration of Reappointment of ERS Investment
Advisory Committee Member with Term Expiring
December 31, 2016

December 2, 2016

Tom Tull, CFA, Chief Investment Officer

Public Agenda Item #21

Executive Director Agency Update

December 2, 2016

Porter Wilson, Executive Director

Executive Director Agency Update

Legislative Update



- House Pensions Hearing on LECOSRF
- Interim Study on Diabetes Prevention submitted
- 85th Legislative Session
 - Bill pre-filing has begun
 - Weekly meetings begin in January

Executive Director Agency Update

Plan Year 2017 Fall Enrollment

Medicare-eligible retirees and their families



ERS mailed
81,675 PBES
packets.



4,962 members
made coverage
changes.



ERS and ACT
received 4,099
phone calls.
• 551 by ERS
• 3,548 by ACT



46 people visited
ERS in person.

Fall Enrollment outreach



About 580 people
attended
19 fairs across
Texas and three
webinars.



Executive Director Agency Update

New plan and new administrator



STATE OF TEXAS
VISION

vision insurance administered by
Superior Vision Services, Inc.

3,294

people enrolled during Fall Enrollment, with
120,755 total enrollees for PY17.

HealthSelectSM of Texas
— Prescription Drug Program —

UnitedHealthcare
takes over administration on
January 1, 2017.

Executive Director Agency Update

Chapter 615 Benefits

For eligible survivors of certain individuals killed in the line of duty



- What are Chapter 615 benefits?
 - The Texas Legislature enacted Chapter 615 of the Texas Government Code during the 60th legislative session (1967) to provide death benefits for eligible survivors of certain law enforcement officers, fire fighters, and others killed in the line of duty. The program is funded by the State and is administered by the Employees Retirement System of Texas (ERS). It is not part of the retirement program.

Chapter 615 Benefits

Continued



- Who can be covered?
 - an individual who is elected, appointed, or employed as a peace officer by the state of Texas or a political subdivision of the state of Texas;
 - an individual who is employed by the state or a political or legal subdivision and is subject to certification by the Texas Commission on Fire Protection;
 - a parole officer employed by the Texas Department of Criminal Justice;
 - an individual who:
 - performs emergency medical services or operates an ambulance;
 - is employed by a political subdivision of the state or is an emergency medical services volunteer; and
 - is qualified as an emergency care attendant or at a higher level of training;

Chapter 615 Benefits

Continued



- Available Chapter 615 benefits:
 - A lump sum payment of \$500,000 from the State of Texas for the eligible surviving spouse, child, or parent.
 - A monthly payment to the eligible surviving minor child(ren) until the surviving child(ren) reaches age 18:
 - \$400 per month, if there is one surviving child
 - \$600 per month, equally split, if there are two surviving children
 - \$800 per month, equally split, if there are three or more surviving children
- Other eligible benefits survivors may be eligible for, but are subject to rules and eligibilities:
 - Spousal monthly payment
 - Funeral expenses
 - Health, Dental, and/or Vision Insurance
 - Educational Benefits

Chapter 615 Benefits

Continued



- Benefits paid:
 - 17 lump sum payments made in FY 16 and over 233 lump sum payments made over the last 10 years.
 - approximately 112 guardians receiving monthly benefits for minor children

- Changes in lump sum amounts over the years:
 - 1967-\$10,000
 - 1975- \$20,000
 - 1993- \$50,000
 - 2000- \$250,000
 - 2015- current \$500,000

Executive Director Agency Update

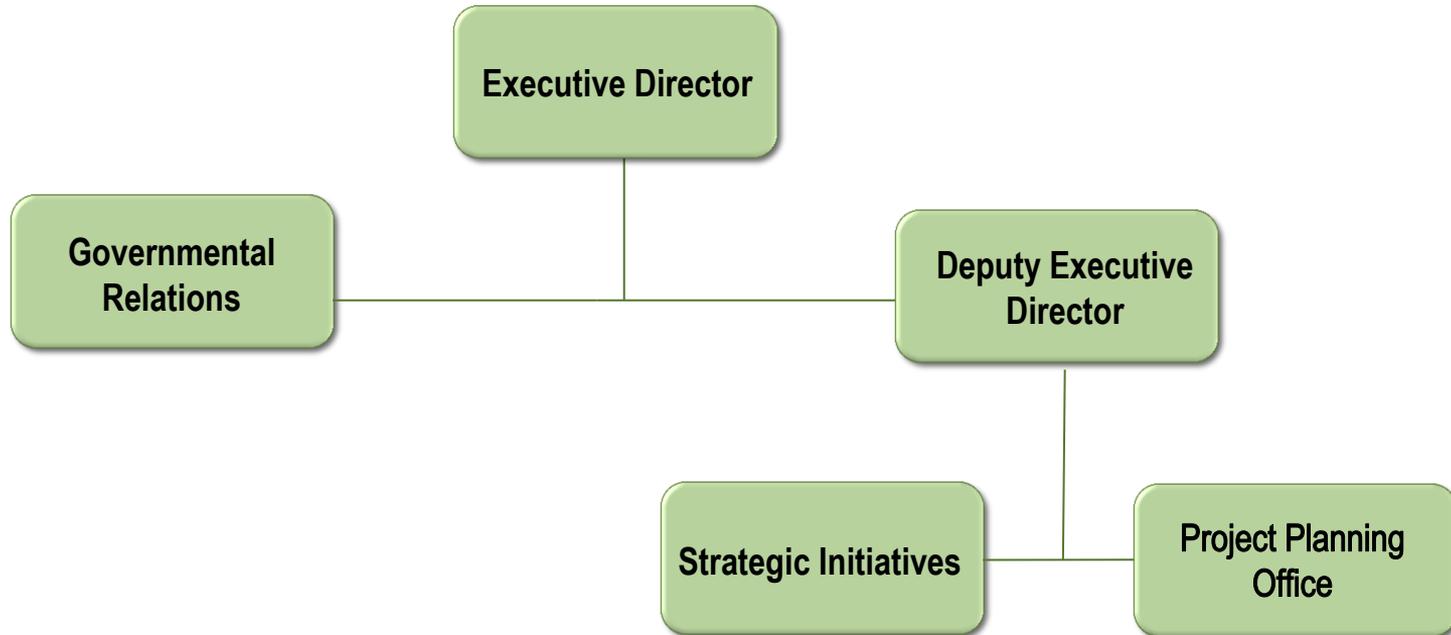
Web Portal for Board Meeting Management



- Procuring a web service to search, share, and manage Board agenda items, exhibits, and meeting minutes
 - Provides an efficient means for sharing news and updates
 - Offers users a paperless option on meeting days
 - Plan to implement by February 2017 meeting



Executive Office Reorganization

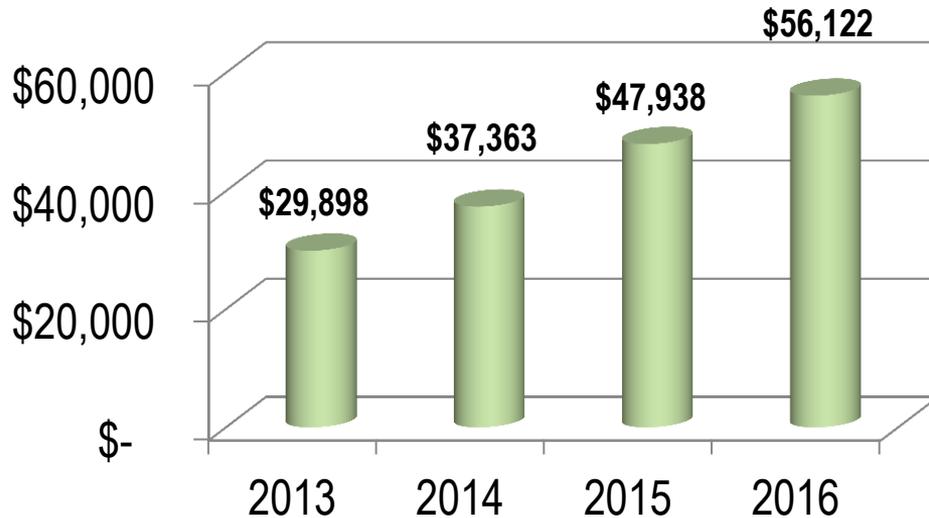


Executive Director's Report

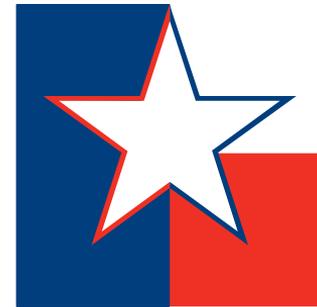
State Employee Charitable Campaign 2016



We are pleased to announce our results EXCEEDED our campaign goals. 90% of ERS employees contributed over \$56,122 to the 2016 campaign.



Together We Care



secctexas.org





Questions?

Public Agenda Item #22

Set 2017 Meeting Dates for the Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee, the Next Meeting of the Board of Trustees and the Meeting of the Audit Committee

December 2, 2016

2017 Meeting Dates



Proposed 2017 Meeting Dates:

Wednesday, February 22, 2017

Wednesday, May 17, 2017

Wednesday, August 23, 2017

2 Day Workshop:

Tuesday - Wednesday, December 12 & 13, 2017

Public Agenda Item #23

Executive Session - In accordance with Section 551.072, Texas Government Code, the Board of Trustees will meet in Executive Session to deliberate the purchase, exchange, lease or value of real property and the ERS building. Thereafter, the Board may consider appropriate action in open session

December 2, 2016

Public Agenda Item #24

Adjournment of the Board of Trustees

December 2, 2017