



# Board of Trustees Agenda

Wednesday, July 20, 2016

1. Call Meeting to Order (Start time 12:00pm)
2. Administrative
  - a. Approval of minutes – June 15, 2016  
*Attached, Exhibit (A) pages 2-3*
  - b. Work Plan  
*Attached, Exhibit (B) page 4*
  - c. Policies Update
    - i. Review and discuss
    - ii. Adopt current draft  
*Attached, Exhibit (C) pages 5-11*
  - d. SCT Update
3. Custodian Recommendation
  - a. Review and discuss
  - b. Approve  
*Attached, Exhibit (D) pages 12-43*
4. Asset Allocation
  - a. Review and discuss
  - b. Adopt current draft  
*Attached, Exhibit (E) pages 44-67*
5. Investment Review  
*Attached, Exhibit (F) pages 68-69*
6. Adjourn

One or more members of the Board may participate via electronic conference originated by the Chair, and the meeting may be an electronic meeting, and the anchor location shall be as set forth above, within the meanings accorded by Utah law. In compliance with the Americans with Disabilities Act, individuals requiring special accommodations during the meeting may notify SITFO in advance 801-364-0821 or rkulig@utah.gov.



## Board of Trustees Minutes

June 15, 2016

Board Members Attending: David Damschen, John Lunt, David Nixon and Duane Madsen.

Others Attending: Peter Madsen, SITFO; Allen Rollo, Treasurer's Office; Kirt Slaugh, Treasurer's Office; Michael Green, Utah AG; Natalie Gordon, USBE – SCT; Ryan Kulig, SITFO; Nathan Barnard, SITFO; Tracy Miller, Utah PTA; David Center, FEG; Paula Plant, USBE – SCT; Margaret Bird, Univ. of Utah, USU, MH, SM, NS; Bryan Nalder, Utah AG.

### 1. Call Meeting to Order

Mr. Damschen called meeting to order and noted that Mr. Misener was not present.

### 2. Administrative

- a. **Approval of minutes** - Mr. Lunt made the motion to approve the minutes, Mr. Duane Madsen seconded the motion and the Board passed the motion unanimously.
- b. **Work plan** – Mr. Peter Madsen reviewed the work plan with the Board. He suggested that the Board consider cancelling the July meeting.
- c. **Fund expenses** – Mr. Kulig introduced the fund expense spreadsheet. He noted that the current total management expense is expected to be 0.46% of the fund and will increase as new managers are hired.
- d. **Software update** – Mr. Barnard introduced a memo outlining research, portfolio, and risk management software recommendations. He noted that all of the software will aid the staff, consultant, and custodian in the investment process.
- e. **Custody update** – Mr. Kulig gave updates on the custodian search. He noted that the RFP was issued last week and that the finalists will be notified in the beginning of July.
- f. **Policies update** – Mr. Kulig introduced a soft dollar policy. Mr. Nixon recommended that the fund should receive cash rebates. The staff took note and will update the policy. Mr. Kulig also introduced the Code of Conduct and Compliance policy. Ms. Bird made a few suggestions on how to improve the language of the document. The staff took note of the suggestions and will incorporate them in updated policies, which will be reviewed at a future meeting.

### **3. Asset Allocation**

Mr. Barnard presented an updated analysis of the asset allocation. Mr. Nixon suggested we wait until Mr. Misener is present to approve the asset allocation. Mr. Damschen recommended we reconsider meeting in July, if all Board members will be present, to review the asset allocation.

### **4. Investment Policy Statement**

Mr. Kulig presented the updated Investment Policy Statement and noted that a final review was done, which included a few minor edits. Mr. Nixon made the motion to adopt the policy, Mr. Duane Madsen seconded the motion and the motion passed unanimously.

### **5. Research Update**

Mr. Peter Madsen provided the Board with a structure for the defensive asset grouping. He noted that there are plans to purchase long duration Treasuries and continue to keep a 3%-5% cash allocation. Mr. Peter Madsen then introduced a real asset implementation strategy to include the purchase of TIPS and a recommendation of a MLP manager. He noted that the plan is to begin funding the MLP manager in the next month.

### **6. Investment Review**

Mr. Barnard reviewed the trust funds performance and noted that the responsibility of reporting is being transitioned to FEG.

### **7. Adjourn**

Mr. Lunt made the motion to adjourn. Mr. Duane Madsen seconded the motion. The meeting was adjourned.

# Exhibit B

July 2016

## School & Institutional Trust Fund BOARD - Work Plan

Rolling Estimation for Topics of Discussion at Board Meeting

July	Aug	Sep	Oct	Nov	Dec	2017
Custody Selection	Custody Selection	Custody Implementation	Custody Implementation	Operations Review	Meeting?	Active Equity
Asset Allocation	Branding/Website	Research - Equity Structure - "Beta"	Research - Equity Structure - "Beta"	Research - Equity - "Beta" Manager Discussion		Private Debt
Policies Update	Research - Credit Manager Discussion	Research - Credit Manager Discussion	Research - Sub Investment Grade Discussion	Research - Non-US Debt Discussion		Private Equity
	Research - Securitized Managers Discussion	Research - Securitized Managers Discussion	Research - Non-US Debt Discussion	Research - Sub Investment Grade Discussion		
	Quarterly Budget Review		Research - Defensive Managers Discussion	Research - Defensive Managers Discussion		
		Research - Private Real Assets Discussion	Research - Private Real Assets Discussion	Research - Equity - Frontier or Microcap Manager Discussion		
			Annual Board Training	Quarterly Budget Review		



# Soft Dollar Policy

**I. Background.** Soft dollar arrangements occur when an investment adviser uses client commission dollars to obtain research or other services, often resulting in an investment adviser paying higher commissions than non-soft dollar arrangements. Although soft dollar arrangements are legal if they fall within the safe harbor provisions of Section 28(e) of the Securities Exchange Act of 1934, the use of soft dollars may cause a conflict of interest between the adviser and the client.

## II. Requirements.

1. Therefore, the use of soft dollar arrangements by School and Institutional Trust Fund Board of Trustees (SITFO) advisers should be discouraged. In those instances in which a SITFO adviser does use soft dollars, soft dollars generated from trading in SITFO securities are to be returned as cash rebates to used for the direct benefit of SITFO. Additionally, SITFO advisers using soft dollars must track and report soft dollar activity to SITFO at least quarterly.
- ~~2. The use of directed brokerage arrangements, in which an investment adviser directs commission business to a particular broker that has agreed to provide services, pay obligations or make cash rebates to SITFO, should be avoided if possible because these arrangements often result in higher commission and administrative costs to SITFO without commensurate benefits to SITFO. In those instances in which directed brokerage arrangements are utilized by SITFO, it is SITFO policy that: only those services that are investment related and deemed to be necessary services in managing SITFO, or investment related computer hardware and software may be purchased under the directed brokerage program.~~

# Code of Conduct and Compliance Policy

**I. Background.** The purpose of this policy is to identify and define standards of conduct that demonstrate our commitment to the highest principles of ethics and professional behavior. This code is based on SITFO's core values and principles and is an important resource to identify and define standards of conduct that SITFO employees must be aware of and comply with.

## II. Investment Conduct Policy.

### A. Act with undivided loyalty and proper purpose.

1. Establish sound investment management practices that seek to maximize impact of the organization's activities.
2. Understand the organization's mission and appropriately consider its impact within the **investment policy**.
3. Place the interest of the organization and its beneficiaries above their own.
4. Avoid conflicts of interest pertaining to the implementation of the organization's investment strategy ~~whenever possible~~. Disclose according to the **conflict of interest policy**.

### B. Act with skill, competence, prudence, and reasonable care.

1. Dedicate sufficient time to prudently implement the organization's **investment beliefs and policies**.
2. Maintain an appropriate level of knowledge of investment markets, products, and strategies in order to fulfill their duties.
3. Have a reasonable and adequate basis for investment decisions supported by active and thorough due diligence of the investment strategies of the organization.
4. Appropriately manage the financial risks of the organization and the trust resources.
5. Utilize external professionals when appropriate in the development, implementation, and review of the organization's investment strategy.

### C. Abide by all laws, rules, regulations, and founding documents.

1. Understand and ensure compliance with the laws, regulations, and governing documents pertaining to the organization's investment practices.

2. With regard to the organization's financial resources, report any suspected illegal, unethical, or financial irregularities to the Attorney General's office who will filter and send to the appropriate parties.

**D. Show respect for all stakeholders.**

1. Take action to maximize benefits from the trusted resources for the intended lifespan of the organization.
2. Ensure a proper balance of all applicable beneficiaries interests in the operations of the organization while respecting the intention of the organization's trustee.
3. Seek to minimize the volatility of beneficiary and operational budgetary support through prudent financial management.
4. Communicate with stakeholders in a timely, accurate, and transparent manner.

**E. Review investment strategy and practices regularly.**

1. Assess the performance and integrity of investment managers in stewardship of the trusted resources by an agreed upon set of standards, benchmarks, and metrics.
2. Review and adjust investment practices and strategies to best meet the organization's objectives and to maximize benefits available from the trusted resources.

**F. Maintain independence and objectivity.**

1. Strive to avoid even the appearance of impropriety.
2. Do not put themselves in a position where their interests and the interests of the organization conflict. To the extent conflicts may not be avoided, disclose according to the **conflict of interest policy**.
3. Do not use the prestige or influence of their position for private gain or advantage.
4. Avoid any employment or contractual relationship with, or any interest in, firms that provide services to the organization.
5. Refuse any gift or benefit that could reasonably be expected to affect their independence, objectivity, or loyalty. Specifically, an employee may not accept economic benefits as outlined under Section 67-16-5 and the Governor's Executive Order, nor accept other compensation that might be intended to influence or reward the employee in the performance of official business. Reimbursements and compensation to the Trusts for meals, transportation, and lodging costs, above the parameters outlined under Section 67-16-5 and the Governor's Executive Order, are to be for the benefit of the trust and to be recorded and filed for reference.

~~6. Refuse to accept gifts or entertainment of more than a minimal value according to the conflict of interest policy.~~

### **III. Personal Conduct Policy.**

#### **G. Working Relationships.**

1. Employees shall treat fellow employees respectfully and professionally.
2. Employees shall not harass or discriminate against another employee.
3. Employees shall refrain from using abusive and profane language (this includes any profanity or vulgar language or activity that is demeaning, belittling, or knowingly offensive to other employees).
4. Employees shall not intimidate, use physical harm or threats of physical harm against co-workers, management, or the public at any time.
5. Employees shall not be insubordinate, disloyal or disrespectful to appropriate orders of a manager or supervisor. An employee may seek assistance from the Director if the employee believes an inappropriate order was given.
6. Employees shall report any instance of questionable or unethical behavior to a Human Resource Manager and/or Director.

#### **H. Supervisory Relationships.**

1. Supervisors or other administrators shall treat subordinates respectfully and professionally.
2. Supervisors or other administrators shall encourage and facilitate the professional development of employees in fulfilling their job duties within available resources.
3. Supervisors or other administrators shall not exploit other employees for personal favors or gain.
4. Supervisors or other administrators shall not use their position of authority to harass, discriminate against, or become involved in sexual relationships with one of their employees.
5. Supervisors shall be mindful of their responsibilities in maintaining a harassment free work environment by setting an example of appropriate behavior, taking a proactive stance in preventing workplace harassment, and by taking appropriate action in a timely manner if inappropriate behavior occurs.

#### **I. Professional Competence.**

1. Employees shall truthfully represent their professional credentials, licensure, education, training, and experience.

2. Employees shall support a work environment that is safe from all forms of violence, including domestic violence perpetrated within the workplace.
3. Employees shall not engage in unprofessional conduct on or off the job that compromises the ability of the employee, the agency, or the state to fulfill its responsibilities including, but not limited to, engaging in any off-duty illegal drug related activity or other conduct unbecoming to the public reputation of the organization.
4. Employees shall inform their supervisor within 10 calendar days if they are convicted of or have entered a plea of guilty or no contest to a misdemeanor or felony.
5. Employees shall not willfully cause damage to public property or waste public resources, or use public property for personal or private gain.
6. Employees shall not use state-owned communication equipment or services (i.e. computers, fax machines, copiers, cell phones, etc.) in violation of the Department of Technology's Acceptable Use of Information Technology Resource Rule.

**J. Performance of Duties.**

1. Employees shall perform their assigned duties during all hours for which they are being compensated.
2. Employees shall not engage in any activity that could be considered a dereliction of duty, including, but not limited to, unauthorized absence without leave, abuse of leave, willful delays or neglect to perform assigned duties and responsibilities, inattention to duty, or leaving their work area inappropriately attended.
3. Employees shall not participate in, condone, conceal, or be associated with dishonesty, fraud, misrepresentation, or theft.
4. Employees shall maintain approved work schedules. Employees may not misuse rest periods or overtime privileges.
5. Employees shall not consume or use alcohol or illegal substances, or be under the influence of alcohol or illegal substances, while on compensated work time, while on-call, on state property, or while operating any vehicle on duty.
6. Employees shall not unlawfully manufacture, dispense, possess, or distribute any controlled substance or alcohol during work hours, on State property, or while operating any vehicles while on duty.
7. Employees shall not sell or promote products or services for personal gain in the workplace when doing so interferes with agency operations or the employee's efficient performance in his or her state position or when the activities could result in criticism or suspicion of conflicting interests.
8. Employees shall not solicit political contributions during their hours of employment.
9. Employees shall be familiar with and follow organization policies and all applicable administrative rules.

#### IV. Personal Trading Policy.

1. Fiduciary Staff Employees who have access to any securities tracking and reporting system used by the Office and other employees who regularly attend Board meetings and may be in a position to learn of material non-public investment information are required to:
  - a. Submit ~~by email to the Attorney General's office to the Chief Investment Officer~~ a record of trade confirmations or quarterly transaction summaries, as they become available, of all security transactions (excluding pooled investment funds), in any account under the employee's control and direction; and
  - b. Submit ~~to the Attorney General's office~~ a statement at the end of each calendar year certifying that, to the best of the employee's knowledge and belief, the employee: (i) has not acted upon material non-public investment information obtained during the course of the Office employment; (ii) has provided a record of the required statements under (a); (iii) has not shared any non-public investment information with any other parties; (iv) has read the Office Code of Conduct Policy and has not violated any provision thereof.
2. Fiduciary Staff Employees are prohibited from using non-public information gained from the performance of their duties for the Office as a basis for buying or selling securities. In this instance "non-public information gained in the performance of their duties for the Office" means information which is capable of influencing a person to act or is likely to affect the market price of a security if generally known and which has not yet been reported in the news media, revealed by the issuer of the security in a public forum, discussed in a research report, or otherwise made publicly available. Potential sources of such information would include custodial records, trading activity in internally managed funds, private equity distribution notices, discussions with investment managers and Board meetings.
3. Fiduciary Staff Employees who possess material non-public information shall not: (i) share such information with any other person; or (ii) use such information to make any investment decisions either on their own behalf or on behalf of the Office, in a manner that violates the Exchange Act of 1934 and rules promulgated there under.

#### V. Procedures.

##### K. Reporting Violations.

1. Employees shall immediately report suspected violations of this policy through their immediate Supervisor. If for any reason that is not possible or appropriate, the report should be directed to the Executive Director.

**L. Policy Enforcement.**

1. Depending on the circumstances, the nature of the violation and the degree of the employee's culpability, the organization may take one or more of the following actions:
  - a. Corrective Action
  - b. Disciplinary Action up to and including termination
  - c. Referral of the matter to law enforcement, or the Office of Attorney General, for possible legal action (including criminal prosecution)
2. Organization management shall determine the most appropriate action to take in response to an employee's violation of this policy.
3. Employees who are subject to a lawsuit resulting from violations of this policy or other acts that are illegal or out of the scope of state employment duties or not under color of authority may not be indemnified under the Governmental Immunity Act.

Exhibit D

RFP Review Process – Custodial Bank Services for:  
**State of Utah School and Institutional Trust Fund**

July 20, 2016



# Custody RFP Timeline Summary

RFP Action	Date
Begin Discussion on Expected Custodial Relationship Complexities, in Salt Lake City	April 22, 2016
Develop and Refine RFP Questions/Scope Requirements	May 2016
RFPs Issued	June 10, 2016
Responses Received	July 8, 2016
Response Review and Further Due Diligence	July 2016
Anticipated Recommendation to Board	July 20, 2016
Anticipated Start Date	October 1, 2016

# Responses

- The RFP was issued by RVK on behalf of State of Utah School and Institutional Trust Fund
- The RFP was sent to 4 Firms:
  - BNY-Mellon
  - JPMorgan
  - Northern Trust
  - State Street
- 3 Firms Provided Proposals:
  - BNY-Mellon
  - JPMorgan
  - Northern Trust
  - (State Street declined)



# Initial Evaluation Criteria

## Criteria Elements

### I. Scope Affirmation, Servicing Approach, and Institutional Credentials (25%)

- a. Respondent's overall ability to provide the scope of services required by the RFP
- b. Respondent's experience with institutional clients and the depth of its custody products and service deliverables, and the availability of its key professionals (including the client servicing team to be assigned to serve this relationship)
- c. Respondent's financial condition, credit ratings, and organizational commitment to the master trust/custody business
- d. The presence of potential or actual material conflicts between Respondent or Respondent's key professionals and SITFO

### II. Core and Value Added Services and Technology Platforms (40%)

- a. Respondent's system and technology infrastructure
- b. Respondent's custody and core accounting platform used to meet SITFO needs
- c. Respondent's alternative investment accounting platform support

### III. Quality of Response and Additional Evidence of Capability (10%)

- a. The overall quality of Respondent's written proposal
- b. Submitted report samples

### IV. Competitiveness & Reasonableness of Economics (25%)

Proposed Fees as measured relative to the quality of services offered by Respondent. **SITFO may or may not select the lowest-cost Respondent.** SITFO intends to evaluate fee proposals within the context of each Respondent's complete response.

# RFP Sections

RFP Section
Appendix 1 – Scope of Services Affirmation
Appendix 2 - Custodial Bank Services Questionnaire (114 questions across 9 Sections)
Custodial Bank Services Questionnaire – <b>Section A: Organization – Corporate (A.1-A.12)</b>
Custodial Bank Services Questionnaire – <b>Section B: Professional Staff (B.13-B.20)</b>
Custodial Bank Services Questionnaire – <b>Section C: Accounts and Assets (C.21-C.24)</b>
Custodial Bank Services Questionnaire – <b>Section D: Technology (D.25-D.48)</b>
Custodial Bank Services Questionnaire – <b>Section E: Custody and Accounting Services (E.49-E.82)</b>
Custodial Bank Services Questionnaire – <b>Section F: Cash Management (F.83-F.91)</b>
Custodial Bank Services Questionnaire – <b>Section G: Foreign Exchange (G.92-G.98)</b>
Custodial Bank Services Questionnaire – <b>Section H: Alternative Investment Support (H.99-I.106)</b>
Custodial Bank Services Questionnaire – <b>Section I: Transition &amp; Conversion Planning (I.107-I.114)</b>
Appendix 3 – Price Proposal and Revenue Expectations Worksheet

# 1. RFP Scope of Services Affirmation



# Written Scope Affirmations

An individual authorized to bind the proposing institution to these service requirements must sign and date the minimum qualifications and services certification statement included below:

1. Respondent agrees to provide the services as detailed in Section I of the Introduction to the RFP as well as the aforementioned service requirement terms as provided

(Yes/No): \_\_\_\_\_

**IF NO IS ENTERED PLEASE FULLY DESCRIBE ANY EXCEPTIONS.**

- JP Morgan Chase affirmed.
- Northern Trust affirmed, “provided that Northern reserves the right to clarify certain aspects of the services it provides as custodian as they pertain to the requirements herein in order to ensure consistency with Northern’s service model.”
- BNY did not affirm scope of service specific to:
  - 1) RFP provisions will generally remain subject to negotiation of a definitive Custody contract
  - 2) Record retention will be limited to BNYM’s policy provided, not the entirety of relationship
  - 3) Account administrator availability will be between 8:30am – 5pm EST, not 8 – 5 MT
  - 4) Voting records for the final vote count can be provided; voting records as processed would require a separate subscription with Broadridge.

2. Respondent’s key professionals and the organization must not have, nor could they potentially have, a material conflict of interest with SITFO or members of its Board of Trustees.

- All three Respondents affirmed.

## 2. RFP Services Questionnaire Review



## A. Organization – Corporate

BNY-Mellon		JPMorgan		Northern Trust	
✓	Experienced and long-tenured provider of custody services.	✓	Experienced and long-tenured provider of custody services.	✓	Experienced and long-tenured provider of custody services.
+	Largest custodian by assets under custody / administration of \$29.1 Trillion.	✓	Large custodian by assets under custody / administration of \$20.3 Trillion.	»	Smallest respondent custodian by assets under custody / administration of \$6.2 Trillion.
✓	Over 4,000 clients.	✓	1,881 clients.	✓	2,205 clients.
✓	Investment Services business represents 73% of revenue (Year ended 12/2015).	»	Institutional Trust and custody business represents 10.8% of revenue (First Quarter 2016) but is sizeable in its own right.	✓	Trust/Custody Services business represents 62.5% of revenue (First Quarter 2016).
✓	Reasonable business plans evidence focus on the business.	✓	Reasonable business plans evidence focus on the business.	✓	Reasonable business plans evidence focus on the business.
✓	Reasonable levels of insurance.	✓	Reasonable levels of insurance.	✓	Reasonable levels of insurance.
✓	Reasonable Credit.	✓	Reasonable Credit.	✓	Reasonable Credit.

## B. Professional Staff

BNY-Mellon		JPMorgan		Northern Trust	
✓	Large and well-staffed business franchise.	✓	Large and well-staffed business franchise.	✓	Large and well-staffed business franchise.
✓	Reasonably experienced team proposed.	✓	Large and experienced team proposed. More details (incumbency can help).	✓	Reasonably experienced team proposed.
✓	Pittsburgh based Relationship with Dallas, TX and Everett, MA relationship/client service team.	✓	Diverse set of geographic office locations, including San Francisco, CA and Brooklyn, NY.	+	Centralized team based in Chicago.
✓	Emphasizes "partnership" framework delivered by a service delivery team to relationship.	✓	Identifies primary client service management team approach (leveraging continuity of existing relationships).	✓	Emphasizes relationship dedication and service team configuration.
✓	Reasonable training opportunities discussed.	✓	Reasonable training opportunities discussed.	✓	Reasonable training opportunities discussed.
✓	Emphasizes relationship continuity through cross-training and client-specific procedures manual.	✓	Emphasizes relationship continuity through team member backups and communication.	✓	Emphasizes relationship continuity through cross training and centralized database of information.
✓	Turnover company wide has been relatively contained at 10.2%-13%, trending up.	✓	Turnover rate has been relatively contained at 12.8%-13.8%, trending up.	✓	Turnover has been relatively contained – 11% – 11.8% company wide and 11.4% - 13.4% trust and custody division, trending up.
✓	Reasonable approaches to attract and maintain staff and maintain points of interface.	✓	Reasonable approaches to attract and maintain staff and maintain points of interface.	✓	Reasonable approaches to attract and maintain staff and maintain points of interface.

## B. Professional Staff, continued

### BNY-Mellon

Name	Title	Dedicated?	Office Location	Years with Firm	Years in Industry
Paul Schmidt	Relationship Executive	unspecified	Dallas, TX	18	26
Matt Coburn	Service Director	unspecified	Everett, MA	8	15
Alan Pare	Managing Director, Pittsburgh Site Manager for Global Institutional Accounting	unspecified	Pittsburgh, PA	27	29
Doug Joyce	Unit Manager for Global Institutional Accounting	unspecified	Pittsburgh, PA	23	23
Bill McGaffick	Manager for Global Institutional Accounting	unspecified	Pittsburgh, PA	23	23
Tanya Schultz	Supervisor for Global Institutional Accounting	unspecified	Pittsburgh, PA	16	16
RJ Weaver		unspecified	Tacoma, WA	19	8
Amy Orr		unspecified	Pittsburgh, PA	17	17
<b>AVG</b>				<b>18.88</b>	<b>19.63</b>
<b>COUNT</b>				<b>8</b>	<b>8</b>

### JPMorgan

Name	Title	Dedicated?	Office Location	Years with Firm	Years in Industry
Dina Collins	Investor Services Client Executive	unspecified	San Francisco	10	21
Britton Wise	Client Service Manager	unspecified	Brooklyn, NY	12	12
<b>AVG</b>				<b>11.00</b>	<b>16.50</b>
<b>COUNT</b>				<b>2</b>	<b>2</b>

### Northern Trust

Name	Title	Dedicated?	Office Location	Years with Firm	Years in Industry
Kathy Stevenson	Relationship Manager	No	Chicago	26	29
Amy Sproull	Account Manager	No	Chicago	15	15
Kim Miller	Backup Relationship Manager	No	Chicago	19	33
Araceli Estrada	Relationship Manager	No	Chicago	15	15
<b>AVG</b>				<b>18.75</b>	<b>23.00</b>
<b>COUNT</b>				<b>4</b>	<b>4</b>

## C. Accounts and Assets

BNY-Mellon		JPMorgan		Northern Trust	
✓	Presents strong and deep client base credentials.	✓	Presents strong and deep client base credentials.	✓	Presents strong and deep client base credentials.
✓	Public Fund/Endowment & Foundation Clients between \$1-5 Billion: 104 Clients   \$209.6 Billion (6.59%   1.73% of total base, respectively).	✓	Public Fund/Endowment & Foundation Clients between \$1-5 Billion: 38 Clients   \$86.4 Billion (2.02%   0.44% of total base, respectively).	✓	Public Fund/Endowment & Foundation Clients between \$1-5 Billion: 136 Clients   \$309.2 Billion (6.17%   5.42% of total base, respectively).
✓	Reports 4-year compound growth of +10.23% (accounts) / +15.35% assets.	✓	Reports 4-year compound decline of -12.65% (accounts) / +15.69% assets.	+	Reports 4.25-year compound growth of +23.39% (accounts) / +36.07% assets.
➤	2011-2015 net gain +34 accounts / net loss - \$61.6 Billion.	+	2011-2015 net gain +220 accounts / +\$101 Billion.	+	2011-2015 net gain +396 accounts / +\$555.1 Billion.

# C. Accounts and Assets, continued

## C.21 – Summary of Client Base – Current by Type

Client Type & Size	BNY-Mellon			JPMorgan			Northern Trust		
	# of Relationships	Aggregate Asset Size (\$ Million)	Avg Size	# of Relationships	Aggregate Asset Size (\$ Million)	Avg Size	# of Relationships	Aggregate Asset Size (\$ Million)	Avg Size
<b>Corporate ALL</b>	<b>418</b>	<b>\$1,191,107</b>	<b>\$2,850</b>	<b>674</b>	<b>\$1,647,900</b>	<b>\$2,445</b>	<b>664</b>	<b>\$1,671,091</b>	<b>\$2,517</b>
Corporate <\$500MM	185	\$33,353	\$180	510	\$39,153	\$77	359	\$49,639	\$138
Corporate \$500MM+ - \$1BB	61	\$46,002	\$754	41	\$29,378	\$717	82	\$57,271	\$698
Corporate \$1BB+ - \$5BB	123	\$290,377	\$2,361	64	\$136,702	\$2,136	157	\$374,017	\$2,382
Corporate \$5BB+ - \$25BB	44	\$456,377	\$10,372	40	\$498,277	\$12,457	51	\$495,846	\$9,722
Corporate \$25BB+	5	\$365,187	\$73,037	19	\$944,390	\$49,705	15	\$694,319	\$46,288
<b>Public Fund ALL</b>	<b>168</b>	<b>\$1,494,835</b>	<b>\$8,898</b>	<b>178</b>	<b>\$1,506,380</b>	<b>\$8,463</b>	<b>258</b>	<b>\$1,272,376</b>	<b>\$4,932</b>
Public Fund <\$500MM	54	\$14,748	\$273	97	\$11,362	\$117	91	\$13,366	\$147
Public Fund \$500MM+ - \$1BB	19	\$14,091	\$742	17	\$11,206	\$659	28	\$21,464	\$767
<b>Public Fund \$1BB+ - \$5BB</b>	<b>46</b>	<b>\$98,967</b>	<b>\$2,151</b>	<b>33</b>	<b>\$77,145</b>	<b>\$2,338</b>	<b>86</b>	<b>\$212,869</b>	<b>\$2,475</b>
Public Fund \$5BB+ - \$25BB	35	\$410,951	\$11,741	18	\$219,542	\$12,197	40	\$432,904	\$10,823
Public Fund \$25BB+	14	\$956,078	\$68,291	13	\$1,187,125	\$91,317	13	\$591,772	\$45,521
<b>Taft-Hartley/Union ALL</b>	<b>61</b>	<b>\$118,225</b>	<b>\$1,938</b>	<b>25</b>	<b>\$4,694</b>	<b>\$188</b>	<b>118</b>	<b>\$65,016</b>	<b>\$551</b>
Taft-Hartley/Union <\$500MM	27	\$5,342	\$198	22	\$850	\$39	89	\$9,161	\$103
Taft-Hartley/Union \$500MM+ - \$1BB	12	\$8,140	\$678	0	\$0		13	\$9,513	\$732
Taft-Hartley/Union \$1BB+ - \$5BB	16	\$32,741	\$2,046	3	\$3,844	\$1,281	15	\$39,563	\$2,638
Taft-Hartley/Union \$5BB+ - \$25BB	6	\$72,002	\$12,000	0	\$0		1	\$6,780	\$6,780
Taft-Hartley/Union \$25BB+	0	\$0		0	\$0		0	\$0	
<b>Endowments/Foundations ALL</b>	<b>241</b>	<b>\$515,017</b>	<b>\$2,137</b>	<b>42</b>	<b>\$34,434</b>	<b>\$820</b>	<b>266</b>	<b>\$291,505</b>	<b>\$1,096</b>
Endowments/Foundations <\$500MM	106	\$20,784	\$196	31	\$3,888	\$125	160	\$26,984	\$169
Endowments/Foundations \$500MM+ - \$1BB	52	\$38,241	\$735	5	\$3,761	\$752	41	\$29,337	\$716
<b>Endowments/Foundations \$1BB+ - \$5BB</b>	<b>58</b>	<b>\$110,603</b>	<b>\$1,907</b>	<b>5</b>	<b>\$9,210</b>	<b>\$1,842</b>	<b>50</b>	<b>\$96,352</b>	<b>\$1,927</b>
Endowments/Foundations \$5BB+ - \$25BB	22	\$218,173	\$9,917	1	\$17,575	\$17,575	14	\$111,200	\$7,943
Endowments/Foundations \$25BB+	3	\$127,216	\$42,405	0	\$0		1	\$27,633	\$27,633
<b>Other (e.g. Mutual Funds) ALL</b>	<b>690</b>	<b>\$8,820,914</b>	<b>\$12,784</b>	<b>962</b>	<b>\$16,339,808</b>	<b>\$16,985</b>	<b>899</b>	<b>\$2,400,314</b>	<b>\$2,670</b>
Other (e.g. Mutual Funds) <\$500MM	262	\$36,410	\$139	588	\$55,786	\$95	572	\$59,891	\$105
Other (e.g. Mutual Funds) \$500MM+ - \$1BB	73	\$52,883	\$724	76	\$53,892	\$709	84	\$60,907	\$725
Other (e.g. Mutual Funds) \$1BB+ - \$5BB	178	\$428,338	\$2,406	137	\$299,658	\$2,187	142	\$317,210	\$2,234
Other (e.g. Mutual Funds) \$5BB+ - \$25BB	103	\$1,139,058	\$11,059	92	\$985,073	\$10,707	85	\$894,749	\$10,526
Other (e.g. Mutual Funds) \$25BB+	74	\$7,164,225	\$96,814	69	\$14,945,399	\$216,600	16	\$1,067,556	\$66,722
<b>TOTAL ALL</b>	<b>1,578</b>	<b>\$12,140,098</b>	<b>\$7,693</b>	<b>1,881</b>	<b>\$19,533,216</b>	<b>\$10,384</b>	<b>2,205</b>	<b>\$5,700,302</b>	<b>\$2,585</b>
<b>TOTAL ALL (AVERAGE SIZE)</b>		<b>\$7,693</b>			<b>\$10,384</b>			<b>\$2,585</b>	
<b>Public Fund \$1-5BB and E/F \$1-5BB</b>	<b>104</b>	<b>209,570</b>	<b>2,029</b>	<b>38</b>	<b>86,355</b>	<b>2,090</b>	<b>136</b>	<b>309,221</b>	<b>2,201</b>
<b>Percentage of Total Reported Base</b>	<b>6.59%</b>	<b>1.73%</b>		<b>2.02%</b>	<b>0.44%</b>		<b>6.17%</b>	<b>5.42%</b>	

## C. Accounts and Assets, continued

### C.22 – Summary of Client Base – Historical

Year	BNY-Mellon		JPMorgan		Northern Trust	
	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Billion)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Billion)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Billion)
12/31/2012	4,050	\$26,200	2,656	\$18,835	1,853	\$4,189
12/31/2013	4,135	\$27,600	2,432	\$20,485	1,968	\$4,569
12/31/2014	4,210	\$28,500	2,188	\$20,549	2,074	\$5,249
12/31/2015	4,300	\$28,900	1,955	\$19,943	2,121	\$5,566
03/31/2016					2,205	\$5,700
Annual Growth	85	\$1,400	-224	\$1,650	115	\$380
Annual Growth	75	\$900	-244	\$65	106	\$680
Annual Growth	90	\$400	-233	-\$606	47	\$317
1Qtr Growth					84	\$134
Annual Growth%	2.10%	5.34%	-8.43%	8.76%	6.21%	9.07%
Annual Growth%	1.81%	3.26%	-10.03%	0.32%	5.39%	14.88%
Annual Growth%	2.14%	1.40%	-10.65%	-2.95%	2.27%	6.04%
1Qtr Growth%					3.96%	2.41%
<b>Compound Growth%</b>	<b>10.23%</b>	<b>15.35%</b>	<b>-12.65%</b>	<b>15.69%</b>	<b>23.39%</b>	<b>36.07%</b>

Reports 5-year compound growth of +10.23% (accounts) / +15.35% assets.

Reports 5-year compound growth of -12.65% (accounts) / +15.69% assets.

Reports 4.25-year compound growth of +23.39% (accounts) / +36.07% assets.

## C. Accounts and Assets, continued

### C.23 – Summary of Clients Gained/Lost

GAINED						
Year	BNY-Mellon		JPMorgan		Northern Trust	
	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)
12/31/2011	22	\$74,491	205	\$235,000	74	\$89,000
12/31/2012	10	\$29,945	111	\$131,000	98	\$104,100
12/31/2013	13	\$75,985	73	\$170,000	125	\$177,400
12/31/2014	16	\$34,200	17	\$64,000	92	\$184,600
12/31/2015	13	\$44,620	18	\$19,000	130	\$274,900

LOST						
Year	BNY-Mellon		JPMorgan		Northern Trust	
	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)
12/31/2011	7	\$22,114	51	\$225,000	26	\$15,700
12/31/2012	9	\$28,400	87	\$127,000	20	\$136,800 (b)
12/31/2013	15 (a)	\$215,230	40	\$91,000	25	\$39,100
12/31/2014	4	\$29,270	14	\$32,000	24	\$54,700
12/31/2015	5	\$25,800	12	\$43,000	28	\$28,600

(a) Lost clients include one public fund relationship with \$130 billion in assets under custody and administration.

(b) The higher than average increase in lost assets includes the transition of \$101.9 billion in assets from two clients.

NET GAIN / LOSS						
Year	BNY-Mellon		JPMorgan		Northern Trust	
	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)	Institutional Trust & Custody Accounts	Institutional Trust & Custody Value (\$ Million)
2011-2015	34	-\$61,573	220	\$101,000	396	\$555,100

2011-2015 net gain +34 accounts /  
-\$61.6 Billion.

2011-2015 net gain +220 accounts / +\$101  
Billion.

2011-2015 net gain +396 accounts / +\$55.1  
Billion.

## D. Technology

BNY-Mellon	JPMorgan	Northern Trust
<ul style="list-style-type: none"> <li>✓ Meaningful dedication to technology. 2,900 dedicated technology employees for Asset Servicing globally.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Meaningful dedication to technology. 2,629 full-time systems / technology employees worldwide dedicated to Investor Services.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Meaningful dedication to technology. Over 1,000 systems staff globally.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Complex technology environment but meaningful integration and controls.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Complex technology environment but meaningful integration and controls.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Complex (but arguably somewhat more straightforward) technology environment with meaningful integration and controls.</li> </ul>
<ul style="list-style-type: none"> <li>✓ 5 year Asset Servicing Technology spend of \$3.5+ Billion.</li> </ul>	<ul style="list-style-type: none"> <li>✚ 5 year Investor Services Technology spend of \$4.5 Billion.</li> </ul>	<ul style="list-style-type: none"> <li>✓ 5 year (2011-2015) technology spend of \$3.3 Billion.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Forward plan of \$600-650 Million in reinvestment.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Projects technology spend of \$1 Billion annually for 2017.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Has budgeted approximately \$2. 4 Billion over 2016-2018.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Over 50% of current spend is lights on (29%) and client specific (27%).</li> </ul>	<ul style="list-style-type: none"> <li>✚ Unable to provide a breakdown of technology spend by service area.</li> </ul>	<ul style="list-style-type: none"> <li>✚ 60% of technology spend is on enhancement.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Reasonable description of security measures and business continuity approaches.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reasonable description of security measures and business continuity approaches.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reasonable description of security measures and business continuity approaches.</li> </ul>

## E. Custody and Accounting Services

BNY-Mellon		JPMorgan		Northern Trust	
✓	Comprehensive and reasonable approach to regulatory and legal compliance.	✓	Comprehensive and reasonable approach to regulatory and legal compliance.	✓	Comprehensive and reasonable approach to regulatory and legal compliance.
✓	Reasonable policies for client asset safekeeping, legal segregation, and registration globally.	✓	Reasonable policies for client asset safekeeping, legal segregation, and registration globally.	✓	Reasonable policies for client asset safekeeping, legal segregation, and registration globally.
✓	Reasonable contractual error mitigation.	✓	Reasonable contractual error mitigation.	✓	Reasonable contractual error mitigation.
✓	Integrated into proprietary institutional accounting platform. Provided reasonable evidence of credentials for pooled accounting services leveraging either unitization or dollar-weighted approaches. Further due diligence and demonstration is recommended given likely nuances of implementation.	✓	Proprietary plan accounting platform integrated into SunGuard accounting platform. Provided reasonable evidence of credentials for pooled accounting services leveraging either unitization or dollar-weighted approaches. Further due diligence and demonstration is recommended given likely nuances of implementation.	✓	Unitization and Plan Valuation Tool (UPT) is applied to proprietary accounting system. Provided reasonable evidence of credentials for pooled accounting services leveraging either unitization or dollar-weighted approaches. Further due diligence and demonstration is recommended given likely nuances of implementation.
✓	Proxy services through Broadridge with additional fees.	✓	Proxy services through Broadridge with additional fees.	✓	Proxy services through Broadridge with additional fees.
✓	Dedicated internal class-action unit files proof of claim unless instructed not to do so - with additional fees.	✓	Dedicated internal (adding an enhanced service with Financial Recovery Technologies - FRT) class-action unit files proof of claim unless instructed not to do so.	✓	Dedicated internal class-action unit files proof of claim unless instructed not to do so - with additional fees.

## E. Custody and Accounting Services, continued

BNY-Mellon	JPMorgan	Northern Trust
<ul style="list-style-type: none"> <li>✓ BNY Mellon does not file bankruptcy claims on behalf of its clients.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Does not specifically address bankruptcy filings.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Northern Trust will file bankruptcy claims on behalf of clients who have given direction to do so.</li> </ul>
<ul style="list-style-type: none"> <li>✚ Following termination, will cease to file on behalf of former clients.</li> </ul>	<ul style="list-style-type: none"> <li>✚ J.P. Morgan's class action services, whether notification-only or full-filing, would typically not continue after a relationship has been terminated.</li> </ul>	<ul style="list-style-type: none"> <li>✚ Northern Trust will continue to file on a former client's behalf as long as they were a client during the appropriate class period.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Upon request and for a fee, can provide former clients with a complete set of their transaction data (limited by data retention requirements).</li> </ul>	<ul style="list-style-type: none"> <li>✓ Could potentially provide a one-time data extract with position and transaction information. Continued filing would require contracts and fee schedules.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Alternatively, the successor custodian may request that we forward data so that they can file on their client's behalf.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Comprehensive and reasonable approach to support for investment managers.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Comprehensive and reasonable approach to support for investment managers.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Comprehensive and reasonable approach to support for investment managers.</li> </ul>
<ul style="list-style-type: none"> <li>✓ US and Global Settlement rates evidence increased automation benefits.</li> </ul>	<ul style="list-style-type: none"> <li>✓ US and Global Settlement rates evidence increased automation benefits.</li> </ul>	<ul style="list-style-type: none"> <li>✓ US and Global Settlement rates evidence increased automation benefits.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Reasonable and comprehensive capabilities outlined for income collection and entitlement tracking.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reasonable and comprehensive capabilities outlined for income collection and entitlement tracking.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reasonable and comprehensive capabilities outlined for income collection and entitlement tracking.</li> </ul>

## E. Custody and Accounting Services, continued

BNY-Mellon	JPMorgan	Northern Trust
<ul style="list-style-type: none"> <li>✓ Comprehensive and reasonable corporate action / capital changes support.</li> <li>✓ Capable and effective valuation, pricing, and general accounting support.</li> <li>» Two months can be open at one time, after 30 days, prior period effective date posting required.</li> <li>» Reasonable (if somewhat limited on daily positions - 90 days, transactions - 2 years) data accessibility and retention; potentially subject to extension.</li> <li>✓ Reasonable online access capabilities.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Comprehensive and reasonable corporate action / capital changes support.</li> <li>✓ Capable and effective valuation, pricing, and general accounting support.</li> <li>✓ Multiple months can be open based on authorization (not limited to 2 months).</li> <li>✓ Reasonable (and somewhat longer) data accessibility and retention.</li> <li>✓ Reasonable online access capabilities.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Comprehensive and reasonable corporate action / capital changes support.</li> <li>✓ Capable and effective valuation, pricing, and general accounting support.</li> <li>✓ Multiple months can be open based on authorization (not limited to 2 months).</li> <li>» Reasonable (if somewhat limited on daily positions - 90 days, month-end data &amp; transactions - 2 years) data accessibility and retention; potentially subject to extension or alternative delivery.</li> <li>✓ Reasonable online access capabilities.</li> </ul>

## E. Custody and Accounting Services, continued

BNY-Mellon		JPMorgan		Northern Trust	
✓	Reasonable Security Identifiers and Accrual Capabilities.	✓	Reasonable Security Identifiers and Accrual Capabilities.	✓	Reasonable Security Identifiers and Accrual Capabilities.
✓	Comprehensive pricing framework and vendors established.	✓	Comprehensive pricing framework and vendors established.	✓	Comprehensive pricing framework and vendors established.
✓	Effective controls for pricing challenges, tolerance levels and independent price updates.	✓	Effective controls for pricing challenges, tolerance levels and independent price updates.	✓	Effective controls for pricing challenges, tolerance levels and independent price updates.
✓	Reasonable approach to support for derivative positions.	✓	Reasonable approach to support for derivative positions.	✓	Reasonable approach to support for derivative positions.
✓	Reasonable support for GASB reporting requirements.	✓	Reasonable support for GASB reporting requirements.	✓	Reasonable support for GASB reporting requirements.

## F. Cash Management

BNY-Mellon	JPMorgan	Northern Trust
<ul style="list-style-type: none"> <li>» Indicated willingness to accommodate the State Treasurer's Office Cash Pool as the primary STIF option for an additional \$12,000/year</li> <li>✓ Diverse and comprehensive set of cash investment options offered by an affiliated investment manager.</li> <li>✓ Also offers a cash reserve (interest bearing deposit) account.</li> <li>✓ Reasonable sweep process - general timing cut-off: 1:00 PM ET.</li> <li>✓ Current standard overdraft rate at FF Effective + 250 bps.</li> <li>✓ Reasonable processes (including online instruction capture) for cash movement and trade instruction.</li> </ul>	<ul style="list-style-type: none"> <li>» Indicated willingness to accommodate the State Treasurer's Office Cash Pool as the primary STIF option, but daily cash sweep may not be an automated process.</li> <li>✓ Diverse and comprehensive set of cash investment options offered by an affiliated investment manager.</li> <li>✓ Also offers a earnings credit deposit strategy.</li> <li>✓ Reasonable sweep process - general timing cut-off: varies by product but can be as late as 4:00 PM ET for intraday sweep.</li> <li>✓ Current standard overdraft rate at FF Effective + 300 bps.</li> <li>✓ Reasonable processes (including online instruction capture) for cash movement and trade instruction.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Affirmed willingness to default to the State Treasurer's Office Cash Pool as the primary STIF option.</li> <li>✓ Diverse and comprehensive set of cash investment options offered by an affiliated investment manager.</li> <li>✓ Also offers a cash reserve (interest bearing deposit) account. Fewer details offered.</li> <li>✓ Reasonable sweep process – web-based cut off through 4:00 PM CT.</li> <li>✓ Current standard overdraft rate at 300 bps minimum.</li> <li>✓ Reasonable processes (including online instruction capture) for cash movement and trade instruction.</li> </ul>

## G. Foreign Exchange

BNY-Mellon	JPMorgan	Northern Trust
<ul style="list-style-type: none"> <li>✓ Diverse set of foreign exchange capabilities offered (ranging from standing instruction / indirect execution with bank as principal to direct / negotiated execution with bank as principal as well as support for third party executions).</li> <li>» Explicit disclaimers of no-agent or best execution responsibilities or obligations.</li> <li>✓ Two standing instruction programs: Session Range &amp; Defined Spread.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Diverse set of foreign exchange capabilities offered (ranging from standing instruction / indirect execution with bank as principal to direct / negotiated execution with bank as principal as well as support for third party executions).</li> <li>» Explicit disclaimers of no-agent or best execution obligations.</li> <li>✓ Various client-specific AutoFX standing instruction programs offered to clients with variable tiers.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Diverse set of foreign exchange capabilities offered (ranging from standing instruction / indirect execution with bank as principal to direct / negotiated execution with bank as principal as well as support for third party executions).</li> <li>» Explicit disclaimers of no-agent or best execution obligations.</li> <li>✓ Standing instruction FX rates set on a daily basis by NT in its discretion and as established in account documentation with managers and reported in various forms.</li> </ul>

## H. Alternative Investment Support

BNY-Mellon	JPMorgan	Northern Trust
<ul style="list-style-type: none"> <li>✓ Capable and reasonably articulated support structure. Internal team can provide dedicated complete administrative support for various private investments.</li> <li>✓ Additional supporting credentials include current support for 650 clients with \$350 Billion in 27,000 positions. PIAAS service team would be located in Pittsburgh, PA.</li> <li>✓ Capable of providing transactional support in various models.</li> <li>✓ Valuations of partnerships are adjusted and reconciled as transactions occur, and as valuation statements are processed.</li> <li>✓ Cash flows are reconciled to those reported by the general partner upon receipt of capital account statements.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Capable and reasonably articulated support structure. Has serviced alternative investments for clients for over 30 years. Launched specialized PERES group in 2005.</li> <li>✓ Currently servicing 55 clients with \$218.3 Billion in 7,348 vehicles. Service team located in New York.</li> <li>✓ Capable of providing transactional support in various models.</li> <li>✓ Valuation process is based on the last financial value received from the underlying GP and adjusted for any subsequent cash activities that have occurred for the time period in question.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Capable and reasonably articulated support structure. Internal team can provide dedicated complete administrative support for various private investments.</li> <li>✓ Additional supporting credentials include current support for over 14,000 positions. Service team location not stated but likely based in Chicago.</li> <li>✓ Capable of providing transactional support in various models.</li> <li>✓ Northern Trust maintains market values and transactions based on valuations provided by the general partners. NT maintains the cash basis cost of the partnership in our standard reporting. NT receives market values updates on a quarterly basis on average 45 days after quarter end. NT adjusts the market values with each cash transaction to update monthly accounting.</li> </ul>

## H. Alternative Investment Support, continued

BNY-Mellon		JPMorgan		Northern Trust	
✓	Reasonable discussion of unfunded commitment reconciliation services provided.	✓	Reasonable discussion of unfunded commitment reconciliation services provided.	✓	Reasonable discussion of unfunded commitment reconciliation services provided.
✓	Through the Document Management service, cash flow notices (capital calls, cash/stock distribution notices) and valuation statements (statements used to update market values on BNY Mellon's records) will be stored.	✓	Can provide a document management system online as a premium service that can store a catalogued library of reports.	✓	Provides a document management system online as a premium service that can store a catalogued library of reports.
✓	Outlines a detailed conversion process and considerations.	✓	Outlines a detailed conversion process and considerations.	✓	Outlines a detailed conversion process and considerations.

# I. Transition and Conversion Planning

BNY-Mellon		JPMorgan		Northern Trust	
✓	Detailed discussion of dedicated Implementation Project Manager and ongoing service team and planning framework.	✓	Detailed discussion of dedicated Implementation Project Manager and ongoing service team and planning framework.	✓	Detailed discussion of New Business Consultant and Relationship Manager working with Transition team and planning framework.
✓	Standard transition lead time is typically 10 weeks from notification date.	✓	Transition could occur within three weeks of contracting.	✓	Standard transition lead time typically requires 8 weeks from notification date.
✓	Overall plan, approach, and resources appear reasonable and fairly detailed (subject to significant additional discussion).	✓	Overall plan, approach, and resources appear reasonable and fairly detailed (subject to significant additional discussion).	✓	Overall plan, approach, and resources appear reasonable and fairly detailed (subject to significant additional discussion).

### 3. Price Proposal and Economic Expectations Review



# RFP Initial Price Proposal – General Comments

- RVK prepared an initial summary of core custodial (in scope, hard-dollar) fees for consideration by the State of Utah, School and Institutional Fund Office.
- This comparison assessed proposed fee schedules according to three hypothetical new investment structures based upon RVK's discussion with SITFO Staff to which proposed fees have been applied.
  - **December 2016** – General Pool made up of 10 commingled funds across Growth/Equity; Growth/Income; and Real Assets. Private Investments = Existing Individual real estate investment holdings accounts (School Fund; Institute for the Blind; and Miner's Hospital) plus 4 Private Funds in Pool.
  - **December 2019** – General Pool made up of 24 commingled funds (including draw-down private funds) and 7 domestic separate accounts across Growth/Equity; Growth/Income; Real Assets; and Defensive. Private Investments = Existing Individual real estate investment holdings accounts plus 6 Private Funds in Pool.
  - **December 2025** – General Pool made up of 31 commingled funds (including draw-down private funds) and 7 domestic separate accounts across Growth/Equity; Growth/Income; Real Assets; and Defensive. Private Investments = Existing Individual real estate investment holdings accounts plus 12 Private Funds in Pool.
- The RFP does not require the SITFO to select the lowest-cost proposer, although a reasonable discussion of the product and service interpretations (and estimations made thereof) with finalists for further consideration will be important.
- Broadly speaking, we observe two of the three proposers to be quite competitive.

# RFP Price Proposal and Revenue Expectations Review

	Bank of New York - Mellon			JPMorgan Chase			Northern Trust		
<b>ANNUAL FEE ESTIMATES</b>	Hypothetical 12/2016	Hypothetical 12/2019	Hypothetical 12/2025	Hypothetical 12/2016	Hypothetical 12/2019	Hypothetical 12/2025	Hypothetical 12/2016	Hypothetical 12/2019	Hypothetical 12/2025
	Calculated Fees - With Minimums and 3% Annual Inflation			Calculated Fees - With Minimums			Calculated Fees		
<b>BASE FEE FOR SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ANNUAL BASE FEES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>ASSET BASED CHARGES FOR CUSTODY/ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ANNUAL ASSET BASED FEES	\$ 56,031.54	\$ 70,878.11	\$ 123,931.86	\$ 56,031.54	\$ 64,863.51	\$ 26,946.23	\$ -	\$ 49,296.27	\$ 53,892.45
<b>HOLDINGS FEES (IN LIEU OF ASSET BASED FEES) FOR CUSTODY/ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ANNUAL HOLDINGS FEES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 55,000.00	\$ 52,500.00	\$ 59,500.00
<b>TRANSACTION BASED CHARGES FOR SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED TRANSACTION FEES	\$ 13,920.00	\$ 28,716.87	\$ 38,427.11	\$ 8,700.00	\$ 13,880.00	\$ 14,300.00	\$ 25,800.00	\$ 37,008.00	\$ 39,528.00
<b>ACCOUNT BASED CHARGES FOR CUSTODY/ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ACCOUNT-BASED FEES	\$ 29,000.00	\$ 45,348.17	\$ 64,159.24	\$ 33,500.00	\$ 60,000.00	\$ 63,500.00	\$ 61,000.00	\$ 89,500.00	\$ 96,500.00
MINIMUM FEES	\$ 33,448.46	\$ -	\$ -	\$ 119,968.46	\$ 127,256.49	\$ 168,253.77	\$ -	\$ -	\$ -
<b>ACCOUNT BASED CHARGES FOR POOLED ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED CHARGES	\$ 15,000.00	\$ 16,390.91	\$ 21,386.41	\$ 23,000.00	\$ 23,000.00	\$ 23,000.00	\$ 3,750.00	\$ 3,750.00	\$ 3,750.00
<b>ALTERNATIVE INVESTMENT SUPPORT CHARGES* PER SCOPE REQUIREMENTS</b>									
ESTIMATED CHARGES	\$ 2,600.00	\$ 3,551.36	\$ 6,950.58	\$ 108,800.00	\$ 136,000.00	\$ 204,000.00	\$ 4,400.00	\$ 5,500.00	\$ 8,250.00
<b>PRO-FORMA ANNUAL FEES</b>	<b>\$ 150,000.00</b>	<b>\$ 164,885.42</b>	<b>\$ 254,855.20</b>	<b>\$ 350,000.00</b>	<b>\$ 425,000.00</b>	<b>\$ 500,000.00</b>	<b>\$ 149,950.00</b>	<b>\$ 237,554.27</b>	<b>\$ 261,420.45</b>
<b>AVERAGE FEE</b>	<b>\$ 189,913.54</b>			<b>\$ 425,000.00</b>			<b>\$ 216,308.24</b>		

Analysis excludes STIF-based, FX-based and any affiliated asset management revenue.

\*JP Morgan Alternative Totals assume 8 PE/RE funds or direct investment per account. JPM has applied this assumption of 8 times 8 Accounts, 10 Accounts, 15 Accounts

# Updated Price Proposal – Clarifications

- Following consultation with SITFO staff, RVK solicited clarifications regarding fee schedule terms and conditions from the highest scoring proposers, BNY-Mellon and Northern Trust.
  
- BNY-Mellon provided the following clarifications and concessions:
  - Guaranteed fees for 3 years.
  - Removed the 3% annual fee inflation clause.
  - Confirmed several material fee terms, including regulatory support, class action support fees, document management fees and charges for third-party cash sweep.
  
- Northern Trust provided the following clarifications and concessions:
  - Guaranteed fees for 5 years.
  - Offered limited concessions on structural fees for line-items.
  - Confirmed several material fee terms, including manager reconciliation fees, class action support fees, alternative investment processing fees and third party transition manager support fees.
  
- Broadly speaking, clarifications yielded more competitive fee estimates from both proposers. Further negotiation with an apparently selected finalist (in tandem with on-site due diligence) may be beneficial.

# Updated Price Proposal and Revenue Expectations Review

	Bank of New York - Mellon			JPMorgan Chase			Northern Trust		
<b>ANNUAL FEE ESTIMATES</b>	Hypothetical 12/2016	Hypothetical 12/2019	Hypothetical 12/2025	Hypothetical 12/2016	Hypothetical 12/2019	Hypothetical 12/2025	Hypothetical 12/2016	Hypothetical 12/2019	Hypothetical 12/2025
	Calculated Fees - With Minimums			Calculated Fees - With Minimums			Calculated Fees		
<b>BASE FEE FOR SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ANNUAL BASE FEES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>ASSET BASED CHARGES FOR CUSTODY/ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ANNUAL ASSET BASED FEES	\$ 56,031.54	\$ 64,863.51	\$ 86,923.31	\$ 56,031.54	\$ 64,863.51	\$ 26,946.23	\$ -	\$ 49,296.27	\$ 53,892.45
<b>HOLDINGS FEES (IN LIEU OF ASSET BASED FEES) FOR CUSTODY/ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ANNUAL HOLDINGS FEES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 55,000.00	\$ 39,500.00	\$ 44,750.00
<b>TRANSACTION BASED CHARGES FOR SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED TRANSACTION FEES	\$ 13,920.00	\$ 26,280.00	\$ 26,952.00	\$ 8,700.00	\$ 13,880.00	\$ 14,300.00	\$ 25,800.00	\$ 37,008.00	\$ 39,528.00
<b>ACCOUNT BASED CHARGES FOR CUSTODY/ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED ACCOUNT-BASED FEES	\$ 41,000.00	\$ 53,500.00	\$ 57,000.00	\$ 33,500.00	\$ 60,000.00	\$ 63,500.00	\$ 41,000.00	\$ 69,500.00	\$ 76,500.00
MINIMUM FEES	\$ 15,448.46	\$ -	\$ -	\$ 119,968.46	\$ 127,256.49	\$ 168,253.77	\$ -	\$ -	\$ -
<b>ACCOUNT BASED CHARGES FOR POOLED ACCOUNTING SERVICES PER SCOPE REQUIREMENTS</b>									
ESTIMATED CHARGES	\$ 16,000.00	\$ 16,000.00	\$ 16,000.00	\$ 23,000.00	\$ 23,000.00	\$ 23,000.00	\$ 3,750.00	\$ 3,750.00	\$ 3,750.00
<b>ALTERNATIVE INVESTMENT SUPPORT CHARGES* PER SCOPE REQUIREMENTS</b>									
ESTIMATED CHARGES	\$ 7,600.00	\$ 8,250.00	\$ 9,875.00	\$ 108,800.00	\$ 136,000.00	\$ 204,000.00	\$ 4,400.00	\$ 5,500.00	\$ 8,250.00
<b>PRO-FORMA ANNUAL FEES</b>	<b>\$ 150,000.00</b>	<b>\$ 168,893.51</b>	<b>\$ 196,750.31</b>	<b>\$ 350,000.00</b>	<b>\$ 425,000.00</b>	<b>\$ 500,000.00</b>	<b>\$ 129,950.00</b>	<b>\$ 204,554.27</b>	<b>\$ 226,670.45</b>
<b>AVERAGE FEE</b>	<b>\$</b>	<b>171,881.28</b>		<b>\$</b>	<b>425,000.00</b>		<b>\$</b>	<b>187,058.24</b>	

Analysis excludes STIF-based, FX-based and any affiliated asset management revenue.

\*JP Morgan Alternative Totals assume 8 PE/RE funds or direct investment per account. JPM has applied this assumption of 8 times 8 Accounts, 10 Accounts, 15 Accounts

## 4. RFP Evaluation Commentary and Initial Recommendations



# Respondent Scorecard

Evaluation Criteria	Weighting	BNY-Mellon	JP Morgan	Northern Trust
<b>Scope Affirmation, Servicing Approach, and Institutional Credentials:</b> <i>a. Overall ability to provide the scope of services required by the RFP</i> <i>b. Experience with institutional clients and depth of its custody products and service deliverables, and the availability of its key professionals</i> <i>c. Financial condition, credit ratings, and organizational commitment to the master trust/custody business</i> <i>d. The presence of potential or actual material conflicts with SITFO</i>	25%	90%	85%	95%
<b>Core and Value Added Services and Technology Platforms:</b> <i>a. System and technology infrastructure</i> <i>b. Custody and core accounting platform used to meet SITFO's needs</i> <i>c. Alternative investment accounting platform</i>	40%	85%	80%	90%
<b>Quality of Response and Additional Evidence of Capability:</b> <i>a. The overall quality and evidence of capability as evidenced by the written proposal</i> <i>b. Submitted report samples</i>	10%	90%	90%	90%
<b>Competitiveness &amp; Reasonableness of Economics:</b> <i>a. Proposed fees as measured relative to the quality of services offered by Respondent.</i> <i>b. The 100% score reflects the lowest-cost average fee estimate. Other scores reflect the lowest average fee estimate divided by higher cost average estimates.</i>	25%	100%	40%	92%
<b>Total</b>	<b>100%</b>	<b>91%</b>	<b>72%</b>	<b>92%</b>



# RFP Evaluation Commentary and Initial Recommendations

**RVK believes that there is merit for SITFO to narrow the group of respondents to two finalists. Due to the desire to begin a custodial relationship October 1, 2016, RVK believes the selection by SITFO of an apparently-selected custodian, pending on-site due diligence and final fee negotiations, is prudent.**

RVK believes that although Northern Trust has proposed slightly less competitive economics, we believe there is ample qualitative rationale to consider their proposal further, including:

- Experienced, centralized team, based in Chicago
- Very strong client representation in similarly-sized public fund and endowment foundation clients, further validated by industry-leading client growth rates
- Strong technology offering with differentiated capability to directly account for alternative investments
- Investment Consulting firm, FEG, has indicated high level of existing integration with Northern Trust, which is deemed desirable by SITFO staff

Among the remaining candidate proposers, RVK believes that SITFO has also received a qualified proposal from BNY Mellon, a larger, high quality institution offering reasonable services at a relatively attractive price point.

**RVK looks forward to working with the Investment Committee and SITFO staff to finalize the selection process.**

PORTLAND

CHICAGO

NEW YORK



07.20.2016

# Asset Allocation



## Initial Inputs

1. We have an investment objective of CPI +5%
  - Using market data, we estimate 10 year inflation at ~2% (long term average is 3.28%)
  - Targeting 7% or marginally higher to offset estimation errors in assumptions, fees, etc.
  - Risk of falling short has greater consequence than risk of excess return - staying within risk parameters
  - Cash and investment grade bonds are not sufficient to meet our objectives, additional risk required
2. We put parameters on our risk tolerance as per survey feedback and discussions:
  - Drawdown of -25%, -45% in extreme scenario
  - 35% illiquidity
  - All asset classes for consideration
3. Given return objective and drawdown tolerance, we estimate annualized volatility of ~14% is acceptable (-3std ~35%, if 7-8% return)
  - Equities alone might meet our objectives, but may require a longer time horizon than is prudent, with interim volatility greater than our tolerance
  - A mix of equity and bonds falls short
  - Current portfolio is close to return objective, slightly exceeds risk budget, pragmatic view of too little diversification

What's next?

## Framing and Inclusion of Asset Classes

1. Diversification is time tested principle and the required next step to improve the confidence level of meeting our return objective:
  - Open up to other asset classes (similar to SITFO adding real estate in mid 2000s)
  - Take advantage of risk tolerance and time horizon
    - i. Increase breadth of current opportunity set
    - ii. Include less liquid opportunity set
    - iii. Use portfolio construction principles
2. Exercise caution and create awareness of implicit betas and drivers of risk/return
  - Marginal utility of additional asset classes
  - Re-frame the asset classes to try and create explicit understanding of risks and marginal benefits

## Modeling

1. Modeling as a guide, but recognition of the weaknesses:
  - a. Estimation error
  - b. Correlations are not stable
  - c. Distributions are not normal
  
2. Initiate constraints to keep within risk tolerance
  - a. Feedback from model to inform asset class weighting
  - b. Adjust constraints and initiate “straw man” targets based on feedback
  - c. Feedback from model to inform asset class weighting
  - d. Adjust constraints and initiate “straw man” targets based on feedback
  
3. Pragmatism overlay
  - a. Try to balance risks the model may not reflect (balance, highly sensitive to inputs, illiquidity, etc.)
  - b. Global macro economic environment
  - c. Seek tailwinds of growth, demographics, valuation, inefficiencies
  - d. Capabilities and capacities of staff and consultant
  
4. Revisit suggested portfolios
5. Stress test
6. Revisit
7. Stress test
8. Revisit

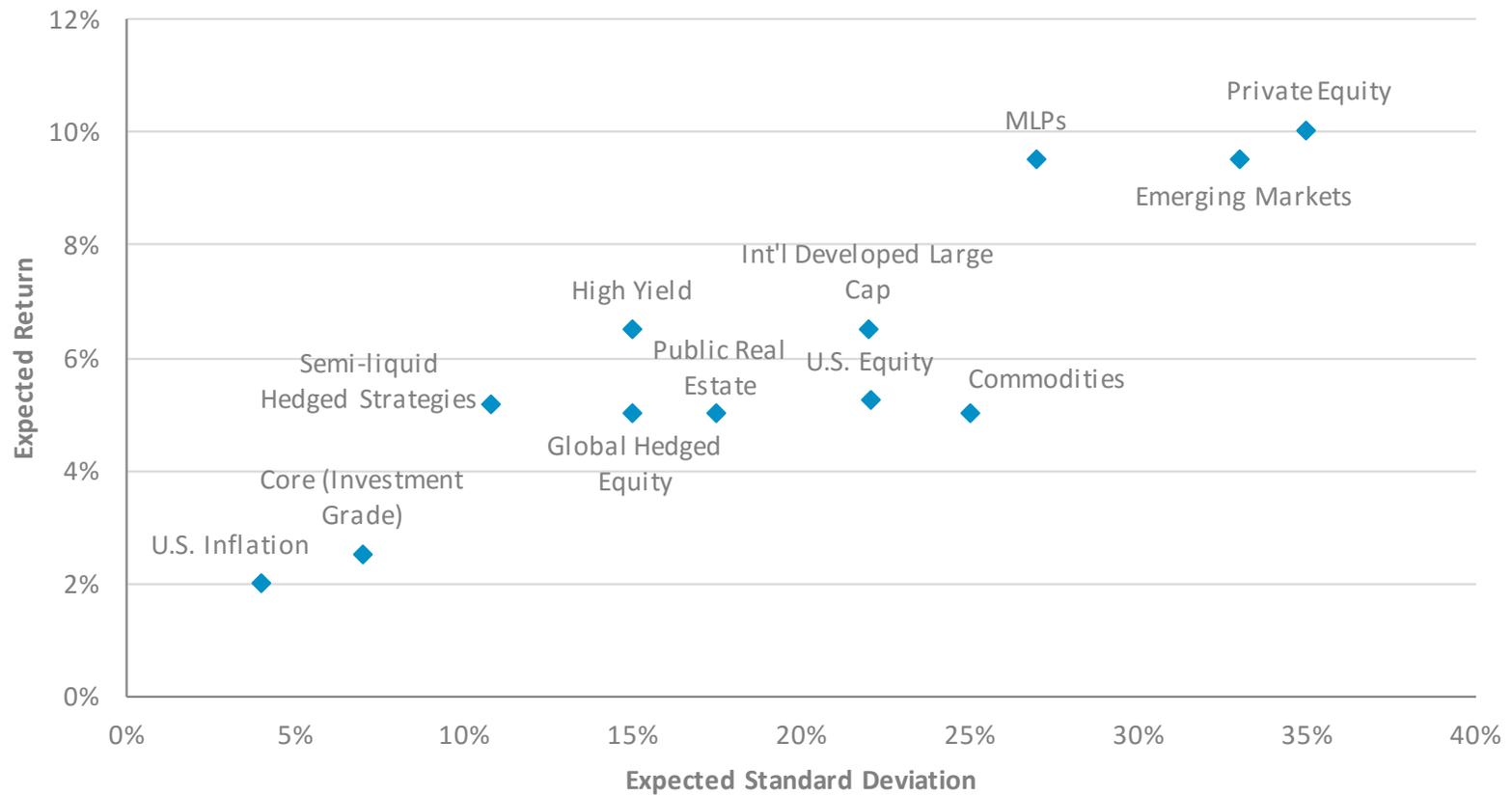


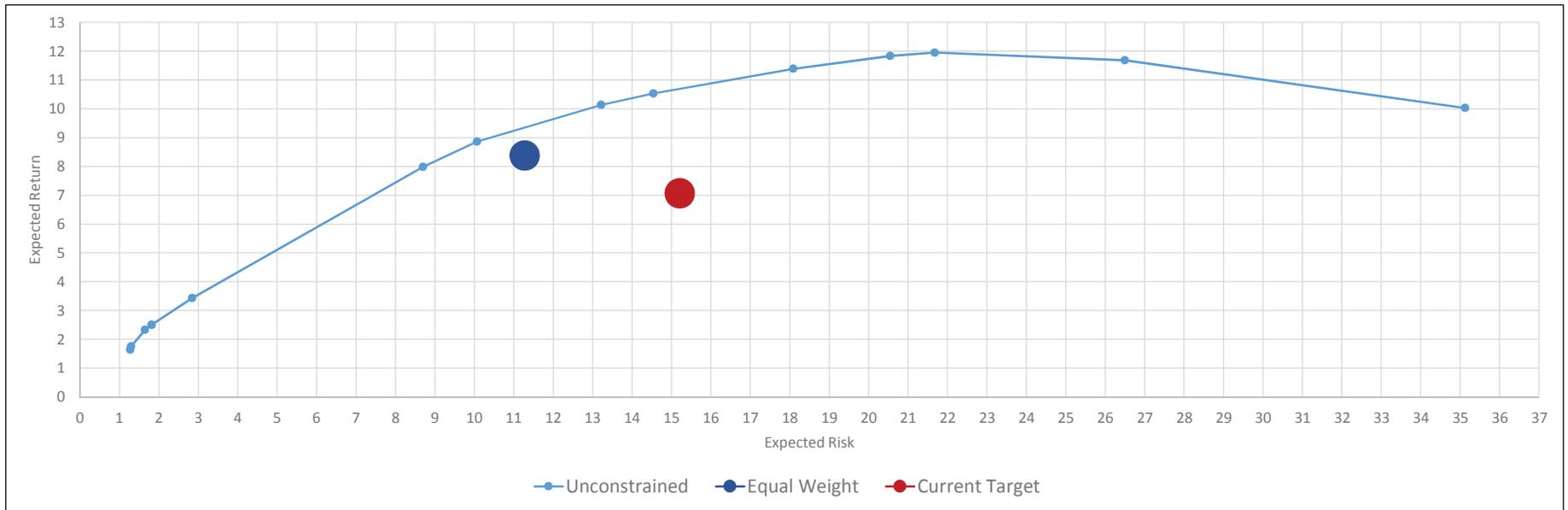
## FEG 10-Year Capital Market Assumptions

	Expected Return	Expected Standard Deviation
<b>Global Equity</b>		
U.S. Equity	5.2%	22.1%
International Equity	7.2%	24.6%
Private Equity	10.0%	35.0%
<b>Global Credit</b>		
Corporate	6.5%	15.0%
Securitized	6.0%	12.0%
Non-US	5.3%	14.0%
Private Debt	9.0%	21.0%
<b>Real Assets</b>		
Liquid Real Assets	5.8%	22.9%
Private Real Estate/Infrastructure	8.0%	25.0%
Private Natural Resources	10.0%	30.0%
<b>Defensive/Diversifying Strategies</b>		
Long US Treasuries	2.5%	12.0%
Macro/CTA	5.5%	12.0%
Cash	1.5%	
U.S. Inflation	2.0%	



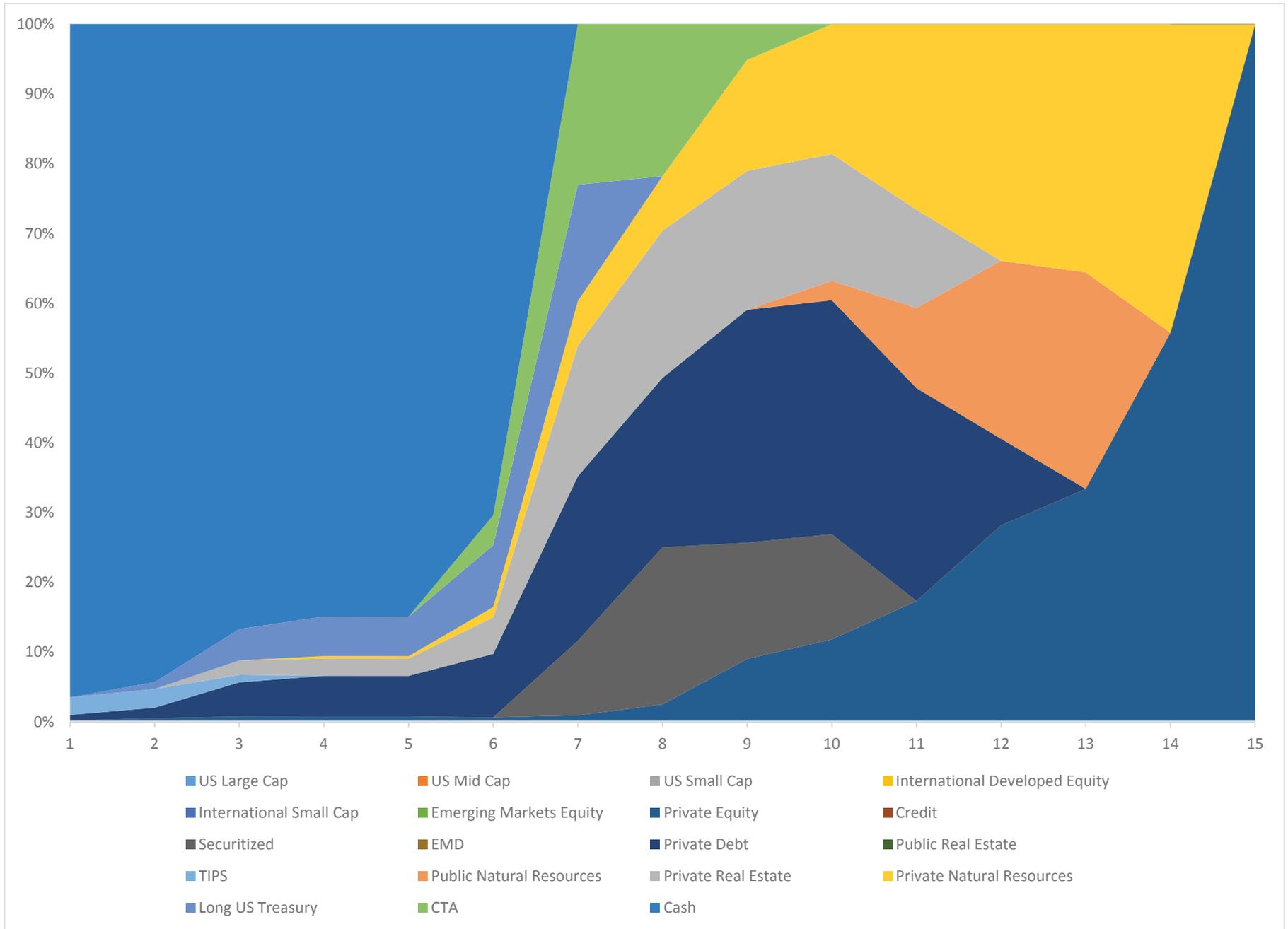
## FEG 10-year Capital Market Assumptions

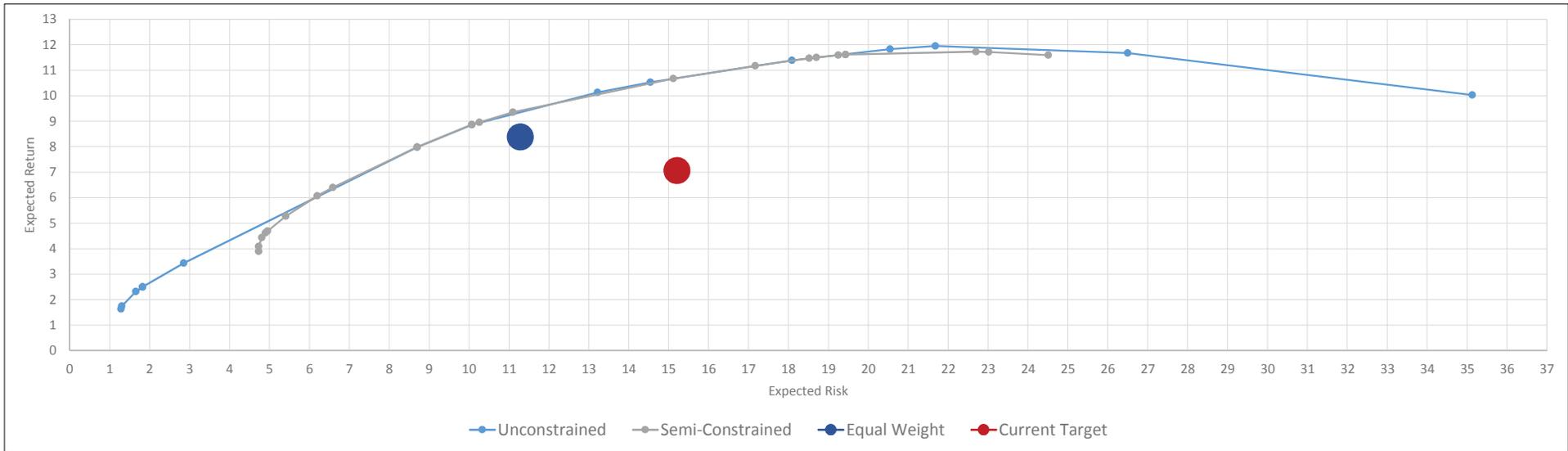




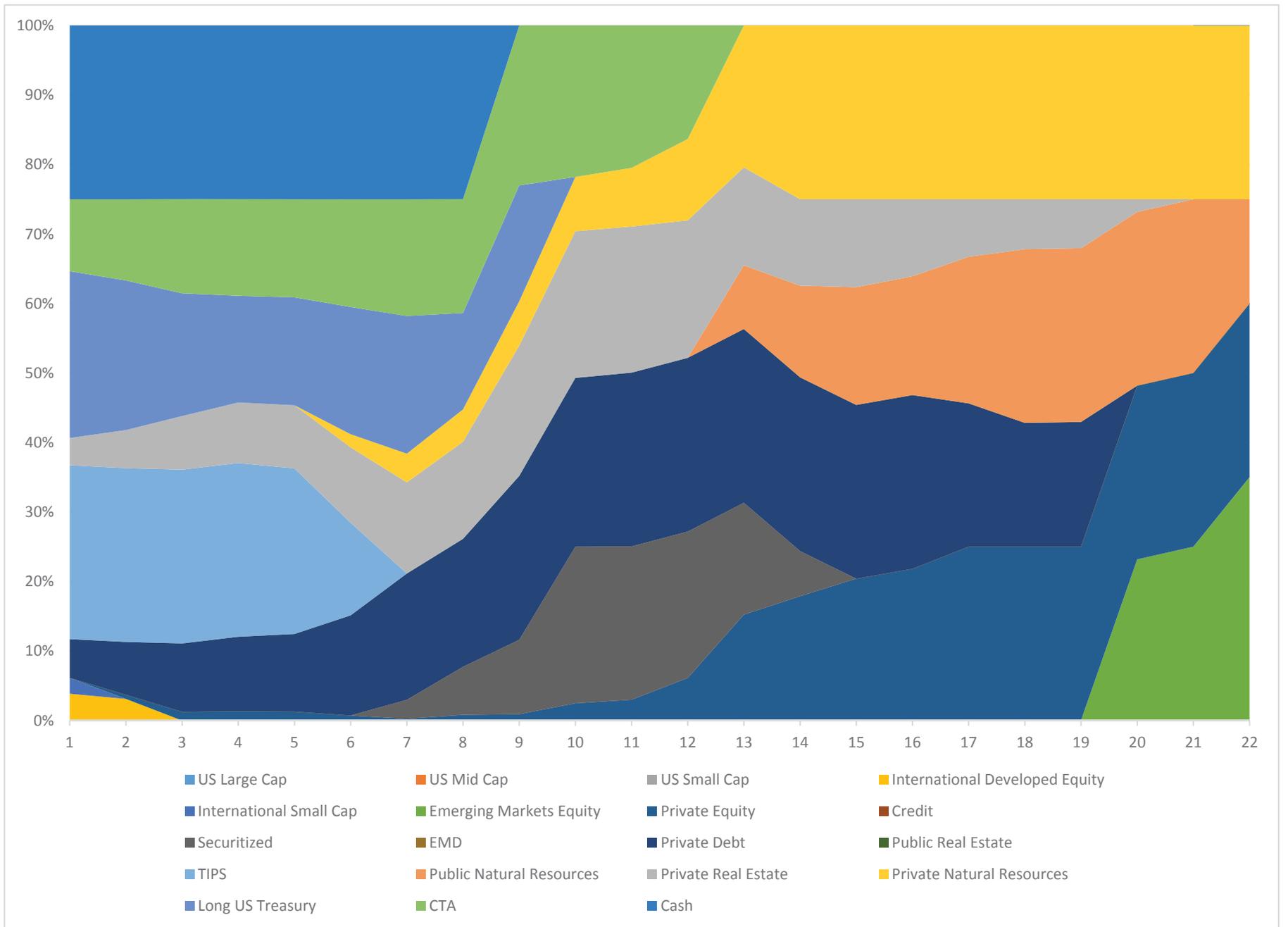
<b>Objective (Return), %</b>	1.6	1.8	2.3	2.5	2.5	3.4	8.0	8.9	10.1	10.5	11.4	11.8	12.0	11.7	10.0
<b>Risk (StdDev Rtn), %</b>	1.3	1.3	1.7	1.8	1.8	2.9	8.7	10.1	13.2	14.5	18.1	20.6	21.7	26.5	35.1

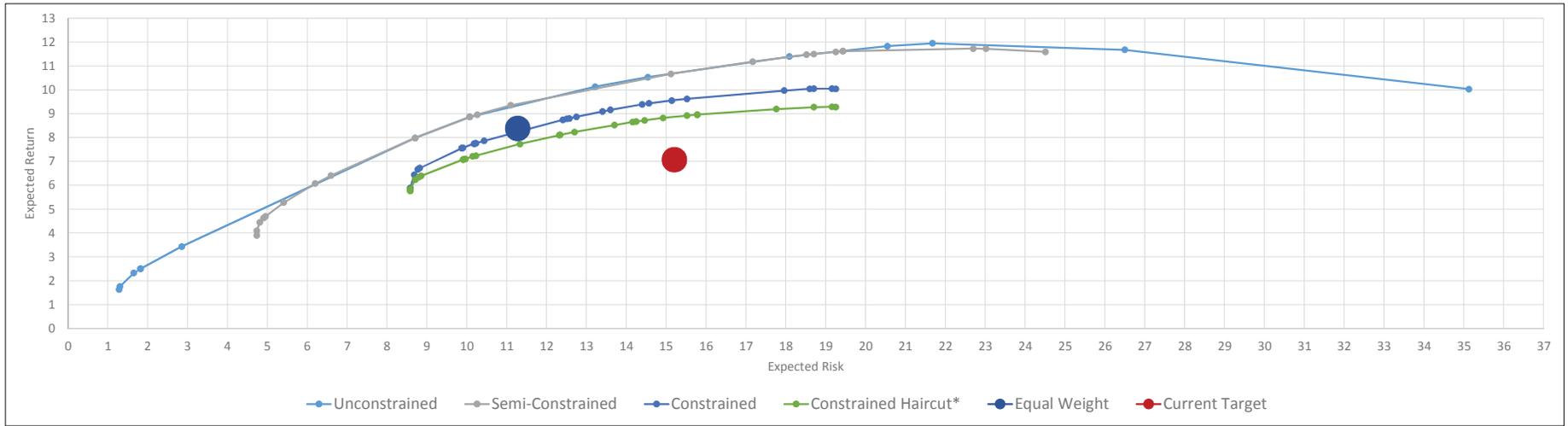
	Min	Max															
<b>US Large Cap</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>US Mid Cap</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>US Small Cap</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>International Developed Equity</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>International Small Cap</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Emerging Markets Equity</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Private Equity</b>	0	100	0	1	1	1	1	1	1	2	9	12	17	28	33	56	100
<b>Credit</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Securitized</b>	0	100	0	0	0	0	0	0	11	23	17	15	0	0	0	0	0
<b>EMD</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Private Debt</b>	0	100	1	1	5	6	6	9	24	24	33	34	31	12	0	0	0
<b>Public Real Estate</b>	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TIPS</b>	0	100	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>Public Natural Resources</b>	0	100	0	0	0	0	0	0	0	0	0	3	11	26	31	0	0
<b>Private Real Estate</b>	0	100	0	0	2	2	2	5	19	21	20	18	14	0	0	0	0
<b>Private Natural Resources</b>	0	100	0	0	0	0	0	1	6	8	16	19	27	34	36	44	0
<b>Long US Treasury</b>	0	100	0	1	5	6	6	9	17	0	0	0	0	0	0	0	0
<b>CTA</b>	0	100	0	0	0	0	0	4	23	22	5	0	0	0	0	0	0
<b>Cash</b>	0	100	96	94	87	85	85	70	0	0	0	0	0	0	0	0	0





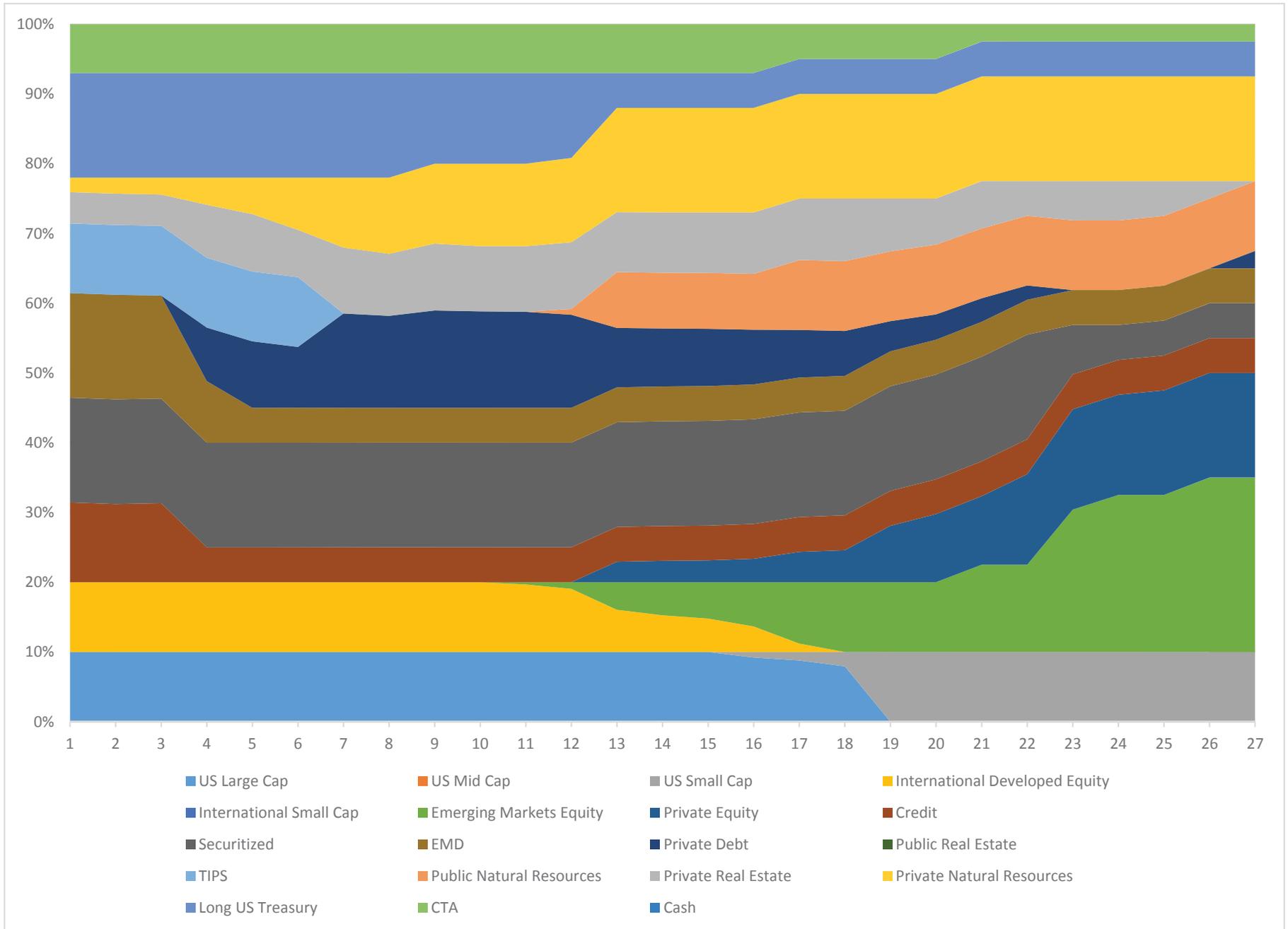
	Objective (Return), %		Risk (StdDev Rtn), %																					
	3.9	4.1	4.4	4.6	4.7	5.3	6.1	6.4	8.0	8.9	9.0	9.4	10.7	11.2	11.5	11.5	11.6	11.6	11.6	11.7	11.7	11.6		
	4.7	4.7	4.8	4.9	5.0	5.4	6.2	6.6	8.7	10.1	10.3	11.1	15.1	17.2	18.5	18.7	19.3	19.4	19.4	22.7	23.0	24.5		
	Min	Max																						
US Large Cap	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
US Mid Cap	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
US Small Cap	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
International Developed Equity	0	35	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
International Small Cap	0	35	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Emerging Markets Equity	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	25	35
Private Equity	0	25	0	1	1	1	1	1	0	1	1	2	3	6	15	18	20	22	25	25	25	25	25	25
Credit	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Securitized	0	25	0	0	0	0	0	0	3	7	11	23	22	21	16	6	0	0	0	0	0	0	0	0
EMD	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Private Debt	0	25	6	8	10	11	11	14	18	18	24	24	25	25	25	25	25	25	21	18	18	0	0	0
Public Real Estate	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIPS	0	25	25	25	25	25	24	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Natural Resources	0	25	0	0	0	0	0	0	0	0	0	0	0	9	13	17	17	21	25	25	25	25	15	
Private Real Estate	0	25	4	5	8	9	9	11	13	14	19	21	21	20	14	12	13	11	8	7	7	2	0	0
Private Natural Resources	0	25	0	0	0	0	0	2	4	5	6	8	8	12	20	25	25	25	25	25	25	25	25	25
Long US Treasury	0	25	24	22	18	15	16	18	20	14	17	0	0	0	0	0	0	0	0	0	0	0	0	0
CTA	0	25	10	12	14	14	14	16	17	16	23	22	20	16	0	0	0	0	0	0	0	0	0	0
Cash	0	25	25	25	25	25	25	25	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0

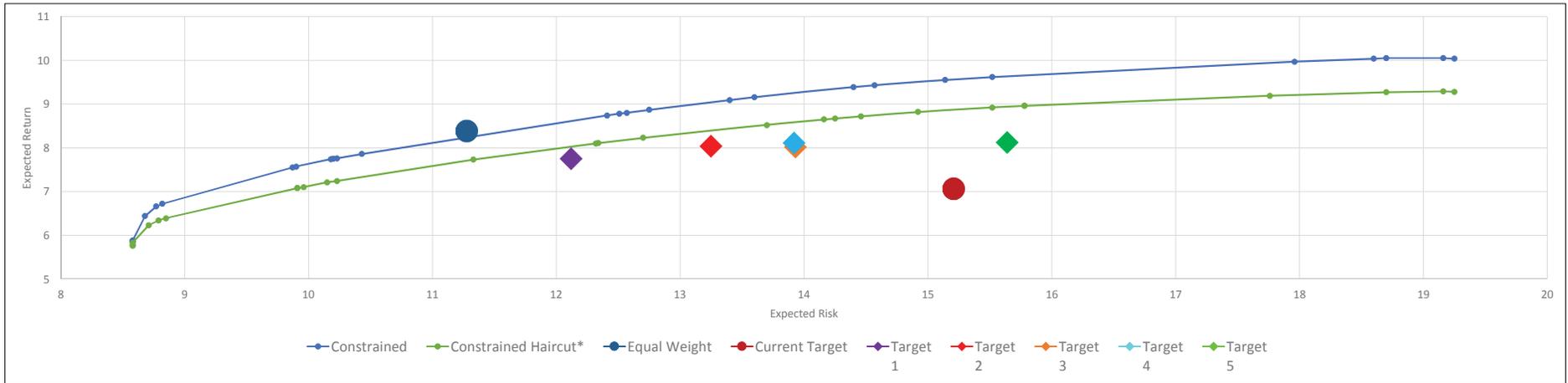




				5.9	5.9	5.9	6.4	6.7	6.7	7.6	7.6	7.7	7.8	7.8	7.9	8.7	8.8	8.8	8.9	9.1	9.2	9.4	9.4	9.6	9.6	10.0	10.0	10.1	10.1	10.0	
				8.6	8.6	8.6	8.7	8.8	8.8	9.9	9.9	10.2	10.2	10.2	10.4	12.4	12.5	12.6	12.8	13.4	13.6	14.4	14.6	15.1	15.5	18.0	18.6	18.7	19.2	19.3	
		Min	Max																												
US Large Cap	10	25	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	9	8	0	0	0	0	0	0	0	0	0	0
US Mid Cap	10	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
US Small Cap	10	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	10	10	10	10	10	10	10	10	10	10
International Developed Equity	10	25	10	10	10	10	10	10	10	10	10	10	10	10	9	6	5	5	4	1	0	0	0	0	0	0	0	0	0	0	0
International Small Cap	10	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emerging Markets Equity	10	25	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	5	6	9	10	10	10	13	13	20	23	23	25	25	
Private Equity	0	15	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	4	5	8	10	10	13	14	14	15	15	15	15	
Credit	5	15	11	11	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Securitized	5	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
EMD	5	15	15	15	15	9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Private Debt	0	15	0	0	0	8	10	9	14	13	14	14	14	14	13	9	8	8	8	7	6	4	4	3	2	0	0	0	0	3	
Public Real Estate	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIPS	0	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Natural Resources	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1	8	8	8	8	10	10	10	10	10	10	10	10	10	10	10	10
Private Real Estate	0	10	4	5	5	8	8	7	9	9	10	9	9	10	9	9	9	9	9	9	8	7	7	5	6	6	5	3	0		
Private Natural Resources	0	15	2	2	2	4	5	7	10	11	11	12	12	12	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	
Long US Treasury	5	15	15	15	15	15	15	15	15	15	13	13	13	12	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
CTA	2.5	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	5	5	5	5	3	3	3	3	3	3	3	
Cash	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Additional constraints include: private asset classes maximum of 35%, US Equity and International Equity minimum of 10% across each category.  
 \*Haircut assumptions include: (a) 150 bp off of all private asset classes, (b) 75bp off of all liquid asset classes with return expectations >= 8.0% and (c) 50bp off of corporates (from 6.5% to 6.0%).

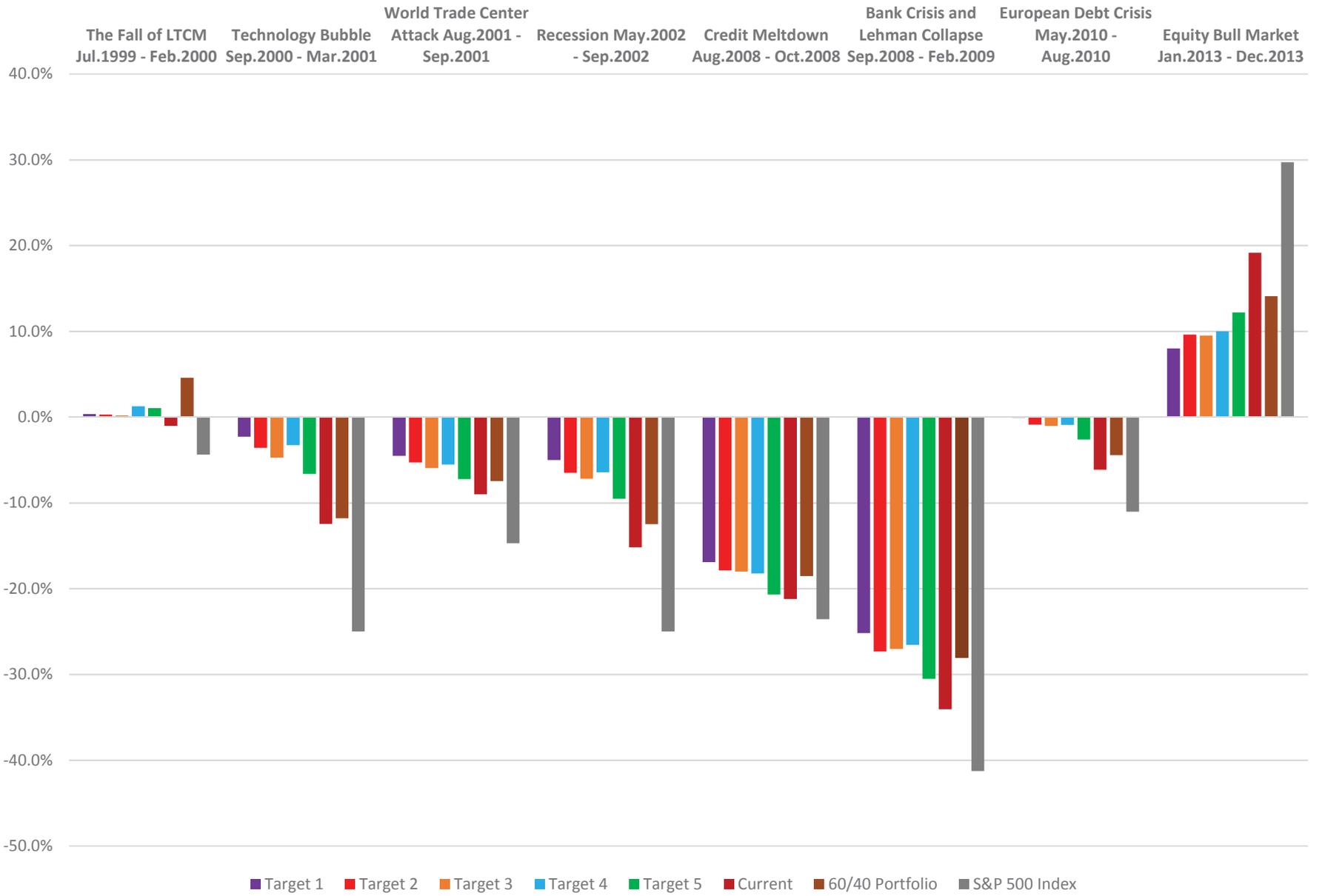




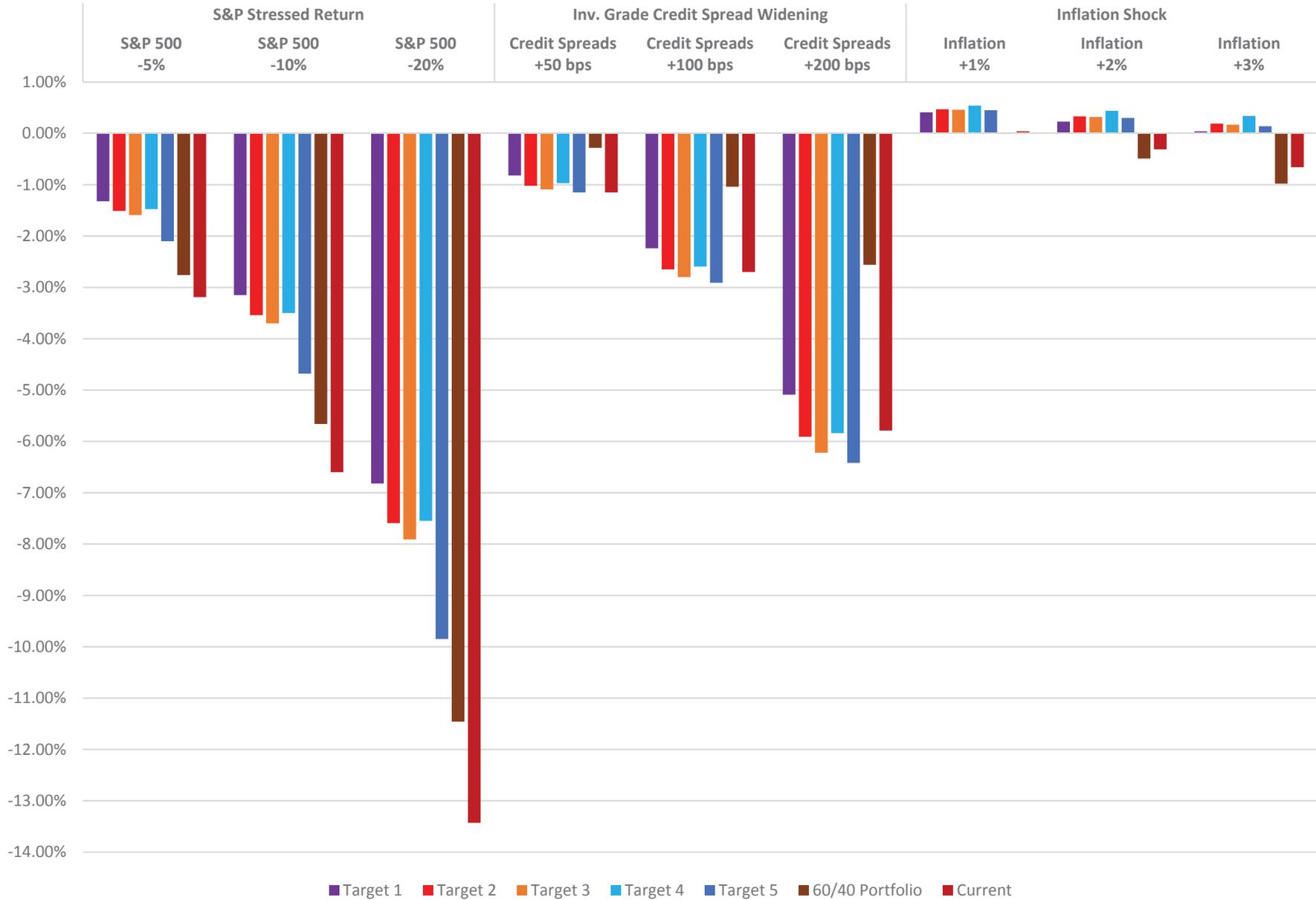
																							Target	Target	Target	Target	Target							
	Min	Max	20	20	20	20	20	20	20	20	20	20	20	23	23	23	23	24	25	28	30	32	35	45	47	48	50	50	1	2	3	4	5	
<b>Objective (Return), %</b>			5.9	5.9	5.9	6.4	6.7	6.7	7.6	7.6	7.7	7.8	7.8	7.9	8.7	8.8	8.8	8.9	9.1	9.2	9.4	9.4	9.6	9.6	10.0	10.0	10.1	10.1	10.0	7.8	8.0	8.0	8.1	8.1
<b>Risk (StdDev Rtn), %</b>			8.6	8.6	8.6	8.7	8.8	8.8	9.9	9.9	10.2	10.2	10.2	10.4	12.4	12.5	12.6	12.8	13.4	13.6	14.4	14.6	15.1	15.5	18.0	18.6	18.7	19.2	19.3	12.1	13.3	13.9	13.9	15.6
<b>Growth</b>			20	20	20	20	20	20	20	20	20	20	20	23	23	23	23	24	25	28	30	32	35	45	47	48	50	50	30	35	41	37	50	
<b>US Large Cap</b>	10	25	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	9	8	0	0	0	0	0	0	0	0	0	9	10	11	5	9	
<b>US Mid Cap</b>	10	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	5	7		
<b>US Small Cap</b>	10	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	10	10	10	10	10	10	10	10	1	2	2	5	6		
<b>International Developed Equity</b>	10	25	10	10	10	10	10	10	10	10	10	10	10	9	6	5	5	4	1	0	0	0	0	0	0	0	0	10	10	11	5	9		
<b>International Small Cap</b>	10	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	5	4		
<b>Emerging Markets Equity</b>	10	25	0	0	0	0	0	0	0	0	0	0	0	1	4	5	5	6	9	10	10	13	13	20	23	23	25	25	3	3	3	5	7	
<b>Private Equity</b>	0	15	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	4	5	8	10	10	13	14	14	15	15	3	6	10	7	8	
<b>Income</b>			41	41	41	37	35	34	39	38	39	39	39	38	34	33	33	33	32	31	29	29	28	27	17	15	15	18	30	30	30	31	20	
<b>Credit</b>	5	15	11	11	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	7	7	7	9	5	
<b>Securitized</b>	5	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	7	5	5	5	7	7	7	8	5	
<b>EMD</b>	5	15	15	15	15	9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	5	5	
<b>Private Debt</b>	0	15	0	0	0	8	10	9	14	13	14	14	14	13	9	8	8	8	7	6	4	4	3	2	0	0	0	3	10	10	10	9	5	
<b>Real Assets</b>			17	17	17	22	23	24	19	20	21	21	21	22	32	32	32	32	34	34	33	32	32	30	31	31	30	28	25	25	25	19	20	20
<b>Public Real Estate</b>	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	2	2	
<b>TIPS</b>	0	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	
<b>Public Natural Resources</b>	0	10	0	0	0	0	0	0	0	0	0	0	0	1	8	8	8	8	10	10	10	10	10	10	10	10	10	10	3	3	3	2	2	
<b>Private Real Estate</b>	0	10	4	5	5	8	8	7	9	9	10	9	9	10	9	9	9	9	9	8	7	7	5	6	6	5	3	0	10	10	7	9	9	
<b>Private Natural Resources</b>	0	15	2	2	2	4	5	7	10	11	11	12	12	12	15	15	15	15	15	15	15	15	15	15	15	15	15	15	5	5	3	4	4	
<b>Defensive</b>			22	22	22	22	22	22	22	20	20	20	19	12	12	12	12	12	10	10	10	10	8	8	8	8	8	8	15	10	10	12	10	
<b>Long US Treasury</b>	3	7	15	15	15	15	15	15	15	15	13	13	13	12	5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	7	7	7	5	
<b>CTA</b>	5	15	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	5	5	5	5	3	3	3	3	3	3	5	3	3	5	5	
<b>Cash</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Additional constraints include: private asset classes maximum of 35%, US Equity and International Equity minimum of 10% across each category.  
 \*Haircut assumptions include: (a) 150 bp off of all private asset classes, (b) 75bp off of all liquid asset classes with return expectations >= 8.0% and (c) 50bp off of corporates (from 6.5% to 6.0%).

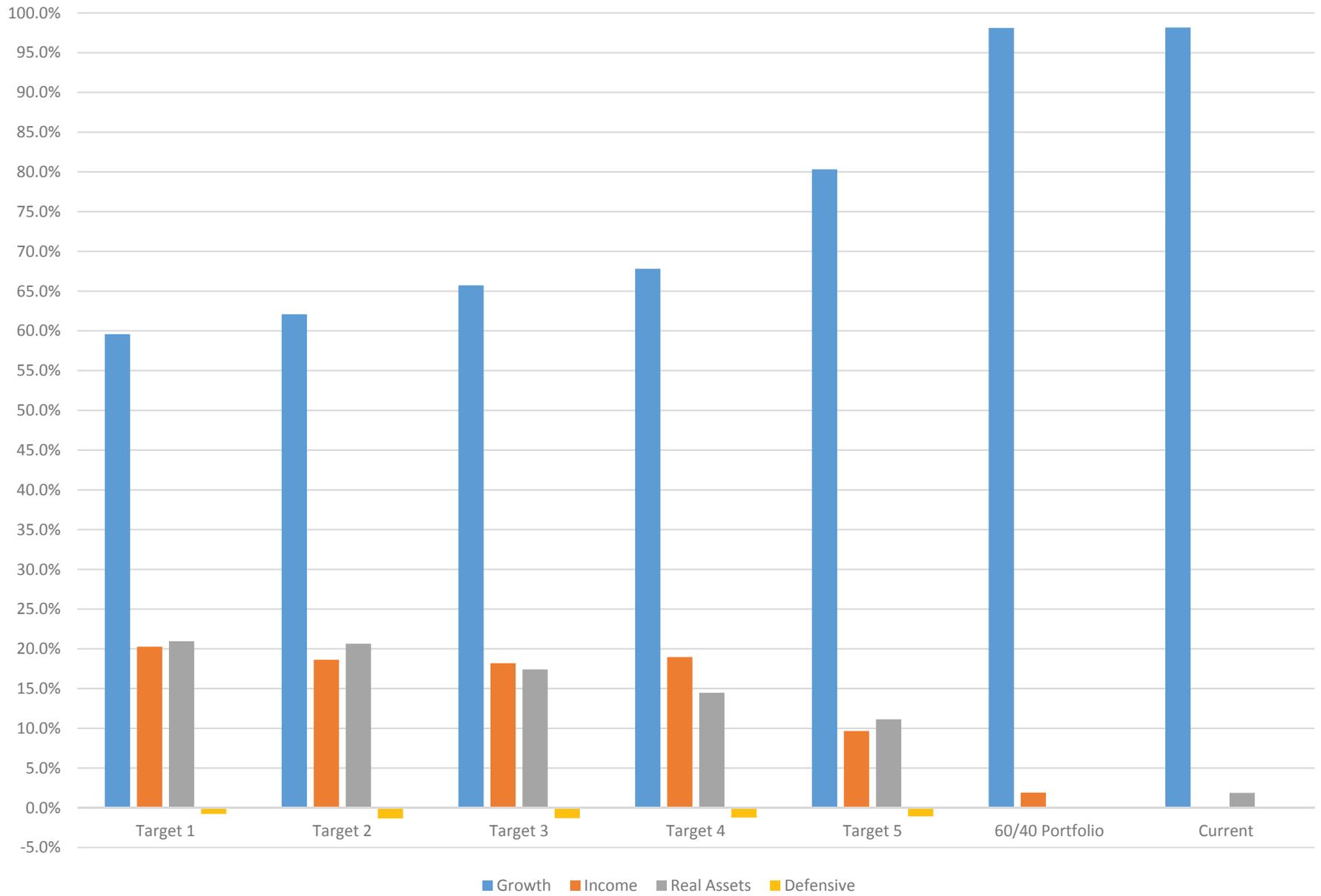
# Scenario Analysis



# 1- Month Sensitivity Analysis

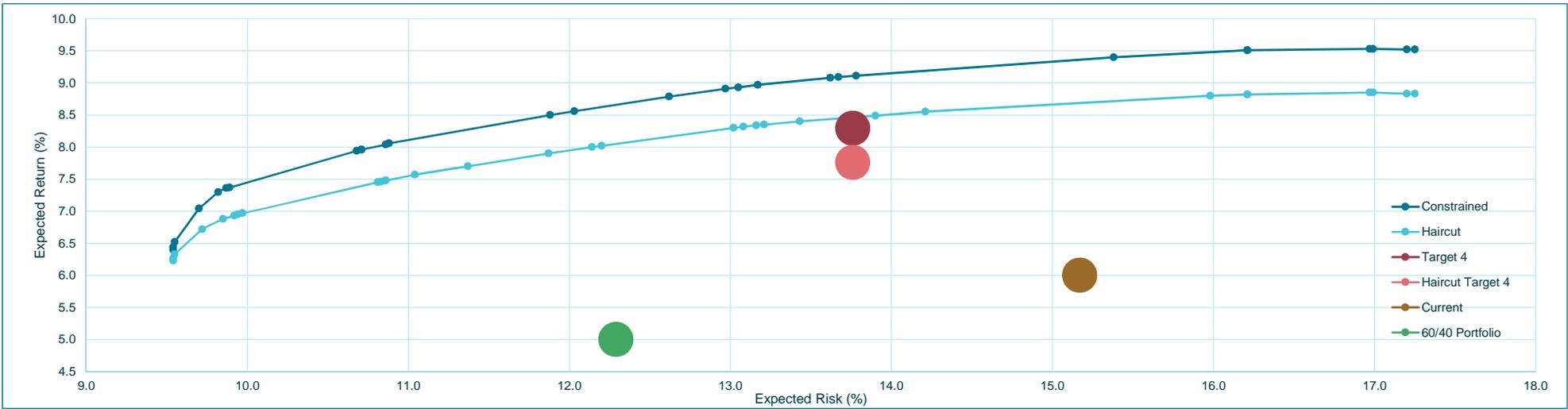


Risk Contribution by Asset Class



<b>Portfolio Statistics</b>	<b>Target 1</b>	<b>Target 2</b>	<b>Target 3</b>	<b>Target 4</b>	<b>Target 5</b>	<b>60/40 Portfolio</b>	<b>Current</b>
Skewness	-0.68	-0.60	-0.47	-0.64	-0.69	-0.77	-0.91
Excess Kurtosis	4.35	4.05	3.51	3.42	2.76	1.81	2.56
Correlation to S&P 500 Index	0.66	0.67	0.67	0.71	0.78	0.96	0.93
Beta to S&P 500 Index	0.39	0.45	0.47	0.50	0.60	0.58	0.70
Annual Sharpe Ratio (Rf= 0.25%)	0.84	0.79	0.76	0.75	0.69	0.56	0.58
Normal monthly VaR 99%	-5.5%	-6.2%	-6.5%	-6.6%	-7.3%	-5.7%	-7.1%
Modified monthly VaR 99%	-9.1%	-9.9%	-9.9%	-10.2%	-10.6%	-7.8%	-10.3%
Conditional monthly VaR 99%	-11.3%	-12.2%	-12.1%	-12.8%	-13.5%	-8.8%	-12.9%
Max Drawdown	-36%	-40%	-39%	-42%	-45%	-35%	-45%
Date Max Drawdown	2/28/2009	3/31/2009	2/28/2009	2/28/2009	2/28/2009	2/28/2009	2/28/2009
Annual Sortino Ratio (vs 0%)	1.38	1.28	1.26	1.22	1.10	0.86	0.88
Ann. Semi Deviation (vs 0%) Last 5 years	6.5%	7.4%	8.1%	8.0%	8.9%	7.1%	8.2%

	Min	Target 4	Max
<b>Growth</b>	<b>20</b>	<b>37</b>	<b>65</b>
<b>US Equity</b>	<b>10</b>	<b>15</b>	<b>25</b>
US Large Cap		5	
US Mid Cap		5	
US Small Cap		5	
<b>International Equity</b>	<b>10</b>	<b>15</b>	<b>25</b>
International Developed Equity		5	
International Small Cap		5	
Emerging Markets Equity		5	
<b>Private Equity</b>	<b>0</b>	<b>7</b>	<b>15</b>
<b>Income</b>	<b>15</b>	<b>31</b>	<b>45</b>
<b>Credit</b>	<b>5</b>	<b>9</b>	<b>15</b>
Securitized	5	8	15
EMD	5	5	15
Private Debt	0	9	15
<b>Real Assets</b>	<b>10</b>	<b>20</b>	<b>30</b>
<b>Public Real Assets</b>	<b>5</b>	<b>7</b>	<b>15</b>
Public Real Estate		2	
TIPS		3	
Public Natural Resources		2	
<b>Private Real Estate</b>	<b>0</b>	<b>9</b>	<b>15</b>
<b>Private Natural Resources</b>	<b>0</b>	<b>4</b>	<b>15</b>
<b>Defensive</b>	<b>8</b>	<b>12</b>	<b>20</b>
Long US Treasury	5	7	15
CTA	3	5	7
Cash	0	0	5



Expected Return (%)		Expected Risk (%)																												Target 4		
Expected Risk (%)		6.4	6.4	6.5	7.0	7.3	7.4	7.4	7.9	8.0	8.0	8.0	8.1	8.5	8.6	8.8	8.9	8.9	9.0	9.1	9.1	9.1	9.4	9.5	9.5	9.5	9.5	9.5	9.5	9.5	8.3	
	Min	Max	9.5	9.5	9.6	9.7	9.8	9.9	9.9	10.7	10.7	10.7	10.9	10.9	11.9	12.0	12.6	13.0	13.1	13.2	13.6	13.7	13.8	15.4	16.2	16.2	17.0	17.0	17.2	17.3	13.8	
<b>Growth</b>	20.0	55.0	20	20	20	20	20	20	20	20	20	20	20	20	20	23	24	25	26	29	29	30	37	43	43	47	47	47	47	37.0		
<b>US Equity</b>	10.0	25.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	15	15	15.0	
<b>US Large Cap</b>	5.0	12.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	7.5		
<b>US Small Cap</b>	5.0	12.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	10	7.5		
<b>International Equity</b>	10.0	25.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	12	12	12	12	18	18	18	22	22	18	18	15.0
<b>Int'l Developed Equity</b>	5.0	12.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	10	5	5	7.5
<b>Emerging Markets Equity</b>	5.0	12.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	7	7	7	7	13	13	13	13	13	7.5
<b>Private Equity</b>	0.0	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	5	6	7	7	8	9	15	15	15	15	15	15	7.0	
<b>Income</b>	15.0	45.0	44	44	43	39	36	36	35	39	38	38	38	38	35	35	34	34	33	32	31	31	30	23	21	21	17	18	18	20	31.0	
<b>Credit</b>	5.0	15.0	14	14	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	9.0	
<b>Securitized</b>	5.0	15.0	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	10	10	10	5	5	5	5	8.0	
<b>Non-US Debt</b>	5.0	15.0	15	15	15	9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.0	
<b>Private Debt</b>	0.0	15.0	0	0	2	9	11	11	10	14	13	13	13	13	10	10	9	9	8	7	6	6	5	4	1	2	2	3	3	5	9.0	
<b>Real Assets</b>	10.0	30.0	16	16	17	21	24	24	25	21	22	22	22	22	29	30	30	30	30	30	30	30	30	29	30	27	26	26	25	23	20.0	
<b>TIPS</b>	0.0	7.0	7	7	7	7	7	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.0	
<b>Public Real Assets</b>	0.0	8.0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	7	8	8	8	8	8	8	8	8	8	8	8	8	8	4.0	
<b>Private Real Estate</b>	0.0	15.0	7	7	8	11	11	10	10	12	11	11	11	11	11	10	8	7	7	7	7	7	6	7	4	3	3	2	2	0	9.0	
<b>Private Energy</b>	0.0	15.0	2	2	2	4	5	7	8	10	11	11	11	12	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	4.0	
<b>Defensive</b>	10.0	20.0	20	20	20	20	20	20	20	20	20	20	20	20	15	15	13	12	12	12	10	10	10	10	10	10	10	10	10	10	12.0	
<b>Long Treasury</b>	5.0	15.0	15	15	15	15	15	15	15	15	15	13	13	8	8	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	7.0	
<b>CTA</b>	2.5	7.0	5	5	5	5	5	5	5	5	5	7	7	7	7	7	7	7	7	7	5	5	5	5	5	5	5	5	5	5	5.0	
<b>Cash</b>	0.0	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
<b>Private Assets</b>	0.0	35.0	9	9	12	24	28	28	28	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	29.0	

	Min	Target 4	Max
<b>Growth</b>	<b>20</b>	<b>37</b>	<b>55</b>
<b>US Equity</b>	<b>10</b>	<b>15</b>	<b>25</b>
US Large Cap	5	7.5	12.5
US Small Cap	5	7.5	12.5
<b>International Equity</b>	<b>10</b>	<b>15</b>	<b>25</b>
International Developed Equity	5	7.5	12.5
Emerging Markets Equity	5	7.5	12.5
<b>Private Equity</b>	<b>0</b>	<b>7</b>	<b>15</b>
<b>Income</b>	<b>15</b>	<b>31</b>	<b>45</b>
Credit	5	9	15
Securitized	5	8	15
EMD	5	5	15
Private Debt	0	9	15
<b>Real Assets</b>	<b>10</b>	<b>20</b>	<b>30</b>
TIPS	0	3	7
Public Real Assets (Infra/MLP/REIT, using MLP assump.)	0	4	8
Private Real Estate	0	9	15
Private Natural Resources	0	4	15
<b>Defensive</b>	<b>10</b>	<b>12</b>	<b>20</b>
Long US Treasury	5	7	15
CTA	3	5	7
Cash	0	0	5

## Growth Equity Structure

### Global

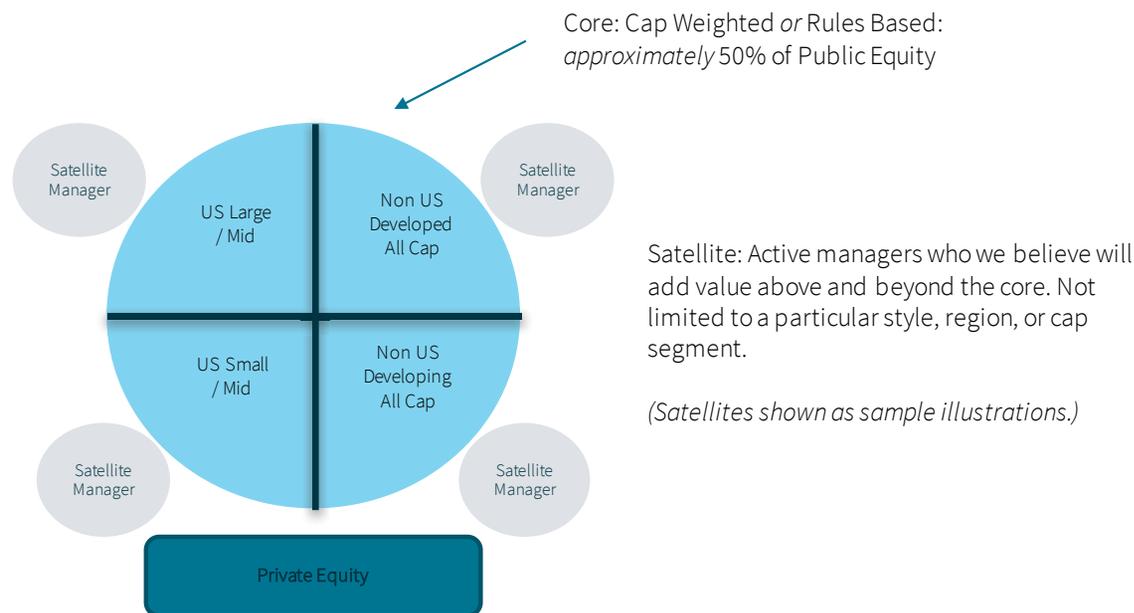
- Market weighting of US vs Non US
  - Structural overweight to developing markets; leaning into growth, inefficiencies, correlation benefits

### Breadth

- Equal weight to large and small to increase the opportunity set, target higher returns, and improve correlations

### Value-Add

- Private equity to capture illiquidity premium as well as off market opportunity set
- Active managers or non-index exposures as satellite components to enhance returns or reduce risk



Risk Category	Asset Class	Portfolio Weight	Asset Class Weight	Benchmark
Growth	US Equity – Large	7.50%	20.3%	Russell 1000
Growth	US Equity – Small	7.50%	20.3%	Russell 2000
Growth	Non-US Equity Developed	7.50%	20.3%	MSCI EAFE IMI
Growth	Non-US Equity Emerging	7.50%	20.3%	MSCI Emerging + Frontier
Growth	Private	7.00%	18.9%	Private Equity Index

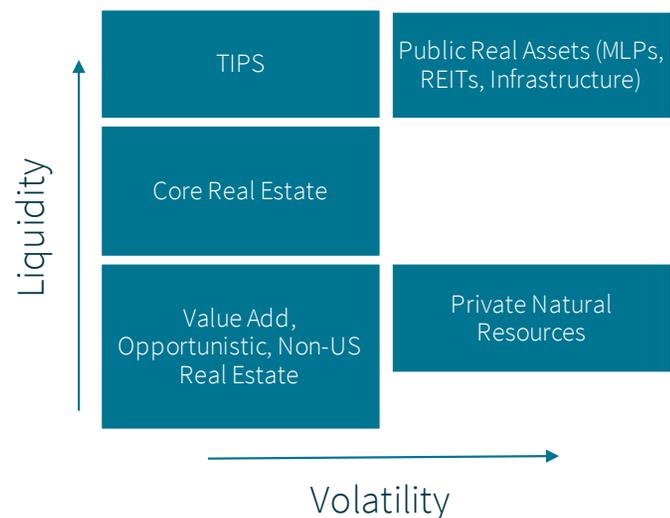
## Real Assets Structure

### Liquid Strategies

- Flexibility
- Offset illiquidity risk
- Adjust based on valuations and asset allocation needs

### Private Strategies

- Core real estate as semi-liquid, relatively safe harbor
- Value-add/Opportunistic
  - Small fund size
  - Specialist
- Private Natural Resources
  - Smaller target given SITLA



Risk Category	Asset Class	Portfolio Weight	Asset Class Weight	Benchmark
Real Assets	TIPS	3.00%	17.6%	Barclays U.S. Treasury Inflation Protected Securities Index
Real Assets	Public Real Assets	4.00%	23.5%	Alerian MLP Index
Real Assets	Private Real Estate	9.00%	52.9%	NCREIF Property Index
Real Assets	Private Natural Resources	4.00%	23.5%	Preqin Natural Resources Index

## Income Structure

### Return/Risk

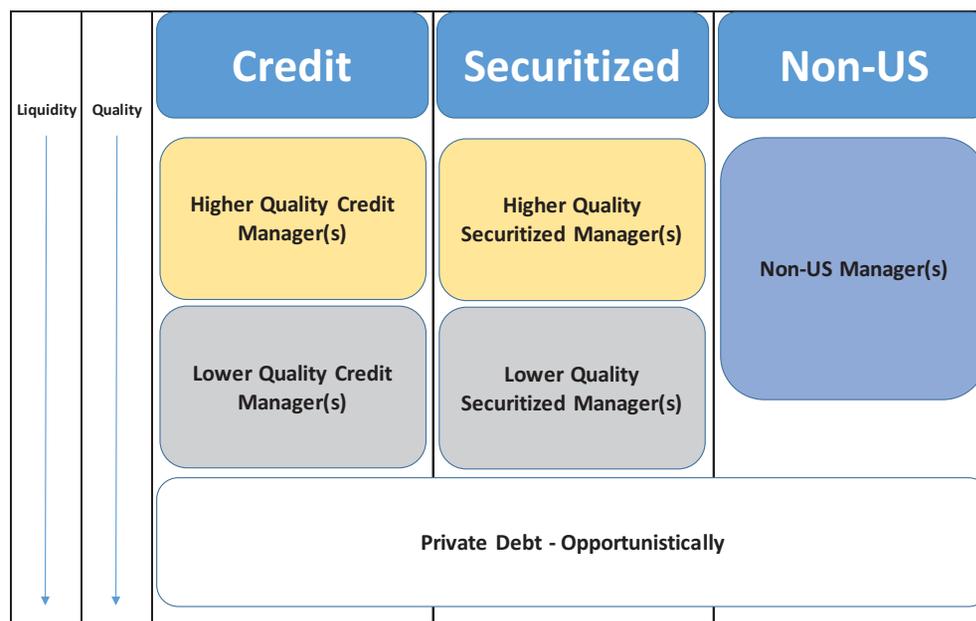
- Understanding implicit equity beta, isolating exposures to manage risk
- Overweight below investment grade as proxy to equity returns

### Opportunity

- Overweight to securitized and inclusion of private debt to participate in less traveled markets

### Benefits

- Global macroeconomic headwinds
- Higher up in capital structure than equity, lower volatility, similar forward looking returns
- Higher proportion of returns as income for repurposing
- Regulatory changes generating opportunities in credit



Risk Category	Asset Class	Portfolio Weight	Asset Class Weight	Benchmark
Income	US Corporate Debt	9.00%	29.0%	50% Barclays US Corp, 25% Barclays US Corp HY, 25% CS Leveraged Loans
Income	US Securitized Debt	8.00%	25.8%	50% Barclays MBS, 25% Barclays CMBS, 25% Barclays ABS
Income	Non-US Debt (EMD)	5.00%	16.1%	50% Citi Non-US WGB, 16.7% JPM EMBI, 16.7% JPM GBI-EM (Unhedged), 16.7% JPMorgan CEMBI
Income	Private	9.00%	29.0%	Thomson Private Debt Index

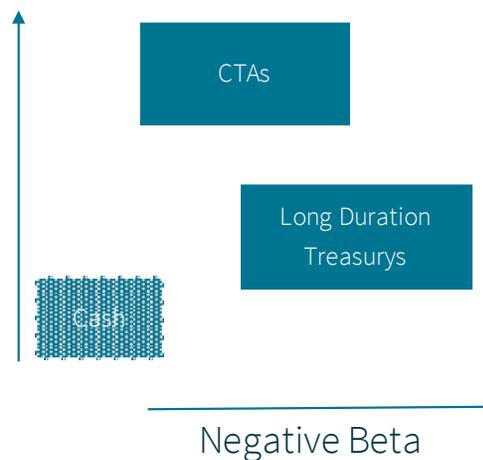
## Defensive Structure

### Context

- Our overall return objective is demanding requiring sizeable amount of risk
- Time horizon and risk tolerance allow for volatility and illiquidity
- Thus, “defensive” is expected to be the smallest asset category

### Purpose

- Keep it pure, avoid temptation to add implicit equity beta
- Keep it positive, look for positive carry
- Make it count, strive for strongly negative beta



Risk Category	Asset Class	Portfolio Weight	Asset Class Weight	Benchmark
Defensive	Cash	0.00%	0.0%	3M Tbills
Defensive	Long Duration Treasuries	7.00%	58.3%	Barclays US Treasury 30Y
Defensive	CTAs	5.00%	41.7%	Barclays CTA Index

# Exhibit F

## SITFO Asset Allocation vs Current Target

	As of 5/31/2016		As of 6/30/2016		Target Range			Over (Under)
	Market Value	Weight	Market Value	Weight	Min	Target	Max	
<b>Domestic Equity</b>	\$ 929,392,319	42.6%	\$ 977,189,915	44.8%	42%	47%	52%	-2.2%
Vanguard Structured Large-Cap Index	\$ 459,747,734	21.1%	\$ 459,340,517	21.1%				
Vanguard Structured Broad Market	\$ 357,532,072	16.4%	\$ 356,478,060	16.3%				
Vanguard Strategic Equity Fund	\$ 112,112,514	5.1%	\$ 111,371,338	5.1%				
Harvest MLP Income Fund	\$ -	0.0%	\$ 50,000,000.00	2.3%				
<b>International Equity</b>	\$ 374,358,669	17.2%	\$ 366,269,608	16.8%	15%	20%	25%	-3.2%
Vanguard Total International Stock Index	\$ 374,358,669	17.2%	\$ 366,269,608	16.8%				
<b>Fixed Income</b>	\$ 462,912,088	21.2%	\$ 488,105,282	22.4%	18%	23%	28%	-0.6%
Vanguard Short-Term Investment Grade	\$ 265,190,466	12.2%	\$ 266,925,357	12.2%				
Vanguard Intermediate Term Investment Grade	\$ 197,721,622	9.1%	\$ 200,910,681	9.2%				
Vanguard Inflation-Protected Securities	\$ -	0.0%	\$ 20,269,245	0.9%				
<b>Real Estate</b>	\$ 284,823,294	13.1%	\$ 284,396,147	13.0%	5%	10%	15%	3.0%
UBS Trumbull Property Fund	\$ 53,184,199	2.4%	\$ 54,133,376	2.5%				
UBS Trumbull Property Income Fund	\$ 77,368,495	3.5%	\$ 79,352,799	3.6%				
LaSalle Income & Growth Fund V	\$ 195,459	0.0%	\$ 195,459	0.0%				
Fidelity Real Estate Growth Fund III	\$ 2,499,157	0.1%	\$ 2,454,044	0.1%				
Colony Realty Partners III	\$ 14,859,400	0.7%	\$ 14,859,400	0.7%				
Long Wharf Real Estate Partners IV	\$ 44,444,875	2.0%	\$ 43,540,317	2.0%				
Colony Realty Partners IV	\$ 45,314,300	2.1%	\$ 45,314,300	2.1%				
LaSalle Income & Growth Fund VI	\$ 39,028,735	1.8%	\$ 36,721,836	1.7%				
Long Wharf Real Estate Partners V	\$ 6,617,608	0.3%	\$ 6,513,548	0.3%				
Coral Canyon Town Center	\$ 1,311,067	0.1%	\$ 1,311,067	0.1%				
<b>Cash</b>	\$ 118,799,402	5.4%	\$ 59,041,233	2.7%	0%	0%	5%	2.7%
<b>Total</b>	\$ 2,180,646,440		\$ 2,181,895,732					

	As of 6/30/2016		Target Range			Over (Under)
	Market Value	Weight (%)	Min	Target 4	Max	
<b>Growth</b>	\$ 1,293,459,523.39	59.3	20	37	55	22
<b>US Equity</b>	\$ 927,189,914.94	42.5	10	15	25	27
Vanguard Structured Broad Market	\$ 356,478,059.75	16.3				
US Large Cap	\$ 459,340,516.91	21.1	5	7.5	12.5	
Vanguard Structured Large-Cap Index	\$ 459,340,516.91	21.1				
US Small Cap	\$ 111,371,338.29	5.1	5	7.5	12.5	
Vanguard Strategic Equity Fund	\$ 111,371,338.29	5.1				
<b>International Equity</b>	\$ 366,269,608.44	16.8	10	15	25	2
International Developed Equity	\$ 366,269,608.44	16.8	5	7.5	12.5	
Vanguard Total Int'l Stock Index	\$ 366,269,608.44	16.8				
Emerging Markets Equity	\$ -	0.0	5	7.5	12.5	
<b>Private Equity</b>	\$ -	0.0	0	7	15	-7
<b>Income</b>	\$ 467,836,037.17	21.4	15	31	45	-10
<b>Credit</b>	\$ 467,836,037.17	21.4	5	9	15	12
Vanguard Short-Term Inv. Grade	\$ 266,925,356.61	12.2				
Vanguard Int. Term Inv. Grade	\$ 200,910,680.56	9.2				
<b>Securitized</b>	\$ -	0.0	5	8	15	-8
<b>EMD</b>	\$ -	0.0	5	5	15	-5
<b>Private Debt</b>	\$ -	0.0	0	9	15	-9
<b>Real Assets</b>	\$ 354,665,391.69	16.3	10	20	30	-4
<b>TIPS</b>	\$ 20,269,244.85	0.9	0	3	7	-2
Vanguard Inflation-Protected Sec.	\$ 20,269,244.85	0.9				
<b>Public Real Assets</b>	\$ 50,000,000.00	2.3	0	4	8	-2
Harvest MLP Income Fund	\$ 50,000,000.00	2.3				
<b>Private Real Estate</b>	\$ 284,396,146.84	13.0	0	9	15	4
UBS Trumbull Property Fund	\$ 54,133,375.91	2.5				
UBS Trumbull Property Income Fund	\$ 79,352,799.27	3.6				
LaSalle Income & Growth Fund V	\$ 195,458.94	0.0				
Fidelity Real Estate Growth Fund III	\$ 2,454,044.10	0.1				
Colony Realty Partners III	\$ 14,859,400.00	0.7				
Long Wharf Real Estate Partners IV	\$ 43,540,317.49	2.0				
Colony Realty Partners IV	\$ 45,314,300.00	2.1				
LaSalle Income & Growth Fund VI	\$ 36,721,836.17	1.7				
Long Wharf Real Estate Partners V	\$ 6,513,548.21	0.3				
Coral Canyon Town Center	\$ 1,311,066.75	0.1				
<b>Private Natural Resources</b>	\$ -	0.0	0	4	15	-4
<b>Defensive</b>	\$ 59,041,233.06	2.7	10	12	20	-9
<b>Long US Treasury</b>	\$ -	0.0	5	7	15	-7
<b>CTA</b>	\$ -	0.0	3	5	7	-5
<b>Cash</b>	\$ 59,041,233.06	2.7	0	0	5	3