June 2017

Advocates for School Trust Lands

SITFO

State of Utah, School &
Institutional Trust Funds
Office

Introduction

- Formed in 2014 to institutionalize the investment management of the profits generated by trust lands management
  - $2.25 billion in assets
  - 10 trust funds, not just the "School Fund"

- Self-funding
  - Operations are funded through the trust, not tax revenues

- The Board of Trustees consists of the State Treasurer (Chairperson) and four additional members with expertise in institutional investment management

- The staff consists of three (FTE) persons and intern(s):
  - Director, Chief Investment Officer
  - Senior Investment Analyst
  - Administrative Analyst
  - Intern(s)

Agenda

- Permanent Funds and Asset Allocation – Challenges and Potential Solutions
  - Distribution Policy
  - Generating Returns
  - Governance / Resources
  - Asset Allocation

Challenges – Distribution Policy

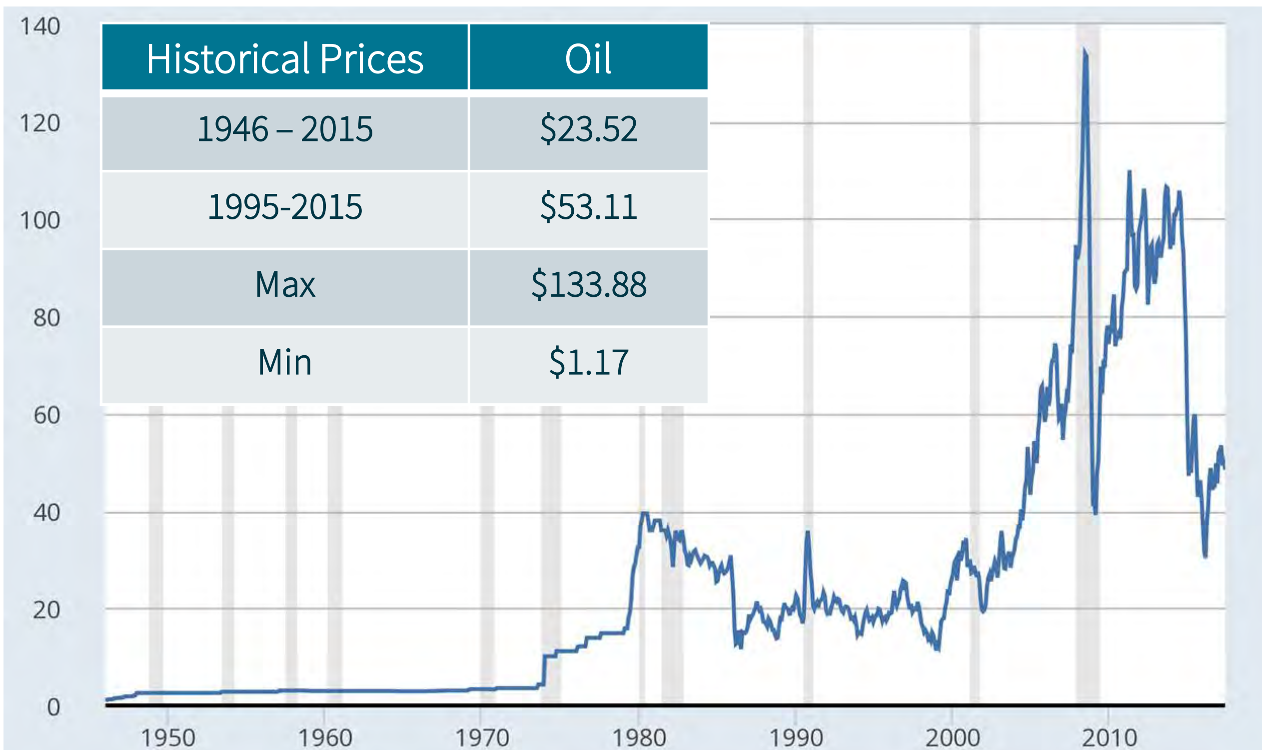
- Distribution policy as per enabling act and state constitutions
- 19th century practices ("interest only", many modified to include dividends)
- Conundrum of balancing "growth" and "income" is constraining
- Ability to maintain distributions challenged

Average Income Levels	Stocks	Bonds
1890-1990s	4.68%	4.73%
1990s-2017	1.83%	4.15%
2011-2017	2.06%	2.13%

Challenges – Distribution Policy

- Many permanent funds rely on commodities for revenue
- What is the future price of oil/gas?
- How much land/resources are left?

Historical Prices	Oil
1946 – 2015	$23.52
1995-2015	$53.11
Max	$133.88
Min	$1.17



Solutions – Distribution Policy

- Industry standards:
  - A portfolio can sustain 4-5% distributions
  - Provide for inflation adjusted growth of the principal
  - And be compatible with principle of intergenerational equity

- IF:
  - A long term investment horizon is used
  - Understanding and acceptance of moderate risks
  - Experience, sophistication and tenure of decision makers

Sample Institutional Distribution Rates

Overall Average Distribution Rate	4.80%
Private	6.32%
Human or Social	4.86%
Community	4.57%
Cultural or Arts	4.46%
Education (non-higher edu)	4.18%
College or University	4.08%
Faith-based	3.91%
Environmental	3.65%

Solutions – Distribution Policy

Utah's response:
Constitutional amendment driven by the needs of the schools and the ability of the trust to pay:

- *Needs Based Factor = 50% of the formula*
  - *Cost of pencils (inflation) + # of pencils (enrollment growth).*

- *Stability/Ability Factor = 50% of the formula*
  - *4% of 12 quarter average of portfolio market value*

- *Any given year's distribution cannot exceed a 4% limit*

Challenges – Generating Returns

- To protect corpus – keep up with inflation and prudent distributions
  - Inflation erode the corpus
  - Large distributions erode the corpus
- To maintain intergenerational equity – balance return and distribution
  - Too conservative = favors the present generation
  - Too aggressive = favors the future generation

Solutions – Generating Returns

Utah's response:

- *The overall, long-term investment objective of the trusts is to achieve an annualized net of fees total return of CPI + 5%.*
  1) *Maintain purchasing power, while providing for current distributions (max 4%)*
  2) *Secondarily, to provide portfolio growth in excess of the distribution and inflation*
  3) *Minimize volatility to be no greater than what is necessary to achieve the return objective*
  4) *To maintain an asset allocation that is compatible with these objectives*

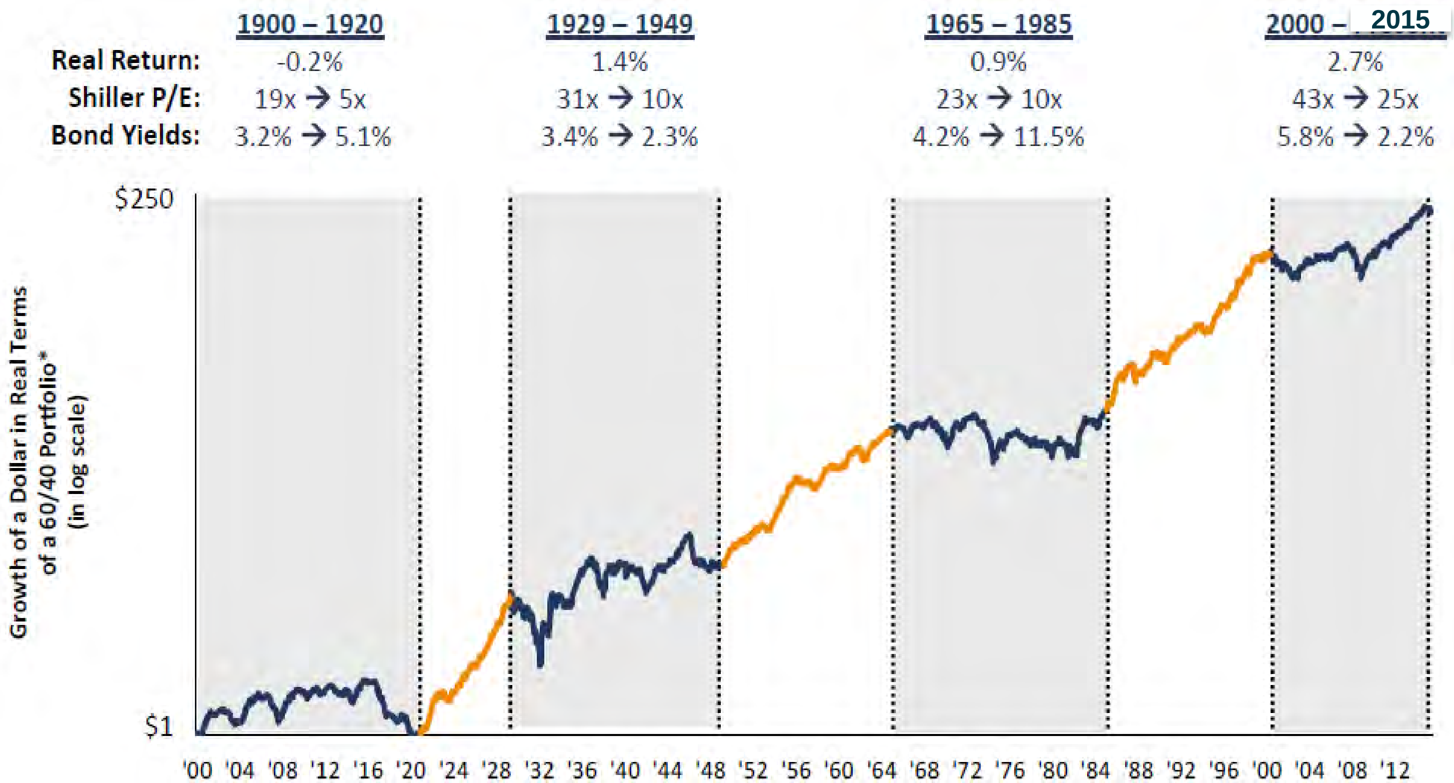
Challenges – Generating Returns

- Return expectations are mediocre:
  - Low growth (average estimate of 2.2% GDP of developed economies)
  - High debt levels (countries, companies, individuals)
  - Low interest rates (30 year bond yields less than 3%, real yield is 1%)
  - High valuations (US stocks optimistically 6% return, 4% real)
- Difficult to achieve “inflation plus distribution” levels of returns

- 1st generation investing relied on cash, bonds
- 2nd generation introduction of stocks (mostly US blue-chip)
- 3rd generation embraced modern portfolio theory (diversification)
- 4th generation improving on modern portfolio theory (re-thinking diversification, simplicity vs complexity)

Challenges – Generating Returns

- Basic stock and bond portfolios can languish over long periods of time



As of 9/30/15
Sources: Global Financial Data (early history), Factset (S&P500 returns and CPI), J.P. Morgan (J.P. Morgan GBI United States Traded).
Robert Shiller's website: http://www.econ.yale.edu/~shiller/data.htm.
60% U.S. Equities (S&P 500), 40% U.S. Bonds (U.S. Treasuries) rebalanced monthly.

Solutions – Generating Returns

- Revisit framework for governance, resources, and investing
- An ongoing willingness to openly assess the situation is crucial
    - Quality of staff, use of consultant, nature of portfolio, prepared for the future, balancing growth and protection?

Utah's response:

- *Beneficiary began to take an active role in assessment of investments, governance, and resources*
- *Formed a task force of experts to examine and recommend change*
- *Industry best practices are (becoming) the new normal*
- *Political effort and significant increase in resources (not without costs)*

Challenges – Governance and Resources

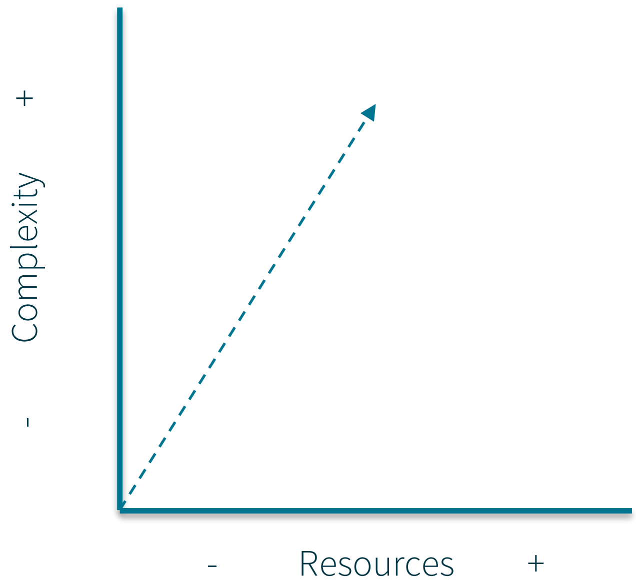
- Governance of institutions as a driver of investment success
  - Sovereign Wealth Fund (highly political, national interests balanced with fiduciary interests)
  - Defined Benefit Pension (political, highly publicized, fiduciary should be primary, taxation as a problems)
  - Endowments (variable, but usually educated and professional)
  - Foundation (variability in size and sophistication – similar to endowments)

- Permanent funds are a similar to SWFs and endowments
  - Natural resources oriented
  - Somewhat political
  - Similar in size to endowments
  - Supporting education

- But…less resources, staffing, and variable governance
  - SWFs and endowments pursue best in class investment professionals and programs at a cost

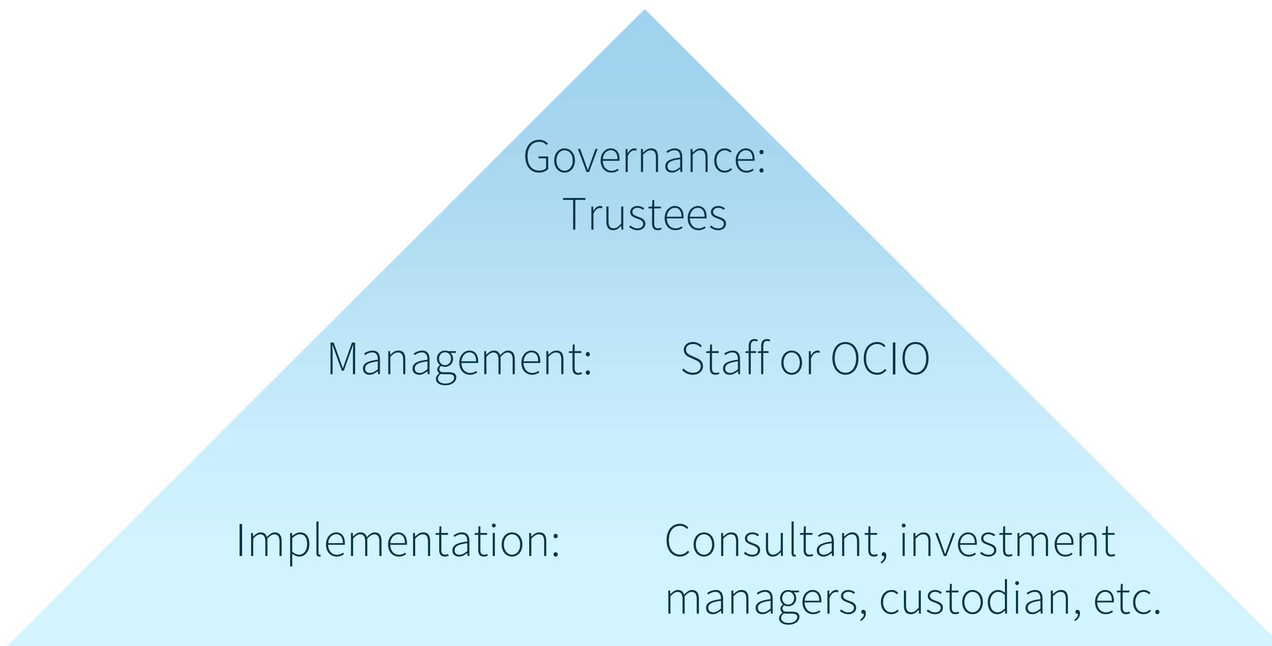
Challenges – Governance and Resources

- Governance of institutions as a driver of investment success
  - Alignment of resources and objectives (invest in the capability to achieve returns and distributions)
  - Budget what you can, plan accordingly
  - Assign specific responsibilities and accountability for outcomes



Challenges – Governance and Resources

- Governance of institutions as a driver of investment success
  - Multiple pathways to success, but all require accountability and talent
  - Accountability: Separation of oversight, management, and implementation duties with explicit accountability outlined in the investment policy
  - Talent: Selecting trustees, staff, and advisors must be focused on outcomes and fiduciary responsibility



Challenges – Governance and Resources

Expectations / Criteria

- Trustees:
  - Should be available, able to engage and challenge
  - Should not be there to micro-manage
  - Sophisticated investors with divergent views and experience (younger/older, aggressive/conservative, stocks/bonds)
  - 5 trustees is ideal, no more than 7 (if larger then create an investment committee)
  - Be wary of elected individuals (if necessary create an investment committee)

Challenges – Governance and Resources

Expectations / Criteria

- Staff:
  - Budget for talented staff, delegate and provide support
  - Flexibility to implement their vision is equally or more important than compensation
  - If you cannot budget for talented staff, hire a great consultant and outsource to them

- Consultant:
  - Budget for a talented consultant who accepts accountability
  - Consultant needs to have significant resources, especially if you don't
  - Be sure customization is real and that it is a partnering relationship
  - Consultant to be diplomatic, as well as challenge the status quo

Solutions – Governance and Resources

Utah's response:

- *"Investment Beliefs" – establish in advance agreed upon principles for guidance and direction (related to the art and science of investing)*
- *"Investment Policy" – outline specifics of governance, responsibility, authority (related to statutes and administration)*
- *Staff avails themselves of necessary resources/advisors*

INVESTMENT BELIEFS

This document contains our guiding principles, which inform our decision-making and governance. While not a policy or procedural manual, it gives an overview of who we are, what our mission is, and how we aim to achieve it.

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INVESTMENT POLICY

This policy outlines the governing framework within which SITFO operates. It was created in conjunction with the SITFO Board to assist in effectively supervising, monitoring and evaluating the investment of assets.

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Governance and Resources –Board of Trustees

DAVID DAMSCHEN - *Chair, Board of Trustees*

David became the Utah State Treasurer after serving seven years as the Chief Deputy State Treasurer. Previously, he lead treasury management efforts at AmericanWest Bank and U.S. Bank for almost 20 years. David is veteran of the U.S. Coast Guard, and holds a Certified Treasury Professional (CTP) credential.

KENT A. MISENER - *Vice Chair, Board of Trustees*

Kent serves as VP of Finance for the Great Salt Lake Council of the BSA. He managed $9 billion in benefits-related assets as the Chief Investment Officer of Desert Mutual Benefit Administrators (DMBA). Kent has an MBA in Business Administration, and operates Verapath Global Investing LLC.

DAVID R. NIXON - *Board of Trustees*

David worked at Coopers & Lybrand and as Assistant Treasurer and Director of Global Investments at EDS, responsible for assets totaling $15 billion. David has an accounting MBA. His extensive international experience includes work in both developed and emerging markets and living in Colombia, Belgium, and England.

JOHN LUNT - *Board of Trustees*

John serves on the investment committee for the $8 billion Utah Educational Savings Plan (UESP) and was board president of Utah Retirement Systems (URS), a $20 billion pension fund. He has an MBA in Finance and International Business and is the Founder and President of Lunt Capital Management, Inc.

DUANE MADSEN - *Board of Trustees*

Duane serves on the UVU Foundation's Investment Committee and chairs the Center for Law and Religious Studies at BYU's J. Reuben Clark Law School. He has an MBA and worked as the Vice President and Executive Director of Goldman-Sachs Private Wealth Management.

Governance and Resources – SITFO Staff

PETER MADSEN - *Director, Chief Investment Officer*

Peter was brought on by SITFO in 2015, and has been critical in establishing the direction of the organization. Working in the investment management industry since 1999, his most recent experience includes Managing Director of Cube Capital, an investment group in London. His career includes a range of experience in global investing for large institutional clients such as pension funds and endowments, as well as permanent school fund experience from another state. Peter holds a Bachelor of Arts degree from the University of Utah in International Political Economy and Russian. He also holds an MBA focused in International Finance from the Middlebury Institute of International Studies.

NATHAN BARNARD - *Senior Investment Analyst*

Nathan joined SITFO in 2016, bringing valuable expertise in research and portfolio management. Prior to SITFO, he spent two years at Leader Capital as a fixed income portfolio analyst, where he conducted economic, fixed income market and individual credit research. While at RVK, Inc., he held analyst roles in portfolio analytics and later in manager research. Nathan has a Bachelor of Science in Business Administration from the University of Colorado - Boulder where he majored in finance. He is a CFA charterholder and a member of the CFA Society of Portland.

RYAN KULIG - *Administrative Analyst*

Ryan joined SITFO in 2016 to help manage office operations, portfolio administration, and investment analysis. Before joining SITFO, he worked for Sax Angle Partners, specializing in fundamental and technical analysis of equity investment opportunities. Prior to that, he performed financial analysis of federal grant activity at MRK Advisors. Ryan earned his Bachelor of Business Administration in Global Business with an Emphasis in Finance and a Minor in Economics from the University of Portland.

Governance and Resources – Advisors

FUND EVALUATION GROUP - *Investment and Risk Consultant*

Fund Evaluation Group (FEG) was hired in 2016 to assist with all aspects of policy, asset allocation, investment selection and risk management. FEG advises on $58 billion of institutional investments, has140 employees, 97 of which are investment professionals and 22 dedicated to investment selection efforts.

INDEPENDENT RESEARCH AND DATA - *Bloomberg, eVestment, Capital Economics, Preqin*

Raw data and the objective interpretation of it are facilitated by this category of partners and advisors. The list above is not exhaustive, but includes the primary source of information to assist with analyzing the economic environment and individual investments.

FUND MANAGERS - *Strategy Specific Investment Advisory Relationships*

Most institutional investors' efforts are focused on establishing policy, setting investment objectives, and optimizing risk. The "day to day" buying and selling of individual "stocks and bonds" are carried out by best in class, specialized, investment managers. These investment managers are highly scrutinized before and after selection and carry a fiduciary duty to the trusts.

CUSTODIAN BANK - *Northern Trust*

Northern Trust is one of the largest global custodian banks . They were hired in 2016 to institutionalize custody of assets and to provide an independent accounting of the trusts.

RISK MANAGEMENT - *Software and Services*

Staff analytic resources include software services to provide quantitative risk management analysis for decision-making. AltSoft and Bloomberg are the primary tools for risk management. In addition, SITFO utilizes FEG as an independent party with their proprietary tools and dedicated risk management staff to provide performance analysis and risk reporting.

Solutions – Governance and Resources

- McKinsey's "pillars of success" for institutional investors can be classified into; governance (first three), resources ("talent") and asset allocation ("strategy and process")

High-performing institutional investors build their organization on five pillars.

	Mandate	Governance model	Investment philosophy	Investment strategy and processes	Talent management
Key dimensions	• Mission • Investment constraints	• Governance • Policies, guidelines, and procedures • Decision rights	• Core beliefs • Asset-class investment principles	• Asset allocation • Investment strategies • Portfolio structure • External-manager selection process • Organizational structure	• Investment and support-function structure • Talent • Compensation/ incentives • Culture
Common features	• Explicit mission providing guidelines with respect to long-term objectives and constraints	• Oversight structure and policies ensuring long-term sustainability	• Clear investment philosophy articulated by a resolute leadership team	• Flexible and cost-effective investment strategy to exploit competitive advantages	• Direct alignment of mandate, philosophy, strategy, organization, and compensation

Source: McKinsey analysis

Challenges – Asset Allocation

Number of Respondents* to the 2016 NACUBO-Commonfund Study of Endowments, and Total Endowment Market Values+, by Endowment Size and Institution Type

Size of Endowment	Number of Respondents	% of Total	Total Endowment Value ($1,000)+	% of Total
Over $1 Billion	91	11.3%	$382,538,589	74.3%
$501 Million to $1 Billion	75	9.3	54,064,633	10.5
$101 Million to $500 Million	264	32.8	60,472,069	11.7
$51 Million to $100 Million	163	20.3	12,078,690	2.3
$25 Million to $50 Million	121	15.0	4,545,969	0.9
Under $25 Million	91	11.3	1,409,177	0.3
Total (All Institutions)	**805**	**100.0%**	**$515,109,128**	**100.0%**

Challenges – Asset Allocation

Asset Allocations for U.S. College and University Endowments and Affiliated Foundations, Fiscal Year 2016*

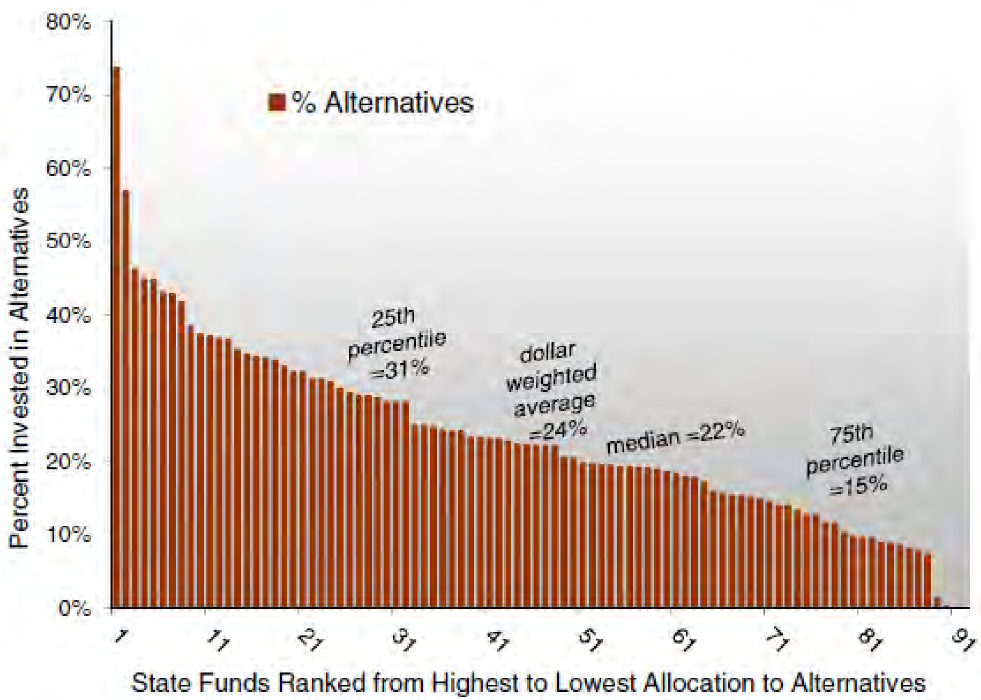
Size of Endowment	Domestic Equities %	Fixed Income %	Non-U.S. Equities %	Alternative Strategies* %	Short-term Securities/ Cash/ Other %
Over $1 Billion	13	7	19	58	3
$501 Million to $1 Billion	20	9	18	45	8
$101 Million to $500 Million	26	13	20	35	6
$51 Million to $100 Million	33	17	19	24	7
$25 Million to $50 Million	38	20	17	17	8
Under $25 Million	44	24	15	10	7

Challenges – Asset Allocation

Size of Endowment	1-year % N=828	3-year % N=736	5-year % N=710	10-year % N=545
Over $1 Billion	16.5	9.5	12.1	8.2
$501 Million to $1 Billion	15.8	9.1	11.8	7.3
$101 Million to $500 Million	15.5	8.9	11.8	7.1
$51 Million to $100 Million	15.2	8.7	11.4	6.5
$25 Million to $50 Million	15.2	8.9	11.4	6.5
Under $25 Million	15.5	9.4	12.0	6.6

Challenges – Asset Allocation

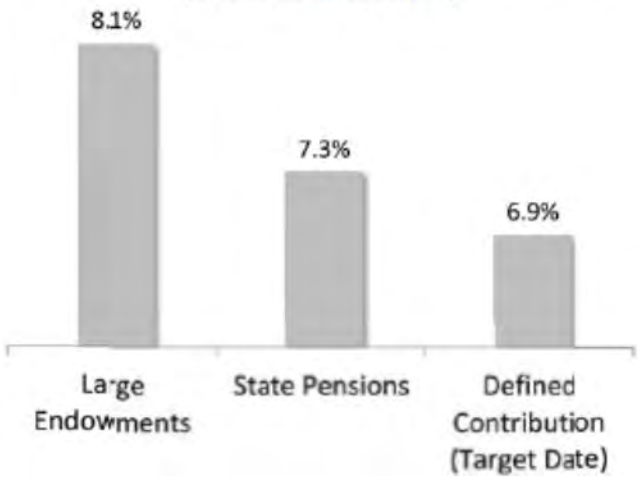
Exhibit 5: Distribution of 2014 Alternative Allocations among State Pensions



Challenges – Asset Allocation

Exhibit 3 compares state pension returns over the last 10 years with two other types of long term capital: large endowments[8] and *managed* defined contribution plans (e.g. target date funds[9]).

Exhibit 3: Median 10-Year Returns by Fund Type
(Ended June 30, 2014)



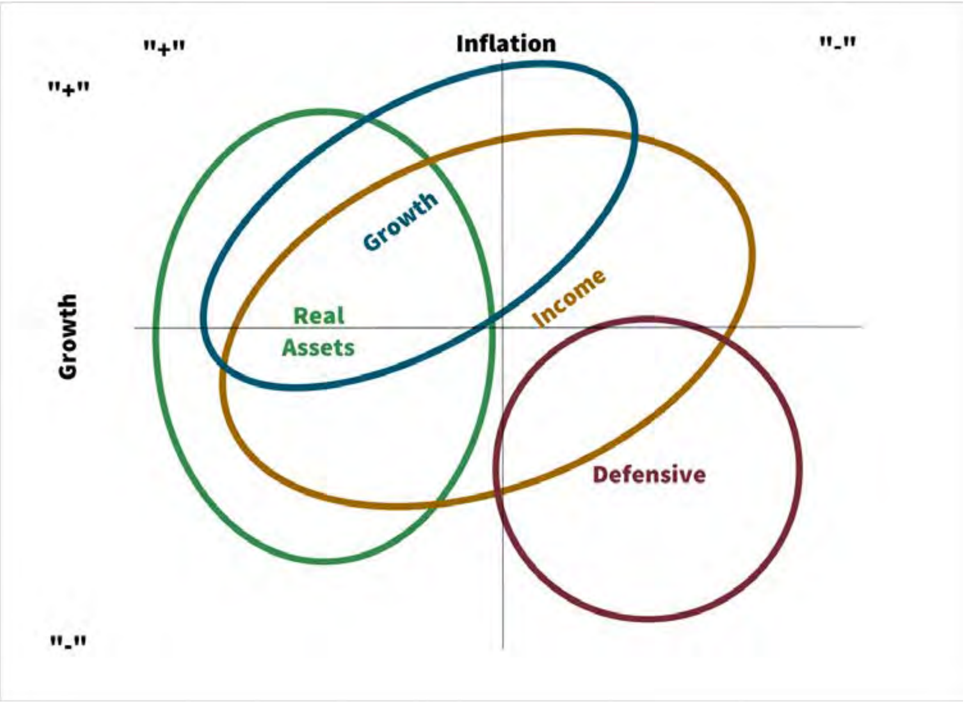
Challenges – Asset Allocation

Exhibit 4: Changes to Overall State Pension Asset Allocation

	2006	2011	2012	2013	2014	YoY Change
Public Equities	61%	51%	49%	50%	51%	1%
Fixed Income	26%	25%	25%	22%	23%	1%
Alternatives	10%	21%	24%	25%	24%	-1%
Cash	1%	2%	2%	3%	2%	-1%
Other	1%	1%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	

Solutions – Asset Allocation

- Re-framing the asset allocation, diversifying sources of risk & return
- Long-investment horizon and sophisticated management
- Tolerate illiquidity, complexity, volatility in exchange for higher expected returns



Solutions – Asset Allocation

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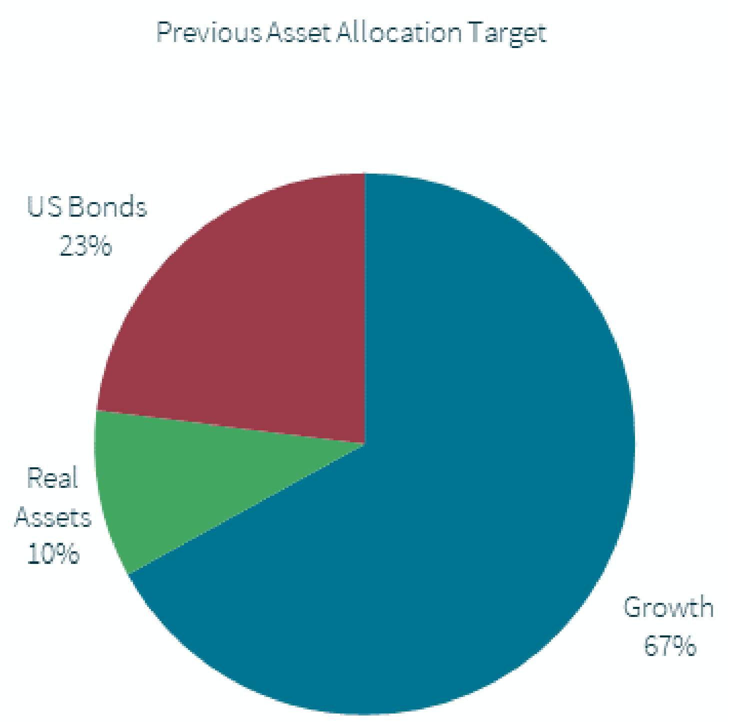
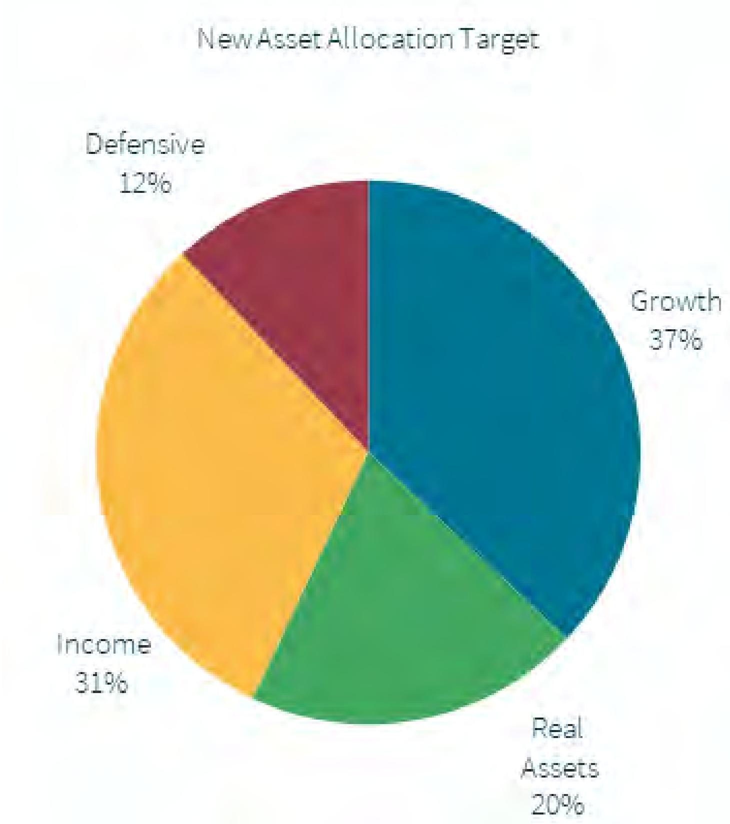
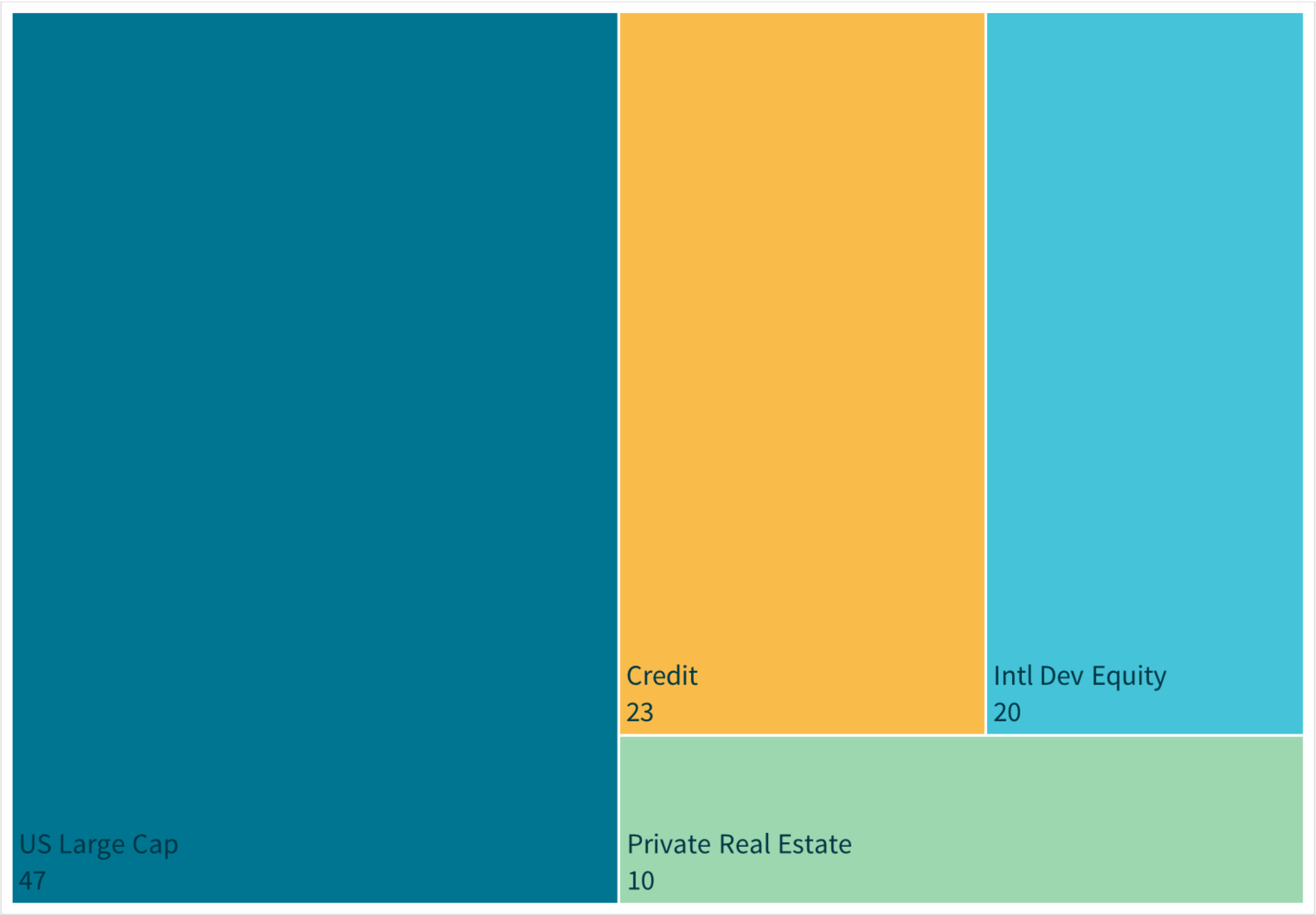




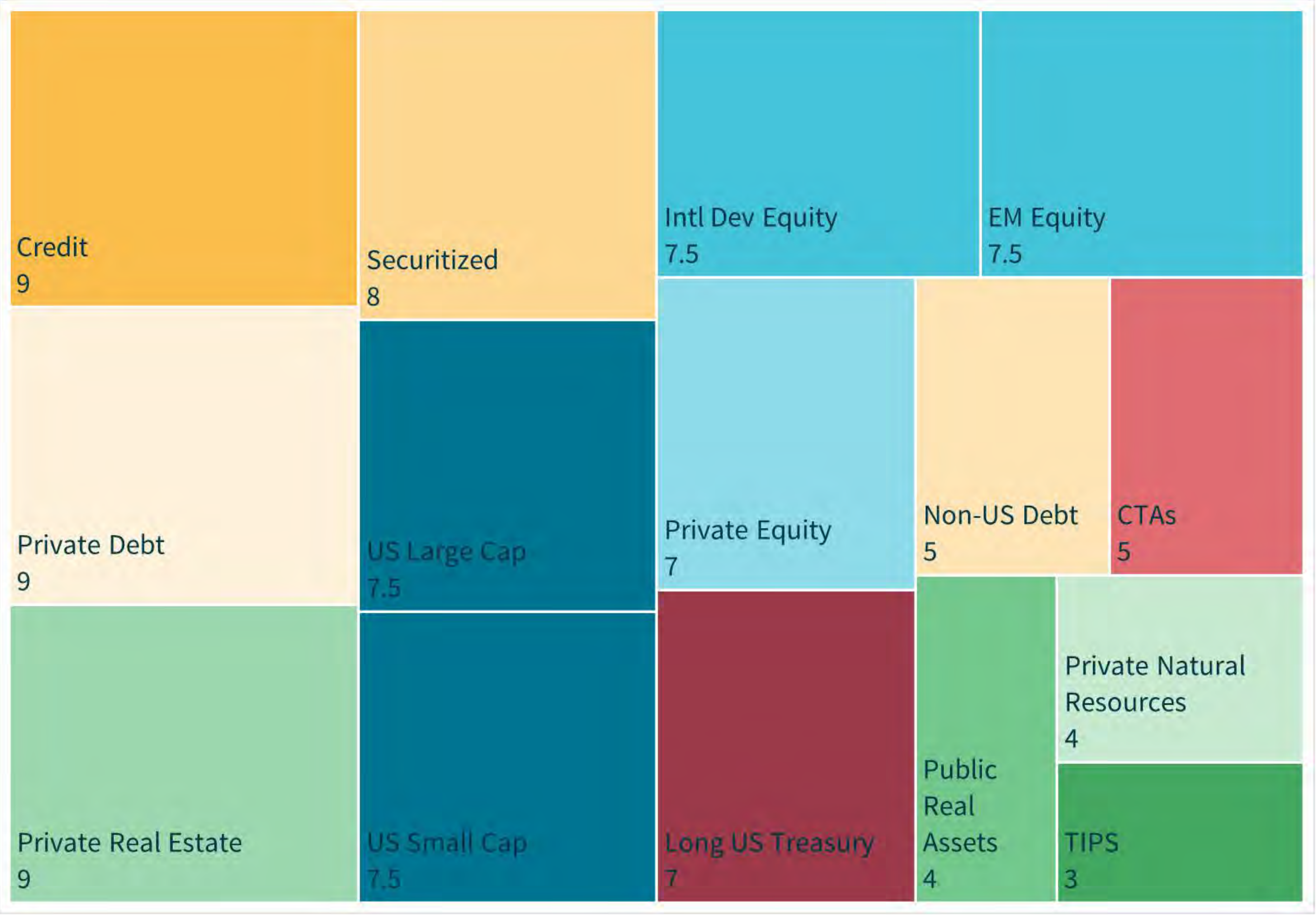
Solutions – Asset Allocation

- Previous asset allocation



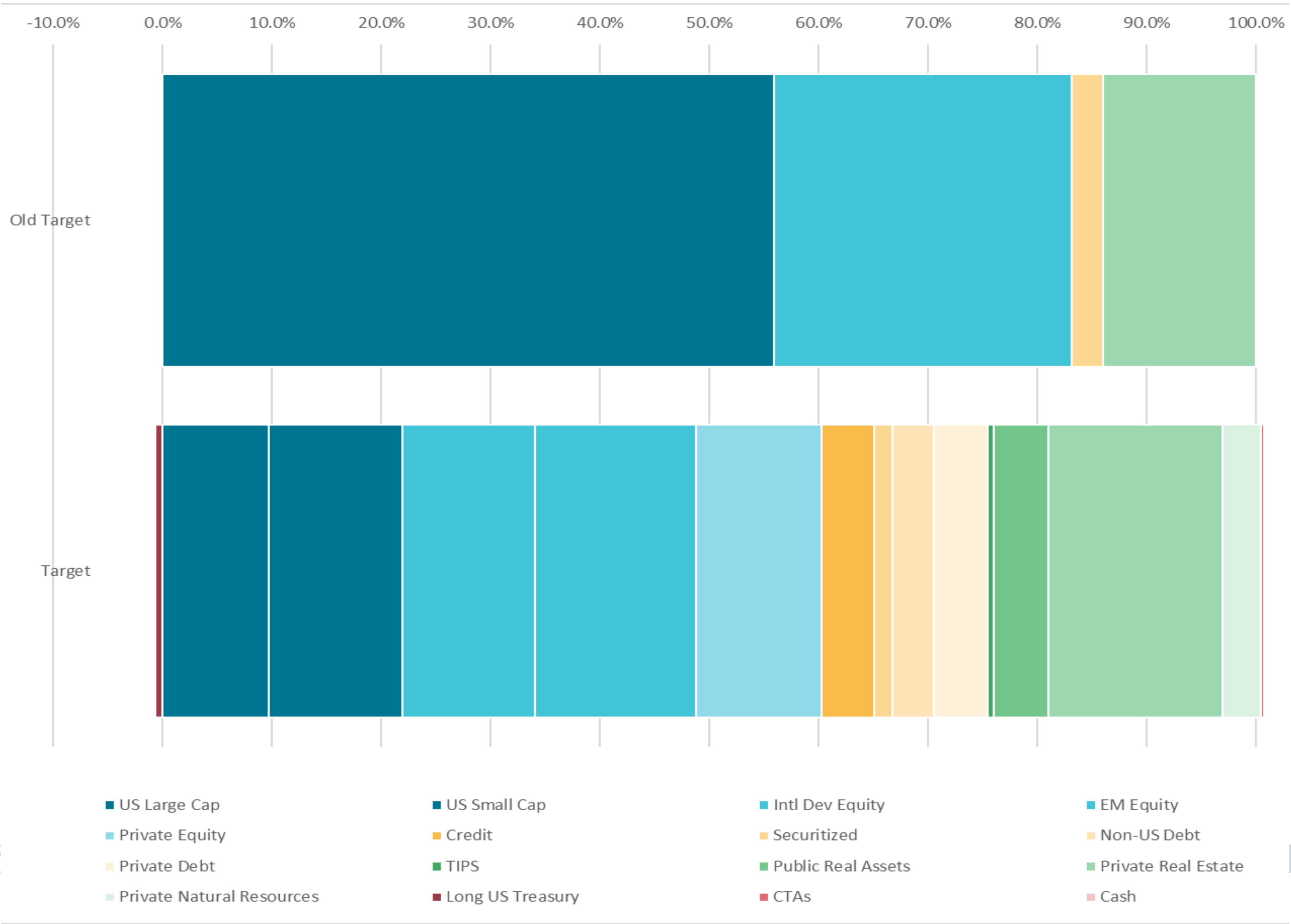
Solutions – Asset Allocation

- New asset allocation



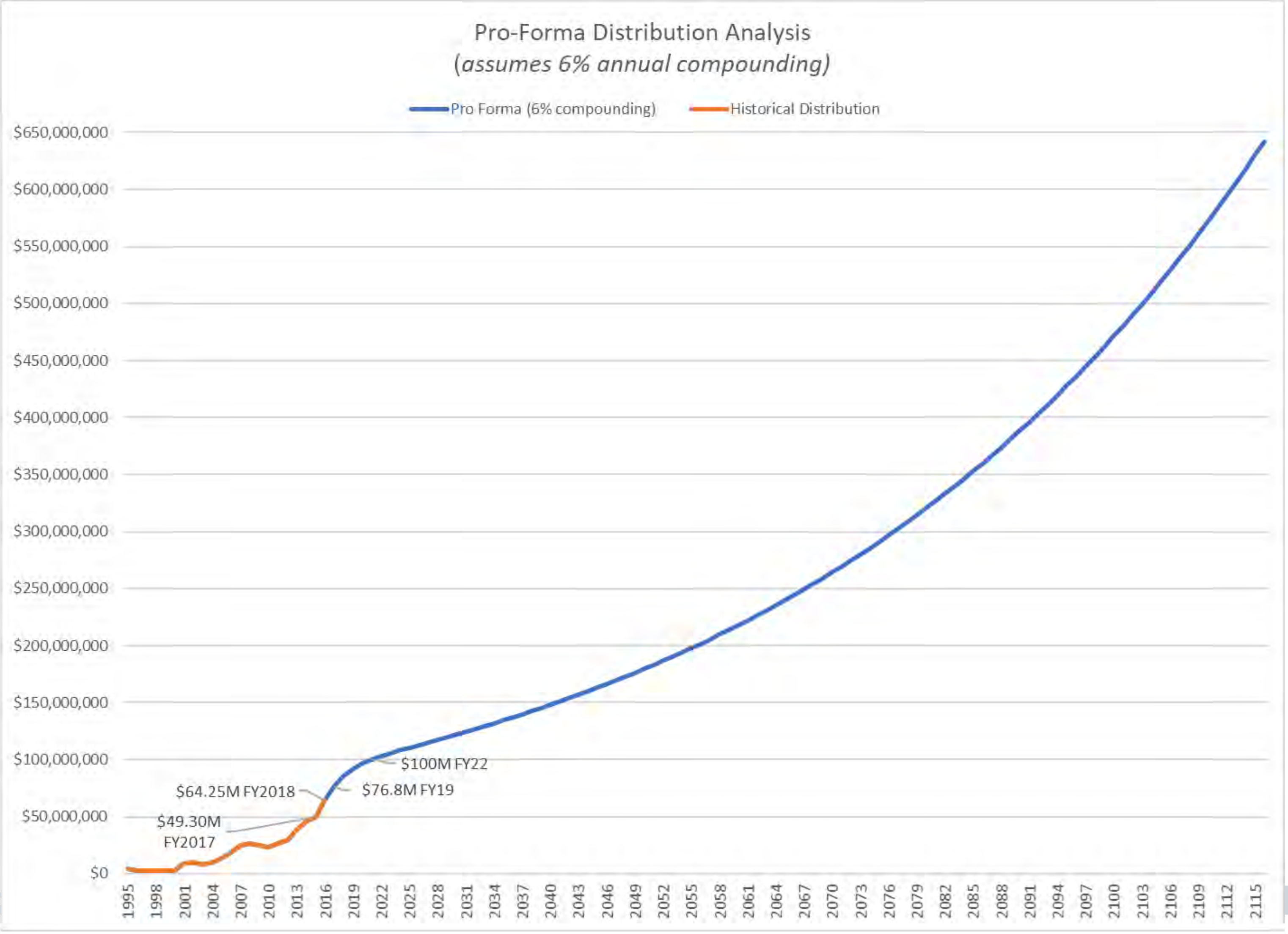
Solutions – Asset Allocation

- Measuring risk



Solutions – Asset Allocation

- Measuring outcomes



Summary

- The cost of improving outcomes is worth it:
  - Political cost
  - Explicit costs
    - Consultant and Staff 0.03% to 0.10% depending on size of portfolio, staff size, nature of overhead

  - Would you pay 0.10% additional for potentially higher returns and lower risk with improved intergenerational equity?

- Potential solutions:
  - Revisit board/investment committee structure
  - Increase budget for investment staff
  - Revisit consultant relationship, can they be catalyst for transition?