BOARD RESPONSE TO WRITTEN REQUESTS FOR CLARIFICATION

RELATING TO:

INVITATION TO NEGOTIATE
FOR

Investment Consultant Services for the Stanley G. Tate Florida Prepaid College Program, Florida 529 Savings Plan and Florida ABLE

#19-01

February 13, 2019

Florida Prepaid College Board
1801 Hermitage Blvd., Suite 210
Tallahassee, Florida 32308
(850) 488-8514

Memorandum

To: Prospective Respondents, ITN #18-03

From: Florida Prepaid College Board

Date: February 13, 2019

Subject: Board Response to Written Requests for Clarification relating to ITN #19-01 Investment Consultant Services for the Stanley G. Tate Florida Prepaid College Program, Florida 529 Savings Plan and Florida ABLE

Any questions concerning conditions and specifications of this ITN must be addressed in the form of written questions submitted by Respondents pursuant to the schedule in Section 2.01.

Any questions received after February 11, 2019, 12:00 PM (ET) were not accepted.

Company Name: Pension Consulting Alliance, LLC

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 1. | N/A | N/A | Can you please confirm whether there is an incumbent consultant? If so, who is it and what is the current annual fee being paid to the incumbent? |
| Answer: The Board confirms that there is an incumbent Investment Consultant. The Board does not consider the remaining questions to be related to the conditions and specifications of this ITN. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 2. | N/A | N/A | Can you please confirm whether there have been any changes in policy over the last year, or are there any changes planned in the near term? |
| Answer: Over the last year, the Board restructured and enhanced the Comprehensive Investment Plans (Appendix D of the ITN) for the Prepaid and Savings Programs. The 2017 version of the CIP is included as an attachment to this document. In addition, the Board is currently evaluating the investment structure for the Savings Plan and is always open to innovative ideas that improve any of the Programs. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 3. | N/A | N/A | Can you please confirm the number of manager searches that were conducted over the last three years? |
| Answer: The Board has conducted 5 investment manager searches over the last three years. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 4. | N/A | N/A | Can you please provide copies of the following documents: (i) most recent quarterly performance report, (ii) most recent actuarial report, (iii) most recent asset-liability study, (iv) performance summaries for the Savings Plan and Florida ABLE. |

Answer: The following reports are included as attachments to this document:
(i) 2018 Third Quarter Performance Review
(ii) 2018 Actuarial Adequacy Report
(iii) 2018 Asset Liability Study
(iv) 2019 Savings Performance Summary and 2019 ABLE Performance Summary

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 5. | N/A | N/A | Can you please provide the Board meeting schedule for 2019/2020? |

Answer: The Board sets a schedule for each calendar year.

The 2019 tentative schedule is:
March 26-27, Tallahassee, FL
June 25-26, Fort Meyers, FL
September 25-26, Tallahassee, FL
December 4-5, Tallahassee, FL

The meeting schedule for 2020 has not yet been determined.

Company Name: NEPC, LLC

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 1. | 3.01 | 6 | For the savings plan, how often are descriptive statements updated? |

Answer: Generally, descriptive statements are reviewed and updated annually.

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 2. | 3.01 | 6 | For the savings plan, what role does the record keeper / TPA play in providing performance? |

Answer: The Board utilizes custodians/trustees to maintain the assets of the programs. The Investment Consultant utilizes data from the custodians/trustees to provide performance information to the Board.

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 3. | 3.01 | 6 | Presenting to the Board: How often does the Board review the Florida 529 Savings Program? |

Answer: The Board reviews performance quarterly. Strategy and structure are reviewed on an as needed basis.

Company Name: Milliman

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 1. | N/A | N/A | Why is the Florida Prepaid College Board (Board) going out to bid at this time? |

Answer: The contract with the current Investment Consultant expires on June 30, 2019.

<table>
<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>2.</td><td>N/A</td><td>N/A</td><td>When was the last time that the Board went out to bid for the investment consultant services described in this RFP?</td></tr>
<tr><td colspan="4">Answer: The Board does not consider the question to be related to the conditions and specifications of this ITN.</td></tr>
</table>

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<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>3.</td><td>N/A</td><td>N/A</td><td>How long has the incumbent been retained? Have they been invited to rebid?</td></tr>
<tr><td colspan="4">Answer: The incumbent is able to rebid. The Board does not consider the remaining question to be related to the conditions and specifications of this ITN.</td></tr>
</table>

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<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>4.</td><td>N/A</td><td>N/A</td><td>What are the contract provisions (fees, contract length) for the incumbent investment consultant?</td></tr>
<tr><td colspan="4">Answer: The Board does not consider the question to be related to the conditions and specifications of this ITN.</td></tr>
</table>

<table>
<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>5.</td><td>3.01 Services</td><td>5-6</td><td>Is the scope outlined in the RFP consistent with the incumbent's contract? If not, what items are different?</td></tr>
<tr><td colspan="4">Answer: In general, the scope is consistent with the incumbent’s contract.</td></tr>
</table>

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<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>6.</td><td>N/A</td><td>N/A</td><td>According to the RFP, your goals are safety, liquidity, and yield. Does the Board have specific pain points in regards to investments?</td></tr>
<tr><td colspan="4">Answer: The Board works closely with the Investment Consultant on investment decisions. Any ideas that improve the Programs are open for consideration.</td></tr>
</table>

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<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>7.</td><td>N/A</td><td>N/A</td><td>Please provide the minutes to the previous four quarterly Board Committee meetings that discussed investment.</td></tr>
<tr><td colspan="4">Answer: The minutes are included as an attachment to this document.</td></tr>
</table>

<table>
<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>8.</td><td>N/A</td><td>N/A</td><td>Please provide the previous two quarters of investment performance reports.</td></tr>
<tr><td colspan="4">Answer: The reports are included as an attachment to this document.</td></tr>
</table>

Company Name: Wilshire

<table>
<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>1.</td><td>N/A</td><td>N/A</td><td>Can you provide the current fee that you pay to your current investment consultant?</td></tr>
<tr><td colspan="4">Answer: The Board does not consider this question to be related to the conditions and specifications of this ITN.</td></tr>
</table>

<table>
<tr><th>Question</th><th>ITN Section</th><th>ITN Page</th><th>Question/Comment</th></tr>
<tr><td>2.</td><td>N/A</td><td>N/A</td><td>What is the most important aspect/issue that you look for in a consulting firm and or consultant?</td></tr>
<tr><td colspan="4">Answer: The Board has attempted to document the needs in the ITN and proposed Contract that was included as Appendix A to the ITN.</td></tr>
</table>

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 3. | N/A | N/A | Do you anticipate making any changes to the asset allocation? Are you considering any new asset classes? |
| Answer: The Board is always open to innovative ideas that improve the Programs. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 4. | N/A | N/A | All things considered, have you been satisfied with your current consultant? If not, what were the major issues? |
| Answer: The Board does not consider this question to be related to the conditions and specifications of this ITN. | | | |

Company Name: Aon Hewitt Investment Consulting, Inc.

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 1. | Section 3. Description of Services | Page 5 of 11 | What are the current consultant fees for the services described in section 3, Description of Services, for the programs administered by the Florida Prepaid College Board? |
| Answer: The Board does not consider this question to be related to the conditions and specifications of this ITN. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 2. | Section 3. Description of Services, sub section "On-going Investment Consultant Services" | Page 6 of 11 | Who is the actuary who works on the programs administered by the Florida Prepaid College Board? |
| Answer: The Board's actuary is Milliman. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 3. | General RFP ITN 19-01 Question | N/A | Can you provide the actuarial valuation report for the programs administered by the Florida Prepaid College Board? |
| Answer: The 2018 Actuarial Adequacy Report is included as an attachment to this document. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 4. | Section 3, Description of Services, sub section "Investment Manager Searches" | Page 6 of 11 | Can you describe your procurement process for investment manager searches and investment custodian/trustee searches, as well as the specifics of the consultant's role (in the procurement process) described in Section 3, Description of Services, sub section "Investment Manager Searches"? |
| Answer: Generally, the Board follows the procurement process performed under this ITN when seeking investment managers and custodians/trustees. With respect to the Investment Consultant's contribution to the process, please see page 9 of the proposed contract that was included as Appendix A to the ITN for detailed requirements. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 5. | Section 3. Description of Services, sub section "On-going Investment Consultant Services" | Page 5 of 11 | Can you provide a copy of the most recent investment performance update of the Florida Prepaid College Plan and the Florida ABLE provided by your investment consultant? |
| Answer: The Third Quarter 2018 Performance Review is included as an attachment to this document. | | | |

Company Name: Cambridge Associates

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 1. | N/A | N/A | Please define the size of each pool and if any are nonprofit pools. |
| Answer: Section 1.01of the ITN provides the size of each Program. The Prepaid and Savings Programs are operated by the Florida Prepaid College Board, a state agency. The ABLE Program is operated by a 501(c)(3), not for profit organization. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 2. | N/A | N/A | Do the investment programs use alternative investments such as private equity and hedge funds? If so, which poos? |
| Answer: No. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 3. | N/A | N/A | If not, is the Program open to using it for any of its pools or non-profit pools? |
| Answer: The Board is always open to innovative ideas that improve the Programs. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 4. | N/A | N/A | What will be the key determining factors in selecting an investment advisor? |
| Answer: The Board has attempted to document the needs and scoring considerations in the ITN. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 5. | N/A | N/A | What are the main reasons for conducting a search this time? |
| Answer: The Board's current contract expires on June 30, 2019. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 6. | N/A | N/A | What are the key challenges or concerns that you are currently facing? |
| Answer: The Board is currently looking to enhance the Savings Program. In addition, ensuring the Board has the optimal LDI strategy is a continuous discussion topic. Finally, the Board is always open to innovative ideas that improve the Programs. | | | |

Company Name: RVK, Inc.

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 1. | 3.01 | 5 | Is the meeting schedule for 2019 available? If so, can you please provide it? |
| Answer: The Board sets the schedule for each calendar year.<br><br>The 2019 tentative schedule is:<br>March 26-27, Tallahassee, FL<br>June 25-26, Fort Meyers, FL<br>September 25-26, Tallahassee, FL<br>December 4-5, Tallahassee, FL | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 2. | 1.01 | 3 | Are there any investment initiatives being planned for the next 12-16 months for any of the Programs? If so, can you please provide detail about those initiatives? |
| Answer: The Board is currently working on enhancements to the Savings Program. In addition, the Board continues to review the optimal LDI strategy. Finally, the Board is always open to innovative ideas that improve the Programs. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 3. | 3.01 | 6 | When was the last Asset Liability Modeling study conducted for the Prepaid Program? |
| Answer: 2018 | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 4. | 3.01 | 6 | We observed language within the ABLE Program that the Program will utilize the Prepaid College Board's investment manager for the same investment option unless otherwise approved in advance. Does the Savings Plan follow similar guidelines regarding manager selection? |
| Answer: Currently, the Board uses the same investment managers for both the Prepaid and Savings Program. However, this is not a requirement. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 5. | Appendix D | 6 | What is the current allocation of the Actuarial Reserve Segment within the Prepaid Program? What are the |

| | | | |
|---|---|---|---|
| | | | allowable ranges for the Actuarial Reserve Segment investments within the Prepaid Program? |
| Answer: See section II of the Investment Guidelines for the Prepaid College Program for the allocations. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 6. | 3.01 | 6 | How many manager searches have been conducted each year, over the last 5 years? |
| Answer: There were 6 investment manager searches over the last five years.<br>• 2014 – 0<br>• 2015 – 1<br>• 2016 – 0<br>• 2017 – 3<br>• 2018 – 2 | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 7. | 3.01 | 5 | Is the scope outlined in the RFP consistent with the current consultant's contract? |
| Answer: In general, the scope is consistent with the incumbent's contract. | | | |

| Question | ITN Section | ITN Page | Question/Comment |
|---|---|---|---|
| 8. | 5.04 | 9 | If possible, can you please provide the current fee being paid for investment advisory services? |
| Answer: The Board does not consider this question to be related to the conditions and specifications of this ITN. | | | |

**Florida Prepaid College Board**
**Comprehensive Investment Plan**
*for the*
**Florida College Savings Program**
**June 14, 2017**

## AUTHORITY

All investments made under this plan are made under the authority granted the Florida Prepaid College Board ("Board") under 1009.973, Florida Statutes. All funds managed by the Board are funds of the State of Florida.

## PURPOSE

The Florida College Savings Program ("Savings Program" or "Program") is a program created to provide a medium through which families and individuals may save for qualified educational expenses. The Savings Program is intended to be an alternative to the Prepaid Program, though participants in the Savings Program do have the option to enroll a qualified beneficiary in the Savings Program, the Prepaid Program, or both. The Program is administered by the Florida Prepaid College Board which was created pursuant to Section 1009.981 of the Florida Statutes.

## BOARD RESPONSIBILITIES

The Board has the authority and the responsibility to control and manage the investment offerings under the Savings Program, and to formulate and oversee investment policies for that purpose.

Other specific responsibilities of the Board under this Comprehensive Investment Plan ("CIP") include:

- Delegating specific administrative and operational responsibilities dealing with the investment of Program assets to the Executive Director or his/her staff.

- Establishing and periodically reviewing the appropriateness of the range of options offered to participants in the Program.

- Approving changes to this CIP.

- Monitoring compliance with this CIP.

- Appointing and terminating investment managers and other service providers to the Program.

- Reviewing periodically the performance of the investment managers.

## INVESTMENT OPTIONS

The number and range of investment options offered to Program participants will be reviewed by the Board at least annually. The decision to offer additional options will take into account the growth of the Program, industry trends, administrative feasibility, diversification and costs associated with adding options. Permitted investment vehicles for any of the investment options include, but are not limited to separately managed account, a pooled or commingled account, or a mutual fund.

The Board has elected to provide Program participants the following investment options:

Option 1 – a large cap growth investment fund designed to provide exposure to large capitalization domestic growth stocks.

Option 2 – a large cap value investment fund designed to provide exposure to large capitalization domestic value stocks.

Option 3 – a large cap investment fund designed to provide exposure to large capitalization domestic stocks by tracking the returns of the S&P 500 as closely as possible.

Option 4 – a mid cap investment fund designed to provide exposure to middle capitalization domestic stocks.

Option 5 – a small cap investment fund designed to provide exposure to small capitalization domestic stocks.

Option 6 – an international investment fund designed to provide exposure to international stocks in developed international markets.

Option 7 – a fixed income investment fund designed to mirror the broad domestic bond market.

Option 8 – a money market investment fund designed to provide exposure to very liquid short-term fixed income instruments.

Option 9 – an equity investment fund with a twenty percent allocation to domestic large capitalization growth equity (Option 1), twenty percent to a domestic large capitalization value equity portfolio (Option 2), twenty percent to a U.S. large capitalization index portfolio (Option 3), ten percent to a domestic mid cap portfolio (Option 4), ten percent to a domestic small capitalization portfolio (Option 5) and twenty percent to an international equity portfolio (Option 6). Option 9 will be rebalanced to these target weights on a periodic basis, according to the parameters outlined in the rebalancing section of this CIP.

Option 10 – a balanced investment option which will consist of a 50/50 mix of fixed income (Option 7) and equity (Option 9). Option 10 will be rebalanced to the targeted asset mix on a periodic basis, according to the parameters outlined in the rebalancing section of this CIP.

Option 11 – a combination of fixed income (Option 7) and equity (Option 9) based on the age of the beneficiary or the number of years remaining before the beneficiary plans to enroll in college. The chart below describes the targeted asset allocations based on the participant's age or years to enrollment.

Option 11: Allocation between fixed income (Option 7) and equity (Option 9)

| | | Asset Allocation | |
|---|---|---|---|
| Aged-Based Option | Years to Enrollment | Option 7 | Option 9 |
| Age 0 – 4 | 14 or more years | 0% | 100% |
| Age 5 – 8 | 10 – 13 years | 25% | 75% |
| Age 9 – 12 | 6 – 9 years | 50% | 50% |
| Age 13 – 15 | 3 – 5 years | 75% | 25% |
| Age 16 & above | 0 – 2 years | 100% | 0% |

**REPORTING**

The Executive Director will cause monthly flash reports and detailed quarterly reports of the investment performance of each investment option to be prepared for review by the Board.

To ensure that the Executive Director and the Board have the necessary information to discharge their oversight responsibility, the quarterly reports will include the following:

Investment results for each investment option will be reported each quarter for the most recent completed quarter, calendar year-to-date, most recent twelve month period and cumulatively from inception showing returns relative to appropriate market benchmarks. Returns will be reported on a time weighted basis. At a minimum, the report will contain the following items:

1. Performance Measurement and Attribution

   - Performance of each investment option relative to its stated benchmark will be reported.

   - The performance of each underlying sub-portfolio will be reported relative to its stated benchmark.

   - An attribution analysis of each investment option and sub-portfolio will be provided.
     - Fixed income attribution will include effects of changes in interest rates, sector and quality decisions and reinvestment rate.
     - Equity attribution will include such factors as sector and industry weights, beta, company size, yield and growth in earnings.
     - The attribution analysis will also account for any deviations in asset class or style weights from the targeted portfolio weights.

   - Returns for each manager will also be evaluated on a risk-adjusted basis.

2. Compliance and Monitoring

- The allocation of each investment option will be reported to ensure allocation guidelines are met.

- Asset holdings will be reported to ensure investments are being made only in authorized securities and investment vehicles.

- Each manager will certify *monthly* that their portfolio is in compliance with the terms of this CIP and their specific investment mandate, as well as any applicable prospectus and Statement of Additional Information. Any exceptions to policy will be noted and a statement provided indicating the steps to be taken to bring the portfolio back into compliance with the policy.

- Each manager will be monitored based upon the performance objectives as outlined in this Comprehensive Investment Plan.

- Each manager shall immediately disclose to the Board in writing any instance which a member of the investment manager’s Board of Directors, an officer of the investment management firm, or a member of the portfolio management staff is also a member of the Board of Directors, an officer of, or a significant shareholder of 5% or more in stocks of a company in which they propose to invest Board funds. In addition, the Board’s investment consultant and the trustee/custodian shall annually certify that no conflicts of interest exist with respect to the services they provide to the Program and shall annually provide the Board with a copy of the firm’s policy governing conflicts of interest. The requirements of this paragraph do not apply with respect to the common stock of the manager responsible for investment of the large capitalization core domestic equity portfolio (or the common stock of the manager's holding company) when the manager's common stock (or that of its holding company) is included in the S&P 500; provided that, prior to the initial purchase of the manager’s common stock (or that of its holding company), the manager notifies the Board in writing that the manager's common stock (or that of its holding company) is included or has been included, in the S&P 500.

- Commingled or Mutual Funds - The Board may approve the use of pooled vehicles such as mutual funds or commingled funds to achieve the objectives and asset allocation strategy with the understanding that the investment policy stated in the mutual fund’s prospectus or the commingled fund’s participation agreement supersedes the guidelines set forth in this CIP.

## AUTHORIZED INVESTMENT VEHICLES

Funds managed by the Florida Prepaid College Board may be placed in the following accounts or investments:

1. Deposit accounts and certificates of deposit in banks.

2. Obligations of United States Treasury, including Treasury Inflation Protection (TIPs) bonds.

3. Obligations of agencies of the United States Government (not restricted to full faith and credit obligations).

4. Commercial paper of prime quality of the highest letter and numerical rating established by a nationally recognized rating service.

5. Bankers' acceptances that are accepted by a member bank of the Federal Reserve System.

6. Corporate debt obligations preferred stock, mortgage-backed, commercial mortage-backed, and asset-backed securities, provided the obligations meet the minimum credit criteria set forth elsewhere in this CIP.

7. Institutional investment products including fixed annuities, variable annuities and guaranteed insurance contracts that are obligations of United States insurance companies.

8. Common stocks traded on domestic exchanges, including over-the-counter markets and recognized third and fourth markets.

9. Common stocks of foreign-domiciled companies traded on non-U.S. exchanges including over-the-counter markets.

10. Collateralized repurchase agreements for which the underlying securities are obligations of the United States Treasury or agencies of the United States Government.
11. Commingled investment funds and mutual funds.

12. American Depositary Receipts, 144(a) securities (with registration rights), and Yankee bonds (including sovereign bonds issued in USD).

13. Municipal Bonds issued or guaranteed by U.S. local, city, and state governments and agencies including Build America Bonds (BABs).

14. Exchange Traded Funds (ETF’s), traded on domestic exchanges, so long as consistent with the investment mandate, and guidelines.

15. Mortgage TBAs (“To Be Announced”) securities. These securities require an equivalent amount of cash equivalents set aside for future settlement of the forward agreement.

16. Derivatives: In general, the following uses of derivatives are approved for portfolio management purposes, although specific written permission must be granted to each manager on a case-by-case basis in formal written account guidelines.

- Substitute for physical
- Duration management
- Risk control
- Foreign currency hedging

Before a derivative security or derivative strategy is used by an investment manager, one or more of the following benefits must be demonstrated to the Board:

- Increased liquidity.
- Stabilized and enhance portfolio returns.
- Lower transaction costs, including market impact costs.
- Reduction in the time required to change the mix of the portfolio.

Before any such derivative strategy is used by an Investment Manager, written permission for such use must be obtained from the Executive Director of the Prepaid Board.

**PROHIBITED INVESTMENT VEHICLES AND GENERAL INVESTMENT RESTRICTIONS**

1. Short selling of securities is prohibited

2. Maximum investment in the securities of any issuer, except U.S. Treasury or Agency or repurchase agreements collateralized by U.S. Treasury or Agency securities, is the greater of 5% of the market value of the fund, or 2% greater than the appropriate benchmark weight.

3 Debt obligations and preferred stock must be investment grade, as rated by one established nationally recognized rating service.

4 The following derivative strategies and derivative instruments are considered inappropriate and therefore not permitted for use in the managing of assets for the Florida College Savings Program:

- Derivatives use for speculative purposes.
- Derivatives that leverage the account
- Commodity options, swaps or other derivatives based on commodities.

**INVESTMENT MANAGER SELECTION AND EVALUATION**

Appropriate selection criteria will be used in the process of selecting investment managers/funds. Though not exhaustive, below is a list of considerations:

- Impact on asset class diversification. The characteristics of the potential investment option(s) relative to the characteristics of the existing options will be evaluated to determine the impact on participants' ability to diversify within a risk/reward spectrum.

- Adherence to designated style.

- Reasonable and competitive expense levels.

- Investment performance characteristics. Funds will have a record of performing well compared to peer groups and relevant published market indices. A minimum of a three year performance history is desirable for the assessment of manager skill.

The performance of each investment option will be evaluated in the context of its role in the array of options offered to Program participants. The Board shall evaluate investment performance over a sufficient time horizon, and in the context of the prevailing market environment, in order to properly assess the investment manager's success or failure. In general, a three to five-year time horizon will be used to evaluate a manager's attainment of agreed-upon goals. On an interim basis, portfolio risk and investment performance will be monitored continually to ensure that the management of Program assets remains consistent with the style and objective for each investment option.

At a minimum, investment manager reviews will include a quarterly quantitative performance review conducted by the Program's consultant. Specific evaluation criteria are stated in the investment guidelines that have been individually prepared for each investment option pursuant to its specific role in the Program. As necessary, the evaluation may also include an annual site visit to review each portfolio manager's operations. This portion of the evaluation may be conducted by a member of the Board, the Investment Committee, or Board Staff, as may be designated either by the Board or the Investment Committee.

## REBALANCING

In order to maintain the level of risk the Board has established for each respective option, the asset class allocation within Option 9 and Option 10 will be monitored monthly and rebalanced to the specified target when the allowable ranges are exceeded. The portfolio should be brought back into compliance within five business days. The following ranges will apply:

| Option 9 | Targeted Weight | Allowable Range |
|---|---|---|
| Growth Portfolio | 20.00% | 17.00% - 23.00% |
| Value Portfolio | 20.00% | 17.00% - 23.00% |
| Index Portfolio | 20.00% | 17.00% - 23.00% |
| Mid Cap Portfolio | 10.00% | 8.00% - 12.00% |
| Small Cap Portfolio | 10.00% | 8.00% - 12.00% |
| International Equity Portfolio | 20.00% | 17.00% - 23.00% |

| Option 10 | Targeted Weight | Allowable Range |
|---|---|---|
| Equity Portfolio (Option 9) | 50% | 48 – 52% |
| Fixed Income Portfolio (Option 7) | 50% | 48 – 52% |

In addition, portfolio balances within Option 11 will require rebalancing both with respect to the equity / fixed income mix within each age bracket and with respect to the targeted mix as a beneficiary moves from one age bracket to the next.

The following ranges will apply to each of the age brackets within Option 11:

| Age Bracket | Years to Enrollment | Targeted Equity Allocation | Allowable Equity Range | Targeted Fixed Income Allocation | Allowable Fixed Income Range |
|---|---|---|---|---|---|
| 0 – 4 years | 14 or more years | 100% | 98 - 100% | 0% | 0 – 2% |
| 5 – 8 years | 10 – 13 years | 75% | 73 – 77% | 25% | 23 – 27% |
| 9 – 12 years | 6 – 9 years | 50% | 48 – 52% | 50% | 48 – 52% |
| 13 – 15 Years | 3 – 5 years | 25% | 23 – 27% | 75 % | 73 – 77 % |
| Age 16 & above | 0 – 2 years | 0% | 0 – 2% | 100% | 98 - 100% |

Beneficiary account balances shall be moved to the next age bracket on the day following their birthdate during which they reach age 5, 9, 13 and 16. Accounts established based on the year's to enrollment option will move to the next age bracket on the day following the beneficiaries birthdate when their projected enrollment year is 13, 9, 5 and 2 years from enrollment in college.

**IMPLEMENTATION**

All assets invested for the Program by the Investment Manager(s) after the adoption of this CIP shall conform to this Statement.

The following portfolio-specific guidelines have been established to:

1. Ensure that the managers continually adhere to all regulations administered by any regulatory authority charged with oversight responsibility

2. Limit the Program's exposure to unintended risks

3. Ensure that each investment option adheres to its specific objectives

4. Communicate objective, reasonable criteria of the Board's expectations to the managers.

The following sections contain the investment guidelines and policies for each option of the Florida College Savings Program:

**OPTION 1**
**LARGE CAP GROWTH PORTFOLIO**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The objective of the Large Cap Growth Portfolio is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in equity investments.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of not more than five percent.

## INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to five percent of the portfolio in initial public offerings that have been spun off by a company for which there is an adequate history and that has at least $1 billion in market capitalization. Further, the parent must have been previously listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX) or have been traded on the National Association of Securities Dealer's Automated Quotation system (NASDAQ) or other recognized domestic exchange. If, through spin-offs or other activities of the companies held, the portfolio exceeds five percent of holdings with less than three years operating history, the manager will bring the portfolio into compliance within a six-month period.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the Russell 1000 Growth Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be in compliance with the Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States or in other, recognized domestic markets.

4. Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the Comprehensive Investment Plan (CIP).

## RESTRICTED INVESTMENTS

1. Use of margin is prohibited.

2. Use of options, futures or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

## PERFORMANCE OBJECTIVES

<u>Passive Managers</u>

- A passive manager's performance is expected to meet the Russell 1000 Growth Index, or other agreed-upon investible benchmark representing the large cap growth market.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

<u>Active Managers</u>

Manager performance shall be reviewed relative to the Russell 1000 Growth Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the Russell 1000 Growth Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the Russell 1000 Growth Index is expected to rank below the highest quartile of managers in the Large Cap Growth peer group over rolling three year time periods.

**OPTION 2**
**LARGE CAP VALUE PORTFOLIO**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The objective of the Large Cap Value Portfolio is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in equity investments.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of not more than five percent.

## INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to five percent of the portfolio in initial public offerings that have been spun off by a company for which there is an adequate history and that has at least $1 billion in market capitalization. Further, the parent must have been previously listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX) or have been traded on the National Association of Securities Dealer's Automated Quotation system (NASDAQ), or in other, recognized domestic markets. If, through spin-offs or other- activities of the companies held, the portfolio exceeds five percent of holdings with less than three years operating history, the manager will bring the portfolio into compliance within a six-month period.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the Russell 1000 Value Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be in compliance with the Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the Comprehensive Investment Plan (CIP).

## RESTRICTED INVESTMENTS

1. Use of margin is prohibited.

2. Use of options, futures or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

## PERFORMANCE OBJECTIVES

<u>Passive Managers</u>

- A passive manager's performance is expected to meet the Russell 1000 Value Index, or other agreed-upon investible benchmark representing the large cap value market.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

<u>Active Managers</u>

Manager performance shall be reviewed relative to the Russell 1000 Value Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the Russell 1000 Value Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the Russell 1000 Value Index is expected to rank below the highest quartile of managers in the Large Cap Value peer group over rolling three year time periods.

**OPTION 3**
**LARGE CAP CORE PORTFOLIO**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The objective of the Large Cap Core Portfolio is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in equity investments

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of not more than five percent.

## INVESTMENT GUIDELINES

1. The Manager shall be permitted to invest in any securities which are a part of the S&P 500, without regard for the constraint within this policy prohibiting or restricting the ownership of companies with less than a 3 year publicly available operating history. If the Manager’s common stock (or the common stock of the Manager’s holding company) is included in the S&P 500, the Manager is permitted to purchase, retain and sell the Manager’s common stock (or the common stock of the manager’s holding company), consistent with the other requirements, guidelines, restrictions and performance objectives applicable to this portfolio and the reporting requirements imposed on Managers.

2. The Manager shall be permitted to invest in any securities which are a part of the S&P 500, without regard for the preference within this policy for investments to be made in United States based corporations. There shall be no limit on the percent of the portfolio held in American Depository Receipts, provided those same companies are included in the S&P 500 as American Depository Receipts.

3. The use of futures as a substitute for physical investing, or to facilitate cash flows shall be permitted for this portfolio, provided the manager receives prior written approval from the Board. In order to obtain such approval, the manager must submit a written request to the Board, quantifying the net advantages that will accrue to the portfolio.

4. The Manager may temporarily invest in companies outside of the index in the case of additions or deletions, with the goal of minimizing tracking error and/or reducing trading costs.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the Comprehensive Investment Plan (CIP).

## RESTRICTED INVESTMENTS

1. The use of futures will be permitted subject to the restrictions imposed by Paragraph 16 (entitled "Derivatives") in the "Authorized Investment Vehicles" section.

2. Use of margin is prohibited except as may be required in the use of futures.

3. Convertible securities shall not be allowed for investment purposes.

## PERFORMANCE OBJECTIVES

<u>Passive Managers</u>

Manager performance shall be reviewed relative to the S&P 500, over any three to five year period, taking into consideration the following:

- The manager's performance is expected to meet the S&P 500 Index.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the S&P 500 of less than 25 basis points.

<u>Active Managers</u>

Manager performance shall be reviewed relative to the S&P 500 Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the S&P 500 Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the S&P 500 Index is expected to rank below the highest quartile of managers in the Large Cap Value peer group over rolling three year time periods.

## OPTION 4
## MID CAP PORTFOLIO
## INVESTMENT GUIDELINES

### OBJECTIVE

The objective of the Mid Cap Portfolio is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in equity investments.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of not more than five percent.

### INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to ten percent of the portfolio in initial public offerings of companies that have at least two years of audited financial statements and have been profitable (from continuing operations) for at least one of the last two years.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the S&P MidCap 400 Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States or in other, recognized domestic markets.

### CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. Use of margin is prohibited.

2. Use of options, futures, or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

## PERFORMANCE OBJECTIVES

Passive Managers

- A passive manager's performance is expected to meet the S&P 400 Index, or other agreed-upon investible benchmark representing the mid cap U.S. equity market.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

Active Managers

Manager performance shall be reviewed relative to the S&P MidCap 400 Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the S&P MidCap 400 Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the S&P MidCap 400 Index is expected to rank below the highest quartile of managers in the MidCap Broad peer group over rolling three year time periods.

## OPTION 5
## SMALL CAP PORTFOLIO
## INVESTMENT GUIDELINES

### OBJECTIVE

The objective of the Small Cap Portfolio is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in equity investments.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of not more than five percent. Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein:

### INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to ten percent of the portfolio in initial public offerings of companies that have at least two years of audited financial statements and have been profitable (from continuing operations) for at least one of the last two years.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the Russell 2000 Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be in compliance with the Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States or in other, recognized domestic markets.

### CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the Comprehensive Investment Plan (CIP).

**RESTRICTED INVESTMENTS**

1. Use of margin is prohibited.

2. Use of options, futures or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

**PERFORMANCE OBJECTIVES**

Passive Managers

- A passive manager’s performance is expected to meet the Russell 2000 Index, or other agreed-upon investible benchmark representing the small cap U.S. equity market.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

Active Managers

Manager performance shall be reviewed relative to the Russell 2000 Index, over any three or more year period of time, taking into consideration the following:

- The manager’s performance, net of fees, is expected to exceed the Russell 2000 Index, taking into consideration the degree of risk.

- The manager’s performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager’s tracking error relative to the Russell 2000 Index is expected to rank below the highest quartile of managers in the Small Cap peer group over rolling three year time periods.

**OPTION 6**
**INTERNATIONAL EQUITY PORTFOLIO**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The objective of the International Equity Portfolio is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in equity investments.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of not more than five percent.

## INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to five percent of the portfolio in initial public offerings that have been spun off by a company for which there is adequate history of audited financial statements. If, through spin-offs or other activities of the companies held, the portfolio exceeds five percent of holdings with less than three years operating history, the manager will bring the portfolio into compliance within a six-month period.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the MSCI EAFE Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. The use of currency futures and currency forwards will be permitted subject to the restrictions imposed by Paragraph 16 (entitled "Derivatives") in the "Authorized Investment Vehicles" section.

2. Use of options, futures, forwards or any other types of derivative securities that are not used for currency hedging purposes are prohibited.

3. Use of margin is prohibited except as may be required in the use of currency futures or forwards.

4. Securities not domiciled, incorporated, or traded in a benchmark country.

## PERFORMANCE OBJECTIVES

<u>Passive Managers</u>

- A passive manager's performance is expected to meet the MSCI EAFE Index, or other investible benchmark representing the broad developed international equity markets.

- The beta of the portfolio relative to the index over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index, of less than 30 basis points.

<u>Active Managers</u>

Manager performance shall be reviewed relative to the MSCI EAFE Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the MSCI EAFE Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the MSCI EAFE Index is expected to rank below the highest quartile of managers in the International Equity peer group over rolling three year time periods.

## OPTION 7
## FIXED-INCOME
## INVESTMENT GUIDELINES

### OBJECTIVE

The objective of the fixed income option is to provide participants with a low risk, low volatility option for saving for college expenses. It is expected that this option will be used by those participants with a short horizon to matriculation or with little appetite for short term investment volatility.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times. However, cash holdings may represent an integral part of the manager's desired portfolio structure. Therefore, for purposes of this constraint, cash will be defined as securities with a duration of less than three months and the manager shall be allowed a maximum cash position of not more than five percent.

### INVESTMENT GUIDELINES

- Fixed income investments will be made only in dollar-denominated securities traded in domestic markets.

- The portfolio shall maintain a coefficient of determination ($R^2$) to the Barclays Capital Aggregate Index of not less than .90 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be in compliance with the Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

### RESTRICTED INVESTMENTS

1. Use of margin is prohibited except as may be required in the use of futures, options and swaps.

2. Other than futures, options and swaps, the use of derivative securities that have not been specifically approved by the Board is prohibited.

3. Convertible securities shall not be considered for investment.

**PERFORMANCE OBJECTIVES**

Passive Managers

- For passive managers, the manager's performance is expected to meet the Barclays Capital Aggregate Index.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 15 basis points.

Active Managers

Manager performance shall be reviewed relative to the Bloomberg Barclays Capital Aggregate Index over any three to five year period, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the Bloomberg Barclays Capital Aggregate Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The effectiveness of the manager's duration, sector and security allocations will be reviewed to determine if the manager has demonstrated, on a total return basis, the ability to add value above the Index.

**OPTION 8**
**MONEY MARKET OPTION**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The Money Market option seeks high current income consistent with liquidity, interest income and capital preservation.

## ASSET ALLOCATION

The assets of each participant's account will be invested in Option 8 in accordance with the guidelines described under the "Investment Options" section of this CIP.

## INVESTMENT GUIDELINES

The Money Market Option may invest in highly liquid money market instruments and fixed income securities with maturities not to exceed two years. The average portfolio maturity is not to exceed 6 months, notwithstanding the objective of preservation of capital. The minimum rating criteria for securities to be purchased in this paper are A1/P1 or an equivalent rating by two nationally recognized rating services.

## PERFORMANCE OBJECTIVES

The performance of the money market fund shall be reviewed against a composite 91 day Treasury Bills index and a universe of other money market funds.

**OPTION 9**
**EQUITY OPTION**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The objective of the equity option is to provide participants an opportunity for meaningful growth of capital over a long investment horizon through participation in diversified equity investments. Participants invest in a pre-packaged equity option diversified across investment styles and market capitalization.

## ASSET ALLOCATION

Option 9 will be a diversified allocation of twenty percent allocated to a domestic large capitalization growth portfolio (Option 1), twenty percent to a domestic large capitalization value portfolio (Option 2), twenty percent to a U. S. large capitalization index portfolio (Option 3), ten percent to a mid-capitalization portfolio (Option 4), ten percent allocated to a small capitalization portfolio (Option 5) and twenty percent allocated to an international equity portfolio (Option 6).

Allocations to the underlying equity portfolios will be rebalanced periodically according to the rebalancing guidelines specified the rebalancing section of this CIP.

## INVESTMENT GUIDELINES

The investment guidelines under Options 1 through 6, above, will apply to each respective portion of Option 9.

## PERFORMANCE OBJECTIVES

The performance objectives specified in Options 1 through 6, above, will apply to each respective portion of Option 9.

**OPTION 10**
**BALANCED OPTION**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The objective of the balanced investment option is to provide participants with an opportunity to generate long term growth of capital, but with less short-term volatility than the all-equity investment option.

## ASSET ALLOCATION

Option 10 will be a blend of fixed income (Option 7) and equity (Option 9) and is expected to be fully invested at all times, relying on the manager's ability to generate return through interest rate anticipation and security selection, not through the timing of market movements. Allocations to the underlying fixed income and equity portfolios will be rebalanced periodically according to the rebalancing guidelines specified the rebalancing section of this CIP.

## INVESTMENT GUIDELINES

The investment guidelines under Options 7 and 9, above, will apply to each respective portion of Option 10.

## PERFORMANCE OBJECTIVES

The performance objectives specified in Options 7 and 9, above, will apply to each respective portion of Option 10.

**OPTION 11**
**AGE-BASED**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The age-based investment option is intended to provide Program participants with an asset allocation profile that links the amount of volatility in the portfolio directly to the investment horizon of the participant. As the participant approaches the date at which account balances will be used for college expenses, a lower tolerance for risk is assumed and the equity component of the portfolio is reduced accordingly.

## ASSET ALLOCATION

The assets of each participant's account will be invested in fixed income (Option 7) and equity (Option 9) in accordance with the guidelines described under the "Investment Options" section of this CIP. The Board may periodically request a review to ensure that participant balances are managed in accordance with these guidelines.

## INVESTMENT GUIDELINES

The investment guidelines specified in Options 7 and 9, above, will apply to each account balance maintained under Option 11.

## PERFORMANCE OBJECTIVES

The performance objectives specified in Options 7 and 9, above, will apply to each account balance maintained under Option 11.

**Florida Prepaid College Board**
**Comprehensive Investment Plan**
***for the***
**Stanley G. Tate Florida Prepaid College Program**
**June 14, 2017**

## AUTHORITY

All investments made under this plan are made under the authority granted the Florida Prepaid College Board under Section 1009.973, Florida Statutes. All funds managed by the Board are funds of the State of Florida.

## PURPOSE

The Stanley G. Tate Florida Prepaid College Program (the Program) is a program created pursuant to Section 1009.98 of the Florida Statutes to provide a medium through which the cost of a state postsecondary education may be paid in advance of enrollment at a rate lower than the projected corresponding cost at the time of actual enrollment. The Program is administered by the Florida Prepaid College Board (the Board), which was created pursuant to Section 1009.97 of the Florida Statutes.

The policy goals of this Comprehensive Investment Plan (CIP) are established as follows in the priority listed. These goals are:

1. Safety
2. Liquidity
3. Yield

The sole purpose of the investment program is to meet the forecasted actuarial liability projections. In pursuing the objective of meeting the forecasted liabilities, the primary policy goal is the safety in the Program's ability to meet the forecasted liabilities. The goals of safety must be met by the limitation of risk through portfolio allocation based on liability requirements, diversification within asset classes, credit quality guidelines and investment operating procedures.

A second and equally important portfolio objective is giving adequate consideration to the liquidity requirements necessitated by the Program obligations. Consideration will be given to investment maturities, investment income and funds receipts in calculating funds required for liquidity purposes.

After meeting safety and liquidity requirements, the goals of maximizing investment return will be met. Strategies will be employed to achieve the highest possible net returns within policy guidelines.

The investment strategy is designed to enable the Board to meet actuarially determined Program liabilities, calculated by an independent actuarial consultant firm, and approved by the Board, at the time of funding. By definition, responsibility for financing any divergence of actual liabilities from actuarial assumptions that may result in Program funding deficits belongs to the Legislature. The sole purpose of the Board's CIP is to outline the strategies to be employed to meet forecast actuarial liability projections, and to establish the guidelines under which each investment manager will operate.

## ORGANIZATION

The Board retains ultimate responsibility for the development, execution and control of the CIP. The Board may delegate responsibility for the administration of the CIP to a Committee of the Board or a person duly chosen by the Board. This Committee or person shall ensure that Board policies are strictly followed and that investment procedures, which protect the financial assets of the Program, are in place and properly followed. The Committee will employ the services of a professional consultant to advise it in the pursuit of the investment objectives.

## INVESTMENT MANAGEMENT

The Board will hire duly qualified investment managers to carry out the day-to-day investment responsibilities outlined in the CIP. Investment managers (product providers) will have investment discretion as to security selection subject to the guidelines and limitations expressed in the CIP and any manager-specific guidelines agreed upon between the Board and manager.

## REPORTING

The Executive Director will cause detailed quarterly reports and monthly flash reports of the investment portfolio structure and performance to be prepared for review by the Board.

To ensure that the Executive Director and the Board have the necessary information to discharge their oversight responsibility, the quarterly reports will include the following:

1. Performance Measurement and Attribution

Performance measurement of the Prepaid College Trust Fund (the Fund) shall be reported each quarter for the most recent completed quarter, fiscal year-to-date, most recent twelve-month period and cumulatively from inception showing returns on the assets compared to returns on the customized benchmark index, which approximates the Program's liability requirements. Returns will be reported on a time-weighted basis.

- The performance of the total Fund will be compared against a benchmark comprised of market portfolios representing the underlying investment strategies and weighted in accordance with the Program's asset allocation policy.

- Performance of each asset class will be shown along with an analysis of each manager's contribution to the performance of the asset class.

- Performance of each investment manager and an attribution analysis of that manager's performance will be shown in comparison to benchmarks appropriate to their investment strategy.

  - Fixed Income attribution will include such factors as the effects of changes in interest rates, and sector and quality decisions.
  - Equity attribution will include such factors as sector and industry weights, beta, company size, yield and growth in earnings.

- The performance of each equity manager will also be evaluated relative to a universe of its peers managing similar portfolios and following a similar investment style.

- Returns for each manager and the overall Fund will also be evaluated on a risk-adjusted basis.

  - For individual managers, the risk measurement will be expressed relative to appropriate benchmarks.
  - For each asset class and the overall Fund, the risk measurement will take into consideration any deviation from asset allocation policy and the impact on the funded status of the Program's liabilities.

2. Compliance and Monitoring

- Asset allocation of the Fund and diversification within each asset class will be reported to ensure allocation guidelines are met.

- Projection of sources and uses of funds will be reported to ensure liquidity requirements are met.

- Investment asset holdings will be reported and monitored monthly to ensure investment only in authorized vehicles.

- Each manager will certify *monthly* that their portfolio is in compliance with the terms of this CIP and their specific investment mandate. Any exceptions to policy will be noted and a statement provided indicating the steps to be taken to bring the portfolio back into compliance with the policy.

- Each manager will be monitored based upon the performance objectives outlined in this CIP.

- Each manager shall immediately disclose to the Board in writing any instance which a member of the investment manager's Board of Directors, an officer of the investment management firm, or a member of the portfolio management staff is also a member of the Board of Directors, an officer of, or a significant shareholder of 5% or more in stocks of a company in which they propose to invest Board funds. In addition, the Board's investment consultant and the trustee/custodian shall annually certify that no conflicts of interest exist with respect to the services they provide to the Program and shall annually provide the Board with a copy of the firm's policy governing conflicts of interest. The requirements of this paragraph do not apply with respect to the common stock of the manager responsible for investment of the large capitalization core domestic equity portfolio (or the common stock of the manager's holding company) when the manager's common stock (or that of its holding company) is included in the S&P 500; provided that, prior to the initial purchase of the manager's common stock (or that of its holding company), the manager notifies the Board in writing that the manager's common stock (or that of its holding company) is included or has been included, in the S&P 500.

- Commingled or Mutual Funds - The Board may approve the use of pooled vehicles such as mutual funds or commingled funds to achieve the objectives and asset allocation strategy with the understanding that the investment policy stated in the mutual fund's prospectus or the commingled fund's participation agreement supersedes the guidelines set forth in this CIP.

**AUTHORIZED INVESTMENT VEHICLES**

Funds managed by the Board may be placed in the following accounts or investments:

1. Deposit accounts and certificates of deposit in banks.

2. Obligations of the United States Treasury, including Treasury Inflation Protection (TIPs) bonds.

3. Obligations of agencies of the United States Government (not restricted to full-faith and credit obligations).

4. Commercial paper of prime quality of the highest letter and numerical rating established by a nationally recognized rating service.

5. Bankers' acceptances that are accepted by a member bank of the Federal Reserve System.

6. Corporate debt obligations, preferred stock, mortgage-backed securities, commercial mortgage-backed securities, and asset-backed securities, provided the obligations meet the minimum credit criteria set forth elsewhere in this CIP.

7. Municipal securities including Build America Bonds (BABs), limited to General Obligation or Essential Services bonds, provided the obligations meet the minimum credit criteria set forth elsewhere in this CIP.

8. Institutional investment products including fixed annuities, variable annuities and guaranteed insurance contracts that are obligations of United States insurance companies.

9. Common stocks traded on domestic exchanges, including over-the-counter markets and recognized third and fourth markets.

10. Common stocks of foreign-domiciled companies traded on non-U.S. exchanges including over-the-counter markets.

11. Collateralized repurchase agreements for which the underlying securities are obligations of the United States Treasury or agencies of the United States Government.

12. Commingled investment funds and mutual funds.

13. American Depositary Receipts, 144(a) securities (with and without registration rights), and non-corporate bonds (including supranationals, sovereign and foreign bonds issued in USD).

14. Exchange Traded Funds (ETF's) traded on domestic exchanges, so long as consistent with the investment mandate, and guidelines.

15. Mortgage TBAs ("To Be Announced") securities. These securities require an equivalent amount of cash equivalents set aside for future settlement of the forward agreement.

16. Derivatives: In general, the following uses of derivatives are approved for portfolio management purposes, although specific written permission must be granted to each manager on a case-by-case basis in formal written account guidelines.

- Substitute for physical
- Duration management
- Risk control
- Foreign currency hedging

Before a derivative security or derivative strategy is used by an investment manager, one or more of the following benefits must be demonstrated to the Board:

- Increased liquidity.
- Stabilized and enhance portfolio returns.
- Lower transaction costs, including market impact costs.
- Reduction in the time required to change the mix of the portfolio.

Before any such derivative strategy is used by an Investment Manager, written permission for such use must be obtained from the Executive Director of the Prepaid Board.

Investment managers must keep in mind at all times the Board's preference for safety and liquidity.

**PROHIBITED INVESTMENT VEHICLES AND GENERAL INVESTMENT RESTRICTIONS**

1. Short selling of securities is prohibited.

2. Maximum investment in the securities of any issuer, except U.S. Treasury, Agency, Agency Mortgage-Backed Securities, or repurchase agreements collateralized by U.S. Treasury or Agency securities, is the greater of 5% of the market value of the total Fund, or 2% greater than the appropriate benchmark weight.

3. Debt obligations and preferred stock may not be rated less than Baa3 by Moody's, or BBB- by Standard & Poor's or Fitch at the time of purchase. Split-rated bonds will be governed by the Barclays Capital Index Inclusion Rules across the three rating agencies. Debt obligations with Expected Ratings are permissible unless the Actual Rating causes the security to be out of compliance with the above guideline.

4. The following derivative strategies and derivative instruments are considered inappropriate and therefore not permitted for use in the managing of assets for the Florida Prepaid College Program.

   - Derivatives use for speculative purposes.
   - Derivatives that leverage the account.
   - Commodity options, swaps or other derivatives based on commodities.

## ASSET ALLOCATION POLICY

The Fund shall maintain an asset allocation such to maximize the probability of meeting the Program's liabilities over the long term. An asset / liability study shall be conducted once every five years, and more often if warranted by a material change in the underlying liabilities or the investment environment. Taking into consideration the results of the asset liability study and the recommendations of the Program's consultants, the Board will adopt an asset allocation which properly reflects its attitude towards the balancing of risk and return. The Board at this time has adopted an asset allocation policy which limits the amount of equities to fifteen percent (15%) of the market value of the total Fund, or the most current actuarial reserve balance as determined by the Board's actuary, whichever is less. The Fund's principal objective in asset allocation is that of asset/liability matching. An immunized fixed income strategy emphasizing zero coupon U.S. Treasury issues is the dominant investment strategy employed to meet these goals. Other fixed income investments may be used in limited amounts to seek incremental yield. Actuarial reserve assets may be invested in other asset classes as directed by the Board.

The benchmarks for monitoring investment performance of the total Fund and asset class level shall be:

| Asset Category | Allocation | Range | Corresponding Index |
|---|---|---|---|
| Total Fund | | | A policy-weighted blend of the Customized Equity and Immunized Fixed Income Benchmarks |
| Equities | Actuarial Reserve | 0 – 15% | 80% Russell 3000 and 20% MSCI EAFE |
| Immunized Fixed Income | Up to 100% | 85 – 100% | Customized Benchmark |
| Cash | 0% | 0 – 5% | 90-day US Gov't T-bills |

The Customized Fixed Income Benchmark will be reconstituted annually using the June 30 liability profile as determined by the Program's actuary. The duration of the benchmark and the pattern of its cash flows will mirror that of the Program's liabilities. The benchmark is comprised of United States Treasury Strip securities, Bloomberg Barclays Capital U.S Corporate Index, and Bloomberg Barclays Capital U.S. Mortgage-Backed Securities Index, and other Authorized Investment Vehicles as defined in the CIP.

At no time shall the allocation to the fixed income segment of the Fund be less than at a fully funded status net of projected payments from participants. That is, the fixed income segment shall always be greater than or equal to the total Fund value or actuarial liability minus projected cash flows from the participants, whichever is less.

The total equity segment of the Fund, and each of its components shall be constructed using one or more investment manager or products such that in the aggregate the equity component is capitalization and style neutral to its corresponding Customized Equity index.

| Equity Segments | Targeted Weight | Allowable Range |
|---|---|---|
| Growth Portfolio | 20.00% | 0.00% - 25.00% |
| Value Portfolio | 20.00% | 0.00% - 25.00% |
| Index Portfolio | 20.00% | 0.00% - 75.00% |
| Mid Cap Portfolio | 10.00% | 5.00% - 15.00% |
| Small Cap Portfolio | 10.00% | 5.00% - 15.00% |
| International Portfolio | 20.00% | 15.00% - 25.00% |

Based on the market values of the total Fund as of June 30th as determined by the Board's actuary and after approval by the Board, the allocation of fixed income and equity will be rebalanced no later than September 30$^{th}$ of each year, in order to have the equity component equal fifteen percent (15%) of the total Fund, or the actuarial reserve balance, whichever is less.

In the fixed income segment and subject to Board direction, the allocation to the managers will be rebalanced so that in aggregate the segment is consistent with the customized benchmark.

In the equity segment and in the absence of strong evidence supporting a deviation from these baseline allocations, and subject to Board direction, the allocations to each style and market capitalization of management will be rebalanced in a manner designed to minimize portfolio impact, including transaction costs.

In order to accommodate asset value fluctuations due to short-term economic or market conditions, the asset allocation of the equity segment can vary among asset categories within the ranges noted above. At a minimum, the Board will review the asset allocation and the equity segment targets on a quarterly basis and will make a determination as to whether to rebalance at that time.

In developing this asset allocation policy, the total Fund has been designed to be fully invested, and thus no portion of the Fund has been targeted for cash. However, managers may raise cash balances in accordance with their individual investment guidelines. In the course of operations the Board may deem it appropriate to maintain a cash balance outside of the managers' portfolios in order to meet the Program's liquidity and allocation needs.

**MANAGER SELECTION AND EVALUATION**

The Board has elected to employ multiple investment managers with complementary investment skills and/or styles. As part of this multi-manager structure, managers are hired for their expected contribution to the overall portfolio performance over the various market cycles based on their style, stated strategy, and asset mix. Therefore, the Board shall evaluate manager performance over a sufficient time horizon, and in the context of the prevailing market environment, in order to properly assess each manager's contribution to the overall portfolio. In general, a three or more year period of time will be used to evaluate a manager's success or failure at attaining agreed-upon goals. On an interim basis, portfolio risk and investment performance will be monitored continually to ensure that the management of Program assets remains consistent with the style and objective for which the manager was retained.

At a minimum, investment manager reviews will include a quarterly quantitative performance review conducted by the consultant. Specific evaluation criteria are stated in the investment guidelines that have been individually prepared for each manager pursuant to their specific role in the Program's multi-manager strategy. As necessary, the evaluation may also include an annual site visit to review each portfolio manager's operations. This portion of the evaluation will be conducted by a member of the Board or the Investment Committee, as may be designated either by the Board or the Investment Committee.

**IMPLEMENTATION**

All money invested for the Program by the investment managers after the adoption of this Comprehensive Investment Plan shall conform to this Statement.

The following guidelines have been established: (1) to ensure that the manager continually adheres to all regulations administered by any regulatory authority charged with oversight responsibility; (2) to limit the Fund's exposure to unintended risk; (3) to ensure that the manager maintains the style of management for which they were retained; and (4) to provide objective, reasonable criteria to the manager of the Board's expectations.

**PART I**
**PASSIVE FIXED INCOME**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The Board has chosen to employ a multi-manager fixed income investment strategy. In order to reduce the relative volatility of the actively managed portfolios and control overall investment management costs, an allocation to passive fixed income management is maintained. The objective of this component of the portfolio is to replicate the returns of the Customized Benchmark which consists of U.S. Treasury Strips, BC Corporate Index, and BC Fixed-Rate Mortgage-Backed Index.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times.

## PASSIVE FIXED INCOME GUIDELINES

1. The portfolio will be managed in a manner that protects the Program's funded status relative to changes in its projected liabilities due to changes in interest rates. Therefore, the primary purpose of the portfolio shall be on limiting actuarial reserve volatility.

2. The guidelines permit, within the framework and limitations of the broader CIP, all securities eligible for inclusion in the indices which comprise the Customized Benchmark.

3. The total duration of the portfolio shall not differ from the total duration of the benchmark by more than +/- one-quarter of one year.

4. The individual number of holdings in the portfolio shall be sufficient enough to minimize the near-term tracking error relative to the Customized Benchmark.

5. Sector allocations shall be made consistent with the sector weights within the Customized Benchmark.

6. Any cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. The use of futures, options and swaps will be permitted subject to the restrictions imposed by “AUTHORIZED INVESTMENT VEHICLES” Paragraph 16.

## PERFORMANCE OBJECTIVES

Manager performance shall be reviewed relative to the Customized Benchmark over any three or more year period of time, taking into consideration the following:

- The manager's performance is expected to meet the Customized Benchmark.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the Customized Benchmark of less than 10 basis points.

## PART II
## ACTIVE FIXED INCOME
## INVESTMENT GUIDELINES

### OBJECTIVE

Fixed income managers will be retained as part of a multi-manager investment strategy. Their function within this strategy is to manage an enhanced immunized fixed-income portfolio.

The enhanced immunization style of management shall mean that the manager shall immunize the liabilities of the Program by structuring the assets in such a way that the value of the Program's assets increase (decreases) in conjunction with increases (decreases) with the value of the liabilities due to the changes in interest rates. The manager shall be permitted to attempt to add value to the portfolio relative to the liabilities through modest duration and yield management and through active sector and security selection, to the extent permitted by this policy.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times. However, cash holdings may represent an integral part of the manager's desired portfolio structure. Therefore, for purposes of this constraint cash will be defined as securities with a duration of less than three months and manager shall be allowed a maximum cash position of not more than five percent.

### ENHANCED IMMUNIZATION GUIDELINES

1. The portfolio will be managed in a manner that protects the Program's funded status relative to changes in its projected liabilities due to changes in interest rates. Therefore, the primary purpose of the portfolio shall be on limiting actuarial reserve volatility.

2. The total duration of the portfolio shall not differ from the total duration of the benchmark by more than +/- three-quarters of one year.

3. Investments in fixed income instruments can be made in sectors and securities as authorized in the CIP.

4. Sector allocations shall be made so that the portfolio is well diversified such that it meets its liability requirements.

5. The maximum investment for any issue, except U.S. Treasury, Agency, and Agency Mortgage-Backed Securities, is the greater of 5% of the portfolio market value or 2% greater than the security’s benchmark weight.

6. The maximum investment in Build America Bonds (BABs) is limited to 2% of the market value of the manager’s portfolio.

7. The maximum investment in 144(a) bonds without Registration Rights is limited to 3% of the market value of the manager’s portfolio.

8. Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

9. The use of futures, options and swaps will be permitted subject to the restrictions imposed by "AUTHORIZED INVESTMENT VEHICLES" Paragraph 16.

10. A maximum allocation of 50% of the market value of the manager's portfolio to corporate debt, asset-backed securities and mortgage backed securities is permitted. On a periodic basis, the Board may set a maximum and minimum allocation each to corporate debt, asset-backed securities and mortgage-backed securities.

**RESTRICTED INVESTMENTS**

1. Use of margin is prohibited except as may be required in the use of futures, options and swaps as permitted in subparagraph 9 of this section.

2. Other than futures, options and swaps, the use of derivative securities that have not been specifically approved by the Board in written form is prohibited.

3. Convertible securities shall not be considered for investment.

**PERFORMANCE OBJECTIVES**

Manager performance shall be reviewed relative to the customized benchmark over any three or more year period of time, taking into consideration the following:

- The active manager's performance, net of fees, is expected to exceed the customized benchmark.

- The effectiveness of the manager's duration, sector and security allocations will be reviewed to determine if the manager has demonstrated, on a total return basis, the ability to add value above the benchmark.

## PART III
## LARGE CAP GROWTH EQUITY
## INVESTMENT GUIDELINES

### OBJECTIVE

The Board hopes to achieve its goal of reducing total portfolio volatility while enhancing total return through diversification of the equity asset class using multiple styles of management. Large cap growth equity manager(s) may be retained as part of a multi-manager investment strategy. For purposes of this CIP, growth is a style that seeks to purchase stocks of companies, which offer the best combination of strong earnings growth and valuation. This allocation will be represented in the policy benchmark by the Russell 1000 Growth Index.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of only five percent. Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein:

### EQUITY INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to five percent of the portfolio in initial public offerings that have been spun off by a company for which there is an adequate history and that has at least $1 billion in market capitalization. Further, the parent must have been previously listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX) or have been traded on the National Association of Securities Dealer's Automated Quotation system (NASDAQ) or other recognized domestic exchange. If, through spin-offs or other activities of the companies held, the portfolio exceeds five percent of holdings with less than three years operating history, the manager will bring the portfolio into compliance within a six-month period.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the Russell 1000 Growth Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States or in other, recognized domestic markets.

4. Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

**RESTRICTED INVESTMENTS**

1. Use of margin is prohibited.

2. Use of options, futures or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

**PERFORMANCE OBJECTIVES**

Active Managers
Manager performance shall be reviewed relative to the Russell 1000 Growth Index, over any three or more year period of time, taking into consideration the following:

- The manager’s performance, net of fees, is expected to exceed the Russell 1000 Growth Index, taking into consideration the degree of risk.

- The manager’s performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager’s tracking error relative to the Russell 1000 Growth Index is expected to rank below the highest quartile of managers in the Large Cap Growth peer group over rolling three year time periods.

Passive Managers

- The manager’s performance is expected to meet the Russell 1000 Growth Index.

- The beta of the portfolio over any three-year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

## PART IV
## LARGE CAP VALUE EQUITY
## INVESTMENT GUIDELINES

### OBJECTIVE

The Board hopes to achieve its goal of reducing total portfolio volatility while enhancing total return through diversification of the equity asset class. Large cap value manager(s) may be retained as part of a multi-manager investment strategy. For purposes of this CIP, value is a style that seeks to purchase stocks in companies generally exhibiting lower price/earnings, lower price/book and higher dividend yield than the average large cap equity. This allocation will be represented in the policy benchmark by the Russell 1000 Value Index.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of only five percent. During periods of market over-valuation, the manager may have difficulty in identifying solid companies that could be purchased within their value style of management. Therefore, asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein:

### EQUITY INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to five percent of the portfolio in initial public offerings that have been spun off by a company for which there is an adequate history and that has at least $1 billion in market capitalization. Further, the parent must have been previously listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX) or have been traded on the National Association of Securities Dealer's Automated Quotation system (NASDAQ), or in other, recognized domestic markets. If, through spin-offs or other activities of the companies held, the portfolio exceeds five percent of holdings with less than three years operating history, the manager will bring the portfolio into compliance within a six-month period.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the Russell 1000 Value Index of not less than .80 over any rolling, five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. Use of margin is prohibited.

2. Use of options, futures or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

## PERFORMANCE OBJECTIVES

Active Managers
Manager performance shall be reviewed relative to the Russell 1000 Value Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the Russell 1000 Value Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the Russell 1000 Value Index is expected to rank below the highest quartile of managers in the Large Cap Value peer group over rolling three year time periods.

Passive Managers

- The manager's performance is expected to meet the Russell 1000 Value Index.

- The beta of the portfolio over any three-year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

**PART V**
**LARGE CAP CORE**
**INVESTMENT GUIDELINES**

## OBJECTIVE

The Board hopes to achieve its goal of reducing total portfolio volatility while enhancing total return through diversification of the equity asset class. Large cap core manager(s) may be retained as part of a multi-manager investment strategy. For purposes of this CIP, core managers do not exhibit a style bias such as value or growth. This allocation will be represented in the policy benchmark by the S&P 500 Index.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times.

## EQUITY INVESTMENT GUIDELINES

1. The Manager shall be permitted to invest in any securities which are a part of the S&P 500 without regard for the constraint within this policy prohibiting or restricting the ownership of companies with less than a 3 year publicly available operating history. If the Manager's common stock (or the common stock of the Manager's holding company) is included in the S&P 500, the Manager is permitted to purchase, retain and sell the Manager's common stock (or the common stock of the manager's holding company), consistent with the other requirements, guidelines, restrictions and performance objectives applicable to this portfolio under this Part V and the reporting requirements imposed on Managers.

2. The Manager shall be permitted to invest in any securities which are a part of the S&P 500 without regard for the preference within this policy for investments to be made in United States based corporations. There shall be no limit on the percent of the portfolio held in American Depository Receipts, provided those same companies are included in the S&P 500 as American Depository Receipts.

3. The use of futures as a substitute for physical investing, or to facilitate cash flows shall be permitted for this portfolio, provided the manager receives prior written approval from the Board. In order to obtain such approval, the manager must submit a written request to the Board, quantifying the net advantages that will accrue to the portfolio.

4. The Manager may temporarily invest in companies outside of the index in the case of additions or deletions, with the goal of minimizing tracking error and/or reducing trading costs.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. The use of futures will be permitted subject to the restrictions imposed by Paragraph 16 (entitled "Derivatives") in the "Authorized Investment Vehicles" section.

2. Use of margin is prohibited except as may be required in the use of futures.

3. Convertible securities shall not be allowed for investment purposes.

## PERFORMANCE OBJECTIVES

Active Managers
Manager performance shall be reviewed relative to the S&P 500 Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the S&P 500 Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the S&P 500 Index is expected to rank below the highest quartile of managers in the Large Cap Value peer group over rolling three year time periods.

Passive Mangers
Manager performance shall be reviewed relative to the S & P 500, over any three to five year period, taking into consideration the following:

- The manager's performance is expected to meet the S&P 500 Index.

- The beta of the portfolio over any three-year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the S&P 500 of less than 25 basis points.

# PART VI
# MID CAP EQUITY
# INVESTMENT GUIDELINES

## OBJECTIVE

The Board hopes to achieve its goal of reducing total portfolio volatility while enhancing total return through diversification of the equity asset class using multiple styles of management. Mid cap equity manager(s) will be retained as part of a multi-manager investment strategy. For purposes of this CIP, this style seeks access to the mid-cap segment of the US equity universe. This allocation will be represented in the policy benchmark by the S&P MidCap 400 Index which represents the performance of mid-sized companies.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of only five percent. Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein:

## EQUITY INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to ten percent of the portfolio in initial public offerings of companies that have at least two years of audited financial statements and have been profitable (from continuing operations) for at least one of the last two years.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the S&P MidCap 400 Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States or in other, recognized domestic markets.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. Use of margin is prohibited.

2. Use of options, futures, or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

## PERFORMANCE OBJECTIVES

Active Managers
Manager performance shall be reviewed relative to the S&P MidCap 400 Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the S&P MidCap 400 Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the S&P MidCap 400 Index is expected to rank below the highest quartile of managers in the MidCap Broad peer group over rolling three year time periods.

Passive Managers

- A passive manager's performance is expected to meet the S&P 400 Index, or other agreed-upon investible benchmark representing the mid cap U.S. equity market.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

# PART VII
# SMALL CAP EQUITY
# INVESTMENT GUIDELINES

## OBJECTIVE

The Board hopes to achieve its goal of reducing total portfolio volatility while enhancing total return through diversification of the equity asset class using multiple styles of management. Small cap equity manager(s) will be retained as part of a multi-manager investment strategy. For purposes of this CIP, this style seeks access to the small-cap segment of the US equity universe. This allocation will be represented in the policy benchmark by the Russell 2000 Index which includes the smallest 2000 securities in the Russell 3000 index.

## ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of only ten percent. Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein:

## EQUITY INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to ten percent of the portfolio in initial public offerings of companies that have at least two years of audited financial statements and have been profitable (from continuing operations) for at least one of the last two years.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the Russell 2000 Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

3. Equity investments shall be made only in securities listed on a United States stock exchange or traded on NASDAQ in the United States or in other, recognized domestic markets.

## CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

## RESTRICTED INVESTMENTS

1. Use of margin is prohibited.

2. Use of options, futures or any other type of derivative securities is prohibited.

3. Convertible securities shall not be considered for investment.

## PERFORMANCE OBJECTIVES

Active Managers
Manager performance shall be reviewed relative to the Russell 2000 Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the Russell 2000 Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the Russell 2000 Index is expected to rank below the highest quartile of managers in the Small Cap peer group over rolling three year time periods.

Passive Managers

- A passive manager's performance is expected to meet the Russell 2000 Index, or other agreed-upon investible benchmark representing the small cap U.S. equity market.

- The beta of the portfolio over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index of less than 25 basis points.

## PART VIII
## INTERNATIONAL EQUITY
## INVESTMENT GUIDELINES

### OBJECTIVE

The Board hopes to achieve its goal of reducing total portfolio volatility while enhancing total return through diversification of the equity asset class using multiple styles of management. International equity manager(s) will be retained as part of a multi-manager investment strategy. For purposes of this CIP, this strategy seeks access to companies that are domiciled outside of the US equity market. This allocation will be represented in the policy benchmark by the MSCI EAFE (i.e., Europe, Australasia, Far East) Index which is designed to measure the equity market performance of developed markets, excluding the US and Canada.

### ASSET ALLOCATION

The portfolio is expected to be fully invested at all times, relying on the manager's ability to generate return through the selection of securities and not through the timing of market movements. Therefore, during these time periods the manager shall be allowed to maintain a maximum cash position of only five percent. Asset allocation shall be determined based on the average position over any three month time period and shall operate within the following constraints set forth herein:

### EQUITY INVESTMENT GUIDELINES

1. The Board prefers the manager to invest only in equity securities that have a publicly available operating history of at least three years. However, the manager can invest up to five percent of the portfolio in initial public offerings that have been spun off by a company for which there is adequate history of audited financial statements. If, through spin-offs or other activities of the companies held, the portfolio exceeds five percent of holdings with less than three years operating history, the manager will bring the portfolio into compliance within a six-month period.

2. The coefficient of determination (R^2) measures the percentage of total market-related risk that an investment manager has undertaken. Therefore, the manager shall maintain a coefficient of determination to the MSCI EAFE Index of not less than .80 over any rolling five-year time horizon calculated using monthly data. Until such time as the portfolio has sufficient historical data, the manager's reported monthly historical performance data, which shall be calculated in a manner consistent with Global Investment Performance Standards (GIPS), shall be utilized in determining portfolio compliance.

### CASH AND SHORT TERM INVESTMENT GUIDELINES

Cash and cash equivalent investments shall be made in liquid Authorized Investment Vehicles as defined in the CIP.

**RESTRICTED INVESTMENTS**

1. The use of currency futures and currency forwards will be permitted subject to the restrictions imposed by Paragraph 16 (entitled "Derivatives") in the "Authorized Investment Vehicles" section.

2. Use of options, futures, forwards or any other types of derivative securities that are not used for currency hedging purposes are prohibited.

3. Use of margin is prohibited except as may be required in the use of currency futures or forwards.

4. Securities not domiciled
5. , incorporated, or traded in a benchmark country.

**PERFORMANCE OBJECTIVES**

Active Managers
Manager performance shall be reviewed relative to the MSCI EAFE Index, over any three or more year period of time, taking into consideration the following:

- The manager's performance, net of fees, is expected to exceed the MSCI EAFE Index, taking into consideration the degree of risk.

- The manager's performance is expected to rank at or above the median when compared to a universe of its peers managing similar portfolios and following a similar investment style.

- The manager should generate a positive alpha calculated in accordance to the Jensen methodology.

- The manager's tracking error relative to the MSCI EAFE Index is expected to rank below the highest quartile of managers in the International Equity peer group over rolling three year time periods.

Passive Managers
- A passive manager's performance is expected to meet the MSCI EAFE Index, or other agreed-upon investible benchmark representing the broad developed international equity markets.

- The beta of the portfolio relative to the index over any two year rolling time period and calculated using monthly data shall not be less than .98 nor greater than 1.02.

- Tracking error measures the standard deviation of the differences between an investment manager's return and the index return. A low tracking error indicates that the manager's performance is closely tracking the performance of the index. In meeting the objectives set forth in these guidelines, the manager shall maintain an annualized tracking error to the index, of less than 30 basis points.

Callan

September 2018 Board Meeting

# Florida Prepaid College Plan

## Second Quarter 2018
## Performance Review

**Weston Lewis, CFA, CAIA**
Atlanta Fund Sponsor Consulting

**Brian Smith, CFA**
Atlanta Fund Sponsor Consulting

# Second Quarter Market Environment: Economy

*The U.S. economy remained on strong footing in the second quarter. The unemployment rate dropped to 3.8% in May, the lowest since 2000, and wages inched up. Consumer spending was robust and consumer and business confidence remained elevated.* Real gross domestic product increased at an annual rate of 4.1 percent in the second quarter of 2018, according to the "advance" estimate released by the Bureau of Economic Analysis. In the first quarter, real GDP increased 2.2 percent (revised). *Overseas, signs of deceleration emerged, especially in Europe, Japan, and China.*

- U.S. unemployment rate dropped to 3.8% in May
  - Lowest since 2000
  - Wages increased 2.7% (y/y) in May
- Inflation rising
  - Headline CPI was 2.8% in May (y/y); Core CPI was 2.2% (y/y)
  - PPI jumped 0.5% (3.1% y/y) in May
  - Core PCE Index the Fed's target of 2% (y/y) in May for the first time since 2012
- Housing starts climbed to an eleven-year high
  - Home prices also continued to rise
- University of Michigan Consumer Sentiment Survey remained elevated
  - Survey measures attitudes of future economic prospects across 500 consumers
  - Retail sales beat forecasts, up 0.8% in May (6% y/y)
- The Fed raised rates
  - As expected, a 25 bp hike in June brought Fed Funds target to 1.75%–2.0%
  - The Fed expects two more rate hikes this year and three more in 2019
- U.S. dollar appreciated
  - Relatively high interest rates and the strength of the U.S. economy bolstered the currency
  - Gained 5% versus a basket of developed market currencies
- Threat of escalating trade wars ongoing as quarter closed
  - Tariffs being imposed on goods imported from China, Europe and Canada (and vice versa)
  - Outcome unclear as to impact on U.S. economic growth and inflation
- Overseas
  - Euro zone bankers trimmed their outlook for growth in 2018 to 2.1%, down from 2.4%, given weaker economic data
  - Politics in Italy worried investors, causing yields on Italian bond to surge
  - Brexit negotiations stalled, raising the prospect of a "hard" Brexit
  - Japan's GDP contracted for the 1st time in two years in the 1st quarter
  - China also showed signs of slowing

# The Callan Periodic Table of Investment Returns - Monthly

| Annual Returns | | | | | Monthly Returns | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2013** | **2014** | **2015** | **2016** | **2017** | **Jan 2018** | **Feb 2018** | **Mar 2018** | **Apr 2018** | **May 2018** | **Jun 2018** | **Jul 2018** | **YTD 2018** |
| Small Cap Equity 38.82% | Real Estate 15.02% | Large Cap Equity 1.38% | Small Cap Equity 21.31% | Emerging Market Equity 37.28% | Emerging Market Equity 8.33% | Non-U.S. Fixed Income -0.85% | Real Estate 2.34% | Non-U.S. Equity 2.30% | Small Cap Equity 6.07% | Real Estate 1.43% | Large Cap Equity 3.72% | Small Cap Equity 9.54% |
| Large Cap Equity 32.39% | Large Cap Equity 13.69% | U.S. Fixed Income 0.55% | High Yield 17.13% | Non-U.S. Equity 24.21% | Large Cap Equity 5.73% | High Yield -0.85% | Non-U.S. Fixed Income 1.43% | Real Estate 1.96% | Large Cap Equity 2.41% | Small Cap Equity 0.72% | Non-U.S. Equity 2.46% | Large Cap Equity 6.47% |
| Non-U.S. Equity 21.02% | U.S. Fixed Income 5.97% | Real Estate -0.79% | Large Cap Equity 11.96% | Large Cap Equity 21.83% | Non-U.S. Equity 4.66% | U.S. Fixed Income -0.95% | Small Cap Equity 1.29% | Small Cap Equity 0.86% | Real Estate 1.65% | Large Cap Equity 0.62% | Emerging Market Equity 2.20% | High Yield 1.25% |
| High Yield 7.44% | Small Cap Equity 4.89% | Non-U.S. Equity -3.04% | Emerging Market Equity 11.19% | Small Cap Equity 14.65% | Non-U.S. Fixed Income 3.03% | Large Cap Equity -3.69% | U.S. Fixed Income 0.64% | High Yield 0.65% | U.S. Fixed Income 0.71% | High Yield 0.40% | Small Cap Equity 1.74% | Real Estate 1.20% |
| Real Estate 3.67% | High Yield 2.45% | Small Cap Equity -4.41% | Real Estate 4.06% | Non-U.S. Fixed Income 10.51% | Small Cap Equity 2.61% | Small Cap Equity -3.87% | High Yield -0.60% | Large Cap Equity 0.38% | High Yield -0.03% | U.S. Fixed Income -0.12% | High Yield 1.09% | Non-U.S. Equity -0.38% |
| U.S. Fixed Income -2.02% | Emerging Market Equity -2.19% | High Yield -4.47% | Non-U.S. Equity 2.75% | Real Estate 10.36% | High Yield 0.60% | Emerging Market Equity -4.61% | Non-U.S. Equity -1.73% | Emerging Market Equity -0.44% | Non-U.S. Fixed Income -1.87% | Non-U.S. Fixed Income -0.70% | Real Estate 0.84% | U.S. Fixed Income -1.59% |
| Emerging Market Equity -2.60% | Non-U.S. Fixed Income -3.08% | Non-U.S. Fixed Income -6.02% | U.S. Fixed Income 2.65% | High Yield 7.50% | Real Estate -0.01% | Non-U.S. Equity -4.75% | Emerging Market Equity -1.86% | U.S. Fixed Income -0.74% | Non-U.S. Equity -1.90% | Non-U.S. Equity -1.10% | U.S. Fixed Income 0.02% | Non-U.S. Fixed Income -1.67% |
| Non-U.S. Fixed Income -3.08% | Non-U.S. Equity -4.32% | Emerging Market Equity -14.92% | Non-U.S. Fixed Income 1.49% | U.S. Fixed Income 3.54% | U.S. Fixed Income -1.15% | Real Estate -6.70% | Large Cap Equity -2.54% | Non-U.S. Fixed Income -2.27% | Emerging Market Equity -3.54% | Emerging Market Equity -4.15% | Non-U.S. Fixed Income -0.36% | Emerging Market Equity -4.61% |

Sources: ● Bloomberg Barclays Aggregate ● Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US

● EPRA/NAREIT Developed ● MSCI World ex USA ● MSCI Emerging Markets ● Russell 2000 S&P 500

# Second Quarter Market Environment: Global Equity

*The U.S. equity market posted solid returns in the second quarter on the back of strong first quarter earnings as well as record share buybacks fueled by the Trump Administration's $1.5 trillion tax cut. Small growth stocks continued to dominate in the U.S., which outperformed developed markets largely due to relative strength in the U.S. dollar. Emerging market equities underperformed developed markets.*

## U.S. Equity

- Small caps outperformed large caps
  - R1000: +3.6%; +2.9% y-t-d
  - R2000: +7.8%; +7.7% y-t-d
  - Small caps more immune to global trade spats
- Growth outperformed value
  - R1000 Growth: +5.8%; R1000Value: +1.2% (+7.3% vs. -1.7% y-t-d)
- Energy sector fueled by rising oil prices
  - S&P 500 +3.4%; +2.6% y-t-d
  - Energy sector +13.5%
  - Consumer Discretionary (+8.2%) and Technology stocks (+7.1%) also top performers
  - Financials and Industrials lagged (both -3.2%)
  - Amazon alone accounted for ~50% of y-t-d total return of S&P
  - “FAAMG” plus Netflix: accounted for 57% of Q2 return of S&P

| | Q2 | YTD |
|---|---|---|
| Facebook Inc A | 21.6% | 10.1% |
| Apple Inc | 10.8% | 10.2% |
| Amazon.com Inc | 17.4% | 45.3% |
| Microsoft Corp | 8.5% | 16.3% |
| Google (Alphabet A&C) | 8.2% | 13.8% |
| Netflix Inc | 32.5% | 103.9% |

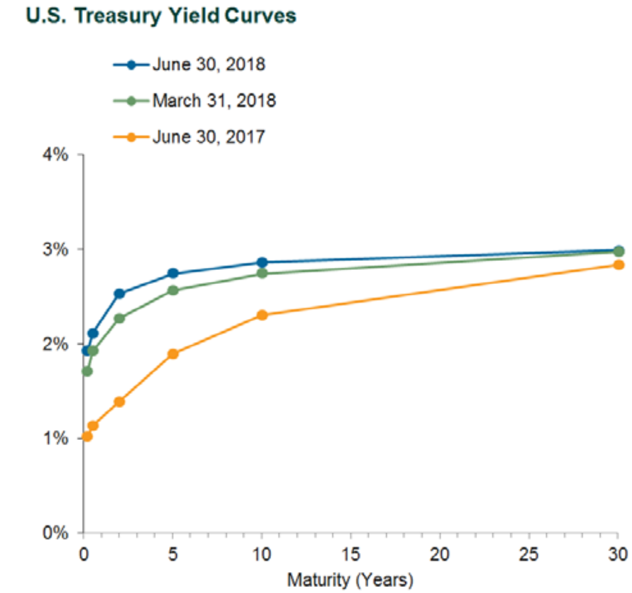
## International Equity

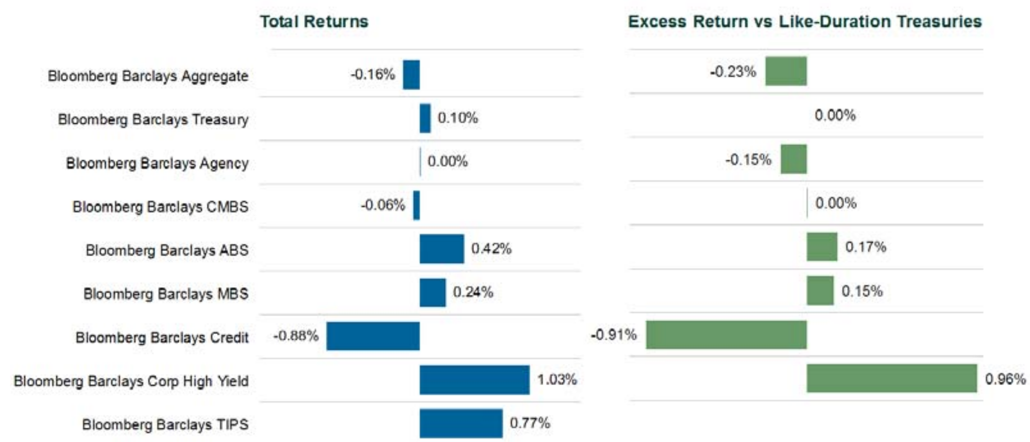
- The U.S. dollar appreciated vs most currencies
  - Up 5% versus a basket of developed market currencies
  - Benefitted from higher interest rates and relatively strong U.S. economy
- Developed markets
  - MSCI EAFE (in $US): -1.2%; -2.7% y-t-d
  - MSCI EAFE (local): +3.5%; -1.0% y-t-d
  - ACWI ex-US -2.6%; -3.8% y-t-d
  - Energy +7.3% on rising oil prices
  - Financials, 22% of the ACWI ex-US, sank 7.3%
  - Italy down sharply on political woes (-7.3%)
  - UK (+2.9%) and Australia (+5.2%) were bright spots, both benefitting from energy companies
  - As in the U.S., growth outperformed value
- Emerging Markets
  - MSCI EM (in $US): -8.0%; -6.7% y-t-d
  - Brazil (-26.4%); Russia (-6.0%); India (-0.6%); China (-3.5%)

# Second Quarter Market Environment: Fixed Income

*U.S. rates rose in the second quarter and the yield curve continued its flattening trend. The yield on the 10-year U.S. Treasury note hit an intra-quarter high of 3.11% in May but closed the quarter at 2.85%. Concerns over mounting trade tensions and slower global growth pushed yields lower going into quarter-end. Overseas, changes in interest rates were modest (with the exception of Italy, where yields spiked on political news) and U.S. dollar strength drove returns for unhedged bonds.*

- U.S. rates rose modestly and the yield curve continued to flatten
  - 10-year U.S. Treasury yield up 11 bps to 2.85%
  - 2-year U.S. Treasury yield up 25 bps to 2.52%
  - Spread between the 2-year and 10-year (33 bps) lowest in more than 10 years
- Investment grade bonds roughly flat for the quarter
  - Bloomberg Barclays Aggregate -0.2%; -1.6% y-t-d
  - Investment grade corporates underperformed Treasuries as heavy supply weighed on the market; Corporate Index -1.0%; -3.3% y-t-d
- High yield corporates outperformed investment grade
  - Bloomberg Barclays High Yield: +1.0%; +0.2% y-t-d
- Municipals performed relatively well on reduced supply and strong demand
  - The Bloomberg Barclays Municipal Bond Index: +0.9%; -0.2% y-t-d
- TIPS outperformed nominal Treasuries
  - 10-year breakeven rose to 2.11% from 2.05%
  - Bloomberg Barclays TIPS +0.8%; +0.0% y-t-d



# Asset Distribution Across Investment Managers

| | June 30, 2018 | | | | | March 31, 2018 | | |
|---|---|---|---|---|---|---|---|---|
| | Market Value | Weight | Target | Net New Inv. | Inv. Return | Market Value | Weight | Target |
| **Domestic Fixed Income** | **$9,650,648,934** | **83.68%** | **84.96%** | **$120,000,000** | **$(22,188,030)** | **$9,552,836,964** | **83.63%** | **84.82%** |
| Columbia/Transition* | 582,483 | 0.01% | | (2,382,252,465) | (6,713,301) | 2,389,548,249 | 20.92% | 21.20% |
| Insight* | 2,412,876,879 | 20.92% | 21.24% | 2,412,252,465 | 624,414 | - | - | |
| Neuberger Berman | 2,413,471,526 | 20.93% | 21.24% | 30,000,000 | (6,422,605) | 2,389,894,131 | 20.92% | 21.20% |
| Northern Trust Global Investors | 2,410,007,169 | 20.90% | 21.24% | 30,000,000 | (5,601,036) | 2,385,608,205 | 20.88% | 21.20% |
| Standish* | 607,460 | 0.01% | | (2,382,619,772) | (4,559,147) | 2,387,786,379 | 20.90% | 21.20% |
| Blackrock* | 2,413,103,416 | 20.92% | 21.24% | 2,412,619,772 | 483,644 | - | - | |
| **Total Equity** | **$1,864,049,240** | **16.16%** | **15.04%** | **$0** | **$35,118,973** | **$1,828,930,267** | **16.01%** | **15.18%** |
| **Domestic Equity** | **$1,517,235,612** | **13.16%** | **12.03%** | **$0** | **$42,480,425** | **$1,474,755,187** | **12.91%** | **12.14%** |
| AB | 760,425,495 | 6.59% | 6.01% | 0 | 25,133,502 | 735,291,993 | 6.44% | 6.07% |
| Silvant Capital | 15 | 0.00% | 0.00% | (195,189,363) | 238 | 195,189,140 | 1.71% | 1.52% |
| BMO | 205,120,081 | 1.78% | 1.50% | 195,189,363 | 9,930,718 | - | - | |
| QMA | 181,615,134 | 1.57% | 1.50% | 0 | 135,311 | 181,479,822 | 1.59% | 1.52% |
| Boston Company | 188,127,881 | 1.63% | 1.50% | 0 | 5,978,256 | 182,149,625 | 1.59% | 1.52% |
| Fiduciary Management | 181,947,005 | 1.58% | 1.50% | 0 | 1,302,400 | 180,644,605 | 1.58% | 1.52% |
| **International Equity** | **$346,813,628** | **3.01%** | **3.01%** | **$0** | **$(7,361,452)** | **$354,175,081** | **3.10%** | **3.04%** |
| PanAgora | 346,813,628 | 3.01% | 3.01% | 0 | (7,361,452) | 354,175,081 | 3.10% | 3.04% |
| **Total Fund without Cash** | **$11,514,698,174** | **99.8%** | **100.0%** | **$120,000,000** | **$12,930,942** | **$11,381,767,232** | **99.6%** | **100.0%** |
| Cash Account | 17,786,150 | 0.15% | | (24,763,840) | 1,613,498 | 40,936,492 | 0.36% | |
| **Total Fund** | **$11,532,484,324** | **100.0%** | **100.0%** | **$95,236,160** | **$14,544,440** | **$11,422,703,724** | **100.0%** | **100.0%** |
| **Securities Lending** | **$2,232,306,278** | | | **$ (538,593,951)** | **$1,641,906** | **$2,770,900,229** | | |
| Cash Collateral | 1,908,711,636 | | | (275,679,305) | 1,368,975 | 2,184,390,941 | | |
| Non-Cash Collateral | 323,594,643 | | | (262,914,646) | 272,931 | 586,509,289 | | |

*On 06/29/18, Insight and Blackrock replaced Columbia/Transition and Standish, respectively.

# Composite Returns (Gross)

## Returns for Periods Ended June 30, 2018

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| Total Fixed Income [1] | (0.24%) | (1.03%) | 1.82% | 2.69% | 4.84% |
| *Custom Benchmark [2]* | *(0.23%)* | *(1.18%)* | *1.78%* | *2.66%* | *4.86%* |
| Domestic Equities | 2.88% | 14.28% | 9.98% | 12.81% | 9.95% |
| *Russell:3000 Index [4]* | *3.89%* | *14.78%* | *11.58%* | *13.29%* | *10.23%* |
| International Equity | (2.08%) | 5.18% | 5.64% | 8.10% | -- |
| *MSCI:EAFE* | *(1.24%)* | *6.84%* | *4.90%* | *6.44%* | *2.84%* |
| Total Equity | 1.92% | 12.45% | 9.13% | 11.88% | 9.15% |
| *Custom Benchmark [3]* | *2.87%* | *13.18%* | *10.26%* | *11.94%* | *8.77%* |
| Total Fund | 0.11% | 0.99% | 3.03% | 3.85% | 5.30% |
| *Blended Target* | *0.24%* | *0.85%* | *3.08%* | *3.81%* | *5.35%* |
| NT Sec-Lending Collateral Pool | 0.51% | 1.55% | 0.92% | 0.63% | -- |
| *3-mnth Treasury Bill* | *0.45%* | *1.36%* | *0.68%* | *0.42%* | *0.35%* |

# Net of Fee Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **NET OF FEES** | | | | | |
| **Domestic Fixed Income (1)** | **(0.25% )** | **(1.06% )** | **1.78%** | **2.65%** | **4.80%** |
| Custom Benchmark (2) | (0.23%) | (1.18%) | 1.78% | 2.66% | 4.86% |
| **Excess Return** | **(0.02% )** | **0.12%** | **0.01%** | **(0.01% )** | **(0.06% )** |
| Columbia/Transition** | (0.31%) | (1.09%) | 1.87% | 2.72% | 5.04% |
| Custom Benchmark (2) | (0.23%) | (1.18%) | 1.78% | 2.66% | 4.86% |
| **Excess Return** | **(0.08% )** | **0.09%** | **0.09%** | **0.06%** | **0.18%** |
| Neuberger Berman | (0.28%) | (0.99%) | 1.90% | 2.80% | - |
| Custom Benchmark (2) | (0.23%) | (1.18%) | 1.78% | 2.66% | 4.86% |
| **Excess Return** | **(0.05% )** | **0.19%** | **0.12%** | **0.14%** | **-** |
| Northern Trust Global Investors | (0.25%) | (1.21%) | 1.72% | 2.59% | - |
| Custom Benchmark (2) | (0.23%) | (1.18%) | 1.78% | 2.66% | 4.86% |
| **Excess Return** | **(0.01% )** | **(0.03% )** | **(0.06% )** | **(0.07% )** | **-** |
| Standish** | (0.22%) | (1.02%) | 1.62% | 2.48% | - |
| Custom Benchmark (2) | (0.23%) | (1.18%) | 1.78% | 2.66% | 4.86% |
| **Excess Return** | **0.01%** | **0.16%** | **(0.16% )** | **(0.18% )** | **-** |

**On 06/29/18, Insight and Blackrock replaced Columbia/Transition and Standish, respectively. 2Q18 returns shown are partial quarter returns.

Please refer to page 31 for footnotes.

# Net of Fee Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **Total Equity** | **1.87%** | **12.19%** | **8.85%** | **11.59%** | **8.85%** |
| Custom Benchmark (3) | 2.87% | 13.18% | 10.26% | 11.94% | 8.77% |
| **Excess Return** | **(1.00% )** | **(0.99% )** | **(1.41% )** | **(0.35% )** | **0.08%** |
| **Domestic Equity** | **2.84%** | **14.04%** | **9.71%** | **12.52%** | **9.66%** |
| Russell 3000 Index (4) | 3.89% | 14.78% | 11.58% | 13.29% | 10.23% |
| **Excess Return** | **(1.05% )** | **(0.74% )** | **(1.87% )** | **(0.77% )** | **(0.57% )** |
| AB | 3.41% | 14.31% | 11.87% | 13.39% | - |
| S&P 500 Index | 3.43% | 14.37% | 11.93% | 13.42% | 10.17% |
| **Excess Return** | **(0.02% )** | **(0.06% )** | **(0.06% )** | **(0.03% )** | **-** |
| QMA | 0.04% | 9.15% | 8.61% | 10.55% | 9.06% |
| Russell 1000 Value Index | 1.18% | 6.77% | 8.26% | 10.34% | 8.49% |
| **Excess Return** | **(1.14% )** | **2.39%** | **0.35%** | **0.21%** | **0.57%** |
| Boston Company | 3.15% | 12.77% | 6.62% | 10.35% | - |
| S&P Mid Cap 400 Index | 4.29% | 13.50% | 10.89% | 12.69% | 10.78% |
| **Excess Return** | **(1.14% )** | **(0.74% )** | **(4.27% )** | **(2.34% )** | **-** |
| Fiduciary Management | 0.56% | 9.14% | 9.42% | 11.95% | 11.81% |
| Russell 2000 Index | 7.75% | 17.57% | 10.96% | 12.46% | 10.60% |
| **Excess Return** | **(7.20% )** | **(8.42% )** | **(1.55% )** | **(0.51% )** | **1.21%** |
| **International Equity** | **(2.15% )** | **4.86%** | **5.32%** | **7.77%** | **-** |
| PanAgora Asset Mgmt | (2.15%) | 4.86% | 5.32% | 7.77% | - |
| MSCI EAFE Index | (1.24%) | 6.84% | 4.90% | 6.44% | 2.84% |
| **Excess Return** | **(0.91% )** | **(1.98% )** | **0.42%** | **1.33%** | **-** |
| **NT Sec-Lending Collateral Pool** | **0.51%** | **1.55%** | **0.92%** | **0.63%** | **-** |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.68% | 0.42% | 0.35% |
| **Excess Return** | **0.06%** | **0.19%** | **0.25%** | **0.20%** | **-** |
| **Total Fund-Net of Fees** | **0.09%** | **0.92%** | **2.96%** | **3.78%** | **5.23%** |
| Policy Benchmark (5) | 0.24% | 0.85% | 3.08% | 3.81% | 5.35% |
| **Excess Return** | **(0.14% )** | **0.07%** | **(0.12% )** | **(0.03% )** | **(0.12% )** |

BMO Large Cap Growth was funded April 2, 2018, partial quarter return was 5.09%; Full quarter return for Russell 1000 Growth Index was 5.76%.



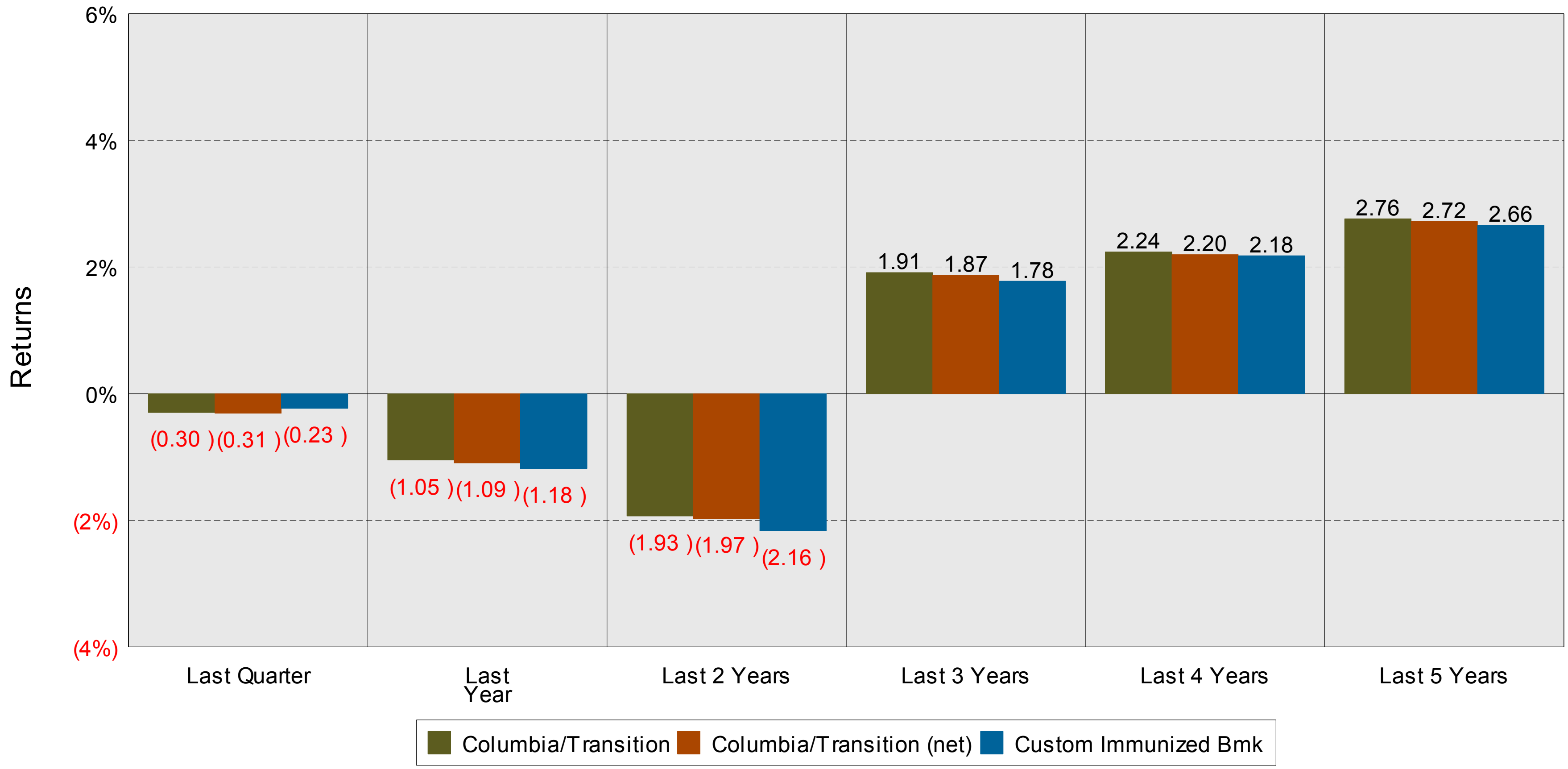
Please refer to page 28 for footnotes.

# Domestic Fixed Income

# Fixed Income Composite (Gross)


- The fixed income composite was slightly behind the benchmark for the quarter with a return of (-0.24%).
- Over the one year period the composite outperformed the benchmark.

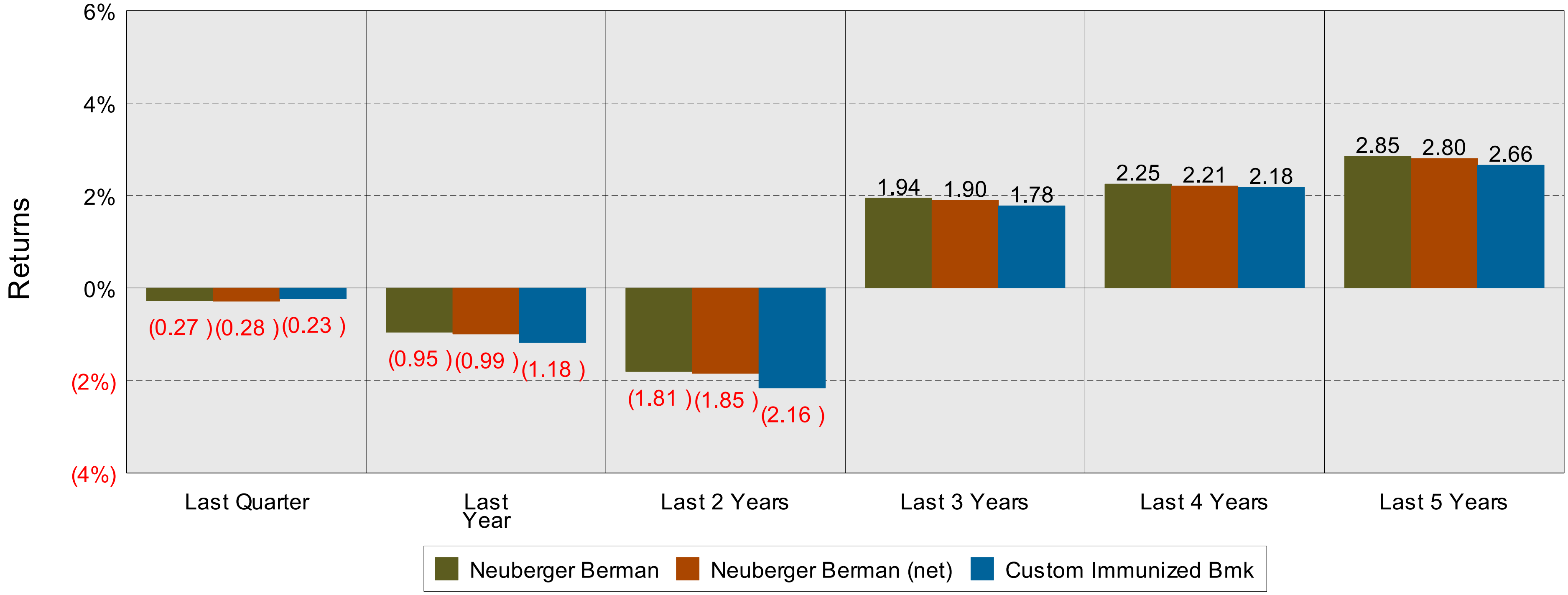
# Columbia/Transition Custom Fixed Income




- The transition portfolio underperformed the benchmark by 0.07% for the quarter and outperformed for the year by 0.13%.

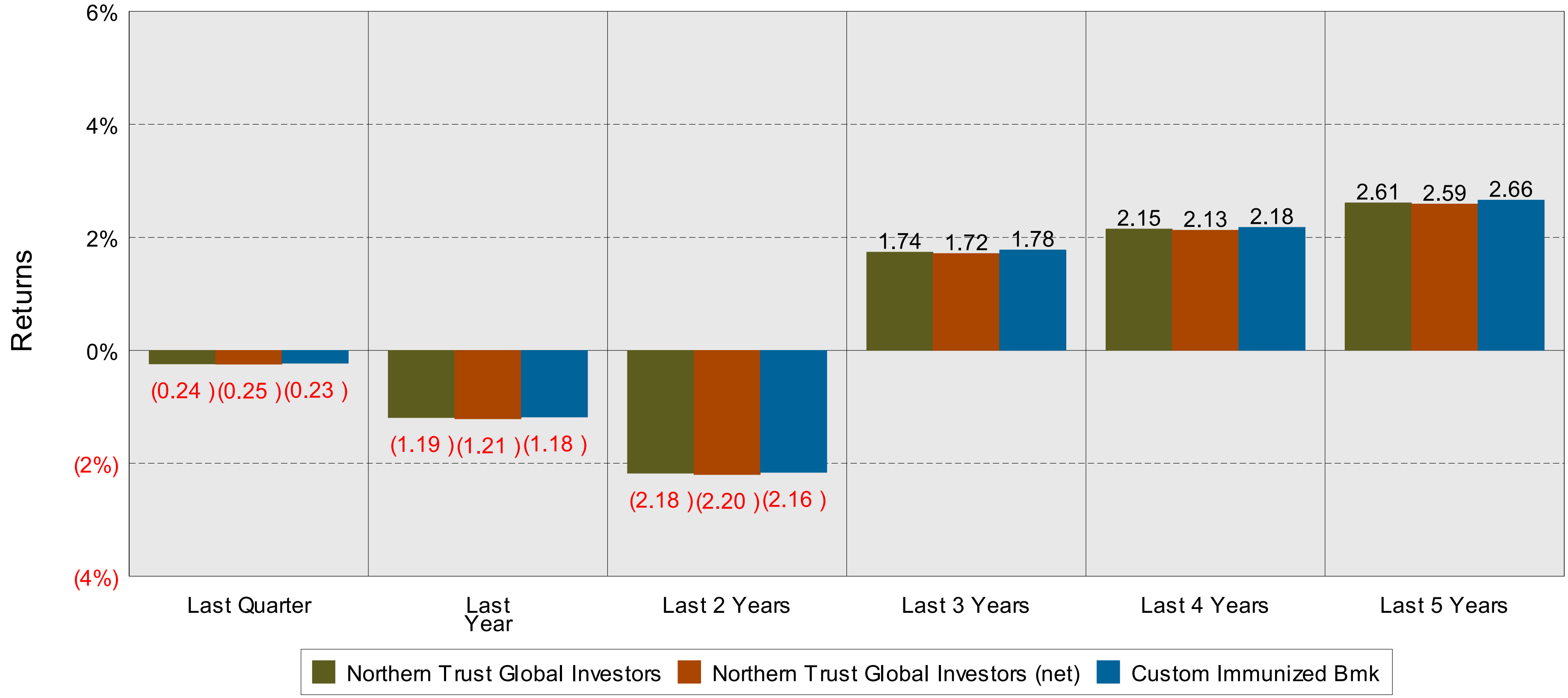
**On 06/29/18, Insight and Blackrock replaced Columbia/Transition and Standish, respectively. 2Q18 returns shown are partial quarter returns.

# Neuberger Berman Custom Fixed Income



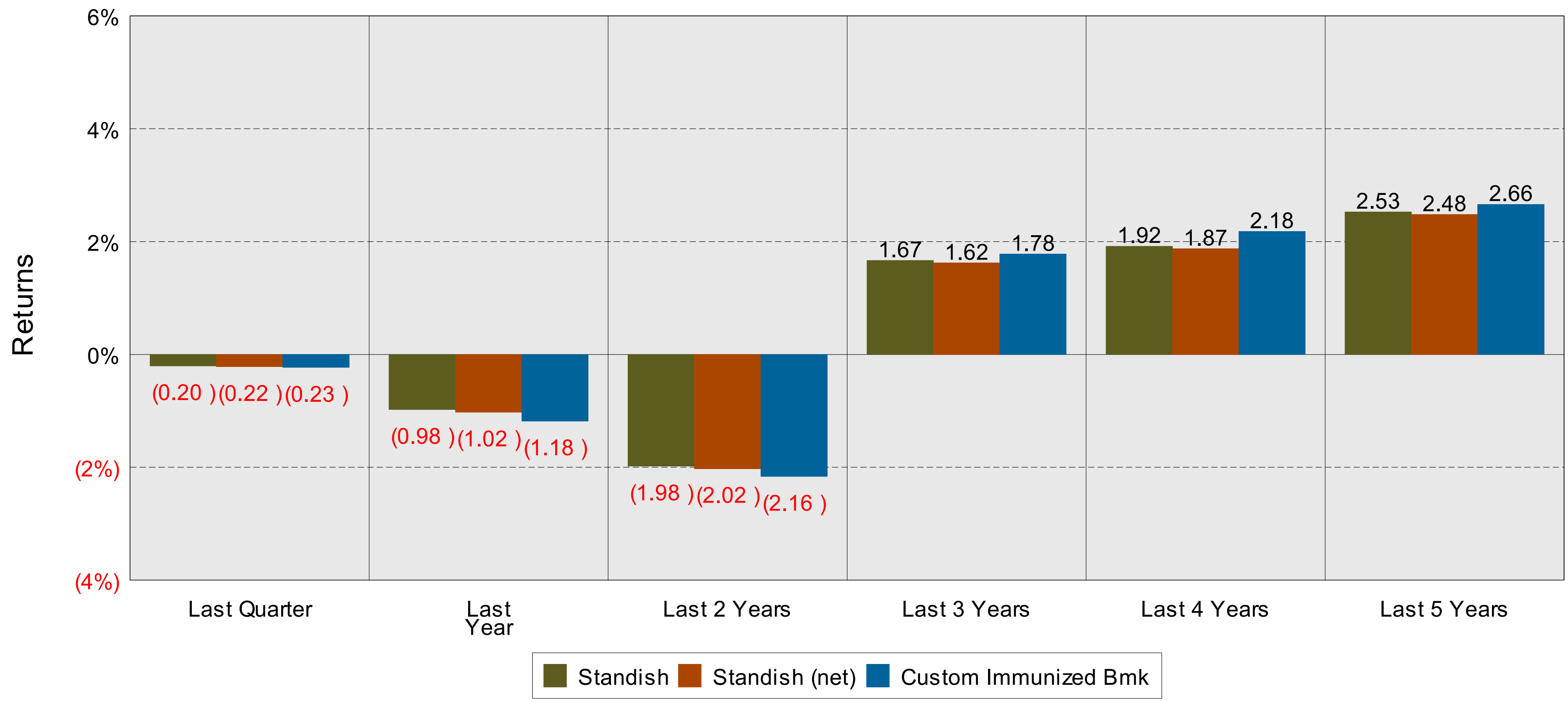

- The custom fixed income portfolio underperformed the benchmark by 0.04% for the quarter and outperformed for the year by 0.23%.
- Duration allocation to Agency MBS and CMBS detracted the most from performance for the quarter.

# Northern Trust Global Investors Custom Fixed Income




- The custom portfolio was slightly behind the benchmark return of (-0.23%) for the quarter and underperformed the benchmark for the year by 0.01%.
- Tracking error over time is largely a result of different pricing sources and return methodologies.

# Standish Custom Fixed Income



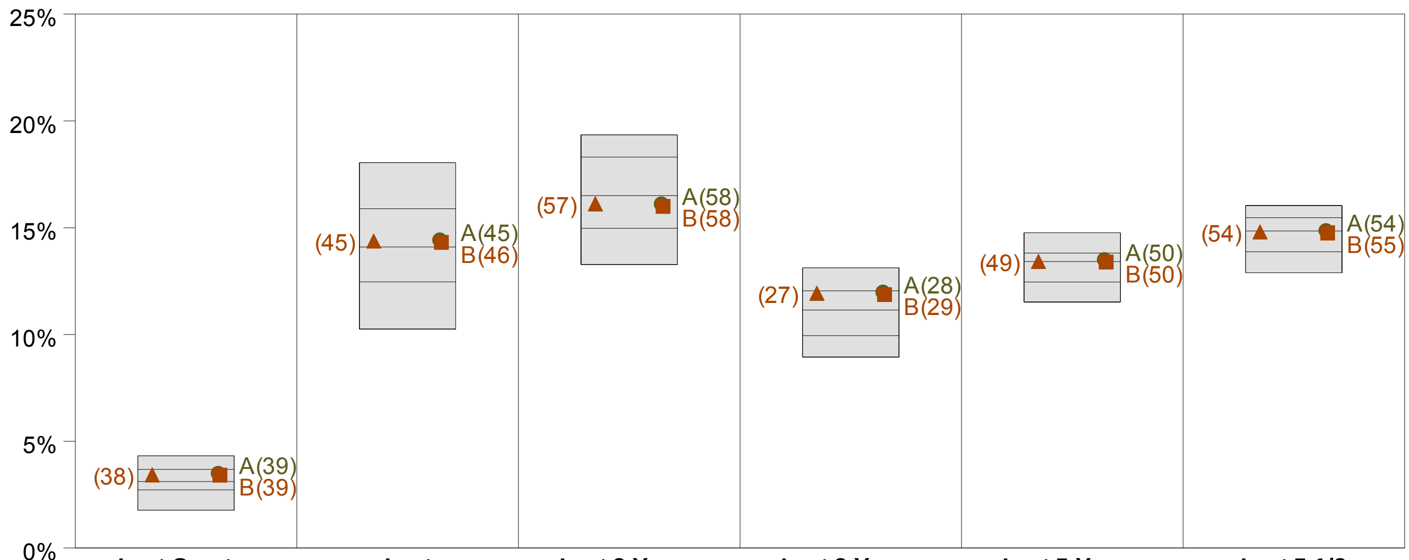

- The custom portfolio outperformed the benchmark by 0.03% for the quarter and outperformed by 0.21% for the year.

**On 06/29/18, Insight and Blackrock replaced Columbia/Transition and Standish, respectively. 2Q18 returns shown are partial quarter returns.

# Domestic Equity Performance

# AB S&P 500 Index

### Performance vs Callan Large Cap Core (Gross)

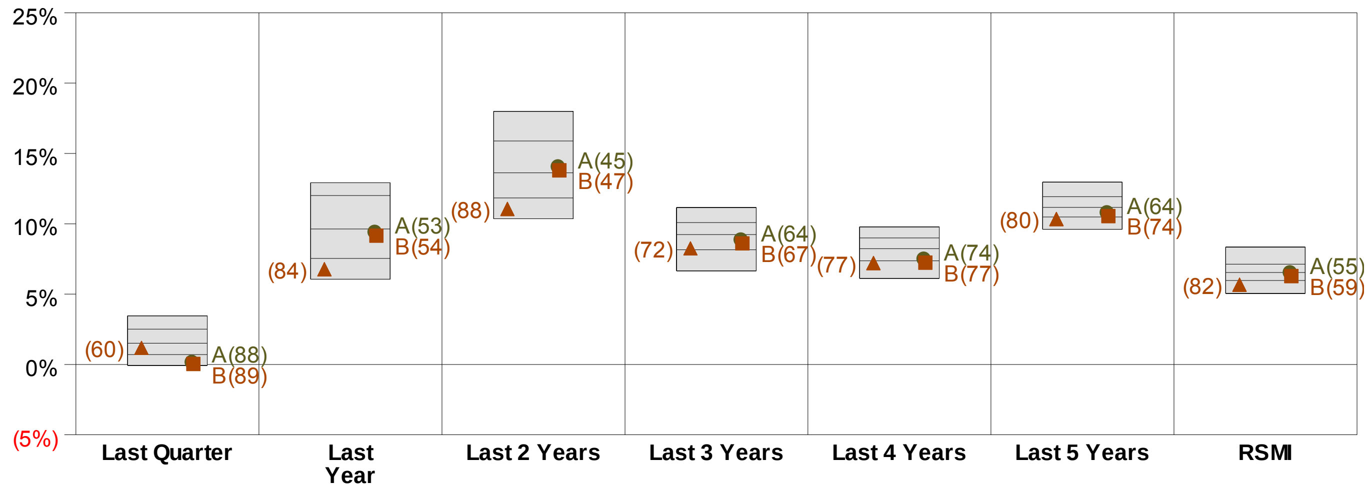



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | Last 5-1/2 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 4.31 | 18.04 | 19.35 | 13.12 | 14.76 | 16.04 |
| 25th Percentile | | 3.68 | 15.89 | 18.30 | 12.05 | 13.81 | 15.47 |
| Median | | 3.11 | 14.09 | 16.50 | 11.14 | 13.42 | 14.84 |
| 75th Percentile | | 2.72 | 12.46 | 14.97 | 9.95 | 12.45 | 13.87 |
| 90th Percentile | | 1.77 | 10.26 | 13.27 | 8.94 | 11.52 | 12.89 |
| AB | ● A | 3.42 | 14.34 | 16.02 | 11.90 | 13.42 | 14.79 |
| AB (net) | ■ B | 3.41 | 14.31 | 16.00 | 11.87 | 13.39 | 14.76 |
| S&P 500 Index | ▲ | 3.43 | 14.37 | 16.12 | 11.93 | 13.42 | 14.80 |

- The portfolio continues to closely track the S&P 500 index at a very low fee.
- The strategy was slightly behind the benchmark for the quarter and underperformed by 0.03% for the year.

# QMA Large Cap Value

### Performance vs Callan Large Cap Value (Gross)

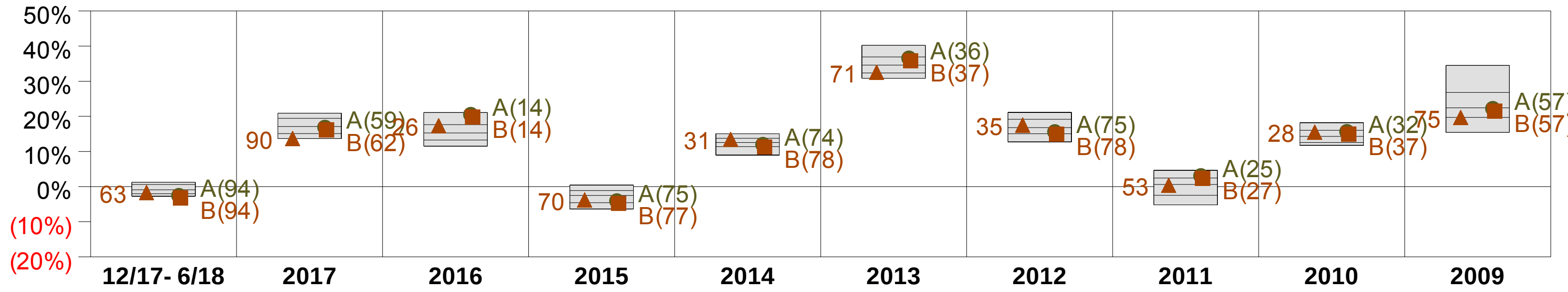



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | | 3.45 | 12.92 | 17.99 | 11.16 | 9.78 | 12.97 | 8.35 |
| 25th Percentile | | 2.51 | 12.01 | 15.88 | 10.09 | 8.99 | 11.93 | 7.13 |
| Median | | 1.51 | 9.63 | 13.62 | 9.24 | 8.23 | 11.17 | 6.54 |
| 75th Percentile | | 0.69 | 7.54 | 11.84 | 8.15 | 7.37 | 10.49 | 5.97 |
| 90th Percentile | | (0.07) | 6.06 | 10.37 | 6.66 | 6.12 | 9.61 | 5.04 |
| QMA | ● A | 0.07 | 9.32 | 13.97 | 8.77 | 7.40 | 10.71 | 6.44 |
| QMA (net) | ■ B | 0.04 | 9.15 | 13.80 | 8.61 | 7.24 | 10.55 | 6.28 |
| Russell 1000 Value Index | ▲ | 1.18 | 6.77 | 11.06 | 8.26 | 7.21 | 10.34 | 5.67 |

- QMA underperformed by 1.10% for the quarter and outperformed by 2.55% over the last year.
- Financials and Energy sectors detracted most from performance. Within Financials, poor selection among Insurance and Capital Markets stocks impacted returns. In Energy, the Portfolio lagged mostly from under-weight exposures to Integrated and Exploration & Production oil companies.

# QMA Large Cap Value

### Performance vs Callan Large Cap Value (Gross)




| | | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | | 1.25 | 20.89 | 21.11 | 0.43 | 15.03 | 40.21 | 21.13 | 4.61 | 18.17 | 34.49 |
| 25th Percentile | | 0.64 | 19.43 | 17.66 | (1.15) | 13.73 | 36.88 | 19.12 | 2.42 | 16.02 | 26.82 |
| Median | | (0.95) | 17.09 | 15.25 | (2.56) | 12.54 | 34.59 | 16.79 | 0.61 | 14.27 | 22.39 |
| 75th Percentile | | (2.05) | 15.10 | 13.27 | (4.58) | 11.36 | 32.38 | 15.08 | (2.48) | 12.55 | 19.67 |
| 90th Percentile | | (2.74) | 13.64 | 11.53 | (6.38) | 8.99 | 30.80 | 12.71 | (5.19) | 11.75 | 15.46 |
| QMA | ● A | (3.12) | 16.31 | 19.95 | (4.63) | 11.43 | 36.01 | 15.07 | 2.49 | 15.12 | 21.66 |
| QMA (net) | ■ B | (3.19) | 16.13 | 19.78 | (4.77) | 11.27 | 35.82 | 14.90 | 2.34 | 14.95 | 21.48 |
| Russell 1000 Value Index | ▲ | (1.69) | 13.66 | 17.34 | (3.83) | 13.45 | 32.53 | 17.51 | 0.39 | 15.51 | 19.69 |

# Boston Company Mid Cap Core

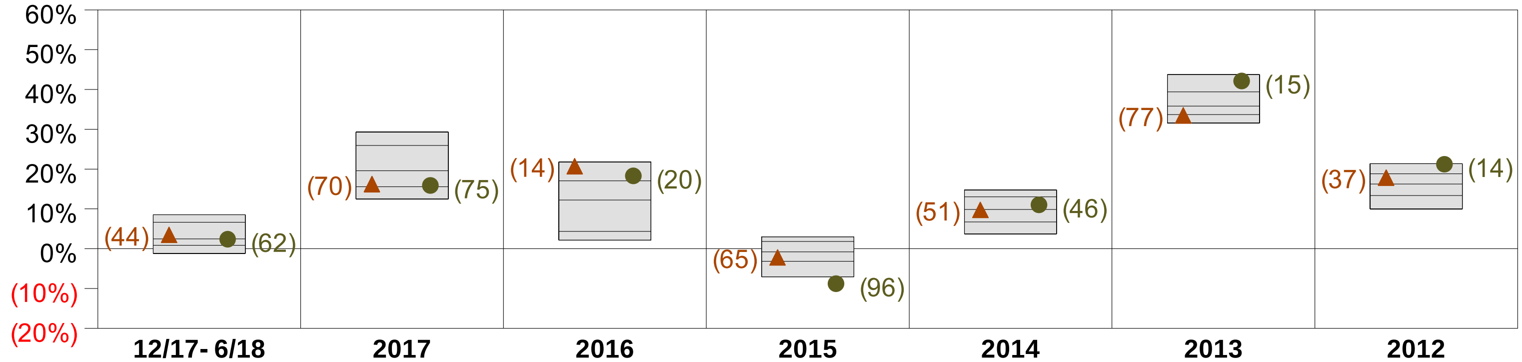
### Performance vs Callan Mid Capitalization (Gross)


| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years |
|---|---|---|---|---|---|---|
| 10th Percentile | 5.49 | 22.19 | 21.22 | 12.74 | 12.04 | 15.43 |
| 25th Percentile | 3.93 | 17.85 | 18.99 | 10.86 | 10.61 | 13.71 |
| Median | 2.81 | 13.92 | 16.13 | 9.43 | 9.05 | 12.45 |
| 75th Percentile | 1.96 | 10.37 | 13.97 | 8.05 | 7.69 | 11.22 |
| 90th Percentile | 0.63 | 7.29 | 11.41 | 5.94 | 5.99 | 9.89 |
| Boston Company ● A | 3.28 | 13.33 | 16.17 | 7.16 | 6.85 | 10.90 |
| Boston Company (net) ■ B | 3.15 | 12.77 | 15.59 | 6.62 | 6.32 | 10.35 |
| S&P Mid Cap 400 Index ▲ | 4.29 | 13.50 | 16.01 | 10.89 | 9.75 | 12.69 |

- Boston Company underperformed the benchmark by 1.01% for the quarter and underperformed by 0.17% for the year.
- Positive developments and positioning in Information Technology, Financials and Energy sectors added to relative results. Meanwhile, the Industrials and Real Estate sectors weighed most on performance versus the benchmark.

# Boston Company Mid Cap Core

## Performance vs Callan Mid Capitalization (Gross)




| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 8.51 | 29.31 | 21.83 | 2.97 | 14.76 | 43.76 | 21.34 |
| 25th Percentile | 6.62 | 25.93 | 17.03 | 1.80 | 13.03 | 39.39 | 18.82 |
| Median | 2.46 | 19.58 | 12.23 | (0.80) | 9.88 | 35.84 | 16.26 |
| 75th Percentile | 0.83 | 15.59 | 4.35 | (3.18) | 6.72 | 33.70 | 13.33 |
| 90th Percentile | (1.18) | 12.48 | 2.13 | (7.07) | 3.72 | 31.60 | 9.94 |
| **Boston Company** ● | 1.92 | 15.39 | 17.83 | (9.30) | 10.52 | 41.67 | 20.69 |
| S&P Mid Cap 400 Index ▲ | 3.49 | 16.24 | 20.74 | (2.18) | 9.77 | 33.50 | 17.88 |

# Fiduciary Management Small Cap Core

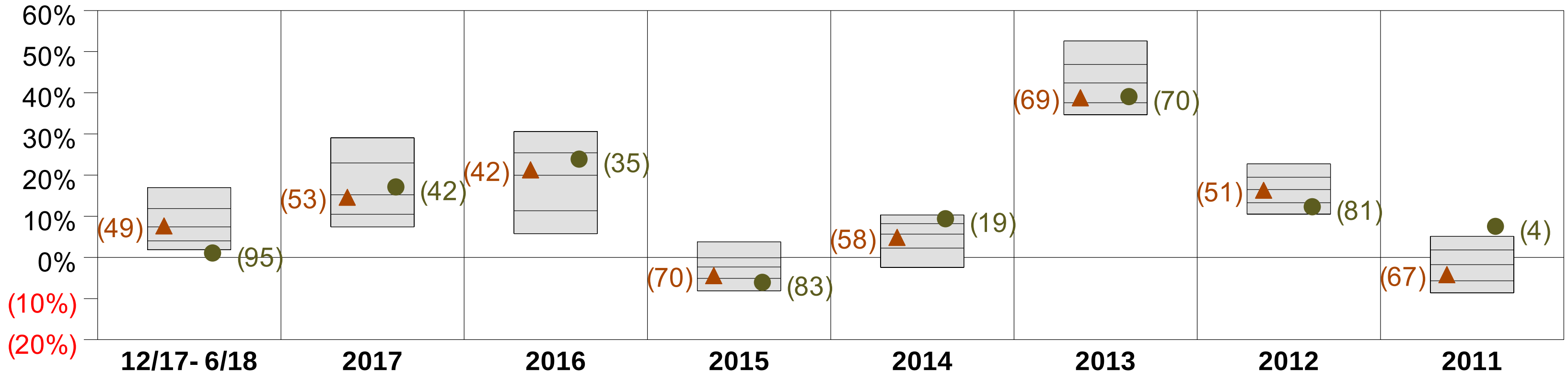
## Performance vs Callan Small Capitalization (Gross)


| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | | 11.46 | 30.21 | 28.55 | 14.54 | 14.11 | 16.15 | 12.19 |
| 25th Percentile | | 9.29 | 24.53 | 24.47 | 12.74 | 12.00 | 14.63 | 11.10 |
| Median | | 7.17 | 17.18 | 20.80 | 11.20 | 10.48 | 13.43 | 10.15 |
| 75th Percentile | | 5.65 | 12.94 | 17.86 | 9.66 | 8.72 | 11.97 | 9.26 |
| 90th Percentile | | 4.12 | 9.83 | 15.39 | 8.39 | 7.65 | 10.54 | 8.05 |
| Fiduciary Management | ● A | 0.72 | 9.85 | 16.20 | 10.13 | 8.01 | 12.70 | 10.97 |
| Fiduciary Management (net) | ■ B | 0.56 | 9.14 | 15.45 | 9.42 | 7.30 | 11.95 | 10.14 |
| Russell 2000 Index | ▲ | 7.75 | 17.57 | 21.03 | 10.96 | 9.83 | 12.46 | 8.87 |

- Fiduciary underperformed by 7.03% for the quarter and underperformed by 7.71% for the year.
- Security selection in Information Technology, Healthcare and Consumer Discretionary drove most of the underperformance for the quarter. This was modestly offset by positive security selection in Financials.

# Fiduciary Management Small Cap Core

## Performance vs Callan Small Capitalization (Gross)

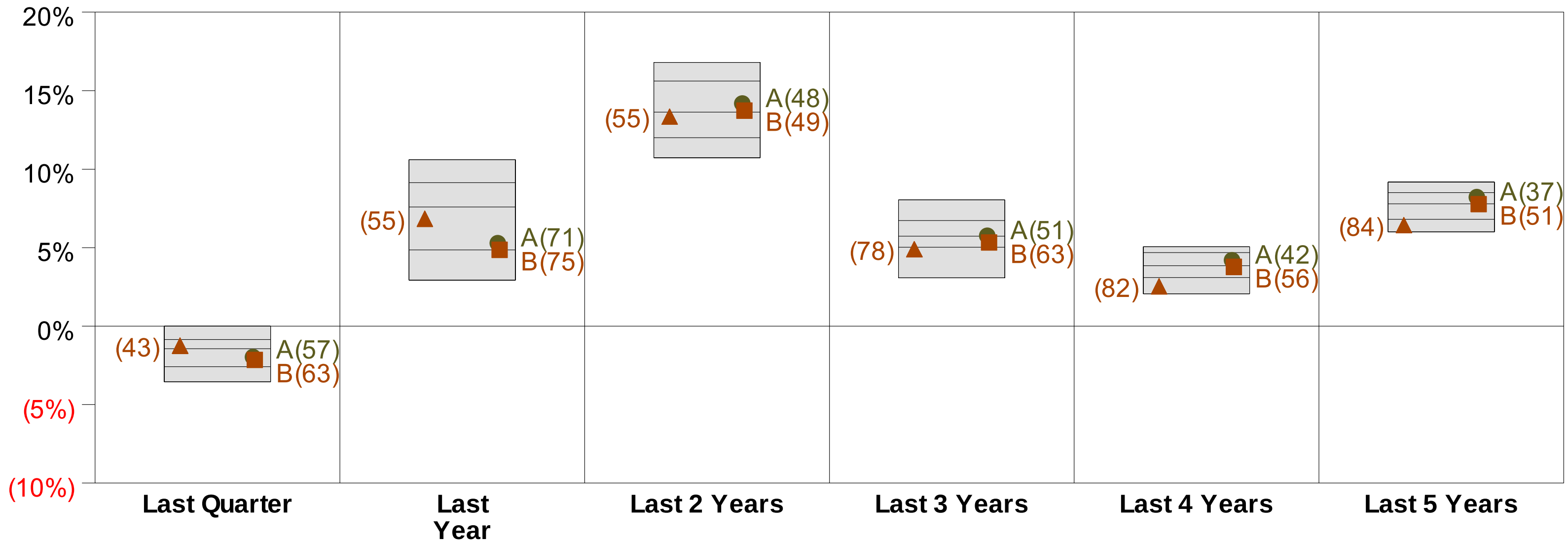



| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 17.01 | 29.07 | 30.59 | 3.80 | 10.35 | 52.61 | 22.74 | 5.11 |
| 25th Percentile | 11.85 | 22.99 | 25.41 | (0.08) | 8.22 | 46.90 | 19.51 | 1.82 |
| Median | 7.41 | 15.22 | 19.97 | (2.32) | 5.65 | 42.43 | 16.47 | (1.76) |
| 75th Percentile | 4.03 | 10.47 | 11.36 | (5.11) | 2.28 | 37.60 | 13.27 | (5.70) |
| 90th Percentile | 1.88 | 7.43 | 5.81 | (8.08) | (2.43) | 34.66 | 10.51 | (8.62) |
| **Fiduciary Management** ● | 0.55 | 16.64 | 23.44 | (6.55) | 8.89 | 38.60 | 11.86 | 7.05 |
| Russell 2000 Index ▲ | 7.66 | 14.65 | 21.31 | (4.41) | 4.89 | 38.82 | 16.35 | (4.18) |

# International Equity Performance

# PanAgora International Equity

### Performance vs Callan Non-US Developed Core Equity (Gross)

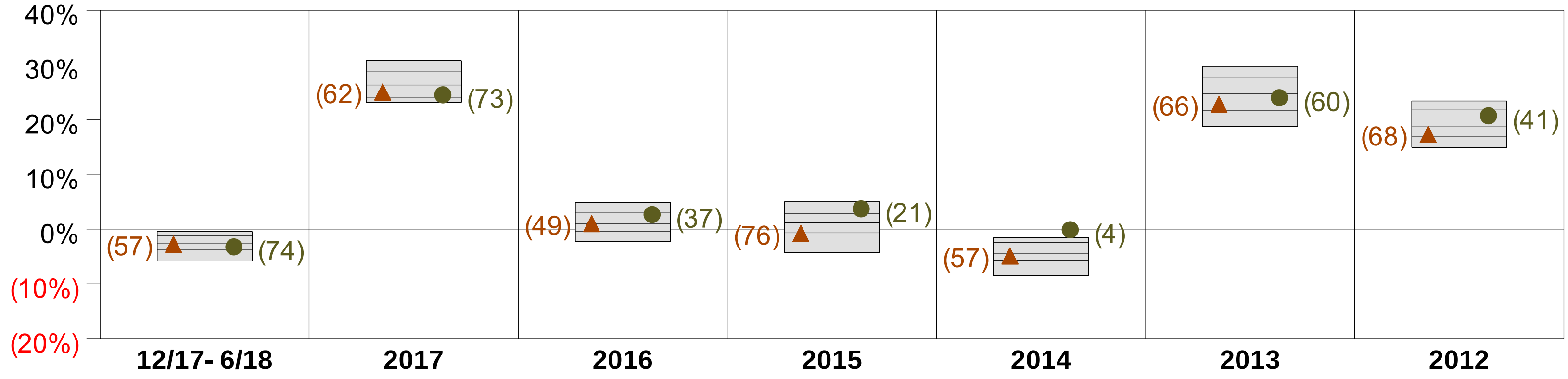



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 0.00 | 10.61 | 16.80 | 8.04 | 5.06 | 9.17 |
| 25th Percentile | | (0.86) | 9.14 | 15.62 | 6.73 | 4.68 | 8.51 |
| Median | | (1.43) | 7.60 | 13.64 | 5.73 | 3.85 | 7.80 |
| 75th Percentile | | (2.59) | 4.85 | 12.01 | 5.03 | 3.10 | 6.81 |
| 90th Percentile | | (3.55) | 2.93 | 10.74 | 3.07 | 2.06 | 6.00 |
| PanAgora | ● A | (2.08) | 5.18 | 14.07 | 5.64 | 4.09 | 8.10 |
| PanAgora (net) | ■ B | (2.15) | 4.86 | 13.73 | 5.32 | 3.77 | 7.77 |
| MSCI EAFE | ▲ | (1.24) | 6.84 | 13.36 | 4.90 | 2.54 | 6.44 |

- PanAgora underperformed the index by 0.84% for the quarter and underperformed by 1.67% over the last year.
- Country allocations and stock selection in Spain and Denmark contributed while the United Kingdom and Japan detracted.

# PanAgora International Equity

## Performance vs Callan Non-US Developed Core Equity (Gross)




| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|---|---|---|
| 10th Percentile | (0.43) | 30.76 | 4.85 | 4.96 | (1.58) | 29.74 | 23.41 |
| 25th Percentile | (1.24) | 28.87 | 2.96 | 2.84 | (2.44) | 27.80 | 21.76 |
| Median | (2.58) | 26.32 | 0.94 | 1.15 | (4.45) | 24.76 | 18.70 |
| 75th Percentile | (3.70) | 24.09 | (0.44) | (0.68) | (5.73) | 21.69 | 16.85 |
| 90th Percentile | (5.86) | 23.17 | (2.25) | (4.33) | (8.54) | 18.73 | 14.90 |
| **PanAgora** ● | (3.61) | 24.14 | 2.32 | 3.33 | (0.49) | 23.60 | 20.31 |
| MSCI EAFE ▲ | (2.75) | 25.03 | 1.00 | (0.81) | (4.90) | 22.78 | 17.32 |

# Manager Investment Philosophy

- **Neuberger Berman** believes that fixed income asset prices reflect consensus expectations across an array of factors including the level and path of interest rates, the shape of the yield curve, credit risk, cash flow patterns and volatility. The consensus view often extrapolates temporary influences into asset prices as if they were permanent in nature. As such, there are opportunities for investment managers with a disciplined valuation approach to generate added value. The key is to do so at a level of consistency that leads to the opportunity for exceptional long-term returns. Neuberger's first full month of performance is July 2010.

- **Northern Trust's** philosophy is built around the belief that there are inefficiencies in the marketplace, and they strive to deliver consistent investment returns in all types of market environments. Northern Trust's first full month of performance is July 2010.

- **Standish's** investment philosophy searches for value by utilizing both fundamental and technical factors. The team believes that consistent outperformance requires both top-down and bottom-up expertise. Standish's first full month of performance is July 2010.

- **QMA's** Value Equity philosophy is built on the fact that out-of-favor stocks with low P/E ratios have historically outperformed the broad stock market averages. They believe that a quantitative approach is the most effective way to identify attractive, undervalued companies and to exploit the pricing discrepancies that exist between high-and low-expectation stocks. QMA's first full month of performance is June 2007.

- **AB** uses a stratified sampling methodology and purchases a majority of the index stocks to replicate the Standard and Poor's 500. Alliance Bernstein's first full month of performance is November 2012.

- **Boston Company** uses a bottom up investment approach to identify mid cap stocks that are undervalued, possess strong fundamentals, improving momentum, and are underfollowed by Wall Street analysts. Boston's first full month of performance is August 2011.

- **Fiduciary** invests in companies that have a solid business franchise, but are trading below their intrinsic value (or the price a business owner or private buyer might pay for this company). Fiduciary's first full month of performance is October 2005.

- **Panagora's** Dynamic International Equity investment philosophy is built upon the belief that pricing inefficiencies exist in competitive markets, largely due to investor behavior and that challenging analysis is often overlooked by the universe of investors. PanAgora believes that a disciplined application of quantitative alpha signals that are derived from sound fundamental principles can efficiently capture mispricing opportunities in international equity markets and build portfolios that generate attractive risk-adjusted returns. PanAgora's first full month of performance is August 2011.

# Footnotes

(1) Includes BlackRock performance through 7/31/10. BlackRock securities transferred out to the NTGI account on 7/1/10 and 7/14/10; portfolio was fully liquidated on 8/3/10.

(2) The Custom Immunized Benchmark was comprised of 75% custom Treasury-strip portfolio, 10% BC Credit Bond Index, 10% BC Mortgage-Backed Securities Index and 5% 5-10 year U.S. Tips through 9/30/10. Starting 10/1/10, the Custom Immunized Benchmark was comprised of 80% custom Treasury-strip portfolio, 10% BC Credit Bond Index and 10% BC Mortgage-Backed Securities Index. Starting 04/1/2013, the Custom Immunized Benchmark is comprised of 76% custom Treasury-strip portfolio, 10% BC Mortgage-Backed Securities and 14% BC Credit Bond Index.

(3) Benchmark is comprised of 80% Russell 3000 and 20% MSCI EAFE.

(4) Benchmark was Russell 1000 through 09/30/05 and the Russell 3000 thereafter.

(5) The Policy Benchmark is based on the current weighted average benchmark relative to the current assets.

RSMI (Return Since Manager Inception) represents the manager return from the first full quarter invested to the present day. The first full quarter represents the quarter proceeding the funding quarter.

# Disclaimers

*This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.*

*This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.*

*Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.*

*Past performance is no guarantee of future results.*

*The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.*

Callan

December 2018 Board Meeting

# Florida Prepaid College Plan

## Third Quarter 2018
## Performance Review

**Weston Lewis, CFA, CAIA**
Atlanta Fund Sponsor Consulting

**Brian Smith, CFA**
Atlanta Fund Sponsor Consulting

# U.S. Market Climbs Steadily Higher in Third Quarter

## First Quarter Uncertainty Forgotten?

- Surge in volatility in February subsided through 2nd and 3rd quarters, remains below “average” market volatility measures, both realized and forward-looking.
- Correction (10% decline) achieved mid-February for the S&P 500, but stocks rebounded within the following weeks. S&P returned 7.7% in third quarter, and is up 10.6% year to date through September.
- Developed markets eked out a small gain while emerging markets declined in the third quarter; both are down year to date.
- Dollar rose more than 7% since mid-April, and more than 9% against the Yuan during this period.
- 10-year U.S. Treasury yields rose from 2.85% in June to 3.05% in September; yields are up 65 bps from the start of the year.
- The Fed raised rates in March, June and September, signaled one more hike this year, and three in 2019. CPI rose 2.3% year-over-year, pulling back from higher rates earlier in the year. Wage pressures are building as the unemployment rate falls below 4%.

**Returns for Periods ended September 30, 2018**

| | 1 Quarter | 1 Year | 5 Years | 10 Years | 25 Years |
|---|---|---|---|---|---|
| **U.S. Equity** | | | | | |
| Russell 3000 | 7.12 | 17.58 | 13.46 | 12.01 | 9.79 |
| S&P 500 | 7.71 | 17.91 | 13.95 | 11.97 | 9.81 |
| Russell 2000 | 3.58 | 15.24 | 11.07 | 11.11 | 9.38 |
| **Non-U.S. Equity** | | | | | |
| MSCI World ex USA | 1.31 | 2.67 | 4.24 | 5.18 | 5.39 |
| MSCI Emerging Markets | -1.09 | -0.81 | 3.61 | 5.40 | -- |
| MSCI ACWI ex USA Small Cap | -1.51 | 1.86 | 6.14 | 8.73 | -- |
| **Fixed Income** | | | | | |
| Bloomberg Barclays Aggregate | 0.02 | -1.22 | 2.16 | 3.77 | 5.02 |
| 3-Month T-Bill | 0.49 | 1.59 | 0.52 | 0.34 | 2.56 |
| Bloomberg Barclays Long Gov/Credit | -0.47 | -2.73 | 5.18 | 7.11 | 6.73 |
| Bloomberg Barclays Global Agg ex-US | -1.74 | -1.45 | -0.33 | 2.20 | 4.36 |
| **Real Estate** | | | | | |
| NCREIF Property | 1.81 | 7.31 | 9.60 | 6.43 | 9.27 |
| FTSE NAREIT Equity | 0.79 | 3.35 | 9.16 | 7.44 | 9.71 |
| **Alternatives** | | | | | |
| CS Hedge Fund | 0.59 | 3.49 | 3.39 | 4.43 | -- |
| Cambridge Private Equity* | 4.51 | 18.00 | 14.28 | 10.18 | 15.60 |
| Bloomberg Commodity | -2.02 | 2.59 | -7.18 | -6.24 | 2.40 |
| Gold Spot Price | -4.65 | -6.90 | -2.05 | 3.11 | 4.95 |
| **Inflation - CPI-U** | 0.18 | 2.28 | 1.52 | 1.44 | 2.24 |

*Cambridge PE data are available through June 30, 2018.

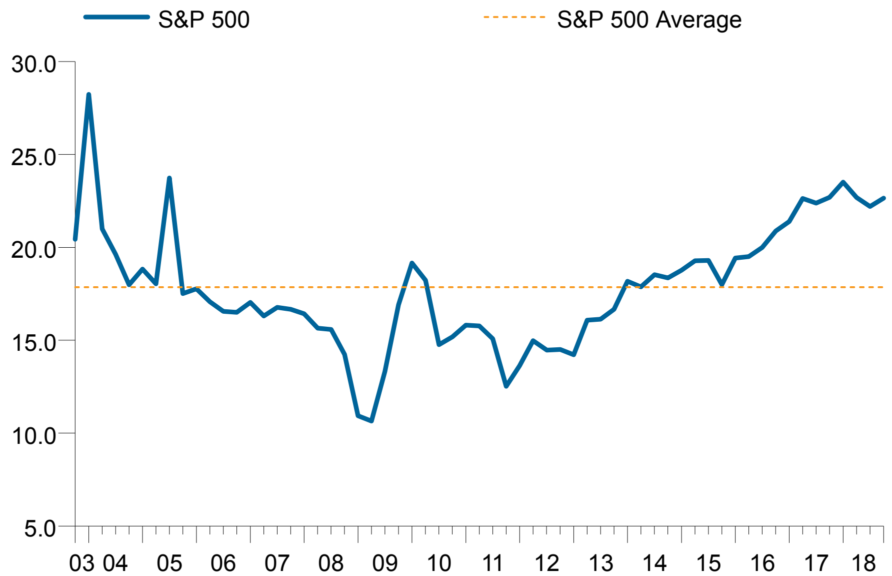
# What Are We Talking About with Investors?

## Common themes in the second half of 2018

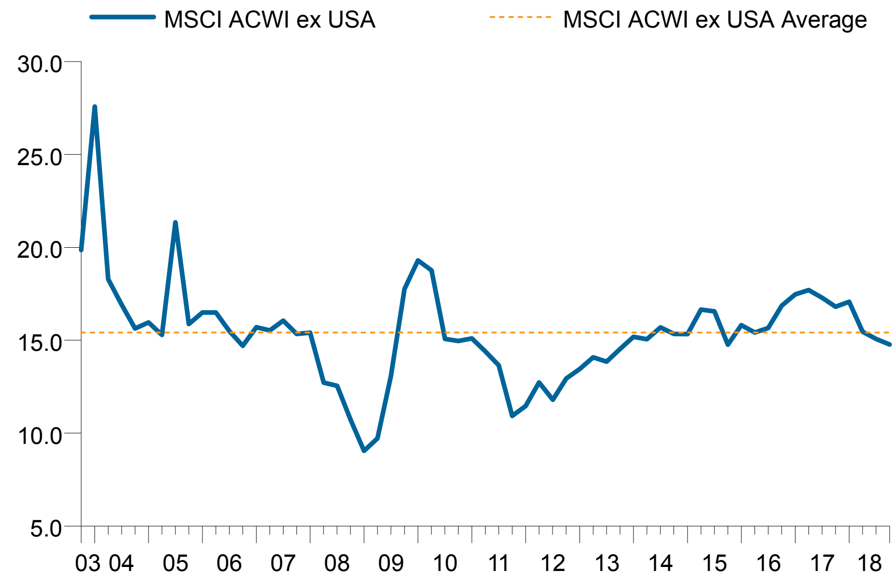
- Current expansion is growing long in the tooth; a downturn seems inevitable, should something be done about it?
  - Increased conversation around the merits of risk mitigation strategies.
- Litany of macro investing concerns raising anxiety:
  - Trade wars and inflation
  - Weaker GDP cycle going forward
  - Potential for yield curve inversion
  - Emerging markets underperformance
  - Value underperformance
  - Equity concentration risk
  - When does China become an asset class?
- Are you prepared for inevitable market volatility?

## Equity Valuations—Historical Data

**Price/Earnings Ratio (exc neg)**
**for 15 Years ended September 30, 2018**




**Price/Earnings Ratio (exc neg)**
**for 15 Years ended September 30, 2018**



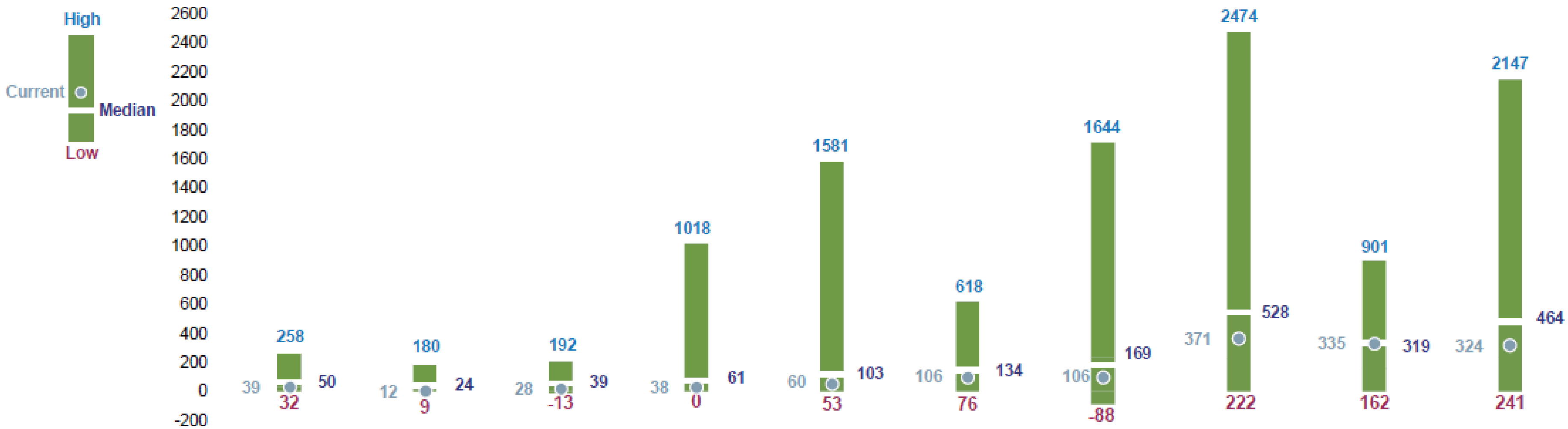

– U.S. equity valuations have slipped since the start of the year but remain high relative to the 15-year average

– Current valuations are well below the tech-bubble era and have recuperated steadily after the Global Financial Crisis

– U.S. equity valuations are higher relative to non-U.S. equity; ACWI ex USA valuations are at their 15-year average

Sources: MSCI, Standard & Poor's

# Fixed Income Valuations




| | Aggregate | Agency | MBS | ABS | CMBS | Corporate | Preferred | Floating-Rate Loans | Emerging Markets (USD) | High Yield |
|---|---|---|---|---|---|---|---|---|---|---|
| Max Spread Date | 12/3/2008 | 11/20/2008 | 12/3/2008 | 1/6/2009 | 11/21/2008 | 12/3/2008 | 3/9/2009 | 12/19/2008 | 10/24/2008 | 12/15/2008 |
| Min Spread Date | 2/23/2005 | 3/12/2013 | 7/27/2010 | 10/1/2009 | 12/8/2004 | 3/11/2005 | 12/6/2017 | 3/31/2006 | 6/1/2007 | 6/1/2007 |
| Spread on 12/31/17 | 36 | 14 | 25 | 36 | 62 | 93 | -30 | 405 | 285 | 358 |
| Spread on 12/31/16 | 43 | 21 | 15 | 59 | 75 | 123 | 213 | 465 | 342 | 422 |
| Spread on 12/31/15 | 56 | 21 | 24 | 72 | 121 | 165 | 158 | 714 | 415 | 695 |

Source: Eaton Vance

– Spread sectors continue to trade at rich levels relative to Treasuries on a 15-year basis due to demand for yield; spreads actually narrowed further in the third quarter.

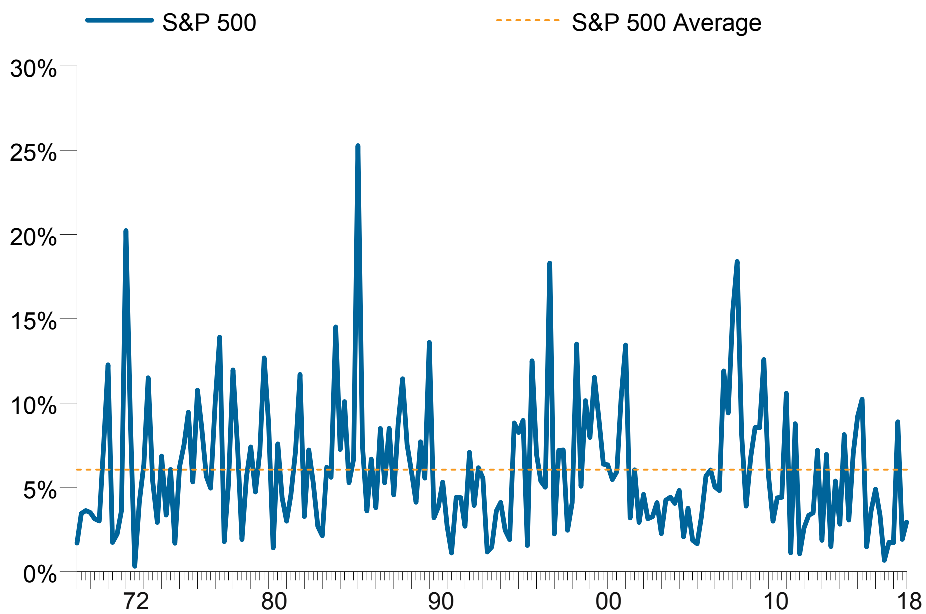
– Below-investment grade sectors such as high yield and bank loans maintain a yield advantage over other spread sectors.

Source: Factset as of 9/30/18. Spread history measures past 15 years. Data provided is for informational use only. Past performance is no guarantee of future results. All fixed-income spreads are in basis points and measure option-adjusted yield spread relative to comparable maturity U.S. Treasuries using daily data. Loan Index spread represents the three-year discounted spread over LIBOR. Aggregate represented by Bloomberg Barclays US Aggregate Index. Agency represented by Bloomberg Barclays U.S. Agency Index. MBS represented by Bloomberg Barclays U.S. Mortgage Backed Securities (MBS) Index. ABS represented by Bloomberg Barclays U.S. Asset Backed Securities (ABS) Index. CMBS represented by Bloomberg Barclays U.S. CMBS Investment Grade Index. Corporate represented by Bloomberg Barclays U.S. Corporate Investment Grade Index. Preferred represented by ICE BofA ML Fixed Rate Preferred Securities Index. Floating-Rate Loans represented by S&P/LSTA Leveraged Loan Index. Emerging Markets(USD) represented by JPMorgan Emerging Markets Bond Index (EMBI) Global Diversified. High Yield represented by ICE BofA ML US High Yield Index.

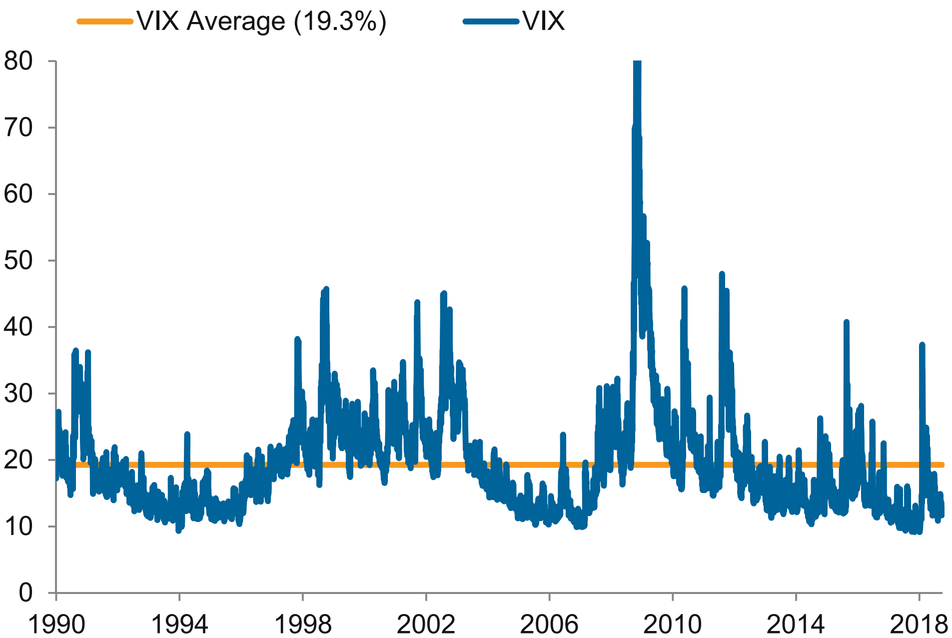
# Market Volatility—Realized and Implied

## S&P 500 Index

### Standard Deviation for S&P 500




### Daily VIX Index (30-Day Implied Volatility)



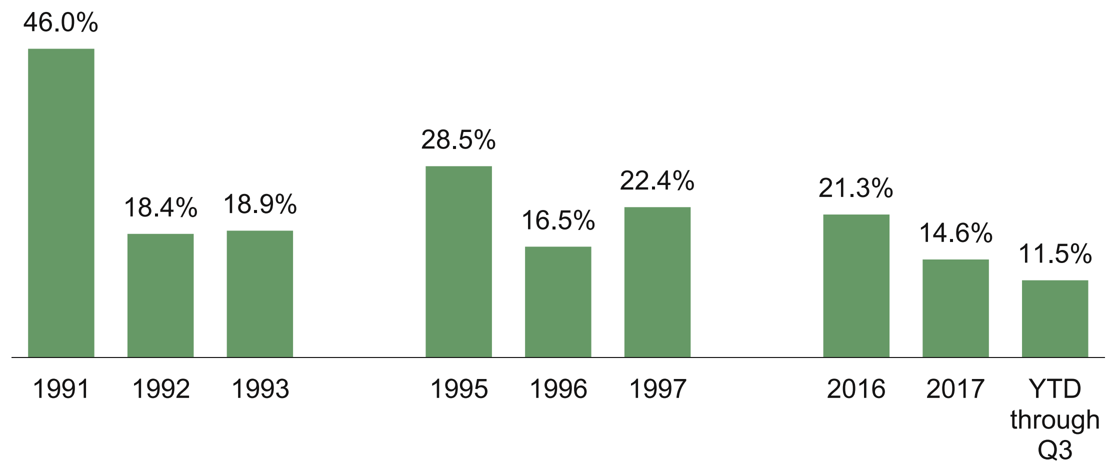

- The VIX, measuring the implied volatility of S&P 500 Index options, spiked 116% on Feb 5 when the market sank 4%, marking the biggest jump ever recorded—albeit from historically low levels.
- Volatility remained elevated through March and April, then fell back as the second and year progressed,  ending the third quarter at 12, well below the long-term average of 19.3
- First quarter 2018 volatility was exacerbated by anxiety about overly optimistic sentiment to start the year, expectations for determined action on the part of the Fed to raise rates, de-risking on the part of systematic investors, and accelerating wage growth.
- Valuations as measured by traditional metrics like P/E remain high, which require support from strong corporate earnings.

Sources: CBOE, Standard & Poor's

# Small Cap Continues Strong Quarterly Performance but Non-Earners Rise in Index

- Through the third quarter, the Russell 2000 Index was up 11.5% but has sold off early in the fourth quarter
- If calendar year results rebound, it would be the third consecutive year of double digit small-cap performance, which has happened only twice since the  1978 inception of the index
- The percentage of non-earners in the Russell 2000 ticked up, signaling a potential deterioration in quality of the index
- Rising interest rates and trade tensions with China may increase volatility levels of stocks
- Intra-market correlations dropped in the third quarter and are close to record-low levels established in November 2017; intra-sector correlations are below long-term averages in every sector except Communication Services, Real Estate, and Utilities
- Lower correlations imply higher stock specific risk which should create a more favorable environment for active managers

**Consecutive 3-Year Double Digit Russell 2000 Returns**




**Non-earners Within the Russell 2000**


Source: Callan, FTSE Russell  FactSet, BofA Merrill Lynch US Equity & US Quant Strategy

# Asset Distribution Across Investment Managers

| | September 30, 2018 | | | | | June 30, 2018 | | |
|---|---|---|---|---|---|---|---|---|
| | Market Value | Weight | Target | Net New Inv. | Inv. Return | Market Value | Weight | Target |
| **Domestic Fixed Income** | **$9,548,315,823** | **82.84%** | **84.98%** | **$(49,999,905)** | **$(52,333,205)** | **$9,650,648,934** | **83.68%** | **84.96%** |
| Columbia/Transition* | - | - | | (33,130) | (549,353) | 582,483 | 0.01% | |
| Insight* | 2,388,459,454 | 20.72% | 21.25% | (12,466,867) | (11,950,558) | 2,412,876,879 | 20.92% | 21.24% |
| Neuberger Berman | 2,389,846,292 | 20.73% | 21.25% | (12,500,000) | (11,125,234) | 2,413,471,526 | 20.93% | 21.24% |
| Northern Trust Global Investors | 2,382,213,324 | 20.67% | 21.25% | (12,499,908) | (15,293,937) | 2,410,007,169 | 20.90% | 21.24% |
| Standish* | - | - | | (203,692) | (403,769) | 607,460 | 0.01% | |
| Blackrock* | 2,387,796,753 | 20.72% | 21.25% | (12,296,308) | (13,010,354) | 2,413,103,416 | 20.92% | 21.24% |
| **Total Equity** | **$1,968,797,726** | **17.08%** | **15.02%** | **$0** | **$104,748,485** | **$1,864,049,240** | **16.16%** | **15.04%** |
| **Domestic Equity** | **$1,619,291,253** | **14.05%** | **12.01%** | **$0** | **$102,055,641** | **$1,517,235,612** | **13.16%** | **12.03%** |
| AB | 818,812,833 | 7.10% | 6.01% | 0 | 58,387,338 | 760,425,495 | 6.59% | 6.01% |
| Silvant Capital | - | - | | (15) | 0 | 15 | 0.00% | 0.00% |
| BMO | 226,643,372 | 1.97% | 1.50% | 15 | 21,523,276 | 205,120,081 | 1.78% | 1.50% |
| QMA | 189,158,403 | 1.64% | 1.50% | 0 | 7,543,270 | 181,615,134 | 1.57% | 1.50% |
| Boston Company | 196,124,520 | 1.70% | 1.50% | 0 | 7,996,639 | 188,127,881 | 1.63% | 1.50% |
| Fiduciary Management | 188,552,124 | 1.64% | 1.50% | 0 | 6,605,118 | 181,947,005 | 1.58% | 1.50% |
| **International Equity** | **$349,506,472** | **3.03%** | **3.00%** | **$0** | **$2,692,844** | **$346,813,628** | **3.01%** | **3.01%** |
| PanAgora | 349,506,472 | 3.03% | 3.00% | 0 | 2,692,844 | 346,813,628 | 3.01% | 3.01% |
| **Total Fund without Cash** | **$11,517,113,549** | **99.9%** | **100.0%** | **$(49,999,905)** | **$52,415,280** | **$11,514,698,174** | **99.8%** | **100.0%** |
| Cash Account | 9,488,779 | 0.08% | | (9,624,144) | 1,326,773 | 17,786,150 | 0.15% | |
| **Total Fund** | **$11,526,602,327** | **100.0%** | **100.0%** | **$(59,624,049)** | **$53,742,053** | **$11,532,484,324** | **100.0%** | **100.0%** |
| **Securities Lending** | **$1,584,888,231** | | | **$(647,418,047)** | **$1,052,669** | **$2,232,306,278** | | |
| Cash Collateral | 1,451,501,098 | | | (457,210,538) | | 1,908,711,636 | | |
| Non-Cash Collateral | 133,387,133 | | | (190,207,509) | | 323,594,643 | | |

*On 06/29/18, Insight and Blackrock replaced Columbia/Transition and Standish, respectively.

## Composite Returns (Gross)

### Returns for Periods Ended September 30, 2018

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| Total Fixed Income [1] | (0.55%) | (2.34%) | 0.76% | 2.60% | 4.71% |
| *Custom Benchmark* [2] | *(0.63%)* | *(2.53%)* | *0.59%* | *2.54%* | *4.67%* |
| | | | | | |
| Domestic Equities | 6.73% | 16.45% | 15.64% | 12.52% | 11.38% |
| *Russell:3000 Index* [4] | *7.12%* | *17.58%* | *17.07%* | *13.46%* | *12.01%* |
| | | | | | |
| International Equity | 0.78% | 0.61% | 9.60% | 6.16% | -- |
| *MSCI:EAFE* | *1.35%* | *2.74%* | *9.23%* | *4.42%* | *5.38%* |
| | | | | | |
| Total Equity | 5.62% | 13.26% | 14.48% | 11.27% | 10.46% |
| *Custom Benchmark* [3] | *5.97%* | *14.51%* | *15.51%* | *11.64%* | *10.71%* |
| | | | | | |
| Total Fund | 0.45% | 0.04% | 2.80% | 3.83% | 5.36% |
| *Blended Target* | *0.34%* | *-0.13%* | *2.72%* | *3.79%* | *5.39%* |
| | | | | | |
| NT Sec-Lending Collateral Pool | 0.54% | 1.78% | 1.09% | 0.73% | -- |
| *3-mnth Treasury Bill* | *0.49%* | *1.59%* | *0.84%* | *0.52%* | *0.34%* |

Please refer to page 30 for footnotes.

## Net of Fee Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| NET OF FEES | | | | | |
| **Domestic Fixed Income (1)** | **(0.55% )** | **(2.38% )** | **0.72%** | **2.56%** | **4.67%** |
| Custom Benchmark (2) | (0.63%) | (2.53%) | 0.59% | 2.54% | 4.67% |
| **Excess Return** | **0.08%** | **0.15%** | **0.13%** | **0.02%** | **0.00%** |
| Insight | (0.50%) | - | - | - | - |
| Custom Benchmark (2) | (0.63%) | (2.53%) | 0.59% | 2.54% | 4.67% |
| **Excess Return** | **0.13%** | **-** | **-** | **-** | **-** |
| Neuberger Berman | (0.47%) | (2.27%) | 0.90% | 2.70% | - |
| Custom Benchmark (2) | (0.63%) | (2.53%) | 0.59% | 2.54% | 4.67% |
| **Excess Return** | **0.16%** | **0.26%** | **0.32%** | **0.16%** | **-** |
| Northern Trust Global Investors | (0.64%) | (2.56%) | 0.55% | 2.48% | - |
| Custom Benchmark (2) | (0.63%) | (2.53%) | 0.59% | 2.54% | 4.67% |
| **Excess Return** | **(0.01% )** | **(0.02% )** | **(0.04% )** | **(0.06% )** | **-** |
| Blackrock | (0.55%) | - | - | - | - |
| Custom Benchmark (2) | (0.63%) | (2.53%) | 0.59% | 2.54% | 4.67% |
| **Excess Return** | **0.08%** | **-** | **-** | **-** | **-** |

Please refer to page 30 for footnotes.

## Net of Fee Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **Total Equity** | **5.56%** | **13.02%** | **14.19%** | **10.98%** | **10.16%** |
| Custom Benchmark (3) | 5.97% | 14.51% | 15.51% | 11.64% | 10.71% |
| **Excess Return** | **(0.41%)** | **(1.49%)** | **(1.32%)** | **(0.66%)** | **(0.55%)** |
| **Domestic Equity** | **6.68%** | **16.23%** | **15.37%** | **12.24%** | **11.09%** |
| Russell 3000 Index (4) | 7.12% | 17.58% | 17.07% | 13.46% | 12.01% |
| **Excess Return** | **(0.45%)** | **(1.35%)** | **(1.71%)** | **(1.22%)** | **(0.92%)** |
| AB | 7.67% | 17.82% | 17.24% | 13.89% | - |
| S&P 500 Index | 7.71% | 17.91% | 17.31% | 13.95% | 11.97% |
| **Excess Return** | **(0.04%)** | **(0.09%)** | **(0.07%)** | **(0.05%)** | **-** |
| QMA | 4.11% | 8.59% | 13.60% | 10.35% | 10.06% |
| Russell 1000 Value Index | 5.70% | 9.45% | 13.55% | 10.72% | 9.79% |
| **Excess Return** | **(1.59%)** | **(0.86%)** | **0.05%** | **(0.37%)** | **0.27%** |
| BMO | 10.45% | - | - | - | - |
| Russell 1000 Growth Index | 9.17% | 26.30% | 20.55% | 16.58% | 14.31% |
| **Excess Return** | **1.28%** | **-** | **-** | **-** | **-** |
| Boston Company | 4.12% | 12.33% | 13.32% | 9.49% | - |
| S&P Mid Cap 400 Index | 3.86% | 14.21% | 15.68% | 11.91% | 12.49% |
| **Excess Return** | **0.26%** | **(1.87%)** | **(2.36%)** | **(2.42%)** | **-** |
| Fiduciary Management | 3.46% | 7.80% | 14.22% | 10.19% | 11.83% |
| Russell 2000 Index | 3.58% | 15.24% | 17.12% | 11.07% | 11.11% |
| **Excess Return** | **(0.12%)** | **(7.44%)** | **(2.90%)** | **(0.88%)** | **0.71%** |
| **International Equity** | **0.70%** | **0.31%** | **9.27%** | **5.84%** | **-** |
| PanAgora Asset Mgmt | 0.70% | 0.31% | 9.27% | 5.84% | - |
| MSCI EAFE Index | 1.35% | 2.74% | 9.23% | 4.42% | 5.38% |
| **Excess Return** | **(0.65%)** | **(2.42%)** | **0.04%** | **1.42%** | **-** |
| **NT Sec-Lending Collateral Pool** | **0.54%** | **1.78%** | **1.09%** | **0.73%** | **-** |
| 3-month Treasury Bill | 0.49% | 1.59% | 0.84% | 0.52% | 0.34% |
| **Excess Return** | **0.05%** | **0.19%** | **0.25%** | **0.21%** | **-** |
| **Total Fund-Net of Fees** | **0.44%** | **(0.03%)** | **2.73%** | **3.77%** | **5.29%** |
| Policy Benchmark (5) | 0.34% | (0.13%) | 2.72% | 3.79% | 5.39% |
| **Excess Return** | **0.10%** | **0.10%** | **0.01%** | **(0.02%)** | **(0.09%)** |

Please refer to page 30 for footnotes.

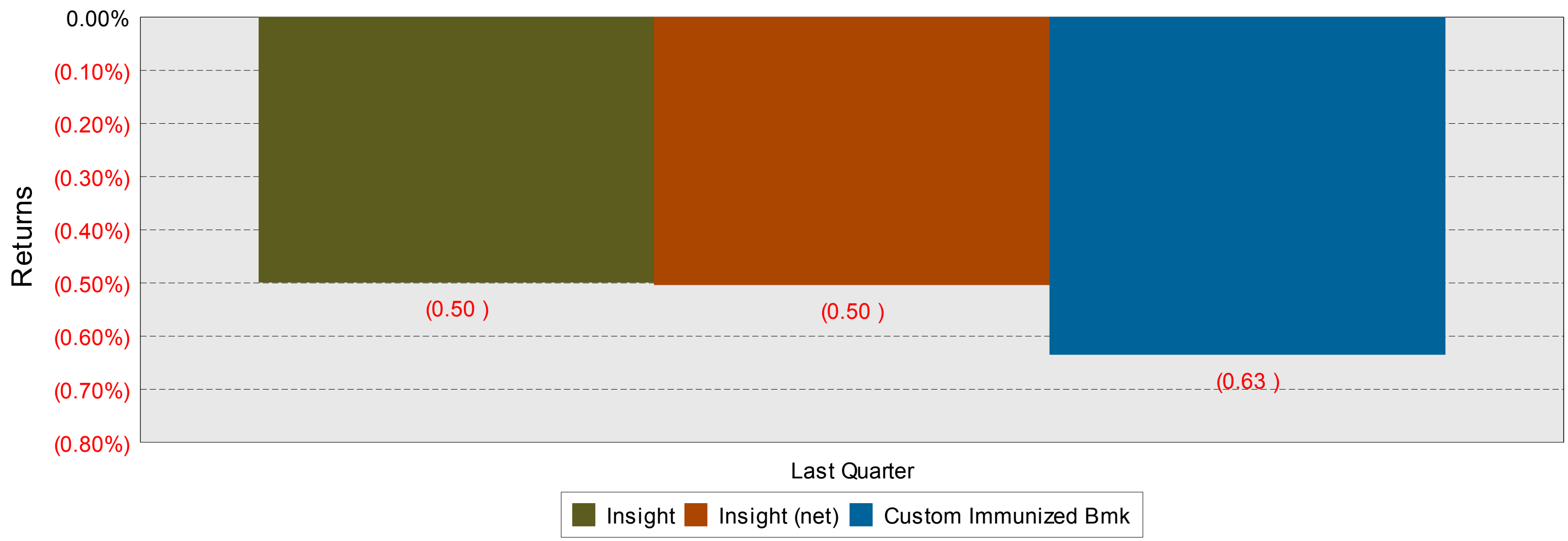
# Domestic Fixed Income

# Fixed Income Composite (Gross)

Returns
for Various Periods
Current Quarter Ending September 30, 2018

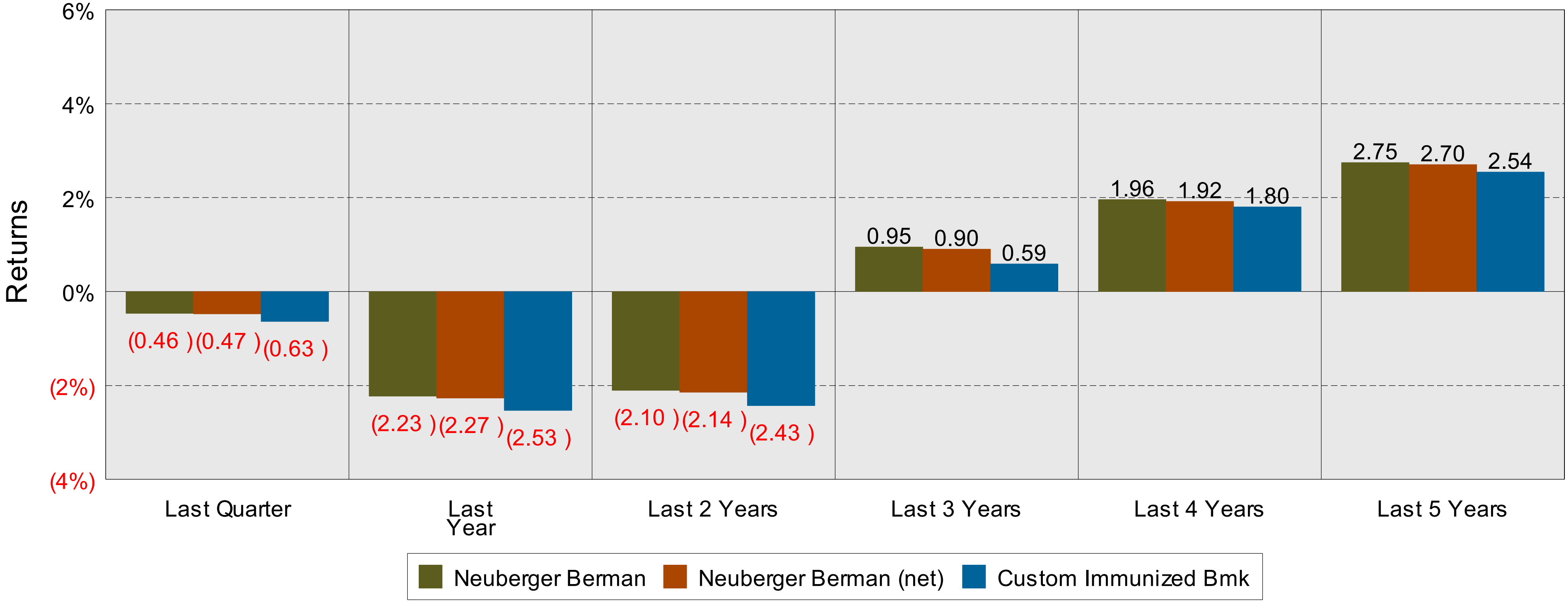

- The fixed income composite was ahead of the benchmark for the quarter with a return of (-0.55%).
- Over the one year period the composite outperformed the benchmark by 0.19%.

# Insight Custom Fixed Income



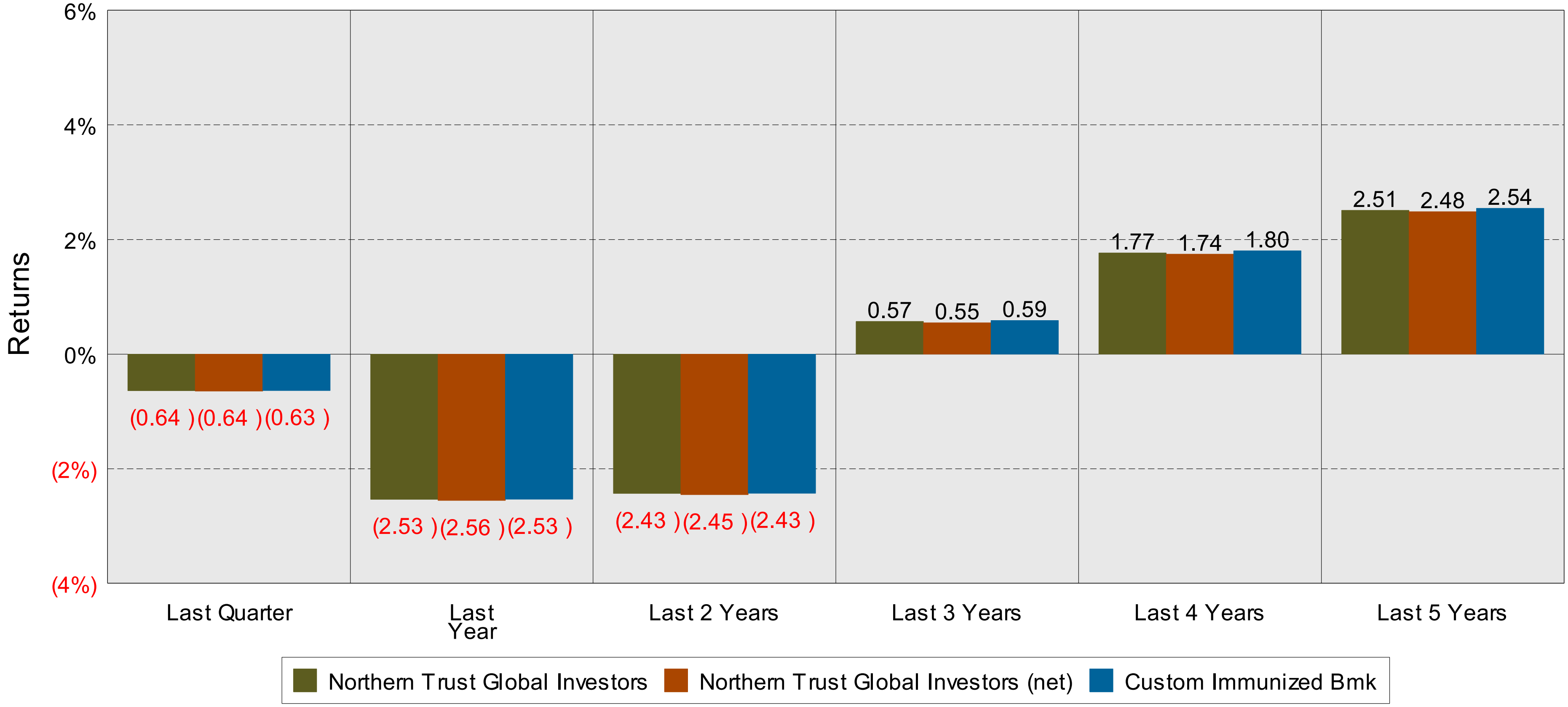

- Insight outperformed the benchmark during their first full quarter of performance by 0.13%
- Investment grade corporate, asset-backed securities, and non-Treasury government and agency credit all outperformed like-duration Treasurys. Overweights to all of these sectors contributed to performance for the quarter.

# Neuberger Berman Custom Fixed Income



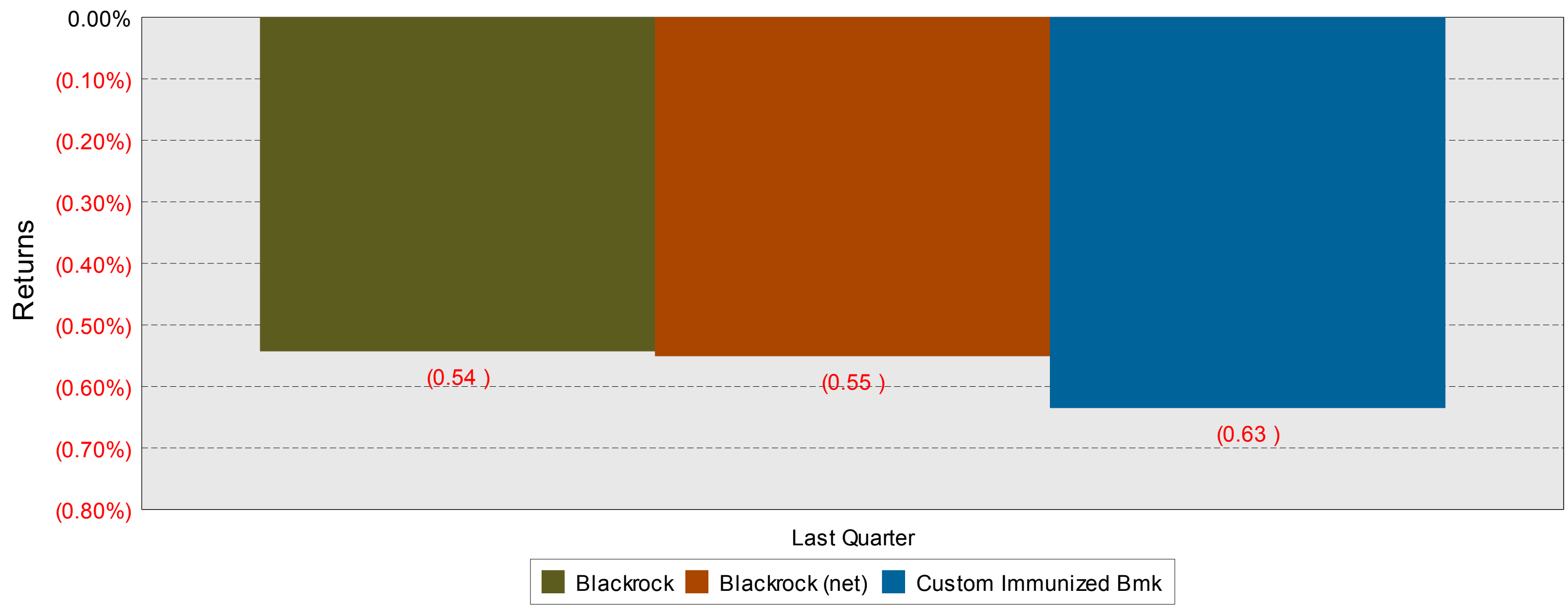

- The custom fixed income portfolio outperformed the benchmark by 0.17% for the quarter and outperformed for the year by 0.31%.
- Allocations to Investment Grade Corporates, Government Agency (non-MBS) and CMBS contributed to performance for the quarter.

## Northern Trust Global Investors Custom Fixed Income




- The custom portfolio matched the performance of the benchmark for the quarter and is even on the year.
- Tracking error over time is largely a result of different pricing sources and return methodologies.

# Blackrock Custom Fixed Income



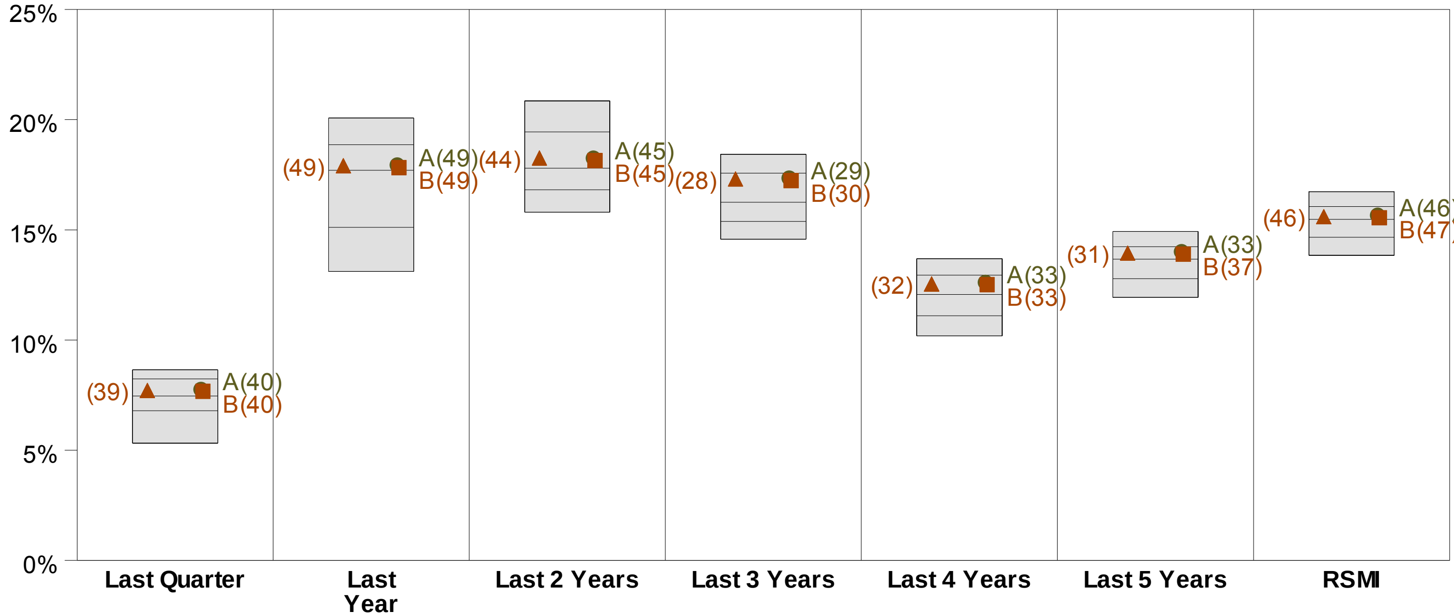

- The custom portfolio outperformed the benchmark by 0.08% for during their first quarter of management for the Plan.
- Sector positioning and security selection within credit—particularly some of the names within industrials—contributed to performance as US IG credit spreads tightened ~16 bps to ~106 bps.

Callan

# Domestic Equity Performance

# AB S&P 500 Index

## Performance vs Callan Large Cap Core (Gross)

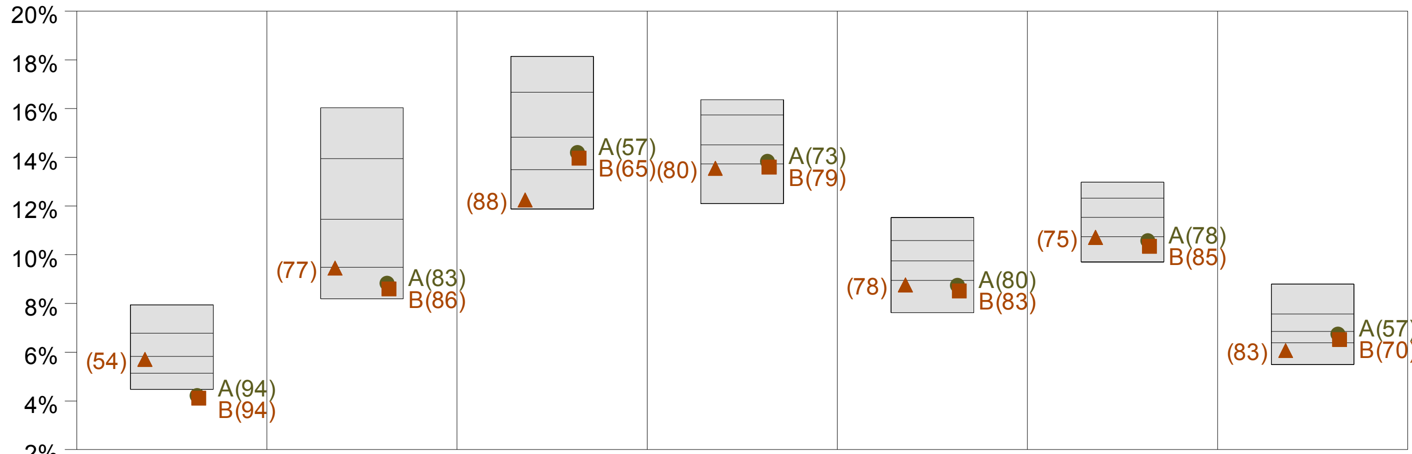



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | | 8.64 | 20.07 | 20.85 | 18.43 | 13.69 | 14.92 | 16.74 |
| 25th Percentile | | 8.24 | 18.86 | 19.44 | 17.57 | 12.94 | 14.24 | 16.05 |
| Median | | 7.46 | 17.70 | 17.80 | 16.25 | 12.06 | 13.67 | 15.47 |
| 75th Percentile | | 6.79 | 15.11 | 16.82 | 15.38 | 11.10 | 12.78 | 14.66 |
| 90th Percentile | | 5.32 | 13.11 | 15.80 | 14.58 | 10.19 | 11.93 | 13.84 |
| AB | ● A | 7.68 | 17.85 | 18.17 | 17.27 | 12.54 | 13.92 | 15.58 |
| AB (net) | ■ B | 7.67 | 17.82 | 18.14 | 17.24 | 12.51 | 13.89 | 15.55 |
| S&P 500 Index | ▲ | 7.71 | 17.91 | 18.26 | 17.31 | 12.55 | 13.95 | 15.60 |

- The portfolio continues to closely track the S&P 500 index at a very low fee.
- The strategy was slightly behind the benchmark for the quarter and underperformed by 0.06% for the year.

# QMA Large Cap Value

### Performance vs Callan Large Cap Value (Gross)

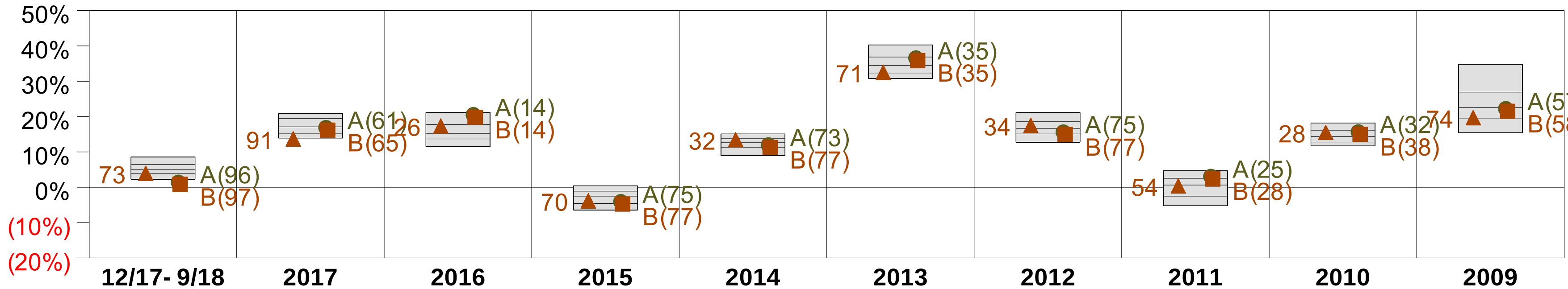



| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 7.94 | 16.04 | 18.15 | 16.36 | 11.52 | 12.98 | 8.79 |
| 25th Percentile | 6.78 | 13.95 | 16.67 | 15.74 | 10.58 | 12.33 | 7.57 |
| Median | 5.83 | 11.45 | 14.82 | 14.51 | 9.75 | 11.53 | 6.85 |
| 75th Percentile | 5.13 | 9.48 | 13.49 | 13.73 | 8.95 | 10.74 | 6.39 |
| 90th Percentile | 4.47 | 8.19 | 11.87 | 12.10 | 7.62 | 9.70 | 5.49 |
| QMA ● A | 4.15 | 8.76 | 14.13 | 13.77 | 8.67 | 10.51 | 6.68 |
| QMA (net) ■ B | 4.11 | 8.59 | 13.96 | 13.60 | 8.51 | 10.35 | 6.52 |
| Russell 1000 Value Index ▲ | 5.70 | 9.45 | 12.25 | 13.55 | 8.76 | 10.72 | 6.07 |

- QMA underperformed by 1.55% for the quarter and underperformed by 0.69% over the last year.
- The portfolio's emphasis on deep value stocks drove the underperformance for the quarter as stocks with higher earnings yields and book yields significantly lagged their more expensive peers within the Value Index.
- Portfolio holdings in Consumer Discretionary, Health Care, and Information Technology trailed benchmark performance in each of these sectors.

# QMA Large Cap Value

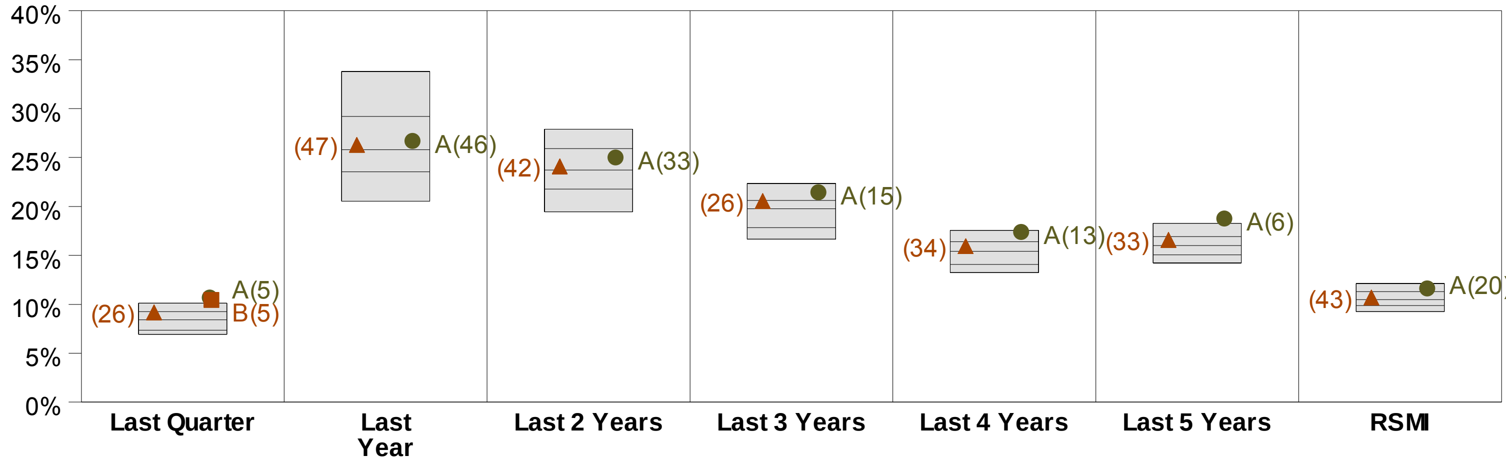
## Performance vs Callan Large Cap Value (Gross)




| | | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10th Percentile | | 8.59 | 20.91 | 21.12 | 0.44 | 15.04 | 40.28 | 21.14 | 4.68 | 18.18 | 34.79 |
| 25th Percentile | | 6.45 | 19.44 | 17.69 | (1.11) | 13.74 | 36.82 | 18.54 | 2.50 | 16.11 | 26.91 |
| Median | | 4.94 | 17.10 | 15.27 | (2.53) | 12.63 | 34.48 | 16.66 | 0.64 | 14.32 | 22.48 |
| 75th Percentile | | 3.82 | 15.09 | 13.66 | (4.62) | 11.33 | 32.34 | 15.04 | (2.54) | 12.53 | 19.59 |
| 90th Percentile | | 2.21 | 13.87 | 11.52 | (6.43) | 8.98 | 30.78 | 12.70 | (5.19) | 11.72 | 15.46 |
| QMA | ● A | 0.90 | 16.31 | 19.95 | (4.63) | 11.43 | 36.01 | 15.07 | 2.49 | 15.12 | 21.66 |
| QMA (net) | ■ B | 0.79 | 16.13 | 19.78 | (4.77) | 11.27 | 35.82 | 14.90 | 2.34 | 14.95 | 21.48 |
| Russell 1000 Value Index | ▲ | 3.92 | 13.66 | 17.34 | (3.83) | 13.45 | 32.53 | 17.51 | 0.39 | 15.51 | 19.69 |

# BMO

### Performance vs Callan Large Cap Growth (Gross)

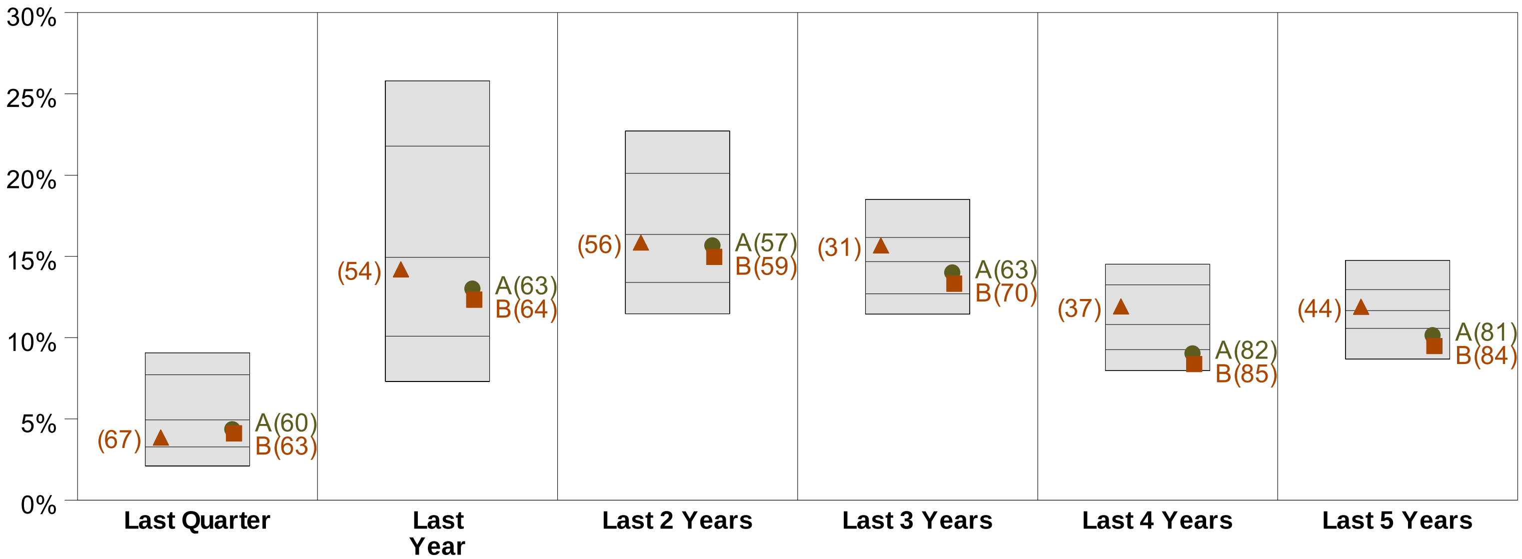



| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 10.13 | 33.80 | 27.89 | 22.35 | 17.56 | 18.27 | 12.13 |
| 25th Percentile | 9.25 | 29.20 | 25.91 | 20.61 | 16.41 | 16.93 | 11.30 |
| Median | 8.42 | 25.81 | 23.71 | 19.77 | 15.42 | 16.00 | 10.49 |
| 75th Percentile | 7.35 | 23.53 | 21.77 | 17.84 | 14.08 | 15.06 | 9.86 |
| 90th Percentile | 6.92 | 20.55 | 19.45 | 16.66 | 13.24 | 14.22 | 9.24 |
| BMO ● A | 10.49 | 26.52 | 24.82 | 21.27 | 17.23 | 18.58 | 11.43 |
| BMO (net) ■ B | 10.45 | - | - | - | - | - | - |
| Russell 1000 Growth Index ▲ | 9.17 | 26.30 | 24.10 | 20.55 | 15.95 | 16.58 | 10.70 |

- BMO outperformed the benchmark by 1.32% for the quarter.
- The Strategy's underweight position in Communication Services and overweight position in Information Technology added to performance, while overweight positions in Energy and Real Estate detracted from performance.
- Stock selection was strongest in Consumer Discretionary and Communication Services and weakest in Energy, Materials and Information Technology.

# Boston Company Mid Cap Core

## Performance vs Callan Mid Capitalization (Gross)

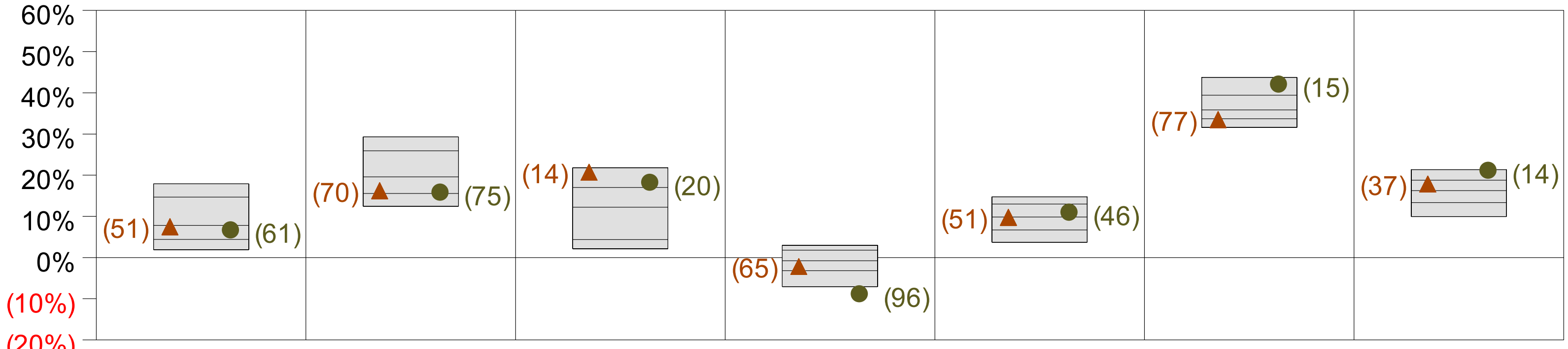



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 9.07 | 25.80 | 22.73 | 18.51 | 14.52 | 14.76 |
| 25th Percentile | | 7.72 | 21.78 | 20.11 | 16.16 | 13.25 | 12.96 |
| Median | | 4.94 | 14.94 | 16.35 | 14.68 | 10.81 | 11.67 |
| 75th Percentile | | 3.28 | 10.09 | 13.40 | 12.71 | 9.27 | 10.58 |
| 90th Percentile | | 2.11 | 7.30 | 11.47 | 11.46 | 7.97 | 8.68 |
| Boston Company | ● A | 4.25 | 12.90 | 15.55 | 13.89 | 8.91 | 10.04 |
| Boston Company (net) | ■ B | 4.12 | 12.33 | 14.98 | 13.32 | 8.37 | 9.49 |
| S&P Mid Cap 400 Index | ▲ | 3.86 | 14.21 | 15.85 | 15.68 | 11.93 | 11.91 |

- TBCAM outperformed the benchmark by 0.39% for the quarter and underperformed by 1.31% for the year.
- Positive developments and positioning in Information Technology and Real Estate sectors added to relative results. Meanwhile, the Materials and Energy sectors weighed most on performance versus the benchmark.

# Boston Company Mid Cap Core

## Performance vs Callan Mid Capitalization (Gross)




| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 17.94 | 29.31 | 21.83 | 2.97 | 14.76 | 43.76 | 21.34 |
| 25th Percentile | 14.67 | 25.93 | 17.03 | 1.80 | 13.03 | 39.39 | 18.82 |
| Median | 7.83 | 19.58 | 12.23 | (0.80) | 9.88 | 35.84 | 16.26 |
| 75th Percentile | 4.43 | 15.59 | 4.35 | (3.18) | 6.72 | 33.70 | 13.33 |
| 90th Percentile | 1.89 | 12.48 | 2.13 | (7.07) | 3.72 | 31.60 | 9.94 |
| **Boston Company** ● | 6.26 | 15.39 | 17.83 | (9.30) | 10.52 | 41.67 | 20.69 |
| S&P Mid Cap 400 Index ▲ | 7.49 | 16.24 | 20.74 | (2.18) | 9.77 | 33.50 | 17.88 |

# Fiduciary Management Small Cap Core

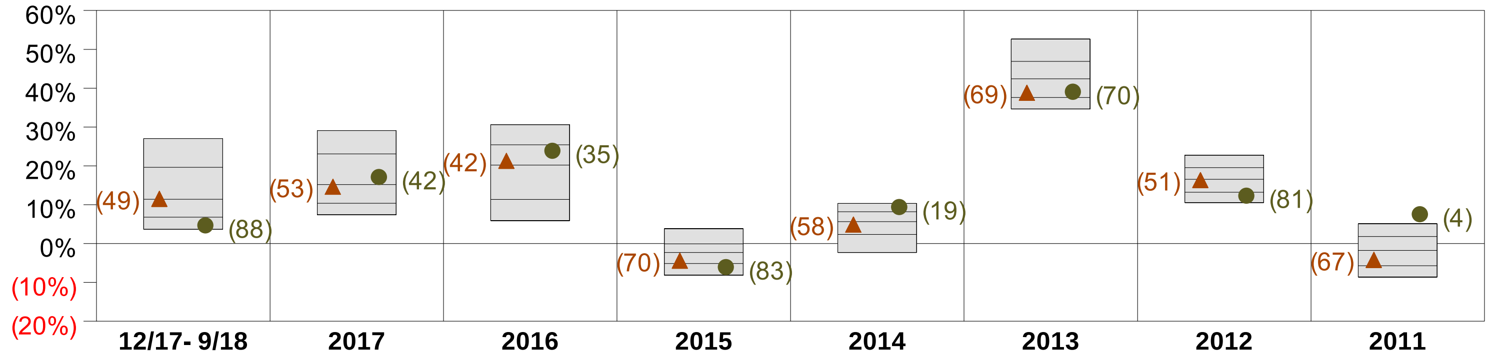
## Performance vs Callan Small Capitalization (Gross)


| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 9.62 | 33.60 | 28.13 | 22.20 | 17.80 | 14.96 | 12.53 |
| 25th Percentile | 7.36 | 24.92 | 23.38 | 19.32 | 15.45 | 13.48 | 11.47 |
| Median | 4.06 | 15.34 | 18.15 | 17.06 | 13.68 | 12.14 | 10.29 |
| 75th Percentile | 1.94 | 10.48 | 15.26 | 15.09 | 11.76 | 10.78 | 9.32 |
| 90th Percentile | 0.86 | 7.08 | 13.23 | 13.24 | 10.02 | 9.40 | 8.53 |
| Fiduciary Management ● A | 3.63 | 8.50 | 15.13 | 14.96 | 10.35 | 10.93 | 11.05 |
| Fiduciary Management (net) ■ B | 3.46 | 7.80 | 14.39 | 14.22 | 9.63 | 10.19 | 10.23 |
| Russell 2000 Index ▲ | 3.58 | 15.24 | 17.96 | 17.12 | 12.93 | 11.07 | 8.99 |

- Fiduciary outperformed by 0.05% for the quarter and underperformed by 6.74% for the year.
- Sectors that contributed positively in the quarter included Producer Manufacturing, Finance, and Commercial Services. Health Technology, Technology Services and Consumer Non-Durable sectors detracted.
- Cash continued to be a drag.

# Fiduciary Management Small Cap Core

## Performance vs Callan Small Capitalization (Gross)

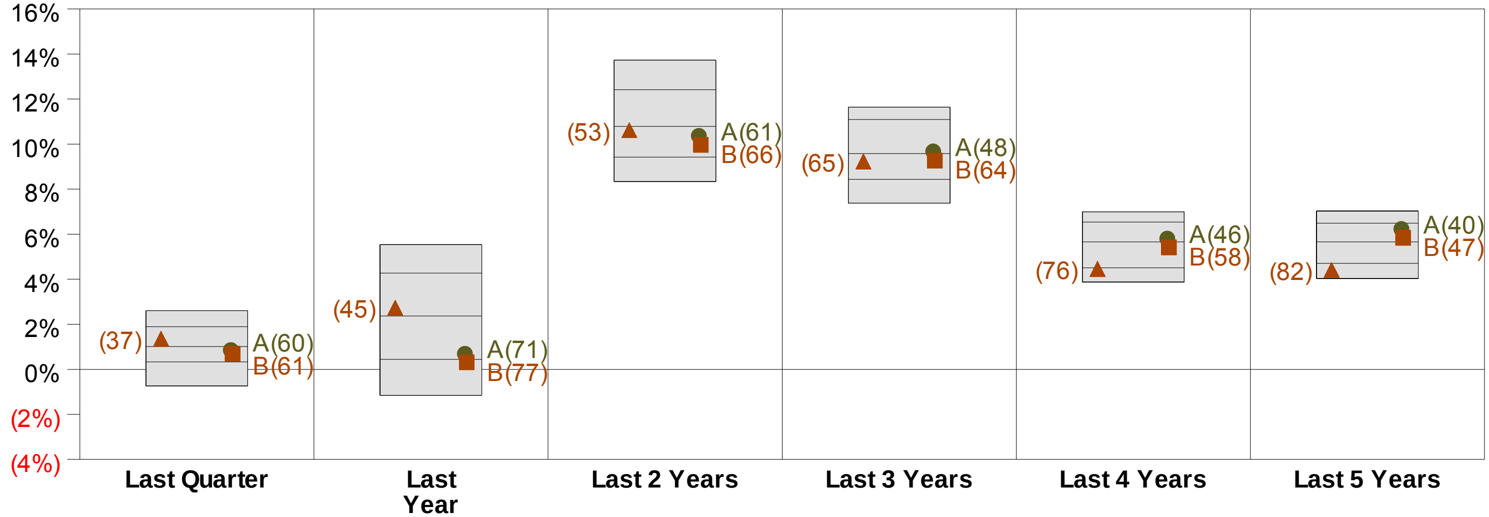



| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|---|---|---|
| 10th Percentile | 27.07 | 29.07 | 30.60 | 3.84 | 10.36 | 52.64 | 22.74 | 5.11 |
| 25th Percentile | 19.66 | 23.04 | 25.44 | (0.06) | 8.23 | 46.93 | 19.53 | 1.84 |
| Median | 11.40 | 15.21 | 20.21 | (2.30) | 5.66 | 42.44 | 16.51 | (1.75) |
| 75th Percentile | 6.83 | 10.37 | 11.37 | (5.11) | 2.35 | 37.59 | 13.22 | (5.72) |
| 90th Percentile | 3.66 | 7.42 | 5.88 | (8.14) | (2.32) | 34.65 | 10.51 | (8.64) |
| **Fiduciary Management** ● | 4.20 | 16.64 | 23.44 | (6.55) | 8.89 | 38.60 | 11.86 | 7.05 |
| Russell 2000 Index ▲ | 11.51 | 14.65 | 21.31 | (4.41) | 4.89 | 38.82 | 16.35 | (4.18) |

# International Equity Performance

# PanAgora International Equity

## Performance vs Callan Non-US Developed Core Equity (Gross)

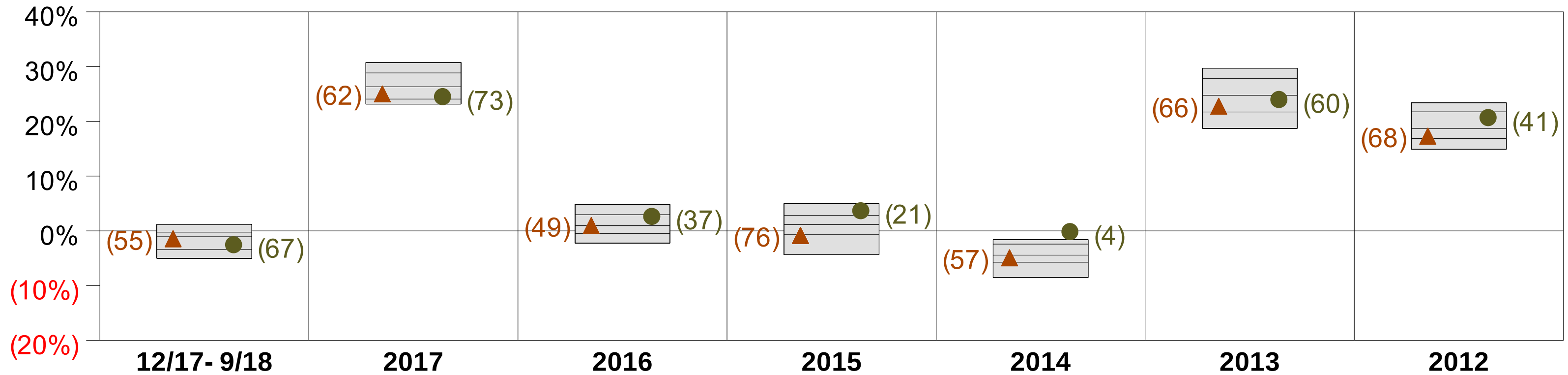



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 4 Years | Last 5 Years |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 2.60 | 5.54 | 13.73 | 11.64 | 7.00 | 7.03 |
| 25th Percentile | | 1.89 | 4.28 | 12.41 | 11.10 | 6.54 | 6.49 |
| Median | | 1.01 | 2.37 | 10.79 | 9.58 | 5.65 | 5.66 |
| 75th Percentile | | 0.33 | 0.44 | 9.42 | 8.44 | 4.51 | 4.70 |
| 90th Percentile | | (0.73) | (1.16) | 8.34 | 7.38 | 3.88 | 4.03 |
| PanAgora | ● A | 0.78 | 0.61 | 10.29 | 9.60 | 5.73 | 6.16 |
| PanAgora (net) | ■ B | 0.70 | 0.31 | 9.96 | 9.27 | 5.41 | 5.84 |
| MSCI EAFE | ▲ | 1.35 | 2.74 | 10.62 | 9.23 | 4.46 | 4.42 |

- PanAgora underperformed the index by 0.58% for the quarter and 2.12% over the last year.
- Positive stock selection in Japan was more than offset by negative stock selection in Germany, France, Hong Kong and the United Kingdom.

# PanAgora International Equity

## Performance vs Callan Non-US Developed Core Equity (Gross)




| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 1.22 | 30.76 | 4.85 | 4.96 | (1.58) | 29.74 | 23.41 |
| 25th Percentile | (0.25) | 28.87 | 2.96 | 2.84 | (2.44) | 27.80 | 21.76 |
| Median | (1.05) | 26.32 | 0.94 | 1.15 | (4.45) | 24.76 | 18.70 |
| 75th Percentile | (3.41) | 24.06 | (0.44) | (0.68) | (5.73) | 21.69 | 16.85 |
| 90th Percentile | (5.03) | 23.17 | (2.25) | (4.33) | (8.54) | 18.73 | 14.90 |
| **PanAgora** ● | (2.86) | 24.14 | 2.32 | 3.33 | (0.49) | 23.60 | 20.31 |
| MSCI EAFE ▲ | (1.43) | 25.03 | 1.00 | (0.81) | (4.90) | 22.78 | 17.32 |

# Manager Investment Philosophy

- **Neuberger Berman** believes that fixed income asset prices reflect consensus expectations across an array of factors including the level and path of interest rates, the shape of the yield curve, credit risk, cash flow patterns and volatility. The consensus view often extrapolates temporary influences into asset prices as if they were permanent in nature. As such, there are opportunities for investment managers with a disciplined valuation approach to generate added value. The key is to do so at a level of consistency that leads to the opportunity for exceptional long-term returns. Neuberger's first full month of performance is July 2010.

- **Northern Trust's** philosophy is built around the belief that there are inefficiencies in the marketplace, and they strive to deliver consistent investment returns in all types of market environments. Northern Trust's first full month of performance is July 2010.

- **Blackrock's** believes successful performance depends on well researched investment ideas from multiple sources within a risk-aware framework. The Strategy seeks alpha by allocation among three alpha sources based on best and highest information ratio ideas: macro strategies, sector allocation and security selection. PMs identify the highest information ratio trades among the alpha categories and size them based on a client's stated alpha and risk objectives, aiming to produce consistent, positive returns over time. On 6/29/18, Blackrock replaced Standish.

- **Insight's** investment philosophy focuses on the delivery of consistent performance by virtue of two key investment principles: precision and diversification. Precision: Insight believes in building portfolios that target precise sources of potential added value that only include those elements of market risk that Insight considers attractive and aim to eliminate unintended risks. Investing with this degree of precision is a key ingredient in achieving consistent, repeatable performance. Diversification: Insight believes that steady and superior long-term portfolio returns are generated by seeking to add value through active management of risk and return across a broad range of investment opportunities using proprietary management techniques. On 06/29/18. Insight replaced Columbia/Transition.

- **QMA's** Value Equity philosophy is built on the fact that out-of-favor stocks with low P/E ratios have historically outperformed the broad stock market averages. They blieve that a quantitative approach is the most effective way to identify attractive, undervalued companies and to exploit the pricing discrepancies that exist between high-and low-expectation stocks. QMA's first full month of performance is June 2007.

- **AB** uses a stratified sampling methodology and purchases a majority of the index stocks to replicate the Standard and Poor's 500. Alliance Bernstein's first full month of performance is November 2012.

- **BMO** believes that company fundamentals drive stock prices over the long term; in the short term, however, prices often become dislocated from fundamentals due to behavioral biases and emotions such as fear and greed. The team believes that fundamentally strong, attractively valued companies with growing investor interest will outperform over the long run. The team seeks to identify these companies and builds portfolios using a systematic, data-driven process that avoids behavioral biases and grounds all investment decisions in hard data and time-tested investment principles.

- **Boston Company** uses a bottom up investment approach to identify mid cap stocks that are undervalued, possess strong fundamentals, improving momentum, and are underfollowed by Wall Street analysts. Boston's first full month of performance is August 2011.

- **Fiduciary** invests in companies that have a solid business franchise, but are trading below their intrinsic value (or the price a business owner or private buyer might pay for this company). Fiduciary's first full month of performance is October 2005.

- **Panagora's** Dynamic International Equity investment philosophy is built upon the belief that pricing inefficiencies exist in competitive markets, largely due to investor behavior and that challenging analysis is often overlooked by the universe of investors. PanAgora believes that a disciplined application of quantitative alpha signals that are derived from sound fundamental principles can efficiently capture mispricing opportunities in international equity markets and build portfolios that generate attractive risk-adjusted returns. PanAgora's first full month of performance is August 2011.

# Footnotes

(1) Includes BlackRock performance through 7/31/10. BlackRock securities transferred out to the NTGI account on 7/1/10 and 7/14/10; portfolio was fully liquidated on 8/3/10.

(2) The Custom Immunized Benchmark was comprised of 75% custom Treasury-strip portfolio, 10% BC Credit Bond Index, 10% BC Mortgage-Backed Securities Index and 5% 5-10 year U.S. Tips through 9/30/10. Starting 10/1/10, the Custom Immunized Benchmark was comprised of 80% custom Treasury-strip portfolio, 10% BC Credit Bond Index and 10% BC Mortgage-Backed Securities Index. Starting 04/1/2013, the Custom Immunized Benchmark is comprised of 76% custom Treasury-strip portfolio, 10% BC Mortgage-Backed Securities and 14% BC Credit Bond Index.

(3) Benchmark is comprised of 80% Russell 3000 and 20% MSCI EAFE.

(4) Benchmark was Russell 1000 through 09/30/05 and the Russell 3000 thereafter.

(5) The Policy Benchmark is based on the current weighted average benchmark relative to the current assets.

RSMI (Return Since Manager Inception) represents the manager return from the first full quarter invested to the present day. The first full quarter represents the quarter proceeding the funding quarter.

# Disclaimers

*This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.*

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Callan

September 2018 Board Meeting

# Florida 529 Savings Plan

## Second Quarter 2018
## Performance Review


**Weston Lewis, CFA, CAIA**
Atlanta Fund Sponsor Consulting

**Brian Smith, CFA**
Atlanta Fund Sponsor Consulting

# Second Quarter Market Environment: Economy

*The U.S. economy remained on strong footing in the second quarter. The unemployment rate dropped to 3.8% in May, the lowest since 2000, and wages inched up. Consumer spending was robust and consumer and business confidence remained elevated.* Real gross domestic product increased at an annual rate of 4.1 percent in the second quarter of 2018, according to the "advance" estimate released by the Bureau of Economic Analysis. In the first quarter, real GDP increased 2.2 percent (revised). *Overseas, signs of deceleration emerged, especially in Europe, Japan, and China.*

- U.S. unemployment rate dropped to 3.8% in May
  - Lowest since 2000
  - Wages increased 2.7% (y/y) in May
- Inflation rising
  - Headline CPI was 2.8% in May (y/y); Core CPI was 2.2% (y/y)
  - PPI jumped 0.5% (3.1% y/y) in May
  - Core PCE Index the Fed's target of 2% (y/y) in May for the first time since 2012
- Housing starts climbed to an eleven-year high
  - Home prices also continued to rise
- University of Michigan Consumer Sentiment Survey remained elevated
  - Survey measures attitudes of future economic prospects across 500 consumers
  - Retail sales beat forecasts, up 0.8% in May (6% y/y)
- The Fed raised rates
  - As expected, a 25 bp hike in June brought Fed Funds target to 1.75%–2.0%
  - The Fed expects two more rate hikes this year and three more in 2019
- U.S. dollar appreciated
  - Relatively high interest rates and the strength of the U.S. economy bolstered the currency
  - Gained 5% versus a basket of developed market currencies
- Threat of escalating trade wars ongoing as quarter closed
  - Tariffs being imposed on goods imported from China, Europe and Canada (and vice versa)
  - Outcome unclear as to impact on U.S. economic growth and inflation
- Overseas
  - Euro zone bankers trimmed their outlook for growth in 2018 to 2.1%, down from 2.4%, given weaker economic data
  - Politics in Italy worried investors, causing yields on Italian bond to surge
  - Brexit negotiations stalled, raising the prospect of a "hard" Brexit
  - Japan's GDP contracted for the 1st time in two years in the 1st quarter
  - China also showed signs of slowing

# The Callan Periodic Table of Investment Returns - Monthly

| Annual Returns | | | | | Monthly Returns | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2013** | **2014** | **2015** | **2016** | **2017** | **Jan 2018** | **Feb 2018** | **Mar 2018** | **Apr 2018** | **May 2018** | **Jun 2018** | **Jul 2018** | **YTD 2018** |
| Small Cap Equity 38.82% | Real Estate 15.02% | Large Cap Equity 1.38% | Small Cap Equity 21.31% | Emerging Market Equity 37.28% | Emerging Market Equity 8.33% | Non-U.S. Fixed Income -0.85% | Real Estate 2.34% | Non-U.S. Equity 2.30% | Small Cap Equity 6.07% | Real Estate 1.43% | Large Cap Equity 3.72% | Small Cap Equity 9.54% |
| Large Cap Equity 32.39% | Large Cap Equity 13.69% | U.S. Fixed Income 0.55% | High Yield 17.13% | Non-U.S. Equity 24.21% | Large Cap Equity 5.73% | High Yield -0.85% | Non-U.S. Fixed Income 1.43% | Real Estate 1.96% | Large Cap Equity 2.41% | Small Cap Equity 0.72% | Non-U.S. Equity 2.46% | Large Cap Equity 6.47% |
| Non-U.S. Equity 21.02% | U.S. Fixed Income 5.97% | Real Estate -0.79% | Large Cap Equity 11.96% | Large Cap Equity 21.83% | Non-U.S. Equity 4.66% | U.S. Fixed Income -0.95% | Small Cap Equity 1.29% | Small Cap Equity 0.86% | Real Estate 1.65% | Large Cap Equity 0.62% | Emerging Market Equity 2.20% | High Yield 1.25% |
| High Yield 7.44% | Small Cap Equity 4.89% | Non-U.S. Equity -3.04% | Emerging Market Equity 11.19% | Small Cap Equity 14.65% | Non-U.S. Fixed Income 3.03% | Large Cap Equity -3.69% | U.S. Fixed Income 0.64% | High Yield 0.65% | U.S. Fixed Income 0.71% | High Yield 0.40% | Small Cap Equity 1.74% | Real Estate 1.20% |
| Real Estate 3.67% | High Yield 2.45% | Small Cap Equity -4.41% | Real Estate 4.06% | Non-U.S. Fixed Income 10.51% | Small Cap Equity 2.61% | Small Cap Equity -3.87% | High Yield -0.60% | Large Cap Equity 0.38% | High Yield -0.03% | U.S. Fixed Income -0.12% | High Yield 1.09% | Non-U.S. Equity -0.38% |
| U.S. Fixed Income -2.02% | Emerging Market Equity -2.19% | High Yield -4.47% | Non-U.S. Equity 2.75% | Real Estate 10.36% | High Yield 0.60% | Emerging Market Equity -4.61% | Non-U.S. Equity -1.73% | Emerging Market Equity -0.44% | Non-U.S. Fixed Income -1.87% | Non-U.S. Fixed Income -0.70% | Real Estate 0.84% | U.S. Fixed Income -1.59% |
| Emerging Market Equity -2.60% | Non-U.S. Fixed Income -3.08% | Non-U.S. Fixed Income -6.02% | U.S. Fixed Income 2.65% | High Yield 7.50% | Real Estate -0.01% | Non-U.S. Equity -4.75% | Emerging Market Equity -1.86% | U.S. Fixed Income -0.74% | Non-U.S. Equity -1.90% | Non-U.S. Equity -1.10% | U.S. Fixed Income 0.02% | Non-U.S. Fixed Income -1.67% |
| Non-U.S. Fixed Income -3.08% | Non-U.S. Equity -4.32% | Emerging Market Equity -14.92% | Non-U.S. Fixed Income 1.49% | U.S. Fixed Income 3.54% | U.S. Fixed Income -1.15% | Real Estate -6.70% | Large Cap Equity -2.54% | Non-U.S. Fixed Income -2.27% | Emerging Market Equity -3.54% | Emerging Market Equity -4.15% | Non-U.S. Fixed Income -0.36% | Emerging Market Equity -4.61% |

Sources: ● Bloomberg Barclays Aggregate ● Bloomberg Barclays Corp High Yield ● Bloomberg Barclays Global Aggregate ex US

● EPRA/NAREIT Developed ● MSCI World ex USA ● MSCI Emerging Markets ● Russell 2000 S&P 500

# Second Quarter Market Environment: Global Equity

*The U.S. equity market posted solid returns in the second quarter on the back of strong first quarter earnings as well as record share buybacks fueled by the Trump Administration's $1.5 trillion tax cut. Small growth stocks continued to dominate in the U.S., which outperformed developed markets largely due to relative strength in the U.S. dollar. Emerging market equities underperformed developed markets.*

## U.S. Equity

- Small caps outperformed large caps
  - R1000: +3.6%; +2.9% y-t-d
  - R2000: +7.8%; +7.7% y-t-d
  - Small caps more immune to global trade spats
- Growth outperformed value
  - R1000 Growth: +5.8%; R1000Value: +1.2% (+7.3% vs. -1.7% y-t-d)
- Energy sector fueled by rising oil prices
  - S&P 500 +3.4%; +2.6% y-t-d
  - Energy sector +13.5%
  - Consumer Discretionary (+8.2%) and Technology stocks (+7.1%) also top performers
  - Financials and Industrials lagged (both -3.2%)
  - Amazon alone accounted for ~50% of y-t-d total return of S&P
  - “FAAMG” plus Netflix: accounted for 57% of Q2 return of S&P

| | Q2 | YTD |
|---|---|---|
| Facebook Inc A | 21.6% | 10.1% |
| Apple Inc | 10.8% | 10.2% |
| Amazon.com Inc | 17.4% | 45.3% |
| Microsoft Corp | 8.5% | 16.3% |
| Google (Alphabet A&C) | 8.2% | 13.8% |
| Netflix Inc | 32.5% | 103.9% |

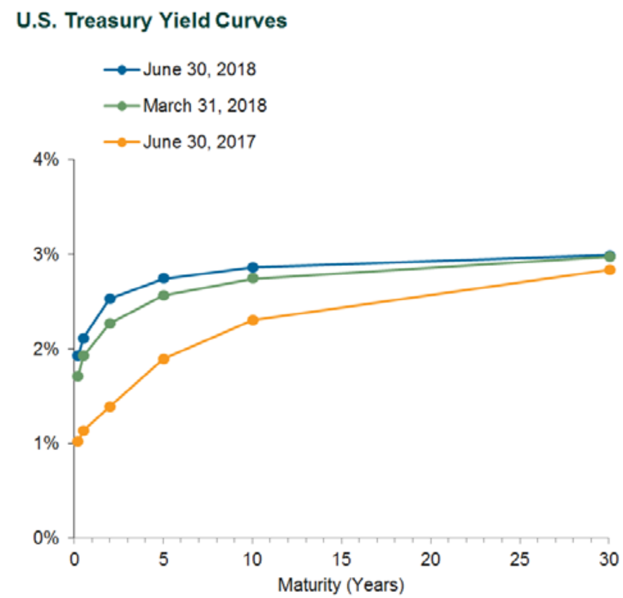
## International Equity

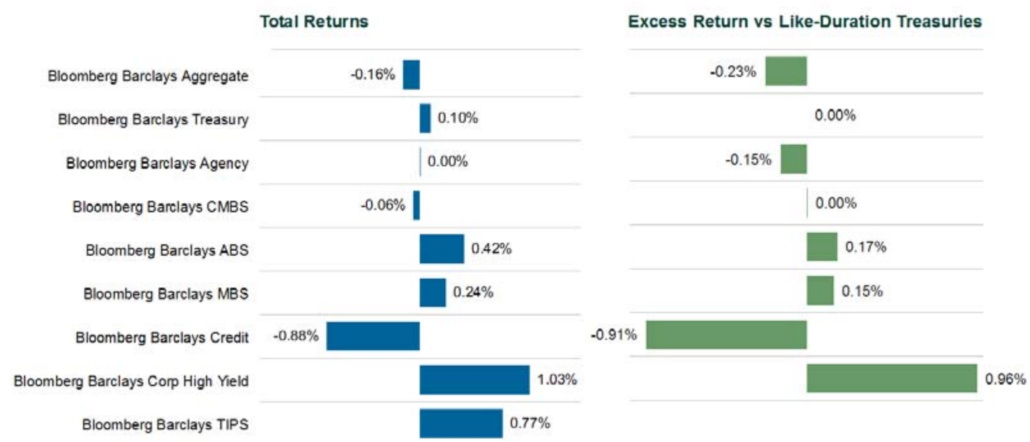
- The U.S. dollar appreciated vs most currencies
  - Up 5% versus a basket of developed market currencies
  - Benefitted from higher interest rates and relatively strong U.S. economy
- Developed markets
  - MSCI EAFE (in $US): -1.2%; -2.7% y-t-d
  - MSCI EAFE (local): +3.5%; -1.0% y-t-d
  - ACWI ex-US -2.6%; -3.8% y-t-d
  - Energy +7.3% on rising oil prices
  - Financials, 22% of the ACWI ex-US, sank 7.3%
  - Italy down sharply on political woes (-7.3%)
  - UK (+2.9%) and Australia (+5.2%) were bright spots, both benefitting from energy companies
  - As in the U.S., growth outperformed value
- Emerging Markets
  - MSCI EM (in $US): -8.0%; -6.7% y-t-d
  - Brazil (-26.4%); Russia (-6.0%); India (-0.6%); China (-3.5%)

# Second Quarter Market Environment: Fixed Income

*U.S. rates rose in the second quarter and the yield curve continued its flattening trend. The yield on the 10-year U.S. Treasury note hit an intra-quarter high of 3.11% in May but closed the quarter at 2.85%. Concerns over mounting trade tensions and slower global growth pushed yields lower going into quarter-end. Overseas, changes in interest rates were modest (with the exception of Italy, where yields spiked on political news) and U.S. dollar strength drove returns for unhedged bonds.*

- U.S. rates rose modestly and the yield curve continued to flatten
  - 10-year U.S. Treasury yield up 11 bps to 2.85%
  - 2-year U.S. Treasury yield up 25 bps to 2.52%
  - Spread between the 2-year and 10-year (33 bps) lowest in more than 10 years
- Investment grade bonds roughly flat for the quarter
  - Bloomberg Barclays Aggregate -0.2%; -1.6% y-t-d
  - Investment grade corporates underperformed Treasuries as heavy supply weighed on the market; Corporate Index -1.0%; -3.3% y-t-d
- High yield corporates outperformed investment grade
  - Bloomberg Barclays High Yield: +1.0%; +0.2% y-t-d
- Municipals performed relatively well on reduced supply and strong demand
  - The Bloomberg Barclays Municipal Bond Index: +0.9%; -0.2% y-t-d
- TIPS outperformed nominal Treasuries
  - 10-year breakeven rose to 2.11% from 2.05%
  - Bloomberg Barclays TIPS +0.8%; +0.0% y-t-d



# Asset Distribution Across Investment Managers

| | June 30, 2018 | | | | March 31, 2018 | |
|---|---|---|---|---|---|---|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| **Domestic Equity** | **$283,809,696** | **47.09%** | **$3,114,645** | **$7,617,907** | **$273,077,144** | **46.61%** |
| AB | 77,131,152 | 12.80% | 1,042,012 | 2,530,324 | 73,558,817 | 12.56% |
| QMA | 60,452,341 | 10.03% | 514,516 | 39,559 | 59,898,266 | 10.22% |
| Silvant Capital | 7 | 0.00% | (73,806,553) | 275 | 73,806,285 | 12.60% |
| BMO | 78,447,438 | 13.02% | 74,652,461 | 3,794,977 | - | - |
| Boston Co | 33,490,590 | 5.56% | 332,046 | 1,044,607 | 32,113,937 | 5.48% |
| Fiduciary Management | 34,288,167 | 5.69% | 380,162 | 208,167 | 33,699,837 | 5.75% |
| **International Equity** | **$57,225,036** | **9.49%** | **$348,698** | **$(1,210,520)** | **$58,086,858** | **9.91%** |
| PanAgora | 57,225,036 | 9.49% | 348,698 | (1,210,520) | 58,086,858 | 9.91% |
| **Domestic Fixed Income** | **$225,993,204** | **37.50%** | **$5,347,168** | **$(512,357)** | **$221,158,392** | **37.75%** |
| Columbia Mgmt | 225,993,204 | 37.50% | 5,347,168 | (512,357) | 221,158,392 | 37.75% |
| **Money Market** | **$31,808,260** | **5.28%** | **$2,121,342** | **$155,883** | **$29,531,036** | **5.04%** |
| Florida Prime | 31,808,260 | 5.28% | 2,121,342 | 155,883 | 29,531,036 | 5.04% |
| **Total Liquidity Account** | **$3,880,806** | **0.64%** | **$(149,477)** | **$16,243** | **$4,014,039** | **0.69%** |
| Liquidity Account | 3,880,806 | 0.64% | (149,477) | 16,243 | 4,014,039 | 0.69% |
| **Total Fund** | **$602,717,001** | **100.0%** | **$10,782,377** | **$6,067,156** | **$585,867,468** | **100.0%** |

- There was an investment gain of $6 million in the second quarter.
- Total assets increased to approximately $602 million as a result of inflows and investment earnings.

# Gross of Fee Manager Returns

| | Last Quarter | Last Year | Last 3 Year | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **GROSS OF FEES** | | | | | |
| **Domestic Equity** | | | | | |
| AB | 3.44% | 14.36% | 11.90% | 13.40% | - |
| S&P 500 Index | 3.43% | 14.37% | 11.93% | 13.42% | 10.17% |
| **Excess Return** | **0.01%** | **(0.01%)** | **(0.03%)** | **(0.02%)** | **-** |
| QMA | 0.08% | 9.38% | 8.78% | 10.68% | 9.34% |
| Russell 1000 Value Index | 1.18% | 6.77% | 8.26% | 10.34% | 8.49% |
| **Excess Return** | **(1.09%)** | **2.61%** | **0.52%** | **0.33%** | **0.85%** |
| Boston Co | 3.28% | 13.26% | 7.20% | 10.94% | - |
| S&P Mid Cap 400 Index | 4.29% | 13.50% | 10.89% | 12.69% | 10.78% |
| **Excess Return** | **(1.01%)** | **(0.25%)** | **(3.69%)** | **(1.75%)** | **-** |
| Fiduciary Management | 0.64% | 9.51% | 10.01% | 12.58% | 12.90% |
| Russell 2000 Index | 7.75% | 17.57% | 10.96% | 12.46% | 10.60% |
| **Excess Return** | **(7.12%)** | **(8.05%)** | **(0.96%)** | **0.12%** | **2.30%** |
| **International Equity** | | | | | |
| PanAgora | (2.08%) | 5.35% | 5.75% | 8.22% | - |
| MSCI EAFE Index | (1.24%) | 6.84% | 4.90% | 6.44% | 2.84% |
| **Excess Return** | **(0.84%)** | **(1.49%)** | **0.85%** | **1.78%** | **-** |
| **Domestic Fixed Income** | | | | | |
| Columbia | (0.23%) | (0.18%) | 2.46% | 2.76% | 4.37% |
| Blmbg Aggregate | (0.16%) | (0.40%) | 1.72% | 2.27% | 3.72% |
| **Excess Return** | **(0.07%)** | **0.21%** | **0.74%** | **0.48%** | **0.65%** |
| **Money Market** | | | | | |
| Florida Prime | 0.50% | 1.62% | 0.99% | 0.67% | - |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.68% | 0.42% | 0.35% |
| **Excess Return** | **0.05%** | **0.26%** | **0.32%** | **0.24%** | **-** |

BMO Large Cap Growth was funded April 2, 2018, partial quarter return was 5.16% Gross and 5.13% net; Full quarter return for Russell 1000 Growth Index was 5.76%.

# Net of Fee Manager Returns

| | Last Quarter | Last Year | Last 3 Year | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **NET OF FEES** | | | | | |
| **Domestic Equity** | | | | | |
| AB | 3.43% | 14.34% | 11.87% | 13.37% | - |
| S&P 500 Index | 3.43% | 14.37% | 11.93% | 13.42% | 10.17% |
| **Excess Return** | **(0.00%)** | **(0.04%)** | **(0.06%)** | **(0.05%)** | **-** |
| QMA | 0.05% | 9.22% | 8.62% | 10.51% | 9.18% |
| Russell 1000 Value Index | 1.18% | 6.77% | 8.26% | 10.34% | 8.49% |
| **Excess Return** | **(1.13%)** | **2.45%** | **0.36%** | **0.17%** | **0.69%** |
| Boston | 3.14% | 12.64% | 6.62% | 10.34% | - |
| S&P Mid Cap 400 Index | 4.29% | 13.50% | 10.89% | 12.69% | 10.78% |
| **Excess Return** | **(1.15%)** | **(0.87%)** | **(4.27%)** | **(2.35%)** | **-** |
| Fiduciary Management | 0.47% | 8.80% | 9.29% | 11.83% | 12.08% |
| Russell 2000 Index | 7.75% | 17.57% | 10.96% | 12.46% | 10.60% |
| **Excess Return** | **(7.28%)** | **(8.76%)** | **(1.67%)** | **(0.63%)** | **1.48%** |
| **International Equity** | | | | | |
| PanAgora | (2.15%) | 5.04% | 5.43% | 7.89% | - |
| MSCI EAFE Index | (1.24%) | 6.84% | 4.90% | 6.44% | 2.84% |
| **Excess Return** | **(0.92%)** | **(1.81%)** | **0.53%** | **1.45%** | **-** |
| **Domestic Fixed Income** | | | | | |
| Columbia | (0.24%) | (0.22%) | 2.42% | 2.72% | 4.33% |
| Blmbg Aggregate | (0.16%) | (0.40%) | 1.72% | 2.27% | 3.72% |
| **Excess Return** | **(0.08%)** | **0.17%** | **0.70%** | **0.44%** | **0.61%** |
| **Money Market** | | | | | |
| Florida Prime | 0.50% | 1.59% | 0.97% | 0.64% | - |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.68% | 0.42% | 0.35% |
| **Excess Return** | **0.05%** | **0.23%** | **0.29%** | **0.22%** | **-** |

# Asset Distribution Across Investment Options

| | June 30, 2018 | | March 31, 2018 | |
|---|---|---|---|---|
| | Market Value | Percent | Market Value | Percent |
| Money Market Fund | 32,022,461 | 5.32% | 29,706,249 | 5.07% |
| Fixed Income Fund | 37,012,321 | 6.14% | 36,478,417 | 6.23% |
| Balanced Portfolio | 72,289,230 | 12.00% | 71,102,248 | 12.14% |
| Blended Equity Portfolio | 144,041,498 | 23.91% | 141,908,996 | 24.24% |
| Domestic Equity Index Fund | 19,561,689 | 3.25% | 17,817,399 | 3.04% |
| Mid Cap Fund | 7,595,192 | 1.26% | 6,913,437 | 1.18% |
| Large Cap Value Fund | 8,381,005 | 1.39% | 7,778,018 | 1.33% |
| Large Cap Growth Fund | 18,813,843 | 3.12% | 16,804,215 | 2.87% |
| Small Cap Fund | 7,007,047 | 1.16% | 6,504,190 | 1.11% |
| International Fund | 6,444,941 | 1.07% | 6,326,047 | 1.08% |
| **Age Based Investment Options** | **$249,226,976** | **41.37%** | **$244,205,164** | **41.71%** |
| Age 0-4 | 20,759,314 | 3.45% | 20,810,408 | 3.55% |
| Age 5-8 | 39,293,551 | 6.52% | 39,459,696 | 6.74% |
| Age 9-12 | 62,114,404 | 10.31% | 60,819,074 | 10.39% |
| Age 13-15 | 52,975,143 | 8.79% | 52,539,742 | 8.97% |
| Age 16+ | 74,084,564 | 12.30% | 70,576,243 | 12.05% |
| **Total Investment Options** | **$602,396,203** | **100.0%** | **$585,544,379** | **100.0%** |

# Gross of Fee Investment Option Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **GROSS OF FEES** | | | | | |
| **Money Market Fund** | **0.50%** | **1.62%** | **0.99%** | **0.66%** | **0.68%** |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.68% | 0.42% | 0.35% |
| **Excess Return** | **0.05%** | **0.26%** | **0.31%** | **0.24%** | **0.33%** |
| **Fixed Income Fund** | **(0.23%)** | **(0.19%)** | **2.43%** | **2.72%** | **4.30%** |
| Blmbg Aggregate | (0.16%) | (0.40%) | 1.72% | 2.27% | 3.72% |
| **Excess Return** | **(0.07%)** | **0.21%** | **0.71%** | **0.45%** | **0.58%** |
| **Balanced Portfolio** | **0.75%** | **6.38%** | **6.00%** | **7.44%** | **7.41%** |
| Balanced Benchmark (1) | 1.44% | 6.22% | 6.02% | 7.08% | 6.96% |
| **Excess Return** | **(0.68%)** | **0.16%** | **(0.01%)** | **0.36%** | **0.45%** |
| **Blended Equity Portfolio** | **1.77%** | **12.86%** | **9.17%** | **11.89%** | **9.50%** |
| Equity Benchmark (2) | 3.03% | 13.12% | 10.24% | 11.88% | 9.41% |
| **Excess Return** | **(1.26%)** | **(0.26%)** | **(1.07%)** | **0.00%** | **0.09%** |
| **Domestic Equity Index Fund** | **3.41%** | **14.27%** | **11.82%** | **13.28%** | **-** |
| S&P 500 Index | 3.43% | 14.37% | 11.93% | 13.42% | 10.17% |
| **Excess Return** | **(0.02%)** | **(0.11%)** | **(0.11%)** | **(0.15%)** | **-** |
| **Mid Cap Fund** | **3.23%** | **13.17%** | **7.16%** | **10.84%** | **-** |
| S&P Mid Cap 400 Index | 4.29% | 13.50% | 10.89% | 12.69% | 10.78% |
| **Excess Return** | **(1.06%)** | **(0.33%)** | **(3.73%)** | **(1.85%)** | **-** |
| **Large Cap Value Fund** | **0.07%** | **9.33%** | **8.74%** | **10.57%** | **-** |
| Russell 1000 Value Index | 1.18% | 6.77% | 8.26% | 10.34% | 8.49% |
| **Excess Return** | **(1.10%)** | **2.56%** | **0.48%** | **0.23%** | **-** |

Please refer to page 29 for footnotes.

# Gross of Fee Investment Option Returns

| GROSS OF FEES | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **Large Cap Growth Fund** | **5.11%** | **23.98%** | **10.87%** | **15.35%** | **-** |
| Russell 1000 Growth Index | 5.76% | 22.51% | 14.98% | 16.36% | 11.83% |
| **Excess Return** | **(0.65% )** | **1.46%** | **(4.11% )** | **(1.00% )** | **-** |
| **Small Cap Fund** | **0.62%** | **9.48%** | **9.95%** | **12.47%** | **-** |
| Russell 2000 Index | 7.75% | 17.57% | 10.96% | 12.46% | 10.60% |
| **Excess Return** | **(7.13% )** | **(8.09% )** | **(1.01% )** | **0.01%** | **-** |
| **International Fund** | **(2.06% )** | **5.33%** | **5.66%** | **8.09%** | **-** |
| MSCI EAFE Index | (1.24%) | 6.84% | 4.90% | 6.44% | 2.84% |
| **Excess Return** | **(0.82% )** | **(1.52% )** | **0.76%** | **1.65%** | **-** |
| **Age 0-4** | **1.76%** | **12.87%** | **9.17%** | **11.89%** | **9.49%** |
| Equity Benchmark (2) | 3.03% | 13.12% | 10.24% | 11.88% | 9.41% |
| **Excess Return** | **(1.27% )** | **(0.25% )** | **(1.07% )** | **0.00%** | **0.07%** |
| **Age 5-8** | **1.29%** | **9.63%** | **7.71%** | **9.74%** | **8.60%** |
| 5-8 Benchmark (3) | 2.23% | 9.63% | 8.14% | 9.48% | 8.29% |
| **Excess Return** | **(0.94% )** | **0.00%** | **(0.43% )** | **0.25%** | **0.31%** |
| **Age 9-12** | **0.75%** | **6.38%** | **6.00%** | **7.44%** | **7.36%** |
| 9-12 Benchmark (4) | 1.44% | 6.22% | 6.02% | 7.08% | 6.96% |
| **Excess Return** | **(0.69% )** | **0.17%** | **(0.01% )** | **0.36%** | **0.40%** |
| **Age 13-15** | **0.26%** | **3.13%** | **4.19%** | **5.05%** | **5.86%** |
| 13-15 Benchmark (5) | 0.64% | 2.87% | 3.88% | 4.68% | 5.43% |
| **Excess Return** | **(0.37% )** | **0.26%** | **0.31%** | **0.38%** | **0.43%** |
| **Age 16+** | **(0.23% )** | **(0.19% )** | **2.42%** | **2.71%** | **4.29%** |
| Blmbg Aggregate | (0.16%) | (0.40%) | 1.72% | 2.27% | 3.72% |
| **Excess Return** | **(0.07% )** | **0.21%** | **0.70%** | **0.44%** | **0.57%** |

Please refer to page 29 for footnotes.

# Net of Fee Investment Option Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **NET OF FEES** | | | | | |
| **Money Market Fund** | **0.50%** | **1.62%** | **0.99%** | **0.64%** | **0.52%** |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.68% | 0.42% | 0.35% |
| **Excess Return** | **0.05%** | **0.26%** | **0.31%** | **0.22%** | **0.17%** |
| **Fixed Income Fund** | **(0.42% )** | **(0.93% )** | **1.66%** | **1.95%** | **3.53%** |
| Blmbg Aggregate | (0.16%) | (0.40%) | 1.72% | 2.27% | 3.72% |
| **Excess Return** | **(0.26% )** | **(0.53% )** | **(0.06% )** | **(0.32% )** | **(0.19% )** |
| **Balanced Portfolio** | **0.57%** | **5.63%** | **5.25%** | **6.67%** | **6.62%** |
| Balanced Benchmark (1) | 1.44% | 6.22% | 6.02% | 7.08% | 6.96% |
| **Excess Return** | **(0.86% )** | **(0.59% )** | **(0.76% )** | **(0.41% )** | **(0.34% )** |
| **Blended Equity Portfolio** | **1.60%** | **12.09%** | **8.43%** | **11.11%** | **8.70%** |
| Equity Benchmark (2) | 3.03% | 13.12% | 10.24% | 11.88% | 9.41% |
| **Excess Return** | **(1.43% )** | **(1.03% )** | **(1.81% )** | **(0.77% )** | **(0.71% )** |
| **Domestic Equity Index Fund** | **3.31%** | **13.83%** | **11.39%** | **12.76%** | **-** |
| S&P 500 Index | 3.43% | 14.37% | 11.93% | 13.42% | 10.17% |
| **Excess Return** | **(0.12% )** | **(0.55% )** | **(0.54% )** | **(0.66% )** | **-** |
| **Mid Cap Fund** | **3.04%** | **12.33%** | **6.37%** | **10.05%** | **-** |
| S&P Mid Cap 400 Index | 4.29% | 13.50% | 10.89% | 12.69% | 10.78% |
| **Excess Return** | **(1.26% )** | **(1.17% )** | **(4.52% )** | **(2.64% )** | **-** |
| **Large Cap Value Fund** | **(0.12% )** | **8.52%** | **7.93%** | **9.79%** | **-** |
| Russell 1000 Value Index | 1.18% | 6.77% | 8.26% | 10.34% | 8.49% |
| **Excess Return** | **(1.29% )** | **1.75%** | **(0.33% )** | **(0.56% )** | **-** |

Please refer to page 29 for footnotes.

# Net of Fee Investment Option Returns

| NET OF FEES | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **Large Cap Growth Fund** | **4.91%** | **23.06%** | **10.05%** | **14.53%** | **-** |
| Russell 1000 Growth Index | 5.76% | 22.51% | 14.98% | 16.36% | 11.83% |
| **Excess Return** | **(0.85% )** | **0.55%** | **(4.93% )** | **(1.83% )** | **-** |
| **Small Cap Fund** | **0.43%** | **8.67%** | **9.14%** | **11.66%** | **-** |
| Russell 2000 Index | 7.75% | 17.57% | 10.96% | 12.46% | 10.60% |
| **Excess Return** | **(7.32% )** | **(8.90% )** | **(1.82% )** | **(0.80% )** | **-** |
| **International Fund** | **(2.24% )** | **4.54%** | **4.88%** | **7.31%** | **-** |
| MSCI EAFE Index | (1.24%) | 6.84% | 4.90% | 6.44% | 2.84% |
| **Excess Return** | **(1.01% )** | **(2.30% )** | **(0.02% )** | **0.87%** | **-** |
| **Age 0-4** | **1.60%** | **12.10%** | **8.43%** | **11.11%** | **8.70%** |
| Equity Benchmark (2) | 3.03% | 13.12% | 10.24% | 11.88% | 9.41% |
| **Excess Return** | **(1.43% )** | **(1.03% )** | **(1.81% )** | **(0.77% )** | **(0.72% )** |
| **Age 5-8** | **1.10%** | **8.86%** | **6.96%** | **8.96%** | **7.79%** |
| 5-8 Benchmark (3) | 2.23% | 9.63% | 8.14% | 9.48% | 8.29% |
| **Excess Return** | **(1.13% )** | **(0.77% )** | **(1.18% )** | **(0.53% )** | **(0.50% )** |
| **Age 9-12** | **0.57%** | **5.63%** | **5.25%** | **6.67%** | **6.56%** |
| 9-12 Benchmark (4) | 1.44% | 6.22% | 6.02% | 7.08% | 6.96% |
| **Excess Return** | **(0.86% )** | **(0.59% )** | **(0.76% )** | **(0.41% )** | **(0.39% )** |
| **Age 13-15** | **0.08%** | **2.39%** | **3.43%** | **4.29%** | **5.09%** |
| 13-15 Benchmark (5) | 0.64% | 2.87% | 3.88% | 4.68% | 5.43% |
| **Excess Return** | **(0.56% )** | **(0.49% )** | **(0.44% )** | **(0.39% )** | **(0.34% )** |
| **Age 16+** | **(0.42% )** | **(0.93% )** | **1.66%** | **1.95%** | **3.52%** |
| Blmbg Aggregate | (0.16%) | (0.40%) | 1.72% | 2.27% | 3.72% |
| **Excess Return** | **(0.26% )** | **(0.53% )** | **(0.06% )** | **(0.32% )** | **(0.20% )** |

Please refer to page 29 for footnotes.

# Domestic Equity Performance

# AB S&P 500 Index

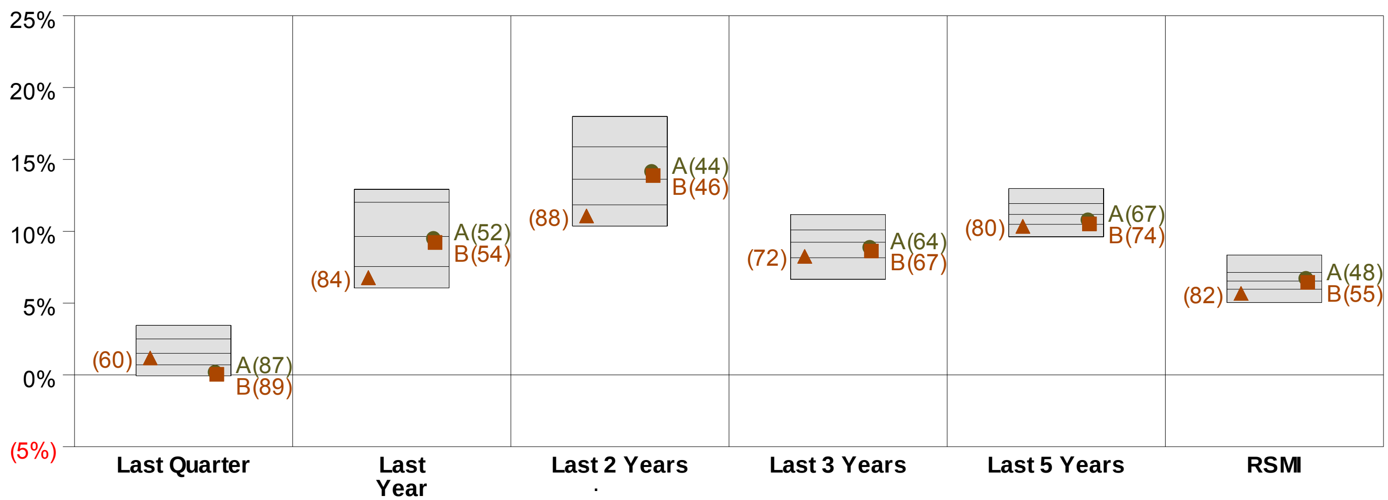
**Performance vs Callan Large Cap Core (Gross)**


| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|
| 10th Percentile | 4.31 | 18.04 | 19.35 | 13.12 | 14.76 |
| 25th Percentile | 3.68 | 15.89 | 18.30 | 12.05 | 13.81 |
| Median | 3.11 | 14.09 | 16.50 | 11.14 | 13.42 |
| 75th Percentile | 2.72 | 12.46 | 14.97 | 9.95 | 12.45 |
| 90th Percentile | 1.77 | 10.26 | 13.27 | 8.94 | 11.52 |
| AB ● A | 3.44 | 14.36 | 16.09 | 11.90 | 13.40 |
| AB (net) ■ B | 3.43 | 14.34 | 16.06 | 11.87 | 13.37 |
| S&P 500 Index ▲ | 3.43 | 14.37 | 16.12 | 11.93 | 13.42 |

- The portfolio continues to closely track the S&P 500 index at a very low fee.
- The strategy was slightly ahead of the benchmark for the quarter and underperformed by 0.02% for the last five years.

# QMA Large Cap Value

**Performance vs Callan Large Cap Value (Gross)**

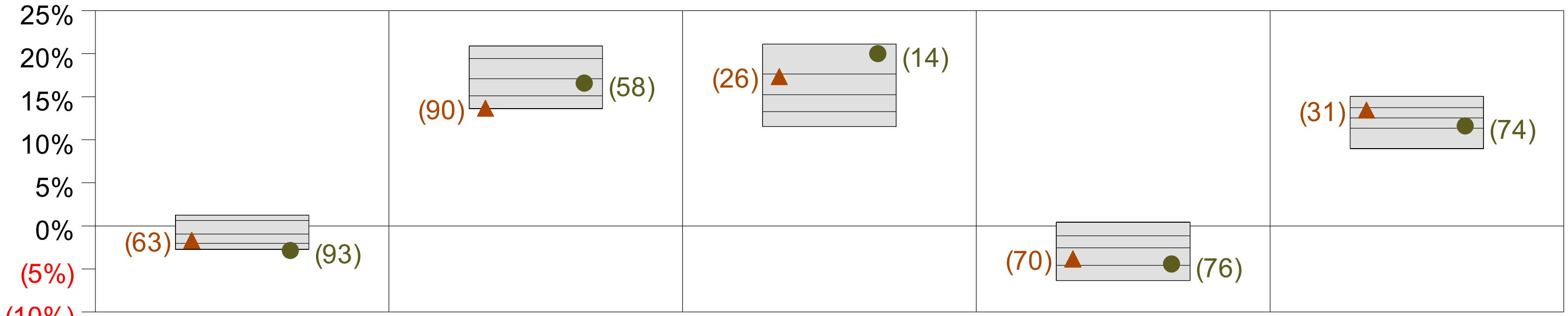



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 3.45 | 12.92 | 17.99 | 11.16 | 12.97 | 8.35 |
| 25th Percentile | | 2.51 | 12.01 | 15.88 | 10.09 | 11.93 | 7.13 |
| Median | | 1.51 | 9.63 | 13.62 | 9.24 | 11.17 | 6.54 |
| 75th Percentile | | 0.69 | 7.54 | 11.84 | 8.15 | 10.49 | 5.97 |
| 90th Percentile | | (0.07) | 6.06 | 10.37 | 6.66 | 9.61 | 5.04 |
| QMA | ● A | 0.08 | 9.38 | 14.05 | 8.78 | 10.68 | 6.61 |
| QMA (net) | ■ B | 0.05 | 9.22 | 13.88 | 8.62 | 10.51 | 6.45 |
| Russell 1000 Value Index | ▲ | 1.18 | 6.77 | 11.06 | 8.26 | 10.34 | 5.67 |

- QMA underperformed by 1.09% for the quarter and outperformed by 2.61% over the last year.
- Financials and Energy sectors detracted most from performance. Within Financials, poor selection among Insurance and Capital Markets stocks impacted returns. In Energy, the Portfolio lagged mostly from under-weight exposures to Integrated and Exploration & Production oil companies.

# QMA Large Cap Value

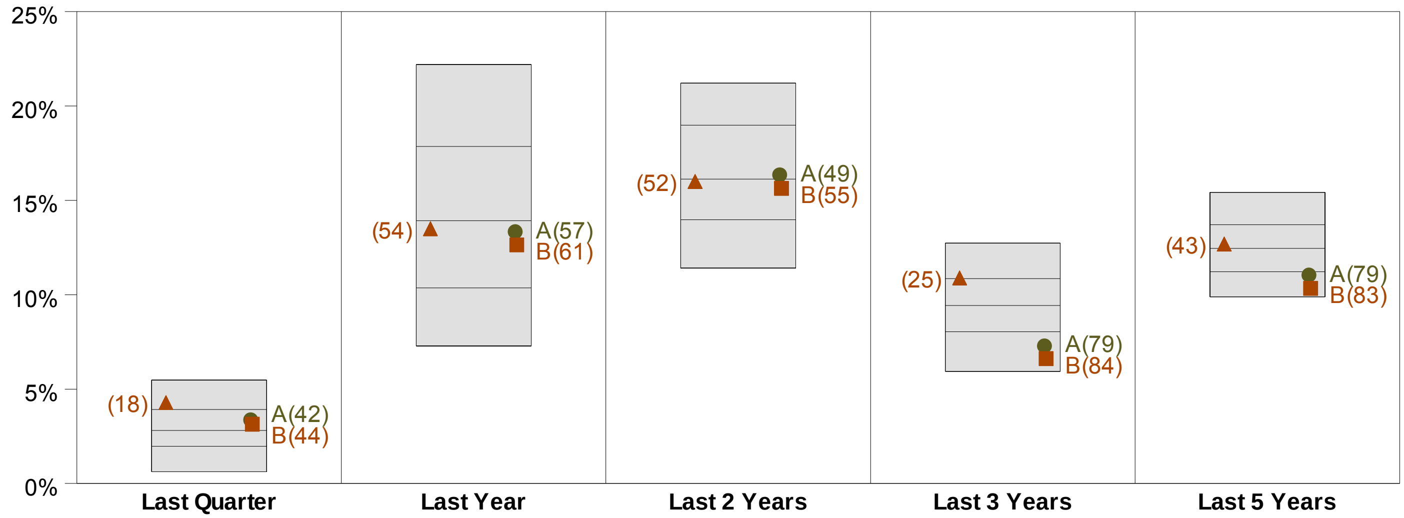
## Performance vs Callan Large Cap Value (Gross)




| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 1.25 | 20.89 | 21.11 | 0.43 | 15.03 |
| 25th Percentile | 0.64 | 19.43 | 17.66 | (1.15) | 13.73 |
| Median | (0.95) | 17.09 | 15.25 | (2.56) | 12.54 |
| 75th Percentile | (2.05) | 15.10 | 13.27 | (4.58) | 11.36 |
| 90th Percentile | (2.74) | 13.64 | 11.53 | (6.38) | 8.99 |
| **QMA** ● | (3.07) | 16.34 | 19.76 | (4.68) | 11.40 |
| Russell 1000 Value Index ▲ | (1.69) | 13.66 | 17.34 | (3.83) | 13.45 |

# Boston Company Mid Cap Core

### Performance vs Callan Mid Capitalization (Gross)

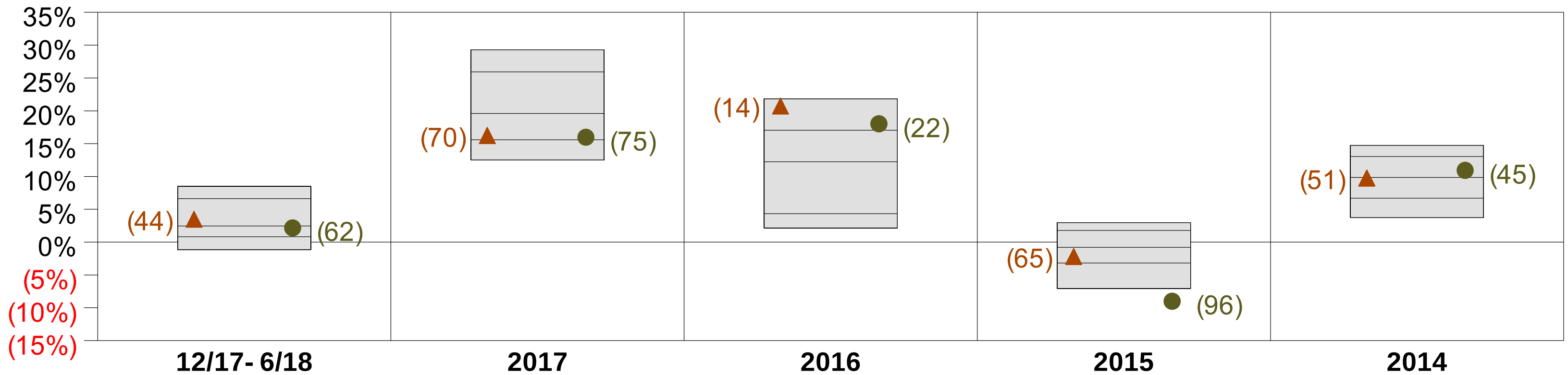



| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|
| 10th Percentile | 5.49 | 22.19 | 21.22 | 12.74 | 15.43 |
| 25th Percentile | 3.93 | 17.85 | 18.99 | 10.86 | 13.71 |
| Median | 2.81 | 13.92 | 16.13 | 9.43 | 12.45 |
| 75th Percentile | 1.96 | 10.37 | 13.97 | 8.05 | 11.22 |
| 90th Percentile | 0.63 | 7.29 | 11.41 | 5.94 | 9.89 |
| Boston Co ● A | 3.28 | 13.26 | 16.27 | 7.20 | 10.94 |
| Boston Co (net) ■ B | 3.14 | 12.64 | 15.63 | 6.62 | 10.34 |
| S&P Mid Cap 400 Index ▲ | 4.29 | 13.50 | 16.01 | 10.89 | 12.69 |

- Boston Company trailed by 1.01% for the quarter and underperformed by 0.25% over the last year.
- Positive developments and positioning in Information Technology, Financials and Energy sectors added to relative results. Meanwhile, the Industrials and Real Estate sectors weighed most on performance versus the benchmark.

# Boston Company Mid Cap Core

## Performance vs Callan Mid Capitalization (Gross)




| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 8.51 | 29.31 | 21.83 | 2.97 | 14.76 |
| 25th Percentile | 6.62 | 25.93 | 17.03 | 1.80 | 13.03 |
| Median | 2.46 | 19.58 | 12.23 | (0.80) | 9.88 |
| 75th Percentile | 0.83 | 15.59 | 4.35 | (3.18) | 6.72 |
| 90th Percentile | (1.18) | 12.48 | 2.13 | (7.07) | 3.72 |
| **Boston Co** ● | 1.88 | 15.65 | 17.69 | (9.29) | 10.61 |
| S&P Mid Cap 400 Index ▲ | 3.49 | 16.24 | 20.74 | (2.18) | 9.77 |

# Fiduciary Management Small Cap Core

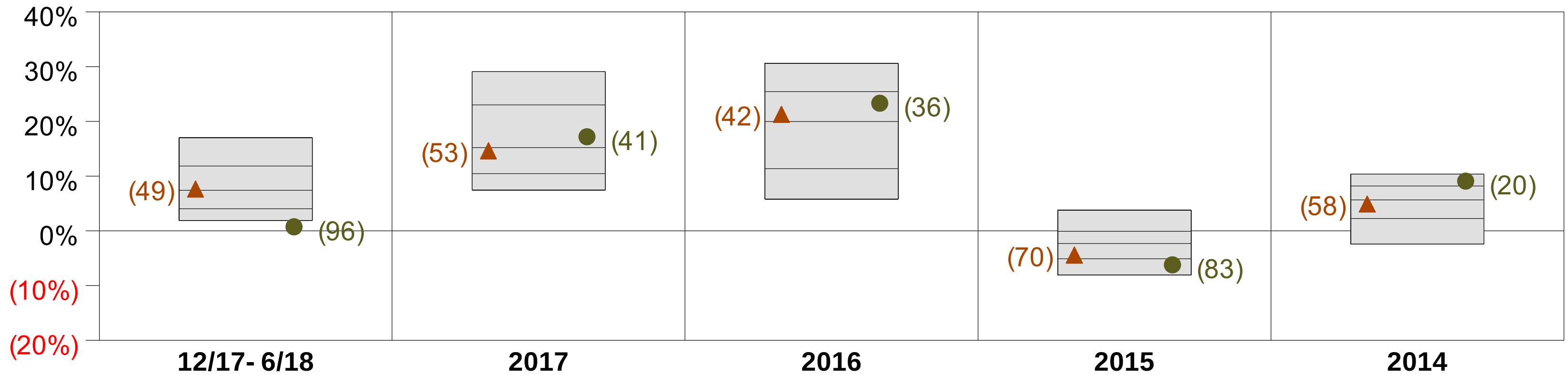
### Performance vs Callan Small Capitalization (Gross)


| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|
| 10th Percentile | 11.46 | 30.21 | 28.55 | 14.54 | 16.15 | 12.19 |
| 25th Percentile | 9.29 | 24.53 | 24.47 | 12.74 | 14.63 | 11.10 |
| Median | 7.17 | 17.18 | 20.80 | 11.20 | 13.43 | 10.15 |
| 75th Percentile | 5.65 | 12.94 | 17.86 | 9.66 | 11.97 | 9.26 |
| 90th Percentile | 4.12 | 9.83 | 15.39 | 8.39 | 10.54 | 8.05 |
| Fiduciary Management ● A | 0.64 | 9.51 | 16.14 | 10.01 | 12.58 | 11.19 |
| Fiduciary Management (net) ■ B | 0.47 | 8.80 | 15.39 | 9.29 | 11.83 | 10.36 |
| Russell 2000 Index ▲ | 7.75 | 17.57 | 21.03 | 10.96 | 12.46 | 8.87 |

- Fiduciary underperformed by 7.12% for the quarter and underperformed by 8.05% for the year.
- Security selection in Information Technology, Healthcare and Consumer Discretionary drove most of the underperformance for the quarter. This was modestly offset by positive security selection in Financials.

# Fiduciary Management Small Cap Core

## Performance vs Callan Small Capitalization (Gross)

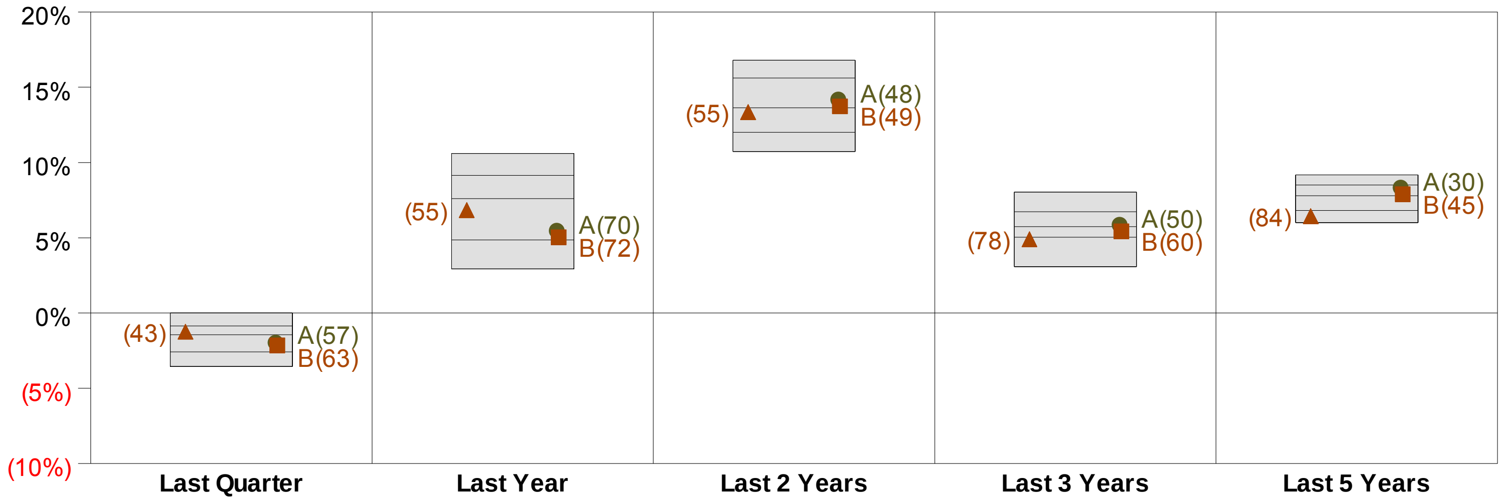



| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 17.01 | 29.07 | 30.59 | 3.80 | 10.35 |
| 25th Percentile | 11.85 | 22.99 | 25.41 | (0.08) | 8.22 |
| Median | 7.41 | 15.22 | 19.97 | (2.32) | 5.65 |
| 75th Percentile | 4.03 | 10.47 | 11.36 | (5.11) | 2.28 |
| 90th Percentile | 1.88 | 7.43 | 5.81 | (8.08) | (2.43) |
| **Fiduciary Management** ● | 0.34 | 16.82 | 22.95 | (6.57) | 8.70 |
| Russell 2000 Index ▲ | 7.66 | 14.65 | 21.31 | (4.41) | 4.89 |

# International Equity Performance

# PanAgora International Equity

### Performance vs Callan Non-US Developed Core Equity (Gross)

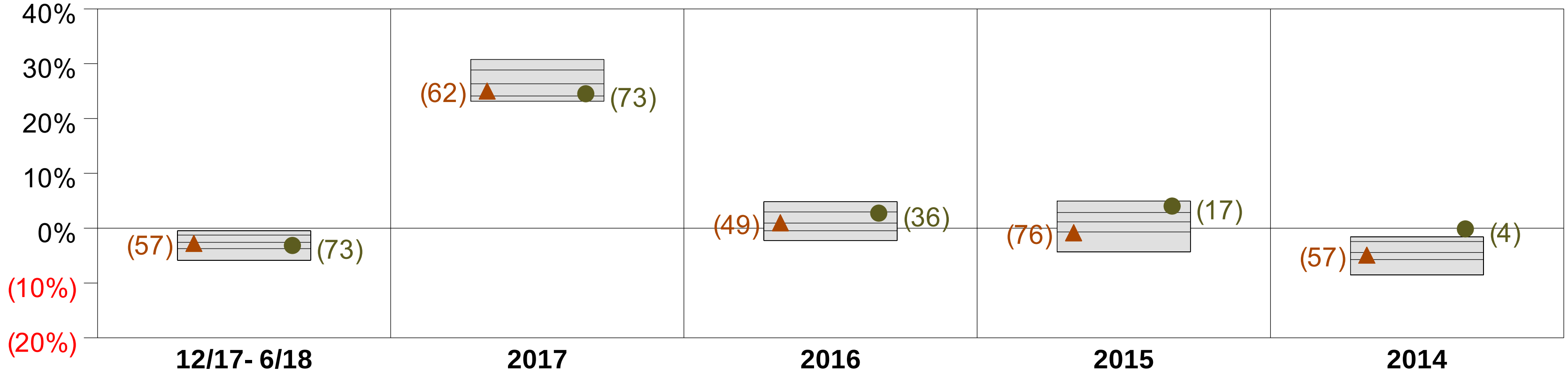



| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|
| 10th Percentile | 0.00 | 10.61 | 16.80 | 8.04 | 9.17 |
| 25th Percentile | (0.86) | 9.14 | 15.62 | 6.73 | 8.51 |
| Median | (1.43) | 7.60 | 13.64 | 5.73 | 7.80 |
| 75th Percentile | (2.59) | 4.85 | 12.01 | 5.03 | 6.81 |
| 90th Percentile | (3.55) | 2.93 | 10.74 | 3.07 | 6.00 |
| PanAgora ● A | (2.08) | 5.35 | 14.07 | 5.75 | 8.22 |
| PanAgora (net) ■ B | (2.15) | 5.04 | 13.73 | 5.43 | 7.89 |
| MSCI EAFE ▲ | (1.24) | 6.84 | 13.36 | 4.90 | 6.44 |

- PanAgora underperformed the index by 0.84% for the quarter and underperformed by 1.49% over the last year.
- Country allocations and stock selection in Spain and Denmark contributed while the United Kingdom and Japan detracted.

# PanAgora International Equity

## Performance vs Callan NonUS Dev Core Eq (Gross)

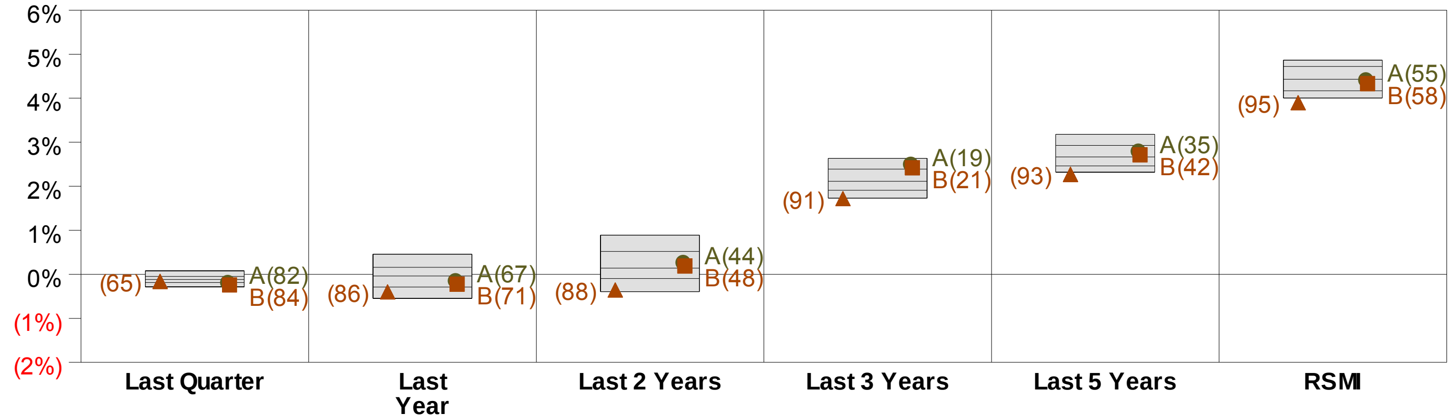



| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | (0.43) | 30.76 | 4.85 | 4.96 | (1.58) |
| 25th Percentile | (1.24) | 28.87 | 2.96 | 2.84 | (2.44) |
| Median | (2.58) | 26.32 | 0.94 | 1.15 | (4.45) |
| 75th Percentile | (3.70) | 24.09 | (0.44) | (0.68) | (5.73) |
| 90th Percentile | (5.86) | 23.17 | (2.25) | (4.33) | (8.54) |
| **PanAgora** ● | (3.54) | 24.17 | 2.38 | 3.66 | (0.47) |
| MSCI EAFE ▲ | (2.75) | 25.03 | 1.00 | (0.81) | (4.90) |

# Domestic Fixed Income

# Columbia Management Core Bond

### Performance vs CAI Core Bond Style (Gross)

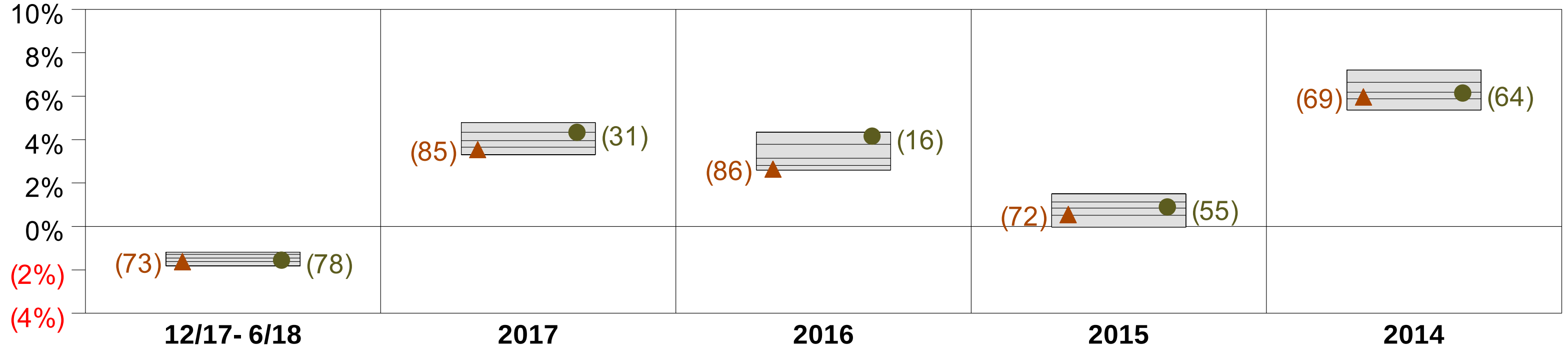



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 0.08 | 0.46 | 0.89 | 2.63 | 3.18 | 4.86 |
| 25th Percentile | | (0.05) | 0.16 | 0.52 | 2.39 | 2.93 | 4.72 |
| Median | | (0.12) | (0.04) | 0.14 | 2.11 | 2.67 | 4.43 |
| 75th Percentile | | (0.19) | (0.29) | (0.09) | 1.91 | 2.46 | 4.17 |
| 90th Percentile | | (0.28) | (0.55) | (0.39) | 1.73 | 2.32 | 4.00 |
| Columbia Management | ● A | (0.23) | (0.18) | 0.23 | 2.46 | 2.76 | 4.37 |
| Columbia Management (net) | ■ B | (0.24) | (0.22) | 0.19 | 2.42 | 2.72 | 4.33 |
| Blmbg Aggregate | ▲ | (0.16) | (0.40) | (0.36) | 1.72 | 2.27 | 3.90 |

- Columbia's portfolio underperformed by 0.07% for the quarter and outperformed by 0.21% for the year.
- The overweight in credit detracted from performance while security selection and an overweight in ABS and SBA government securities contributed to performance.

# Columbia Management Core Bond

## Performance vs CAI Core Bond Style (Gross)




| | 12/17- 6/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | (1.18) | 4.79 | 4.34 | 1.51 | 7.21 |
| 25th Percentile | (1.29) | 4.34 | 3.79 | 1.13 | 6.64 |
| Median | (1.46) | 3.96 | 3.14 | 0.84 | 6.19 |
| 75th Percentile | (1.62) | 3.65 | 2.80 | 0.52 | 5.88 |
| 90th Percentile | (1.81) | 3.31 | 2.59 | (0.03) | 5.36 |
| **Columbia Management** ● | (1.64) | 4.24 | 4.06 | 0.81 | 6.06 |
| Blmbg Aggregate ▲ | (1.62) | 3.54 | 2.65 | 0.55 | 5.97 |

# Manager Investment Philosophy

- **AB** uses a stratified sampling methodology and purchases a majority of the index stocks to replicate the Standard and Poor's 500. Alliance Bernstein's first full month of performance is November 2012.

- **QMA's** Value Equity philosophy is built on the fact that out-of-favor stocks with low P/E ratios have historically outperformed the broad stock market averages. They believe that a quantitative approach is the most effective way to identify attractive, undervalued companies and to exploit the pricing discrepancies that exist between high-and low-expectation stocks. QMA's first full month of performance is June 2007.

- **Silvant** believes that earnings trends dictate stock performance, fundamental analysis determines sustainability and diversification controls risk. Silvant's first full month of performance is November 2012.

- **Boston Company** uses a bottom up investment approach to identify mid cap stocks that are undervalued, possess strong fundamentals, improving momentum, and are underfollowed by Wall Street analysts. Boston's first full month of performance is August 2013.

- **Fiduciary** invests in companies that have a solid business franchise, but are trading below their intrinsic value (or the price a business owner or private buyer might pay for this company). Fiduciary's first full month of performance is November 2005.

- **Panagora's** Dynamic International Equity investment philosophy is built upon the belief that pricing inefficiencies exist in competitive markets, largely due to investor behavior and that challenging analysis is often overlooked by the universe of investors. PanAgora believes that a disciplined application of quantitative alpha signals that are derived from sound fundamental principles can efficiently capture mispricing opportunities in international equity markets and build portfolios that generate attractive risk-adjusted returns. PanAgora's first full month of performance is June 2015.

- **Columbia** Columbia's process is driven by the bottom-up analysis of the risk/return premium on each security rather than an economic view. This philosophy is intended to allow the team to capture alpha under many different market conditions that change over time. Columbia believes the market offers potential returns from a number of key sources including duration, yield curve positioning, volatility changes, sectors and issues. Limits are placed on the size of deviations from the benchmark so that no one decision can overwhelm performance or exaggerates risk in the total portfolio. Columbia's first full month of performance is December 2002.

# Footnotes

(1) Balanced Benchmark = 50% Equity Benchmark & 50% Barclays Aggregate Index.

(2) As of 05/01/2013 the Equity Benchmark = 20% S&P 500, 20% Russell 1000 Growth, 20% Russell 1000 Value, 10% Russell 2000, 10% S&P 400 Mid Cap and 20% MSCI EAFE. Prior to 05/01/2013 the Equity Benchmark = 30% S&P 500, 30% Russell 1000 Value, 30% Russell 1000 Growth and 10% Russell 2000.

(3) Age 5-8 Benchmark =75% Equity Benchmark & 25% Barclays Aggregate Index.

(4) Age 9-12 Benchmark = 50% Equity Benchmark & 50% Barclays Aggregate Index.

(5) Age 13-15 Benchmark = 25% Equity Benchmark & 75% Barclays Aggregate Index.

# Disclaimers

*This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.*

*This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.*

*Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.*

*Past performance is no guarantee of future results.*

*The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.*

Callan

December 2018 Board Meeting

# Florida 529 Savings Plan

## Third Quarter 2018
## Performance Review

**Weston Lewis, CFA, CAIA**
Atlanta Fund Sponsor Consulting

**Brian Smith, CFA**
Atlanta Fund Sponsor Consulting

# U.S. Equity Performance

U.S. equity markets posted broad-based gains in the quarter fueled by strong economic growth, robust corporate earnings, and heightened stock buybacks. Several major indices hit record levels during the quarter; the S&P 500 saw it's biggest gain in five years. Volatility was muted despite ongoing trade war threats.

**Large Cap Outpaced Small Cap**

– FAANG stocks plus Microsoft had a more muted impact, but still contributed nearly 25% of the S&P 500's quarterly return.

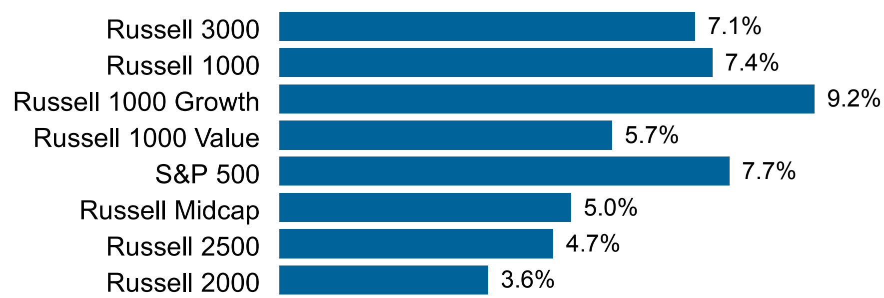
– All sectors landed in positive territory led by Health Care (+14.5%), Industrials (+10%), and Communication Services (+9.9%).

**Growth Continued to Outperform Value**

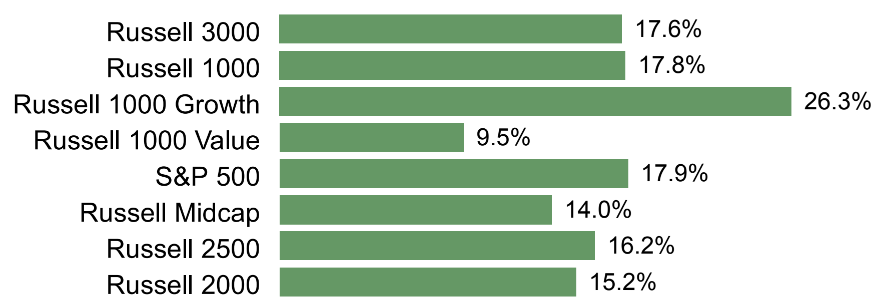
– Growth outpacing Value this year by the widest margin in 15 years (R1G YTD: +17.1% vs. R1V YTD: +3.9%) driven by ongoing FAANG stock euphoria.

– Momentum continued as the leading factor; Value is worst-performing style for last 18 months.

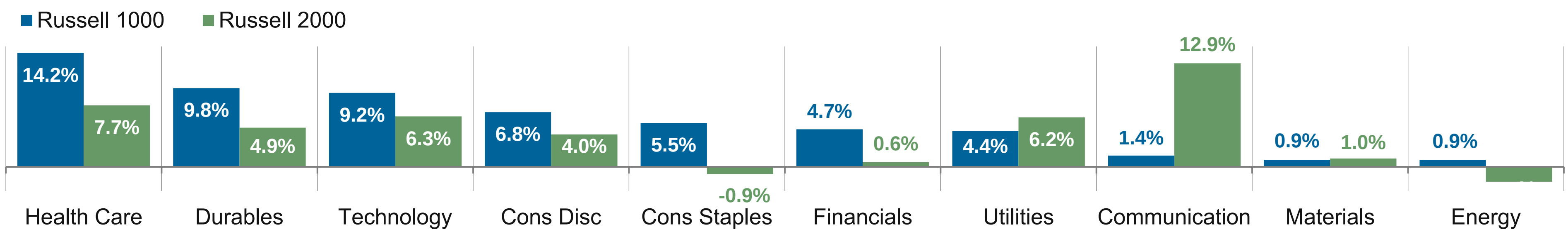
**U.S. Equity: Quarterly Returns**




**U.S. Equity: Annual Returns**




**Quarter ended September 30, 2018**




Sources: FTSE Russell, Standard & Poor's

# Non-U.S. Equity Performance

Market divergence emerged after synchronized growth in 2017. U.S. continues to gain; non-U.S. markets lagged.

**Non-U.S. Developed Positive Territory but Lags U.S.**

– Dollar rallied against euro and yen given strong U.S. economy and Fed's contractionary monetary policy.
– Strong earnings boosted Health Care & Telecomm; Energy benefited from positive supply-demand dynamics. Real Estate, Financials, and Staples adversely impacted by rising rates.
– Growth moderately outperformed value. Volatility and small cap factors were out of favor given market uncertainties

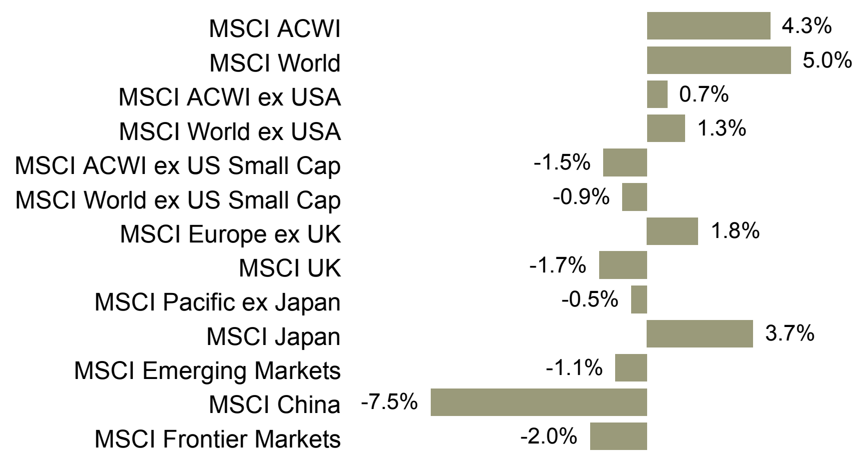
**Emerging Markets Faltered**

– EM pressured by rising dollar, U.S. interest rates, trade frictions
– China weakened by economic slowdown; regulatory concerns weighed on Chinese Tech companies
– Energy top performer on rising oil prices; Consumer Discretionary negatively impacted by China and India

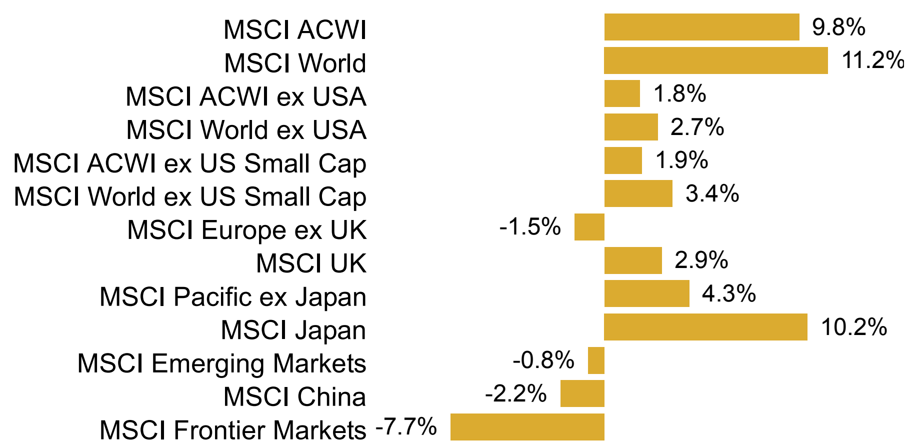
**Non-U.S. Small Cap Trailed Large Cap**

– Both non-U.S. developed and emerging market small cap underperformed large cap as appetite for risk waned due to rising rates/dollar and trade tensions
– Value was favored as Energy thrived

**Global Equity: Quarterly Returns**




**Global Equity: Annual Returns**




Source: MSCI

# U.S. Fixed Income Performance

Fixed income performance was flat. Yield curve rose across maturity spectrum on better-than-expected corporate earnings and solid U.S. economic data.

- 10-year U.S. Treasury yield reached a high of 3.10% before settling at 3.06%
- The yield curve flattened with shorter-term rates rising faster than longer-term

**Investment Grade Corporates Earned Strong Quarter**

- +0.97% for the quarter; -2.3% YTD
- New issuance remained strong with an average of 2-3x oversubscribed demand throughout the quarter
- Spreads continued to narrow despite leverages increasing

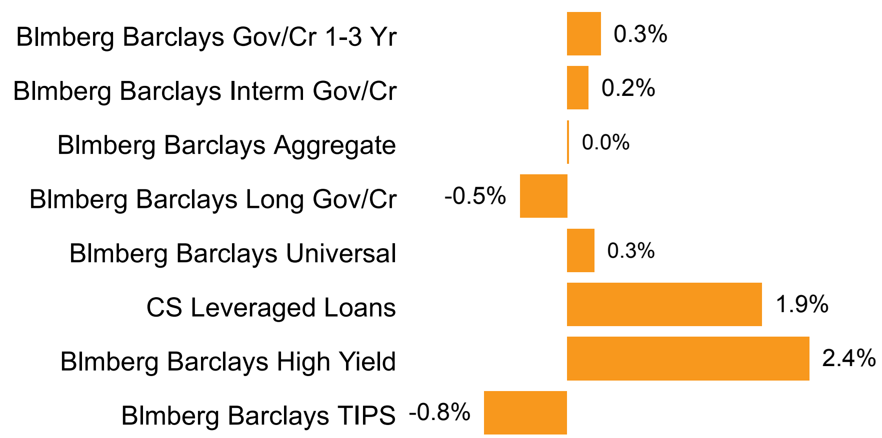
**High Yield  Top Performer for Quarter**

- +2.4% for the quarter; +2.6% YTD
- Low new issuance volume and stable fundamentals compressed spreads
- Bond issuance was $41 billion, 33% lower than 3Q17

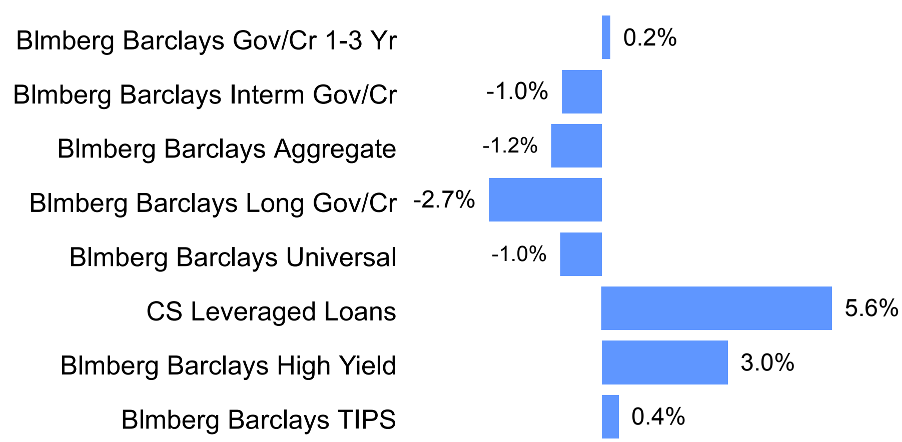
**Bank Loans Remain Strong**

- +1.9% for the quarter; +4.0% YTD
- Demand continues for floating rate securities despite covenant-lite structures and higher spread duration
- Heavy issuance continued through the quarter;

### U.S. Fixed Income: Quarterly Returns




### U.S. Fixed Income: Annual Returns




Sources: Bloomberg Barclays, Credit Suisse

## Asset Distribution Across Investment Managers

| | September 30, 2018 | | | | June 30, 2018 | |
|---|---|---|---|---|---|---|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| **Domestic Equity** | **$303,176,836** | **48.44%** | **$66,952** | **$19,300,188** | **$283,809,696** | **47.09%** |
| AB | 83,066,241 | 13.27% | 0 | 5,935,088 | 77,131,152 | 12.80% |
| QMA | 62,735,563 | 10.02% | (228,064) | 2,511,286 | 60,452,341 | 10.03% |
| Silvant Capital | 0 | 0.00% | (7) | (0) | 7 | 0.00% |
| BMO | 86,852,142 | 13.88% | 210,809 | 8,193,895 | 78,447,438 | 13.02% |
| Boston Co | 34,993,964 | 5.59% | 84,214 | 1,419,159 | 33,490,590 | 5.56% |
| Fiduciary Management | 35,528,927 | 5.68% | 0 | 1,240,760 | 34,288,167 | 5.69% |
| **International Equity** | **$57,172,578** | **9.14%** | **$(487,125)** | **$434,667** | **$57,225,036** | **9.49%** |
| PanAgora | 57,172,578 | 9.14% | (487,125) | 434,667 | 57,225,036 | 9.49% |
| **Domestic Fixed Income** | **$227,353,984** | **36.33%** | **$969,198** | **$391,582** | **$225,993,204** | **37.50%** |
| Columbia Mgmt | 227,353,984 | 36.33% | 969,198 | 391,582 | 225,993,204 | 37.50% |
| **Money Market** | **$34,252,985** | **5.47%** | **$2,258,837** | **$185,888** | **$31,808,260** | **5.28%** |
| Florida Prime | 34,252,985 | 5.47% | 2,258,837 | 185,888 | 31,808,260 | 5.28% |
| **Total Liquidity Account** | **$3,880,689** | **0.62%** | **$(15,832)** | **$15,715** | **$3,880,806** | **0.64%** |
| Liquidity Account | 3,880,689 | 0.62% | (15,832) | 15,715 | 3,880,806 | 0.64% |
| **Total Fund** | **$625,837,072** | **100.0%** | **$2,792,031** | **$20,328,040** | **$602,717,001** | **100.0%** |

- There was an investment gain of $20 million in the third quarter.
- Total assets increased to approximately $625 million as a result of inflows and investment earnings.

# Gross of Fee Manager Returns

| | Last Quarter | Last Year | Last 3 Year | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **GROSS OF FEES** | | | | | |
| **Domestic Equity** | | | | | |
| AB | 7.69% | 17.88% | 17.24% | 13.92% | - |
| S&P 500 Index | 7.71% | 17.91% | 17.31% | 13.95% | 11.97% |
| **Excess Return** | **(0.02%)** | **(0.03%)** | **(0.06%)** | **(0.03%)** | **-** |
| QMA | 4.15% | 8.83% | 13.73% | 10.49% | 10.34% |
| Russell 1000 Value Index | 5.70% | 9.45% | 13.55% | 10.72% | 9.79% |
| **Excess Return** | **(1.55%)** | **(0.62%)** | **0.18%** | **(0.22%)** | **0.55%** |
| BMO | 10.43% | - | - | - | - |
| Russell 1000 Growth Index | 9.17% | 26.30% | 20.55% | 16.58% | 14.31% |
| **Excess Return** | **1.26%** | **-** | **-** | **-** | **-** |
| Boston Co | 4.24% | 12.82% | 13.91% | 10.07% | - |
| S&P Mid Cap 400 Index | 3.86% | 14.21% | 15.68% | 11.91% | 12.49% |
| **Excess Return** | **0.37%** | **(1.39%)** | **(1.77%)** | **(1.83%)** | **-** |
| Fiduciary Management | 3.62% | 8.32% | 14.81% | 10.81% | 12.92% |
| Russell 2000 Index | 3.58% | 15.24% | 17.12% | 11.07% | 11.11% |
| **Excess Return** | **0.04%** | **(6.92%)** | **(2.31%)** | **(0.27%)** | **1.81%** |
| **International Equity** | | | | | |
| PanAgora | 0.76% | 0.66% | 9.68% | 6.25% | - |
| MSCI EAFE Index | 1.35% | 2.74% | 9.23% | 4.42% | 5.38% |
| **Excess Return** | **(0.59%)** | **(2.07%)** | **0.44%** | **1.84%** | **-** |
| **Domestic Fixed Income** | | | | | |
| Columbia | 0.17% | (0.94%) | 2.13% | 2.68% | 4.40% |
| Blmbg Aggregate | 0.02% | (1.22%) | 1.31% | 2.16% | 3.77% |
| **Excess Return** | **0.15%** | **0.27%** | **0.82%** | **0.52%** | **0.63%** |
| **Money Market** | | | | | |
| Florida Prime | 0.56% | 1.86% | 1.16% | 0.77% | - |
| 3-month Treasury Bill | 0.49% | 1.59% | 0.84% | 0.52% | 0.34% |
| **Excess Return** | **0.07%** | **0.27%** | **0.32%** | **0.25%** | **-** |

# Net of Fee Manager Returns

| | Last Quarter | Last Year | Last 3 Year | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **NET OF FEES** | | | | | |
| **Domestic Equity** | | | | | |
| AB | 7.69% | 17.85% | 17.22% | 13.89% | - |
| S&P 500 Index | 7.71% | 17.91% | 17.31% | 13.95% | 11.97% |
| **Excess Return** | **(0.02%)** | **(0.06%)** | **(0.09%)** | **(0.05%)** | **-** |
| QMA | 4.12% | 8.67% | 13.56% | 10.33% | 10.17% |
| Russell 1000 Value Index | 5.70% | 9.45% | 13.55% | 10.72% | 9.79% |
| **Excess Return** | **(1.59%)** | **(0.78%)** | **0.01%** | **(0.39%)** | **0.39%** |
| BMO | 10.39% | - | - | - | - |
| Russell 1000 Growth Index | 9.17% | 26.30% | 20.55% | 16.58% | 14.31% |
| **Excess Return** | **1.22%** | **-** | **-** | **-** | **-** |
| Boston | 4.09% | 12.20% | 13.28% | 9.47% | - |
| S&P Mid Cap 400 Index | 3.86% | 14.21% | 15.68% | 11.91% | 12.49% |
| **Excess Return** | **0.23%** | **(2.01%)** | **(2.39%)** | **(2.43%)** | **-** |
| Fiduciary Management | 3.45% | 7.62% | 14.07% | 10.07% | 12.11% |
| Russell 2000 Index | 3.58% | 15.24% | 17.12% | 11.07% | 11.11% |
| **Excess Return** | **(0.13%)** | **(7.62%)** | **(3.05%)** | **(1.00%)** | **0.99%** |
| **International Equity** | | | | | |
| PanAgora | 0.68% | 0.36% | 9.35% | 5.94% | - |
| MSCI EAFE Index | 1.35% | 2.74% | 9.23% | 4.42% | 5.38% |
| **Excess Return** | **(0.67%)** | **(2.37%)** | **0.11%** | **1.52%** | **-** |
| **Domestic Fixed Income** | | | | | |
| Columbia | 0.16% | (0.98%) | 2.09% | 2.64% | 4.36% |
| Blmbg Aggregate | 0.02% | (1.22%) | 1.31% | 2.16% | 3.77% |
| **Excess Return** | **0.14%** | **0.23%** | **0.78%** | **0.48%** | **0.59%** |
| **Money Market** | | | | | |
| Florida Prime | 0.56% | 1.84% | 1.14% | 0.74% | - |
| 3-month Treasury Bill | 0.49% | 1.59% | 0.84% | 0.52% | 0.34% |
| **Excess Return** | **0.06%** | **0.25%** | **0.30%** | **0.22%** | **-** |

## Asset Distribution Across Investment Options

| | September 30, 2018 | | June 30, 2018 | |
|---|---|---|---|---|
| | Market Value | Percent | Market Value | Percent |
| Money Market Fund | 34,411,629 | 5.50% | 32,022,461 | 5.32% |
| Fixed Income Fund | 36,863,713 | 5.89% | 37,012,321 | 6.14% |
| Balanced Portfolio | 72,997,729 | 11.67% | 72,289,230 | 12.00% |
| Blended Equity Portfolio | 151,056,119 | 24.15% | 144,041,498 | 23.91% |
| Domestic Equity Index Fund | 21,856,204 | 3.49% | 19,561,689 | 3.25% |
| Mid Cap Fund | 8,346,470 | 1.33% | 7,595,192 | 1.26% |
| Large Cap Value Fund | 8,980,867 | 1.44% | 8,381,005 | 1.39% |
| Large Cap Growth Fund | 21,726,918 | 3.47% | 18,813,843 | 3.12% |
| Small Cap Fund | 7,626,194 | 1.22% | 7,007,047 | 1.16% |
| International Fund | 6,665,432 | 1.07% | 6,444,941 | 1.07% |
| **Age Based Investment Options** | **$254,988,300** | **40.76%** | **$249,226,976** | **41.37%** |
| Age 0-4 | 20,913,913 | 3.34% | 20,759,314 | 3.45% |
| Age 5-8 | 41,127,325 | 6.57% | 39,293,551 | 6.52% |
| Age 9-12 | 63,551,097 | 10.16% | 62,114,404 | 10.31% |
| Age 13-15 | 54,704,433 | 8.75% | 52,975,143 | 8.79% |
| Age 16+ | 74,691,531 | 11.94% | 74,084,564 | 12.30% |
| **Total Investment Options** | **$625,519,573** | **100.0%** | **$602,396,203** | **100.0%** |

# Gross of Fee Investment Option Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **GROSS OF FEES** | | | | | |
| **Money Market Fund** | **0.56%** | **1.86%** | **1.16%** | **0.76%** | **0.68%** |
| 3-month Treasury Bill | 0.49% | 1.59% | 0.84% | 0.52% | 0.34% |
| **Excess Return** | **0.07%** | **0.27%** | **0.32%** | **0.25%** | **0.34%** |
| **Fixed Income Fund** | **0.18%** | **(0.94% )** | **2.10%** | **2.65%** | **4.33%** |
| Blmbg Aggregate | 0.02% | (1.22%) | 1.31% | 2.16% | 3.77% |
| **Excess Return** | **0.16%** | **0.28%** | **0.79%** | **0.49%** | **0.55%** |
| **Balanced Portfolio** | **2.84%** | **6.23%** | **8.32%** | **7.08%** | **8.05%** |
| Balanced Benchmark (1) | 2.78% | 6.23% | 8.24% | 6.82% | 7.73% |
| **Excess Return** | **0.06%** | **(0.00% )** | **0.08%** | **0.27%** | **0.33%** |
| **Blended Equity Portfolio** | **5.56%** | **13.55%** | **14.44%** | **11.27%** | **10.81%** |
| Equity Benchmark (2) | 5.53% | 14.05% | 15.44% | 11.46% | 10.95% |
| **Excess Return** | **0.03%** | **(0.50% )** | **(1.00% )** | **(0.18% )** | **(0.14% )** |
| **Domestic Equity Index Fund** | **7.64%** | **17.75%** | **17.12%** | **13.81%** | **-** |
| S&P 500 Index | 7.71% | 17.91% | 17.31% | 13.95% | 11.97% |
| **Excess Return** | **(0.07% )** | **(0.16% )** | **(0.19% )** | **(0.14% )** | **-** |
| **Mid Cap Fund** | **4.20%** | **12.71%** | **13.81%** | **9.99%** | **-** |
| S&P Mid Cap 400 Index | 3.86% | 14.21% | 15.68% | 11.91% | 12.49% |
| **Excess Return** | **0.34%** | **(1.50% )** | **(1.87% )** | **(1.92% )** | **-** |
| **Large Cap Value Fund** | **4.13%** | **8.77%** | **13.65%** | **10.41%** | **-** |
| Russell 1000 Value Index | 5.70% | 9.45% | 13.55% | 10.72% | 9.79% |
| **Excess Return** | **(1.57% )** | **(0.68% )** | **0.10%** | **(0.30% )** | **-** |

Please refer to page 29 for footnotes.

# Gross of Fee Investment Option Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **GROSS OF FEES** | | | | | |
| **Large Cap Growth Fund** | **10.35%** | **29.82%** | **17.05%** | **15.04%** | **-** |
| Russell 1000 Growth Index | 9.17% | 26.30% | 20.55% | 16.58% | 14.31% |
| **Excess Return** | **1.18%** | **3.52%** | **(3.50% )** | **(1.54% )** | **-** |
| **Small Cap Fund** | **3.59%** | **8.26%** | **14.72%** | **10.72%** | **-** |
| Russell 2000 Index | 3.58% | 15.24% | 17.12% | 11.07% | 11.11% |
| **Excess Return** | **0.02%** | **(6.98% )** | **(2.40% )** | **(0.35% )** | **-** |
| **International Fund** | **0.76%** | **0.66%** | **9.57%** | **6.16%** | **-** |
| MSCI EAFE Index | 1.35% | 2.74% | 9.23% | 4.42% | 5.38% |
| **Excess Return** | **(0.60% )** | **(2.07% )** | **0.33%** | **1.74%** | **-** |
| **Age 0-4** | **5.57%** | **13.57%** | **14.43%** | **11.27%** | **10.80%** |
| Equity Benchmark (2) | 5.53% | 14.05% | 15.44% | 11.46% | 10.95% |
| **Excess Return** | **0.03%** | **(0.49% )** | **(1.01% )** | **(0.18% )** | **(0.15% )** |
| **Age 5-8** | **4.26%** | **9.95%** | **11.51%** | **9.27%** | **9.58%** |
| 5-8 Benchmark (3) | 4.15% | 10.10% | 11.81% | 9.14% | 9.44% |
| **Excess Return** | **0.11%** | **(0.15% )** | **(0.30% )** | **0.13%** | **0.14%** |
| **Age 9-12** | **2.85%** | **6.25%** | **8.33%** | **7.09%** | **8.00%** |
| 9-12 Benchmark (4) | 2.78% | 6.23% | 8.24% | 6.82% | 7.73% |
| **Excess Return** | **0.08%** | **0.02%** | **0.08%** | **0.27%** | **0.27%** |
| **Age 13-15** | **1.53%** | **2.71%** | **5.19%** | **4.84%** | **6.20%** |
| 13-15 Benchmark (5) | 1.40% | 2.46% | 4.74% | 4.49% | 5.83% |
| **Excess Return** | **0.13%** | **0.25%** | **0.45%** | **0.35%** | **0.37%** |
| **Age 16+** | **0.18%** | **(0.94% )** | **2.10%** | **2.65%** | **4.32%** |
| Blmbg Aggregate | 0.02% | (1.22%) | 1.31% | 2.16% | 3.77% |
| **Excess Return** | **0.16%** | **0.28%** | **0.79%** | **0.48%** | **0.55%** |

Please refer to page 29 for footnotes.

## Net of Fee Investment Option Returns

| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **NET OF FEES** | | | | | |
| **Money Market Fund** | **0.56%** | **1.86%** | **1.16%** | **0.75%** | **0.53%** |
| 3-month Treasury Bill | 0.49% | 1.59% | 0.84% | 0.52% | 0.34% |
| **Excess Return** | **0.07%** | **0.27%** | **0.32%** | **0.23%** | **0.19%** |
| **Fixed Income Fund** | **(0.01% )** | **(1.68% )** | **1.34%** | **1.89%** | **3.56%** |
| Blmbg Aggregate | 0.02% | (1.22%) | 1.31% | 2.16% | 3.77% |
| **Excess Return** | **(0.03% )** | **(0.46% )** | **0.03%** | **(0.28% )** | **(0.22% )** |
| **Balanced Portfolio** | **2.67%** | **5.50%** | **7.56%** | **6.32%** | **7.25%** |
| Balanced Benchmark (1) | 2.78% | 6.23% | 8.24% | 6.82% | 7.73% |
| **Excess Return** | **(0.11% )** | **(0.74% )** | **(0.68% )** | **(0.50% )** | **(0.47% )** |
| **Blended Equity Portfolio** | **5.38%** | **12.77%** | **13.67%** | **10.51%** | **10.00%** |
| Equity Benchmark (2) | 5.53% | 14.05% | 15.44% | 11.46% | 10.95% |
| **Excess Return** | **(0.15% )** | **(1.28% )** | **(1.77% )** | **(0.95% )** | **(0.95% )** |
| **Domestic Equity Index Fund** | **7.54%** | **17.29%** | **16.67%** | **13.29%** | **-** |
| S&P 500 Index | 7.71% | 17.91% | 17.31% | 13.95% | 11.97% |
| **Excess Return** | **(0.17% )** | **(0.62% )** | **(0.64% )** | **(0.66% )** | **-** |
| **Mid Cap Fund** | **4.00%** | **11.87%** | **12.97%** | **9.18%** | **-** |
| S&P Mid Cap 400 Index | 3.86% | 14.21% | 15.68% | 11.91% | 12.49% |
| **Excess Return** | **0.14%** | **(2.34% )** | **(2.70% )** | **(2.73% )** | **-** |
| **Large Cap Value Fund** | **3.94%** | **7.97%** | **12.81%** | **9.60%** | **-** |
| Russell 1000 Value Index | 5.70% | 9.45% | 13.55% | 10.72% | 9.79% |
| **Excess Return** | **(1.77% )** | **(1.48% )** | **(0.74% )** | **(1.12% )** | **-** |

Please refer to page 29 for footnotes.

# Net of Fee Investment Option Returns

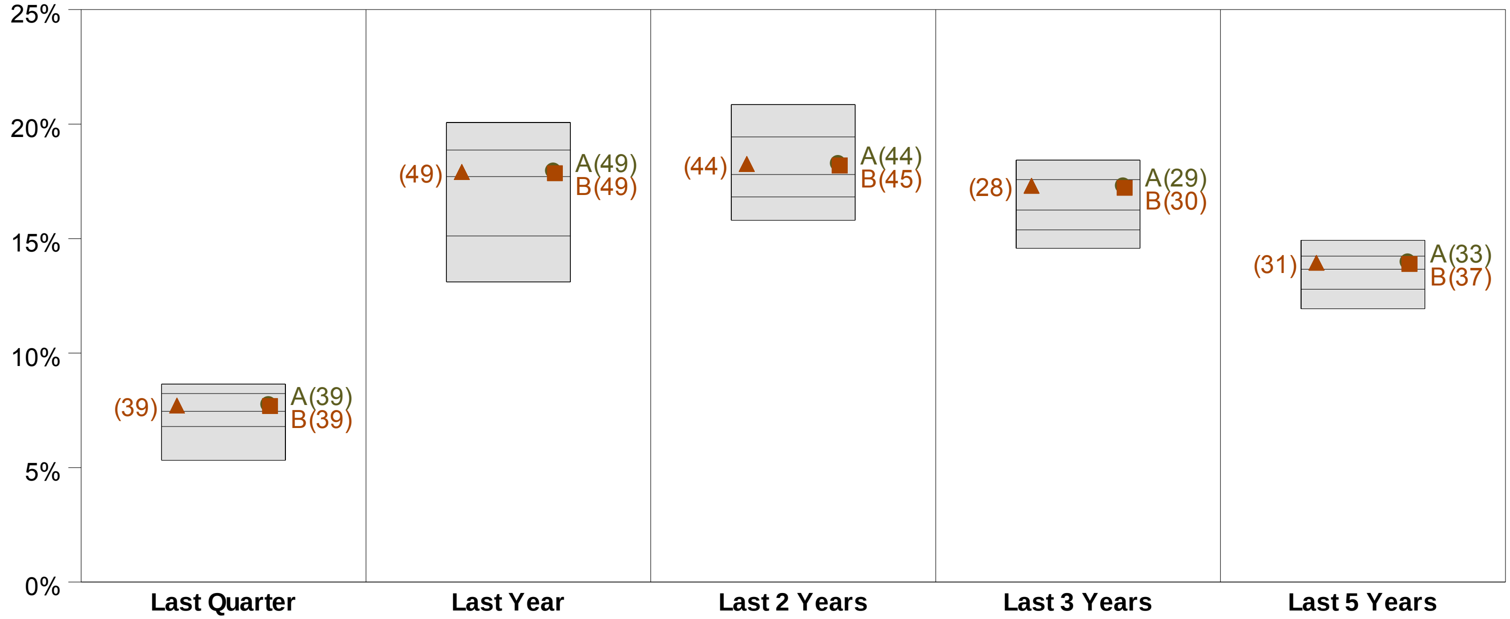
| | Last Quarter | Last Year | Last 3 Years | Last 5 Years | Last 10 Years |
|---|---|---|---|---|---|
| **NET OF FEES** | | | | | |
| **Large Cap Growth Fund** | **10.15%** | **28.85%** | **16.19%** | **14.19%** | **-** |
| Russell 1000 Growth Index | 9.17% | 26.30% | 20.55% | 16.58% | 14.31% |
| **Excess Return** | **0.98%** | **2.56%** | **(4.37%)** | **(2.39%)** | **-** |
| **Small Cap Fund** | **3.40%** | **7.45%** | **13.88%** | **9.91%** | **-** |
| Russell 2000 Index | 3.58% | 15.24% | 17.12% | 11.07% | 11.11% |
| **Excess Return** | **(0.18%)** | **(7.79%)** | **(3.24%)** | **(1.17%)** | **-** |
| **International Fund** | **0.56%** | **(0.09%)** | **8.76%** | **5.37%** | **-** |
| MSCI EAFE Index | 1.35% | 2.74% | 9.23% | 4.42% | 5.38% |
| **Excess Return** | **(0.79%)** | **(2.83%)** | **(0.48%)** | **0.96%** | **-** |
| **Age 0-4** | **5.38%** | **12.77%** | **13.67%** | **10.51%** | **10.00%** |
| Equity Benchmark (2) | 5.53% | 14.05% | 15.44% | 11.46% | 10.95% |
| **Excess Return** | **(0.15%)** | **(1.28%)** | **(1.77%)** | **(0.95%)** | **(0.95%)** |
| **Age 5-8** | **4.08%** | **9.17%** | **10.73%** | **8.49%** | **8.77%** |
| 5-8 Benchmark (3) | 4.15% | 10.10% | 11.81% | 9.14% | 9.44% |
| **Excess Return** | **(0.08%)** | **(0.92%)** | **(1.08%)** | **(0.65%)** | **(0.67%)** |
| **Age 9-12** | **2.67%** | **5.49%** | **7.56%** | **6.32%** | **7.21%** |
| 9-12 Benchmark (4) | 2.78% | 6.23% | 8.24% | 6.82% | 7.73% |
| **Excess Return** | **(0.11%)** | **(0.74%)** | **(0.68%)** | **(0.50%)** | **(0.52%)** |
| **Age 13-15** | **1.34%** | **1.97%** | **4.43%** | **4.08%** | **5.42%** |
| 13-15 Benchmark (5) | 1.40% | 2.46% | 4.74% | 4.49% | 5.83% |
| **Excess Return** | **(0.06%)** | **(0.50%)** | **(0.31%)** | **(0.41%)** | **(0.41%)** |
| **Age 16+** | **(0.01%)** | **(1.68%)** | **1.34%** | **1.89%** | **3.55%** |
| Blmbg Aggregate | 0.02% | (1.22%) | 1.31% | 2.16% | 3.77% |
| **Excess Return** | **(0.03%)** | **(0.46%)** | **0.03%** | **(0.28%)** | **(0.22%)** |

Please refer to page 29 for footnotes.

# Domestic Equity Performance

# AB S&P 500 Index

## Performance vs Callan Large Cap Core (Gross)

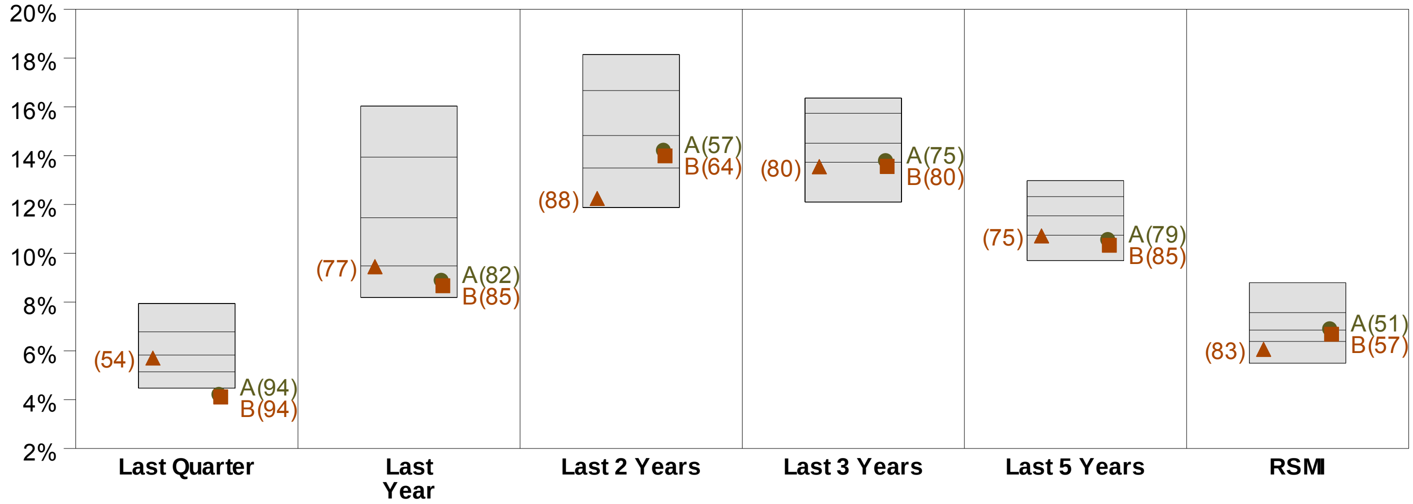



| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|
| 10th Percentile | 8.64 | 20.07 | 20.85 | 18.43 | 14.92 |
| 25th Percentile | 8.24 | 18.86 | 19.44 | 17.57 | 14.24 |
| Median | 7.46 | 17.70 | 17.80 | 16.25 | 13.67 |
| 75th Percentile | 6.79 | 15.11 | 16.82 | 15.38 | 12.78 |
| 90th Percentile | 5.32 | 13.11 | 15.80 | 14.58 | 11.93 |
| AB ● A | 7.69 | 17.88 | 18.22 | 17.24 | 13.92 |
| AB (net) ■ B | 7.69 | 17.85 | 18.19 | 17.22 | 13.89 |
| S&P 500 Index ▲ | 7.71 | 17.91 | 18.26 | 17.31 | 13.95 |

- The portfolio continues to closely track the S&P 500 index at a very low fee.
- The strategy was slightly behind the benchmark for the quarter and underperformed by 0.03% for the last five years.

# QMA Large Cap Value

### Performance vs Callan Large Cap Value (Gross)

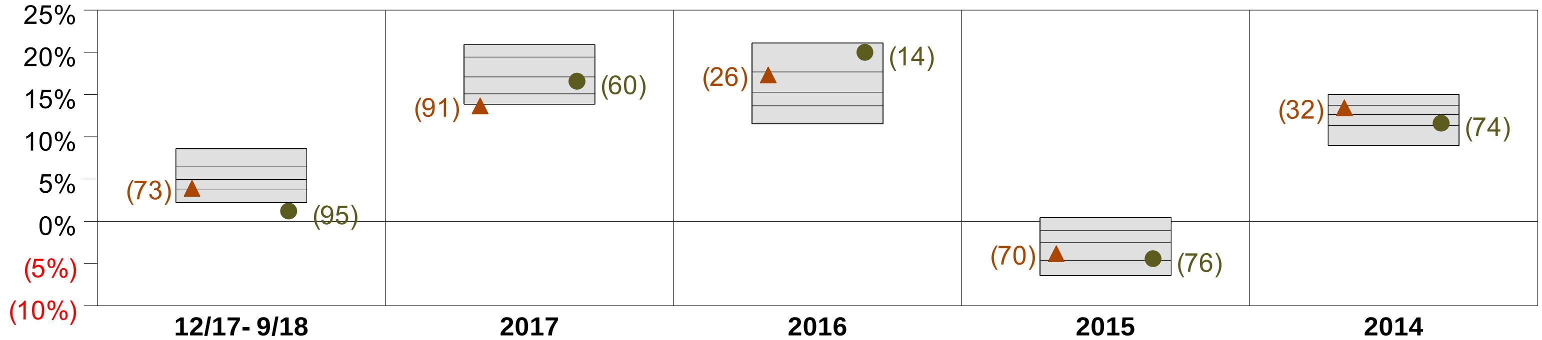



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 7.94 | 16.04 | 18.15 | 16.36 | 12.98 | 8.79 |
| 25th Percentile | | 6.78 | 13.95 | 16.67 | 15.74 | 12.33 | 7.57 |
| Median | | 5.83 | 11.45 | 14.82 | 14.51 | 11.53 | 6.85 |
| 75th Percentile | | 5.13 | 9.48 | 13.49 | 13.73 | 10.74 | 6.39 |
| 90th Percentile | | 4.47 | 8.19 | 11.87 | 12.10 | 9.70 | 5.49 |
| QMA | ● A | 4.15 | 8.83 | 14.16 | 13.73 | 10.49 | 6.84 |
| QMA (net) | ■ B | 4.12 | 8.67 | 13.99 | 13.56 | 10.33 | 6.68 |
| Russell 1000 Value Index | ▲ | 5.70 | 9.45 | 12.25 | 13.55 | 10.72 | 6.07 |

- QMA underperformed by 1.55% for the quarter and underperformed by 0.62% over the last year.
- The portfolio’s emphasis on deep value stocks drove the underperformance for the quarter as stocks with higher earnings yields and book yields significantly lagged their more expensive peers within the Value Index.
- Portfolio holdings in Consumer Discretionary, Health Care, and Information Technology trailed benchmark performance in each of these sectors.

# QMA Large Cap Value

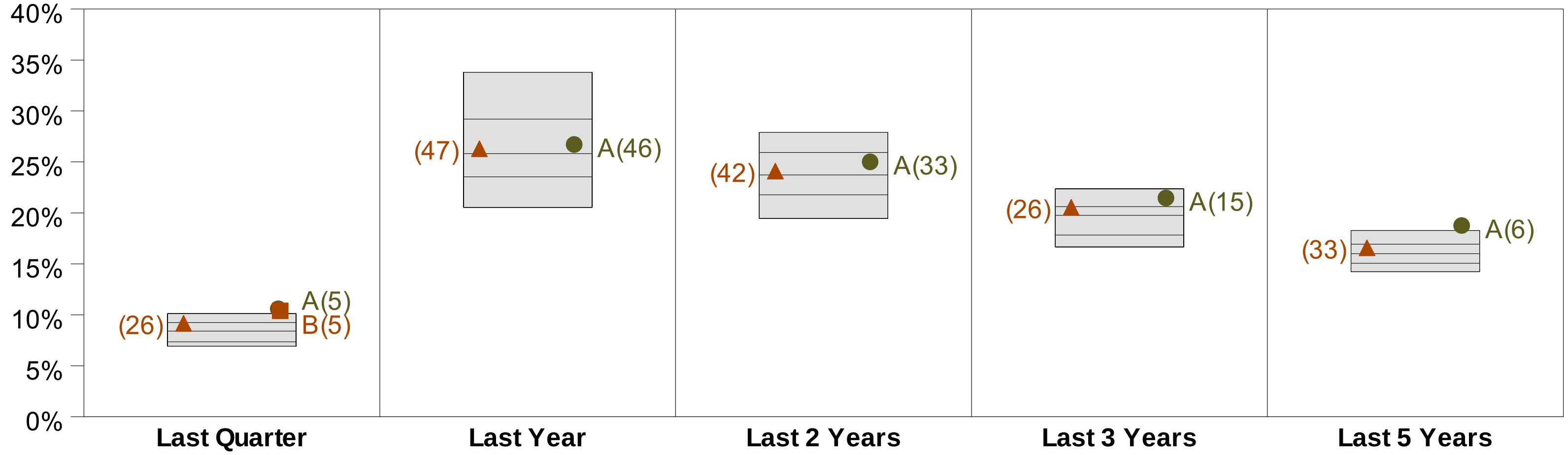
## Performance vs Callan Large Cap Value (Gross)




| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 8.59 | 20.91 | 21.12 | 0.44 | 15.04 |
| 25th Percentile | 6.45 | 19.44 | 17.69 | (1.11) | 13.74 |
| Median | 4.94 | 17.10 | 15.27 | (2.53) | 12.63 |
| 75th Percentile | 3.82 | 15.09 | 13.66 | (4.62) | 11.33 |
| 90th Percentile | 2.21 | 13.87 | 11.52 | (6.43) | 8.98 |
| **QMA** ● | 0.95 | 16.34 | 19.76 | (4.68) | 11.40 |
| Russell 1000 Value Index ▲ | 3.92 | 13.66 | 17.34 | (3.83) | 13.45 |

# BMO Large Cap Growth

### Performance vs Callan Large Cap Growth (Gross)

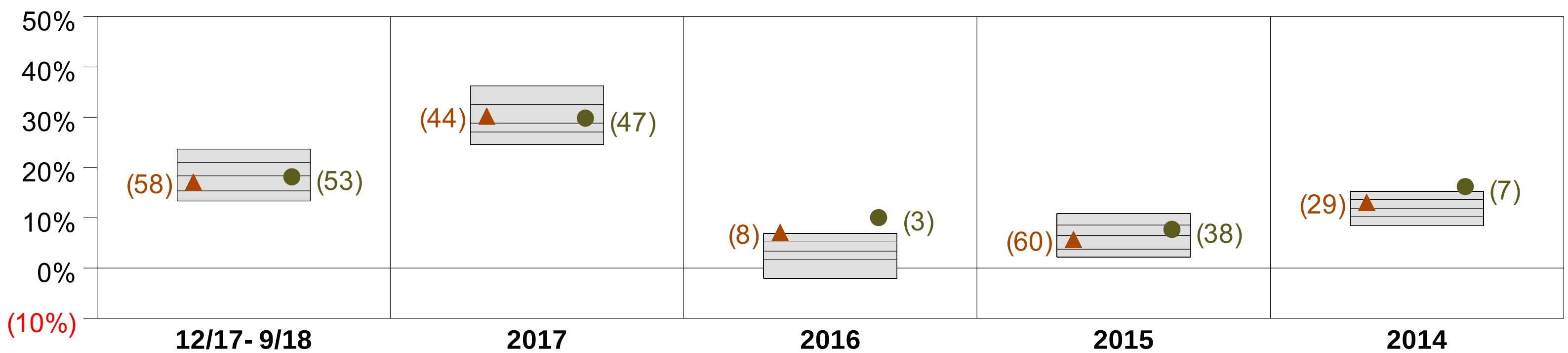



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|---|
| 10th Percentile | | 10.13 | 33.80 | 27.89 | 22.35 | 18.27 |
| 25th Percentile | | 9.25 | 29.20 | 25.91 | 20.61 | 16.93 |
| Median | | 8.42 | 25.81 | 23.71 | 19.77 | 16.00 |
| 75th Percentile | | 7.35 | 23.53 | 21.77 | 17.84 | 15.06 |
| 90th Percentile | | 6.92 | 20.55 | 19.45 | 16.66 | 14.22 |
| BMO | ● A | 10.43 | 26.53 | 24.83 | 21.28 | 18.59 |
| BMO (net) | ■ B | 10.39 | - | - | - | - |
| Russell 1000 Growth Index | ▲ | 9.17 | 26.30 | 24.10 | 20.55 | 16.58 |

- BMO outperformed the benchmark during its first full quarter of performance by 1.26%.
- The Strategy's underweight position in Communication Services and overweight position in Information Technology added to performance, while overweight positions in Energy and Real Estate detracted from performance.
- Stock selection was strongest in Consumer Discretionary and Communication Services and weakest in Energy, Materials and Information Technology.

# BMO Large Cap Growth

## Performance vs Callan Large Cap Growth (Gross)




| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 23.67 | 36.25 | 6.89 | 10.89 | 15.27 |
| 25th Percentile | 20.98 | 32.53 | 5.19 | 8.56 | 13.65 |
| Median | 18.34 | 28.84 | 3.39 | 6.43 | 11.82 |
| 75th Percentile | 15.36 | 27.06 | 1.66 | 3.76 | 10.23 |
| 90th Percentile | 13.35 | 24.59 | (2.03) | 2.18 | 8.44 |
| **BMO** ● | 17.74 | 29.39 | 9.67 | 7.27 | 15.80 |
| Russell 1000 Growth Index ▲ | 17.09 | 30.21 | 7.08 | 5.67 | 13.05 |

# Boston Company Mid Cap Core

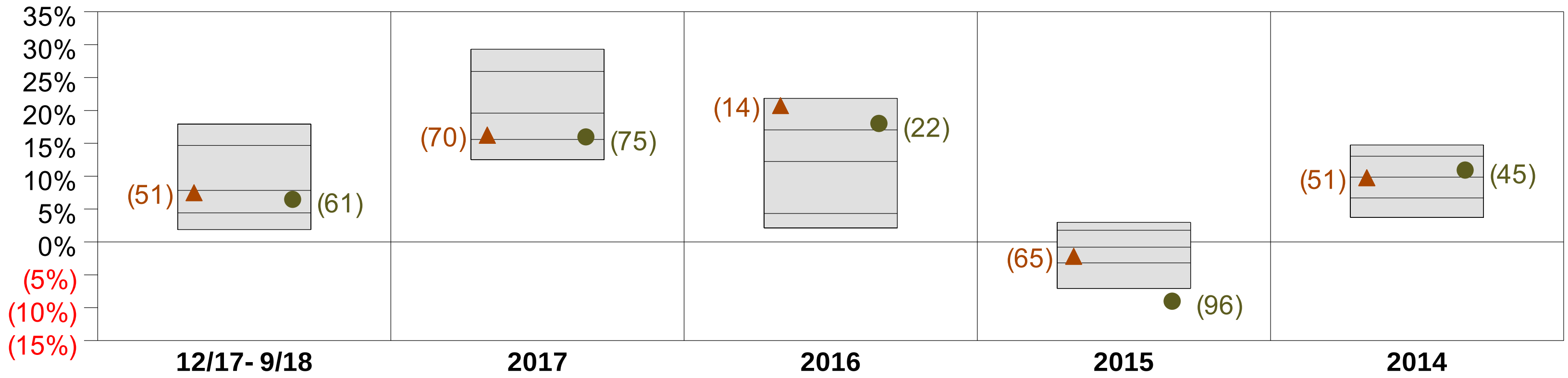
## Performance vs Callan Mid Capitalization (Gross)


| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|
| 10th Percentile | 9.07 | 25.80 | 22.73 | 18.51 | 14.76 |
| 25th Percentile | 7.72 | 21.78 | 20.11 | 16.16 | 12.96 |
| Median | 4.94 | 14.94 | 16.35 | 14.68 | 11.67 |
| 75th Percentile | 3.28 | 10.09 | 13.40 | 12.71 | 10.58 |
| 90th Percentile | 2.11 | 7.30 | 11.47 | 11.46 | 8.68 |
| Boston Co ● A | 4.24 | 12.82 | 15.59 | 13.91 | 10.07 |
| Boston Co (net) ■ B | 4.09 | 12.20 | 14.96 | 13.28 | 9.47 |
| S&P Mid Cap 400 Index ▲ | 3.86 | 14.21 | 15.85 | 15.68 | 11.91 |

- TBCAM outperformed by 0.37% for the quarter and underperformed by 1.39% over the last year.
- Positive developments and positioning in Information Technology and Real Estate sectors added to relative results. Meanwhile, the Materials and Energy sectors weighed most on performance versus the benchmark.

# Boston Company Mid Cap Core

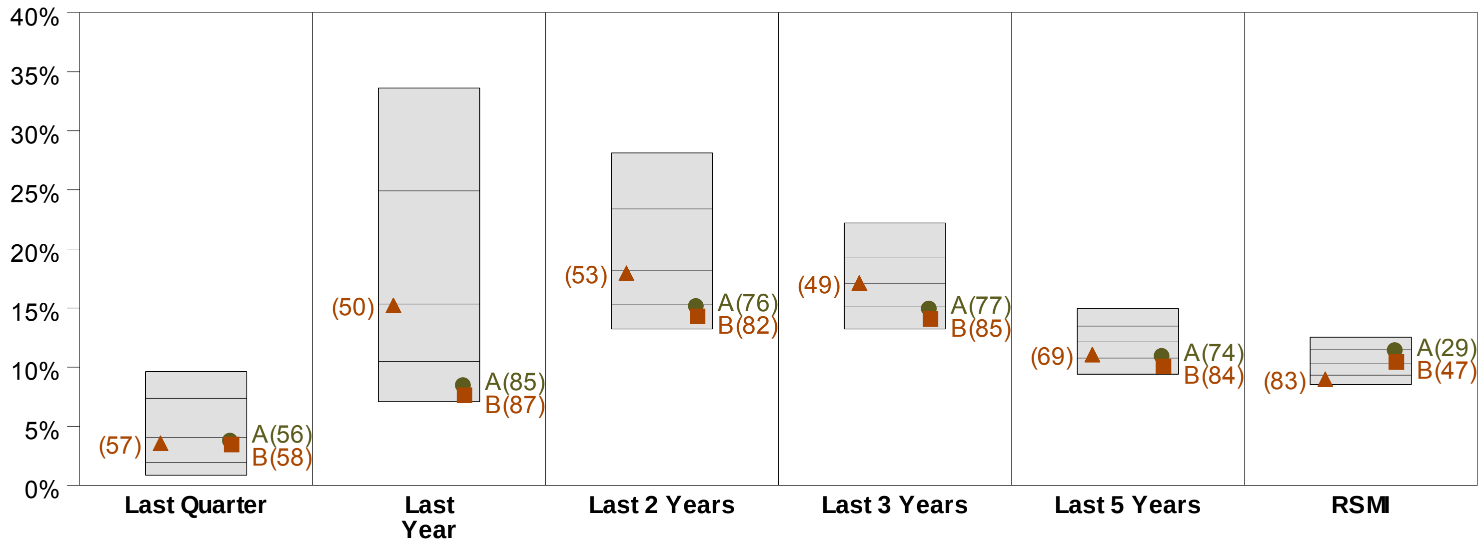
## Performance vs Callan Mid Capitalization (Gross)




| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 17.94 | 29.31 | 21.83 | 2.97 | 14.76 |
| 25th Percentile | 14.67 | 25.93 | 17.03 | 1.80 | 13.03 |
| Median | 7.83 | 19.58 | 12.23 | (0.80) | 9.88 |
| 75th Percentile | 4.43 | 15.59 | 4.35 | (3.18) | 6.72 |
| 90th Percentile | 1.89 | 12.48 | 2.13 | (7.07) | 3.72 |
| **Boston Co** ● | 6.20 | 15.65 | 17.69 | (9.29) | 10.61 |
| S&P Mid Cap 400 Index ▲ | 7.49 | 16.24 | 20.74 | (2.18) | 9.77 |

# Fiduciary Management Small Cap Core

## Performance vs Callan Small Capitalization (Gross)

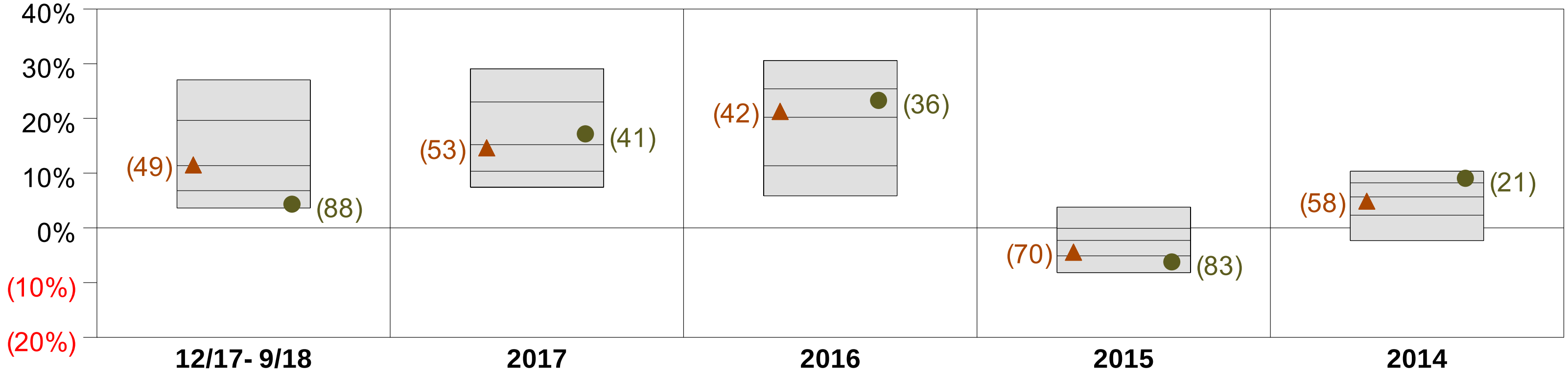



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|---|
| 10th Percentile | | 9.62 | 33.60 | 28.13 | 22.20 | 14.96 | 12.53 |
| 25th Percentile | | 7.36 | 24.92 | 23.38 | 19.32 | 13.48 | 11.47 |
| Median | | 4.06 | 15.34 | 18.15 | 17.06 | 12.14 | 10.29 |
| 75th Percentile | | 1.94 | 10.48 | 15.26 | 15.09 | 10.78 | 9.32 |
| 90th Percentile | | 0.86 | 7.08 | 13.23 | 13.24 | 9.40 | 8.53 |
| Fiduciary Management | ● A | 3.62 | 8.32 | 15.03 | 14.81 | 10.81 | 11.27 |
| Fiduciary Management (net) | ■ B | 3.45 | 7.62 | 14.29 | 14.07 | 10.07 | 10.44 |
| Russell 2000 Index | ▲ | 3.58 | 15.24 | 17.96 | 17.12 | 11.07 | 8.99 |

- Fiduciary outperformed by 0.04% for the quarter and underperformed by 6.92% for the year.
- Sectors that contributed positively in the quarter included Producer Manufacturing, Finance, and Commercial Services. Health Technology, Technology Services and Consumer Non-Durable sectors detracted.
- Cash continued to be a drag.

# Fiduciary Management Small Cap Core

## Performance vs Callan Small Capitalization (Gross)



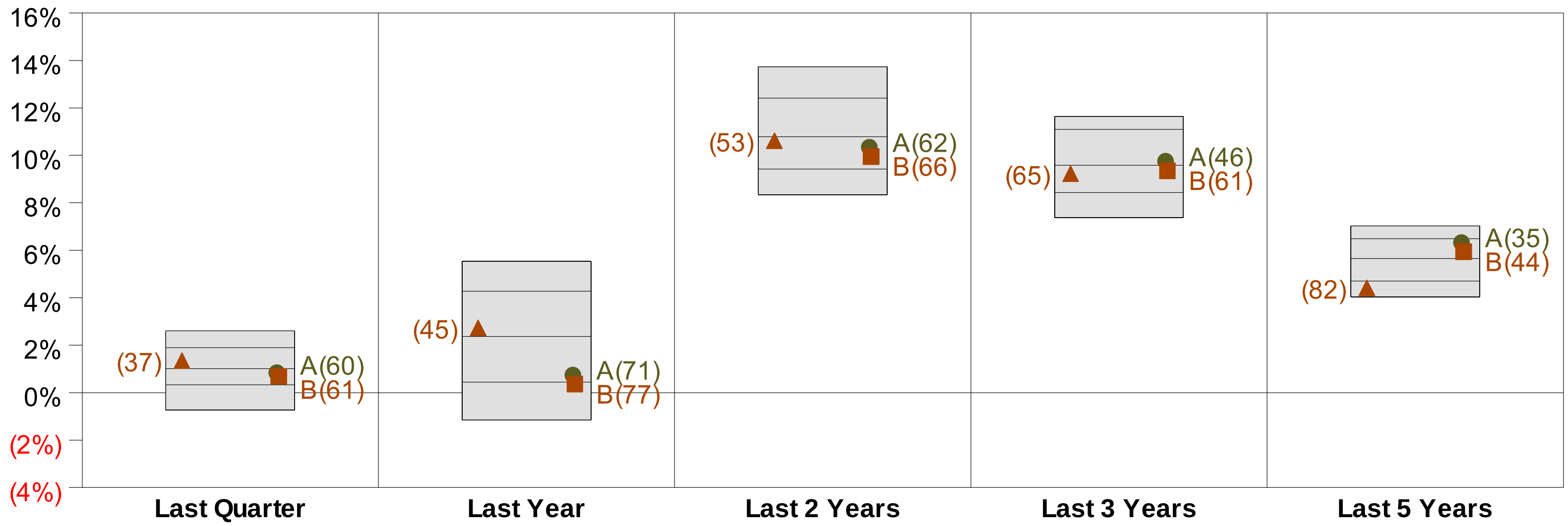

| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 27.07 | 29.07 | 30.60 | 3.84 | 10.36 |
| 25th Percentile | 19.66 | 23.04 | 25.44 | (0.06) | 8.23 |
| Median | 11.40 | 15.21 | 20.21 | (2.30) | 5.66 |
| 75th Percentile | 6.83 | 10.37 | 11.37 | (5.11) | 2.35 |
| 90th Percentile | 3.66 | 7.42 | 5.88 | (8.14) | (2.32) |
| **Fiduciary Management** ● | 3.97 | 16.82 | 22.95 | (6.57) | 8.70 |
| Russell 2000 Index ▲ | 11.51 | 14.65 | 21.31 | (4.41) | 4.89 |

Callan

# International Equity Performance

# PanAgora International Equity

## Performance vs Callan Non-US Developed Core Equity (Gross)

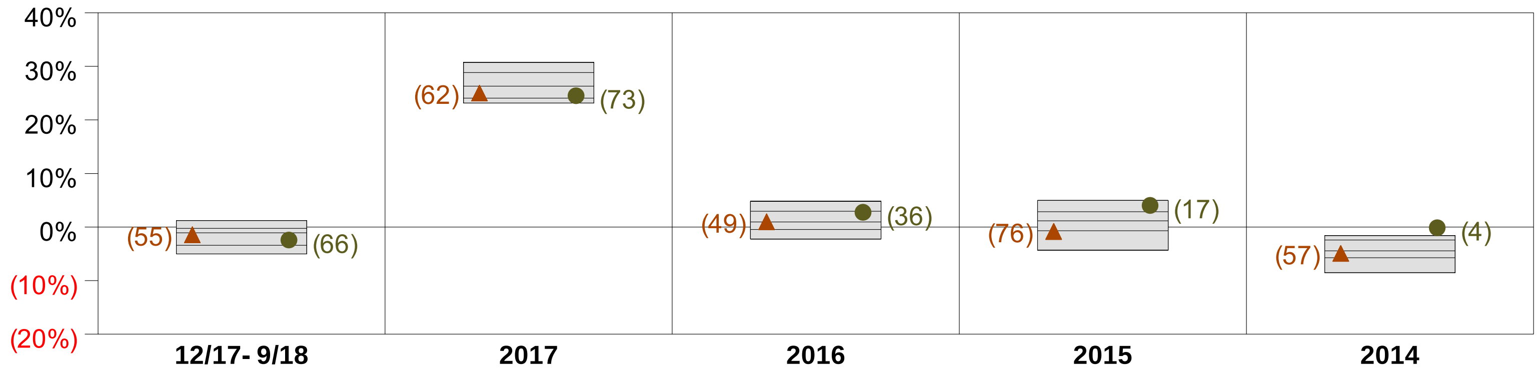



| | | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years |
|---|---|---|---|---|---|---|
| 10th Percentile | | 2.60 | 5.54 | 13.73 | 11.64 | 7.03 |
| 25th Percentile | | 1.89 | 4.28 | 12.41 | 11.10 | 6.49 |
| Median | | 1.01 | 2.37 | 10.79 | 9.58 | 5.66 |
| 75th Percentile | | 0.33 | 0.44 | 9.42 | 8.44 | 4.70 |
| 90th Percentile | | (0.73) | (1.16) | 8.34 | 7.38 | 4.03 |
| PanAgora | ● A | 0.76 | 0.66 | 10.28 | 9.68 | 6.25 |
| PanAgora (net) | ■ B | 0.68 | 0.36 | 9.95 | 9.35 | 5.94 |
| MSCI EAFE | ▲ | 1.35 | 2.74 | 10.62 | 9.23 | 4.42 |

- PanAgora underperformed the index by 0.59% for the quarter and underperformed by 2.07% over the last year.
- Positive stock selection in Japan was more than offset by negative stock selection in Germany, France, Hong Kong and the United Kingdom.

# PanAgora International Equity

## Performance vs Callan NonUS Dev Core Eq (Gross)



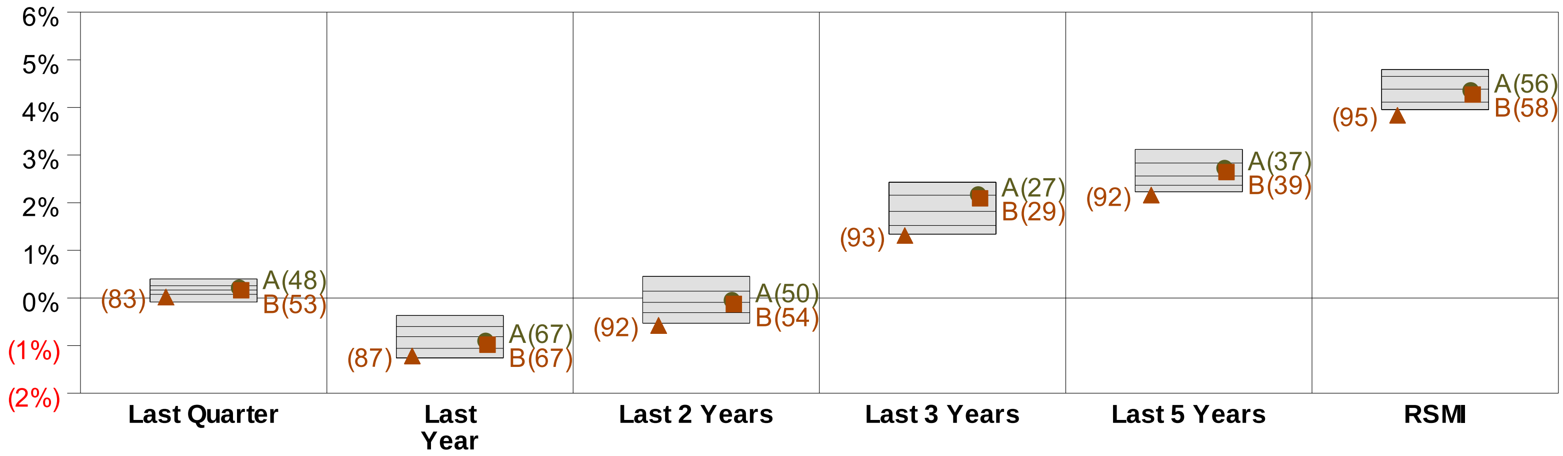

| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | 1.22 | 30.76 | 4.85 | 4.96 | (1.58) |
| 25th Percentile | (0.25) | 28.87 | 2.96 | 2.84 | (2.44) |
| Median | (1.05) | 26.32 | 0.94 | 1.15 | (4.45) |
| 75th Percentile | (3.41) | 24.06 | (0.44) | (0.68) | (5.73) |
| 90th Percentile | (5.03) | 23.17 | (2.25) | (4.33) | (8.54) |
| **PanAgora** ● | (2.81) | 24.17 | 2.38 | 3.66 | (0.47) |
| MSCI EAFE ▲ | (1.43) | 25.03 | 1.00 | (0.81) | (4.90) |

Callan

# Domestic Fixed Income

# Columbia Management Core Bond

## Performance vs CAI Core Bond Style (Gross)

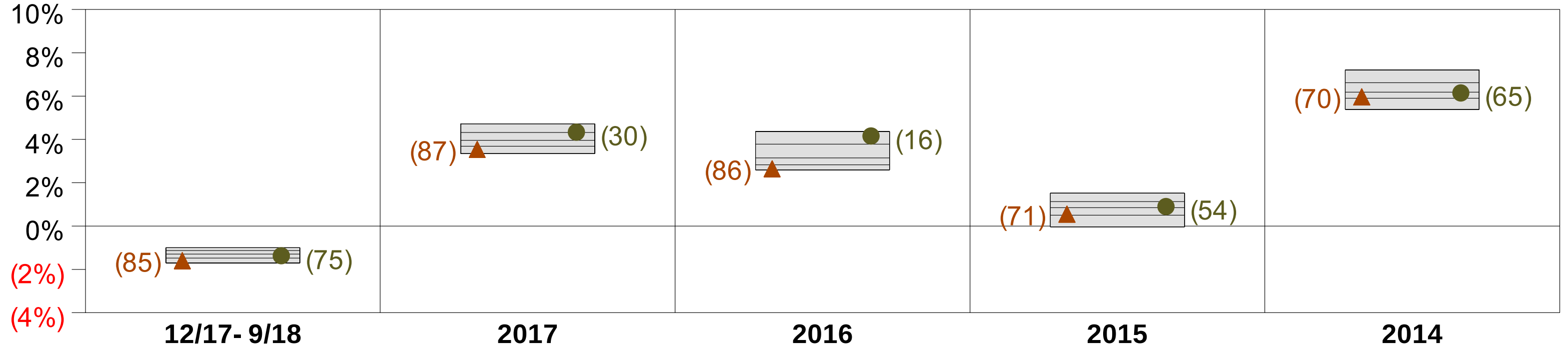



| | Last Quarter | Last Year | Last 2 Years | Last 3 Years | Last 5 Years | RSMI |
|---|---|---|---|---|---|---|
| 10th Percentile | 0.40 | (0.37) | 0.45 | 2.43 | 3.12 | 4.80 |
| 25th Percentile | 0.26 | (0.60) | 0.14 | 2.16 | 2.83 | 4.65 |
| Median | 0.17 | (0.81) | (0.09) | 1.81 | 2.56 | 4.38 |
| 75th Percentile | 0.08 | (1.06) | (0.31) | 1.52 | 2.36 | 4.11 |
| 90th Percentile | (0.09) | (1.26) | (0.53) | 1.34 | 2.23 | 3.95 |
| Columbia Management ● A | 0.17 | (0.94) | (0.09) | 2.13 | 2.68 | 4.31 |
| Columbia Management (net) ■ B | 0.16 | (0.98) | (0.13) | 2.09 | 2.64 | 4.27 |
| Blmbg Aggregate ▲ | 0.02 | (1.22) | (0.57) | 1.31 | 2.16 | 3.84 |

- Columbia’s portfolio outperformed by 0.15% for the quarter and outperformed by 0.27% for the year.
- Interest rate risk was a modest detractor as interest rates rose during the quarter and the portfolio maintained a longer duration profile than the benchmark. The modest overweight in credit contributed to performance as did the under weight in Treasury and mortgage-backed securities. The bias towards BBB, energy, and consumer non-cyclical issuers was a major contributor to returns during the period.

# Columbia Management Core Bond

## Performance vs CAI Core Bond Style (Gross)




| | 12/17- 9/18 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| 10th Percentile | (1.00) | 4.72 | 4.36 | 1.51 | 7.21 |
| 25th Percentile | (1.13) | 4.32 | 3.78 | 1.13 | 6.61 |
| Median | (1.29) | 3.96 | 3.14 | 0.84 | 6.19 |
| 75th Percentile | (1.48) | 3.68 | 2.83 | 0.50 | 5.90 |
| 90th Percentile | (1.71) | 3.34 | 2.59 | (0.04) | 5.39 |
| **Columbia Management** ● | (1.47) | 4.24 | 4.06 | 0.81 | 6.06 |
| Blmbg Aggregate ▲ | (1.60) | 3.54 | 2.65 | 0.55 | 5.97 |

# Manager Investment Philosophy

- **AB** uses a stratified sampling methodology and purchases a majority of the index stocks to replicate the Standard and Poor's 500. Alliance Bernstein's first full month of performance is November 2012.

- **QMA's** Value Equity philosophy is built on the fact that out-of-favor stocks with low P/E ratios have historically outperformed the broad stock market averages. They believe that a quantitative approach is the most effective way to identify attractive, undervalued companies and to exploit the pricing discrepancies that exist between high-and low-expectation stocks. QMA's first full month of performance is June 2007.

- **BMO** believes that company fundamentals drive stock prices over the long term; in the short term, however, prices often become dislocated from fundamentals due to behavioral biases and emotions such as fear and greed. The team believes that fundamentally strong, attractively valued companies with growing investor interest will outperform over the long run. The team seeks to identify these companies and builds portfolios using a systematic, data-driven process that avoids behavioral biases and grounds all investment decisions in hard data and time-tested investment principles. BMO's first month of performance is May 2018.

- **Boston Company** uses a bottom up investment approach to identify mid cap stocks that are undervalued, possess strong fundamentals, improving momentum, and are underfollowed by Wall Street analysts. Boston's first full month of performance is August 2013.

- **Fiduciary** invests in companies that have a solid business franchise, but are trading below their intrinsic value (or the price a business owner or private buyer might pay for this company). Fiduciary's first full month of performance is November 2005.

- **Panagora's** Dynamic International Equity investment philosophy is built upon the belief that pricing inefficiencies exist in competitive markets, largely due to investor behavior and that challenging analysis is often overlooked by the universe of investors. PanAgora believes that a disciplined application of quantitative alpha signals that are derived from sound fundamental principles can efficiently capture mispricing opportunities in international equity markets and build portfolios that generate attractive risk-adjusted returns. PanAgora's first full month of performance is June 2015.

- **Columbia** Columbia's process is driven by the bottom-up analysis of the risk/return premium on each security rather than an economic view. This philosophy is intended to allow the team to capture alpha under many different market conditions that change over time. Columbia believes the market offers potential returns from a number of key sources including duration, yield curve positioning, volatility changes, sectors and issues. Limits are placed on the size of deviations from the benchmark so that no one decision can overwhelm performance or exaggerates risk in the total portfolio. Columbia's first full month of performance is December 2002.

Callan

September 2018 Board Meeting

# Florida ABLE, Inc.

## Second Quarter 2018
## Performance Review

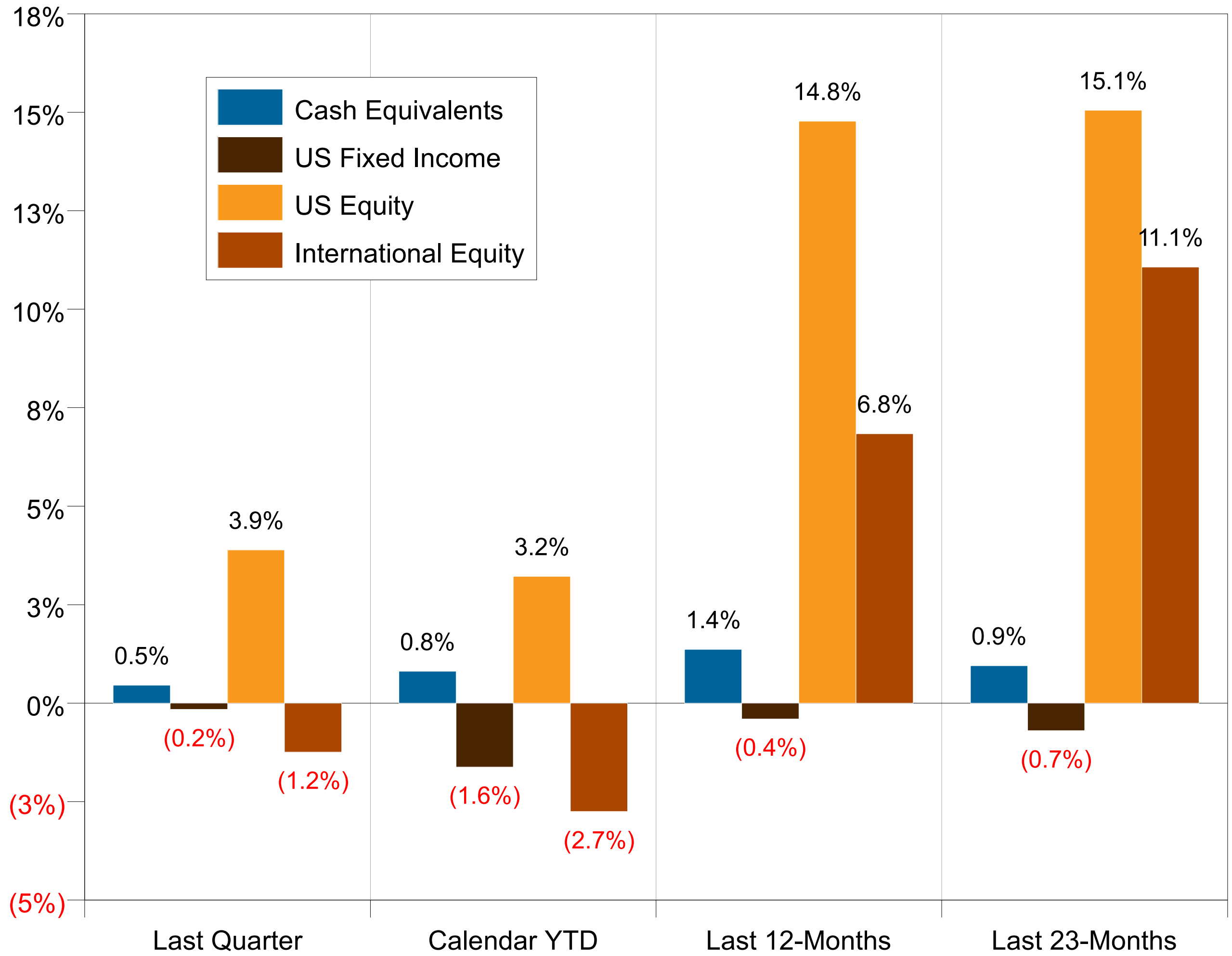
**Weston Lewis, CFA, CAIA**
Atlanta Fund Sponsor Consulting

**Brian Smith, CFA**
Atlanta Fund Sponsor Consulting

## Asset Class Performance

- US equities (Russell 3000 +3.9%) rose in the second quarter on a strong earnings season and positive economic data.
- International equities (MSCI EAFE -1.2%) saw losses for the quarter, and are down year to date.
- 10-year US Treasury yields rose from 2.74% in March to 2.85% in June; yields are up 55 bps from June 2017.
- The Fed raised rates in March and June and signaled two more hikes this year, and three in 2019.

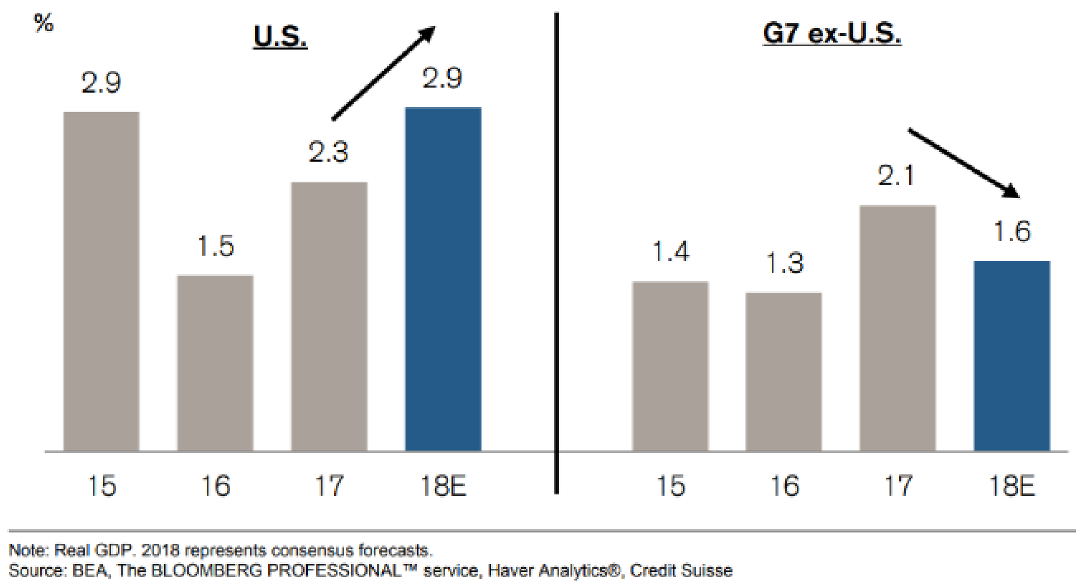
**Returns for Periods Ended June 30, 2018**




*Cash Equivalents (3 Month T-Bill), US Fixed Income (Bloomberg Barclays Aggregate Index), US Equity (Russell 3000 Index), and International Equity (MSCI EAFE Index).*

## Desynchronization in Global Growth

**Real GDP Consensus Forecasts**




- While consensus **US GDP growth** expectations have been **accelerating**, **G7 ex-US growth** expectations have been **decelerating**.
- The effects of this change have resulted in 1H18 stock market divergence (Russell 3000: +3.2%, MSCI EAFE: -2.7%, MSCI Emerging Markets: -6.7%).

*Source: Peregrine Capital Management.*

## Asset Distribution Across Investment Options

| | June 30, 2018 | | | | March 31, 2018 | |
|---|---|---|---|---|---|---|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| **Individual Fund Options** | **$3,552,757** | **38.85%** | **$541,832** | **$35,241** | **$2,975,684** | **37.62%** |
| US Stock Fund | 968,401 | 10.59% | 145,231 | 32,388 | 790,782 | 10.00% |
| International Stock Fund | 307,711 | 3.37% | 44,677 | (5,713) | 268,746 | 3.40% |
| US Bond Fund | 364,392 | 3.98% | 45,307 | (289) | 319,374 | 4.04% |
| Money Market Fund | 1,912,253 | 20.91% | 306,617 | 8,856 | 1,596,781 | 20.19% |
| **Predesigned Portfolio Options** | **$5,567,698** | **60.89%** | **$582,653** | **$69,192** | **$4,915,853** | **62.14%** |
| Conservative Portfolio | 2,235,187 | 24.44% | 248,987 | 21,135 | 1,965,066 | 24.84% |
| Moderate Portfolio | 1,536,286 | 16.80% | 120,108 | 21,346 | 1,394,832 | 17.63% |
| Growth Portfolio | 1,796,225 | 19.64% | 213,558 | 26,712 | 1,555,955 | 19.67% |
| Clearing Account | 23,736 | 0.26% | 4,785 | 83 | 18,868 | 0.24% |
| **Total Investment Options** | **$9,144,191** | **100.0%** | **$1,129,270** | **$104,517** | **$7,910,405** | **100.0%** |

- There was an investment gain of $104 thousand in the second quarter.
- Total assets increased to $9.1 million as a result of inflows and market returns.

# Investment Fund Option Performance

### Four

Individual funds from which a custom portfolio may be built.

### Highlights (Last Year)

**+14.48%**

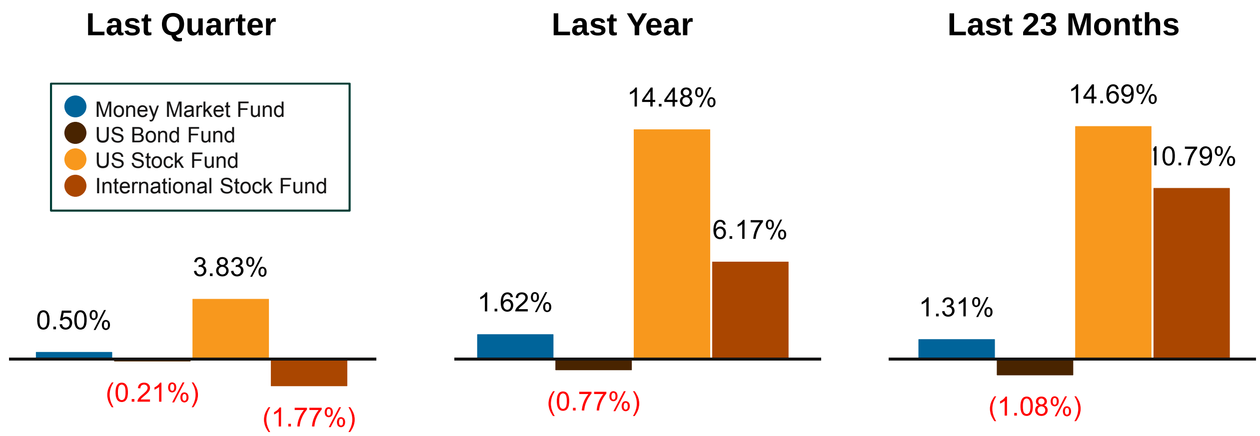
The return for the US Stock Fund.

**More than 2x**

The **+6.17%** return for the International Stock Fund.

**Capital Loss**

The US Bond Fund finished in the red **(0.77%)**.




| 3Q16 | 4Q16 | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 1Q18 | 2Q18 |
|---|---|---|---|---|---|---|---|
| US Stock Fund 3.3% | US Stock Fund 4.1% | International Stock Fund 7.6% | International Stock Fund 6.3% | International Stock Fund 5.1% | US Stock Fund 6.3% | Money Market Fund 0.4% | US Stock Fund 3.8% |
| International Stock Fund 2.5% | Money Market Fund 0.2% | US Stock Fund 5.7% | US Stock Fund 2.9% | US Stock Fund 4.5% | International Stock Fund 3.7% | US Stock Fund (0.7%) | Money Market Fund 0.5% |
| Money Market Fund 2.0% | International Stock Fund (1.5%) | US Bond Fund 0.9% | US Bond Fund 1.4% | US Bond Fund 0.7% | US Bond Fund 0.3% | International Stock Fund (0.9%) | US Bond Fund (0.2%) |
| US Bond Fund 0.0% | US Bond Fund (3.3%) | Money Market Fund 0.3% | Money Market Fund 0.3% | Money Market Fund 0.3% | Money Market Fund 0.3% | US Bond Fund (1.5%) | International Stock Fund (1.8%) |

*Investment returns are net of the ABLE United Investment Administration Fee.*

## Predesigned Portfolio Option Performance

### Three

Well diversified fund options designed by risk tolerance.

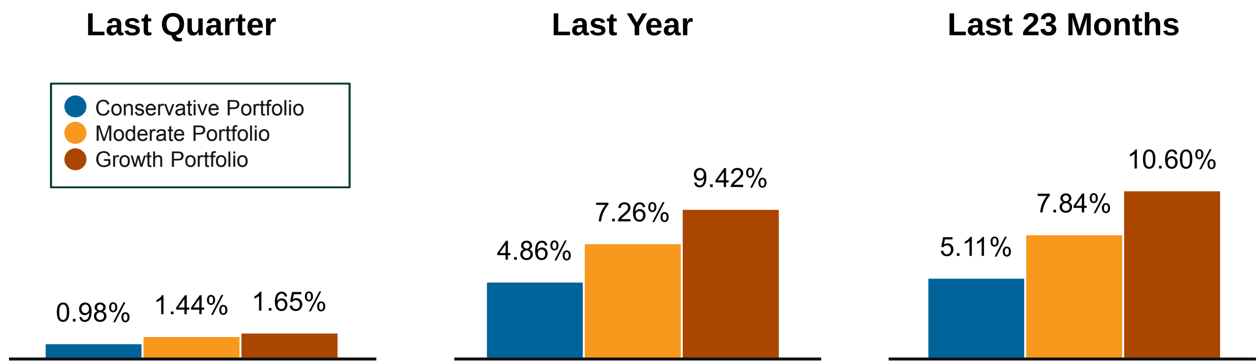
### Highlights (Last Year)

### ~5% to 9.5% Return

A range of returns suitable for most investors willing to assume investment risk.

### Linear Risk-Return Relationship

Higher risk options have posted higher returns.



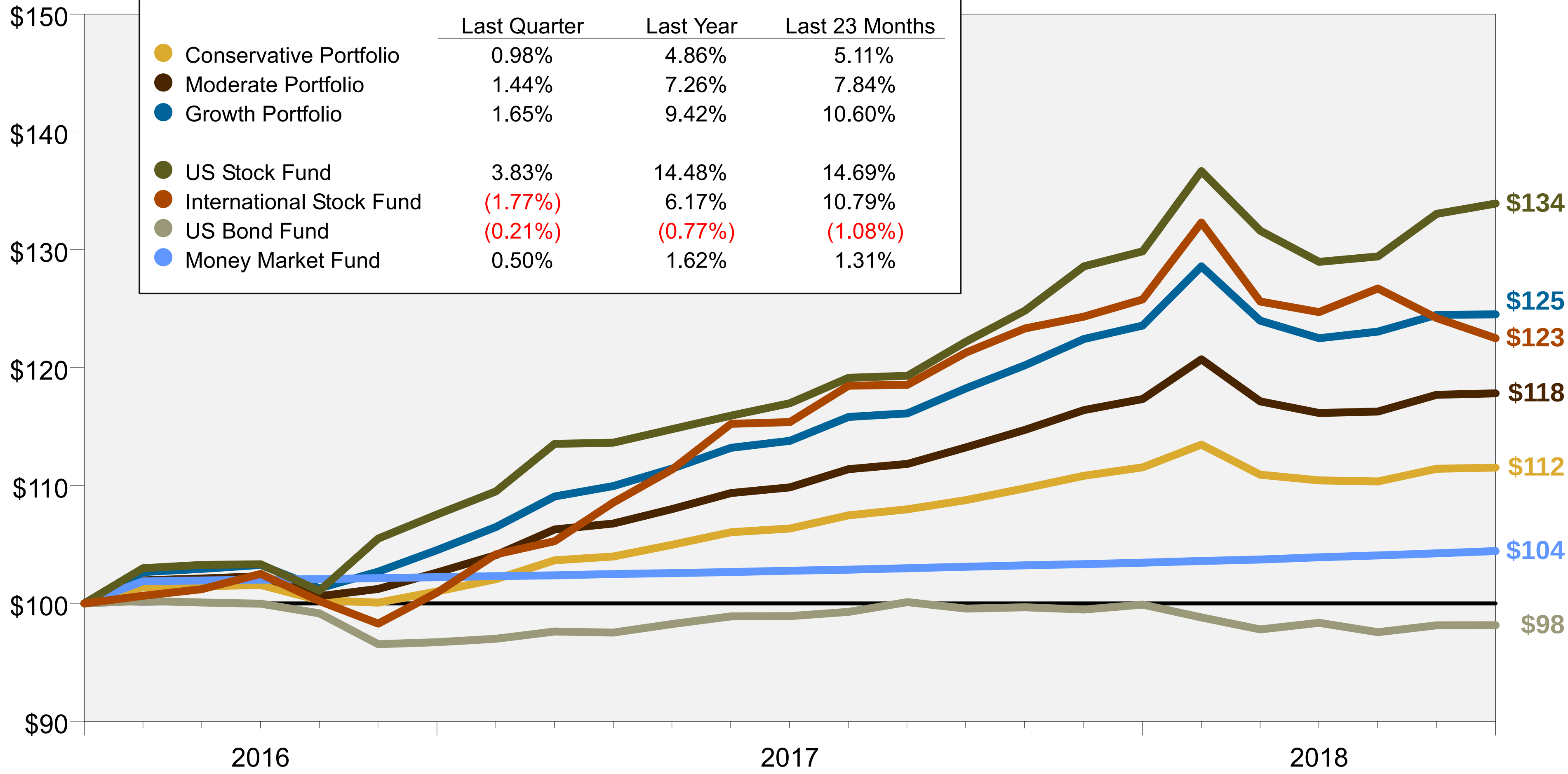

| 3Q16 | 4Q16 | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 1Q18 | 2Q18 |
|---|---|---|---|---|---|---|---|
| Growth Portfolio 3.3% | Growth Portfolio 1.2% | Growth Portfolio 5.2% | Growth Portfolio 3.5% | Growth Portfolio 3.9% | Growth Portfolio 4.5% | Growth Portfolio (0.9%) | Growth Portfolio 1.7% |
| Moderate Portfolio 2.3% | Moderate Portfolio 0.3% | Moderate Portfolio 4.1% | Moderate Portfolio 2.9% | Moderate Portfolio 3.1% | Moderate Portfolio 3.6% | Conservative Portfolio (1.0%) | Moderate Portfolio 1.4% |
| Conservative Portfolio 1.6% | Conservative Portfolio (0.5%) | Conservative Portfolio 2.9% | Conservative Portfolio 2.3% | Conservative Portfolio 2.3% | Conservative Portfolio 2.5% | Moderate Portfolio (1.0%) | Conservative Portfolio 1.0% |

*Investment returns are net of the ABLE United Investment Administration Fee.*

## Growth of $100 by Investment Option

**Returns as of June 30, 2018**

| | Last Quarter | Last Year | Last 23 Months |
|---|---|---|---|
| Conservative Portfolio | 0.98% | 4.86% | 5.11% |
| Moderate Portfolio | 1.44% | 7.26% | 7.84% |
| Growth Portfolio | 1.65% | 9.42% | 10.60% |
| US Stock Fund | 3.83% | 14.48% | 14.69% |
| International Stock Fund | (1.77%) | 6.17% | 10.79% |
| US Bond Fund | (0.21%) | (0.77%) | (1.08%) |
| Money Market Fund | 0.50% | 1.62% | 1.31% |




**Investment Options Span the Risk-Reward Spectrum**

*Investment returns are net of the ABLE United Investment Administration Fee.*

# ABLE United Periodic Table of Investment Options

## Returns Ranked in Order of Performance (Best to Worst)

| 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | YTD 2018 |
|---|---|---|---|---|---|---|---|
| International Stock Fund **24.6%** | US Stock Fund **5.2%** | Money Market Fund **0.1%** | US Bond Fund **0.6%** | International Stock Fund **1.6%** | US Stock Fund **2.8%** | US Stock Fund **0.7%** | US Stock Fund **3.1%** |
| US Stock Fund **20.8%** | International Stock Fund **5.2%** | US Bond Fund **(1.0%)** | Money Market Fund **0.2%** | Growth Portfolio **0.5%** | Moderate Portfolio **1.2%** | Money Market Fund **0.2%** | Money Market Fund **0.9%** |
| Growth Portfolio **18.2%** | Growth Portfolio **4.1%** | Conservative Portfolio **(2.2%)** | Conservative Portfolio **(0.4%)** | US Stock Fund **0.4%** | Growth Portfolio **1.2%** | Moderate Portfolio **0.1%** | Growth Portfolio **0.8%** |
| Moderate Portfolio **14.4%** | Moderate Portfolio **2.9%** | Moderate Portfolio **(3.0%)** | International Stock Fund **(0.7%)** | Money Market Fund **0.1%** | Conservative Portfolio **1.0%** | Conservative Portfolio **0.1%** | Moderate Portfolio **0.4%** |
| Conservative Portfolio **10.4%** | Conservative Portfolio **1.7%** | Growth Portfolio **(3.6%)** | Moderate Portfolio **(0.8%)** | Moderate Portfolio **0.1%** | US Bond Fund **0.6%** | Growth Portfolio **0.0%** | Conservative Portfolio **0.0%** |
| US Bond Fund **3.3%** | Money Market Fund **0.1%** | US Stock Fund **(3.7%)** | Growth Portfolio **(1.2%)** | Conservative Portfolio **(0.1%)** | Money Market Fund **0.2%** | US Bond Fund **0.0%** | US Bond Fund **(1.7%)** |
| Money Market Fund **1.2%** | US Bond Fund **(1.1%)** | International Stock Fund **(5.1%)** | US Stock Fund **(2.0%)** | US Bond Fund **(0.8%)** | International Stock Fund **(2.0%)** | International Stock Fund **(1.4%)** | International Stock Fund **(2.6%)** |

*Investment returns are net of the ABLE United Investment Administration Fee.*

# Investment Option Excess Return

| | Last Quarter | Last Year | Last 23 Months |
|---|---|---|---|
| **Net Returns** | | | |
| US Stock Fund | 3.83% | 14.48% | 14.69% |
| Russell 3000 Index | 3.89% | 14.78% | 15.05% |
| **Excess Return** | **(0.06%)** | **(0.30%)** | **(0.36%)** |
| International Stock Fund | (1.77%) | 6.17% | 10.79% |
| MSCI EAFE | (1.24%) | 6.84% | 11.07% |
| **Excess Return** | **(0.53%)** | **(0.67%)** | **(0.28%)** |
| US Bond Fund | (0.21%) | (0.77%) | (1.08%) |
| Blmbg Aggregate Index | (0.16%) | (0.40%) | (0.70%) |
| **Excess Return** | **(0.05%)** | **(0.37%)** | **(0.38%)** |
| Money Market Fund | 0.50% | 1.62% | 1.31% |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.95% |
| **Excess Return** | **0.05%** | **0.26%** | **0.36%** |
| Conservative Portfolio | 0.98% | 4.86% | 5.11% |
| Custom Conservative Benchmark (1) | 1.01% | 4.96% | 5.23% |
| **Excess Return** | **(0.03%)** | **(0.11%)** | **(0.13%)** |
| Moderate Portfolio | 1.44% | 7.26% | 7.84% |
| Custom Moderate Benchmark (2) | 1.50% | 7.42% | 8.02% |
| **Excess Return** | **(0.06%)** | **(0.15%)** | **(0.18%)** |
| Growth Portfolio | 1.65% | 9.42% | 10.60% |
| Custom Growth Benchmark (3) | 1.80% | 9.69% | 10.84% |
| **Excess Return** | **(0.15%)** | **(0.27%)** | **(0.25%)** |

*Manager performance tracked from first full month of returns (07/31/2016). Investment option returns also include program fees.
(1) Custom Conservative Benchmark = 10% 3 month Treasury Bill, 50% Barclays Aggregate, 30% Russell 3000, 10% MSCI EAFE
(2) Custom Balanced Benchmark = 40% Barclays Aggregate, 45% Russell 3000, 15% MSCI EAFE
(3) Custom Growth Benchmark = 20% Barclays Aggregate, 55% Russell 3000, 25% MSCI EAFE

# Appendix

# Investment Manager Excess Return

| | Last Quarter | Last Year | Last 23 Months |
|---|---|---|---|
| **Net Returns** | | | |
| **Domestic Equity** | | | |
| Vanguard Total Stock | 3.91% | 14.82% | 15.06% |
| Russell 3000 Index | 3.89% | 14.78% | 15.05% |
| **Excess Return** | **0.02%** | **0.04%** | **0.01%** |
| **International Equity** | | | |
| Blackrock Intl Index | (1.71%) | 6.49% | 11.16% |
| MSCI EAFE | (1.24%) | 6.84% | 11.07% |
| **Excess Return** | **(0.47%)** | **(0.35%)** | **0.09%** |
| **Domestic Fixed Income** | | | |
| Vanguard Total Bond | (0.17%) | (0.53%) | (0.84%) |
| Blmbg Aggregate Idx | (0.16%) | (0.40%) | (0.70%) |
| **Excess Return** | **(0.01%)** | **(0.13%)** | **(0.14%)** |
| **Money Market** | | | |
| Florida Prime | 0.50% | 1.61% | 1.30% |
| 3-month Treasury Bill | 0.45% | 1.36% | 0.95% |
| **Excess Return** | **0.05%** | **0.25%** | **0.35%** |

## Asset Distribution Across Investment Managers

| | June 30, 2018 | | | | March 31, 2018 | |
|---|---|---|---|---|---|---|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| **Domestic Equity** | **$3,419,414** | **37.49%** | **$368,381** | **$119,012** | **$2,932,021** | **37.15%** |
| Vanguard Total Stock | 3,419,414 | 37.49% | 368,381 | 119,012 | 2,932,021 | 37.15% |
| **International Equity** | **$1,203,158** | **13.19%** | **$137,800** | **$(22,257)** | **$1,087,614** | **13.78%** |
| Blackrock Intl Index | 1,203,158 | 13.19% | 137,800 | (22,257) | 1,087,614 | 13.78% |
| **Domestic Fixed Income** | **$2,336,780** | **25.62%** | **$260,841** | **$(2,074)** | **$2,078,013** | **26.33%** |
| Vanguard Total Bond | 2,336,780 | 25.62% | 260,841 | (2,074) | 2,078,013 | 26.33% |
| **Money Market** | **$2,129,061** | **23.34%** | **$331,515** | **$9,892** | **$1,787,653** | **22.65%** |
| Florida Prime | 2,129,061 | 23.34% | 331,515 | 9,892 | 1,787,653 | 22.65% |
| **Cash Sleeves** | **$33,372** | **0.37%** | **$25,947** | **$38** | **$7,387** | **0.09%** |
| **Total Fund** | **$9,121,785** | **100.0%** | **$1,124,485** | **$104,613** | **$7,892,688** | **100.0%** |

- There was an investment gain of $104 thousand in the second quarter.
- Total assets increased to $9.1 million as a result of inflows and market returns.

# Manager Investment Philosophy

**Vanguard Total Stock Market Index Fund** seeks to track the investment performance of the CRSP US Total Market Index. The fund replicates more than 95% of the market capitalization of the index and invests in a representative sample of the balance using a portfolio-optimization technique to avoid the expense and impracticality of full replication. Vanguard's Quantitative Equity Group seeks continuous refinement of techniques for reducing tracking error. Vanguard's full month of performance is July 2016.

**Blackrock EAFE Equity Index Fund's** objective is to track the performance of its benchmark, the MSCI EAFE Index. To manage the fund effectively, the focus is on three objectives: minimizing transaction costs, minimizing tracking error and minimizing risk. The Fund fully replicates the EAFE Equity Index, holding every stock in the index in its market capitalization weight to ensure close tracking and minimize transaction costs. As a fully replicating strategy, the only necessary trading is for dividend reinvestments, index changes, and to implement client contributions and redemptions, so costs can be controlled. BGI's broad and diverse asset and client base produces significant economies of scale for further minimizing transaction costs to clients, as we have the ability to "cross" many trades among funds tracking related equity security universes. Blackrock's first full month of performance is July 2016.

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Callan

December 2018 Board Meeting

# Florida ABLE, Inc.

Third Quarter 2018
Performance Review

**Weston Lewis, CFA, CAIA**
Atlanta Fund Sponsor Consulting

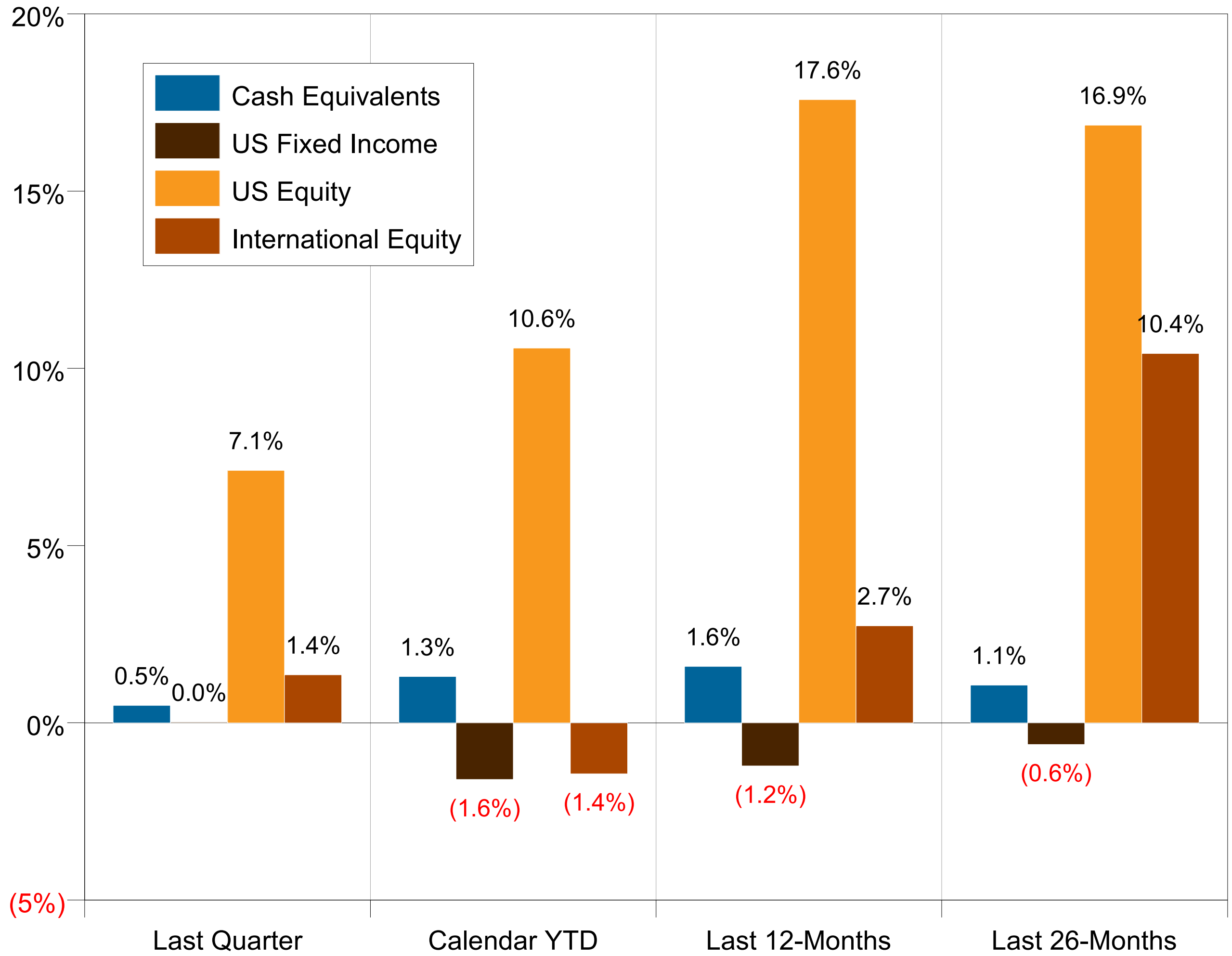
**Brian Smith, CFA**
Atlanta Fund Sponsor Consulting

# US Equity Climbs Steadily Higher in Third Quarter

## First Quarter Uncertainty Forgotten?

- Surge in volatility in February subsided through 2nd and 3rd quarters, remains below "average" market volatility measures, both realized and forward-looking.
- Correction (10% decline) achieved mid-February but stocks rebounded within the following weeks. Russell 3000 returned 7.1% in third quarter, and is up 10.6% year to date through September.
- Developed markets eked out a small gain. The Dollar rose more than 7% since mid-April.
- 10-year U.S. Treasury yields rose from 2.85% in June to 3.05% in September; yields are up 65 bps from the start of the year.
- The Fed raised rates in March, June and September, signaled one more hike this year, and three in 2019.

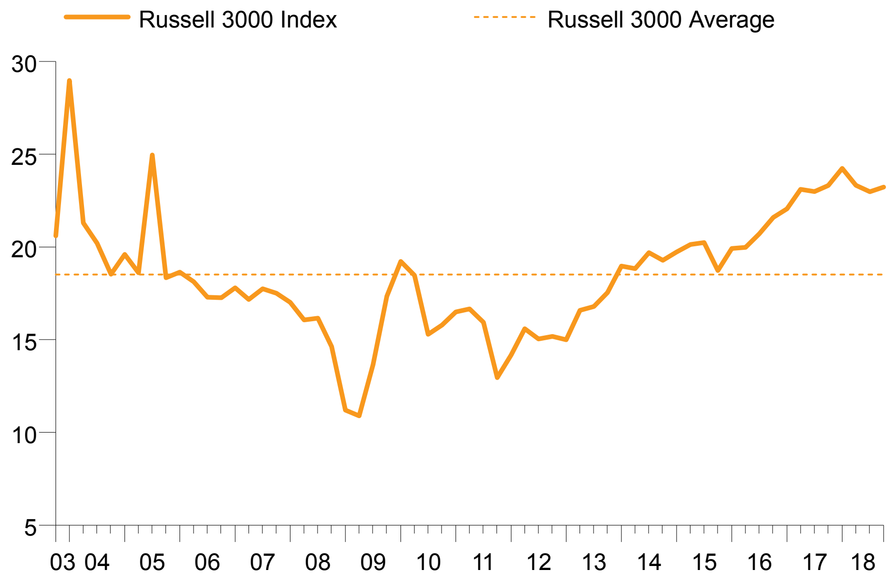
**Returns for Periods Ended September 30, 2018**



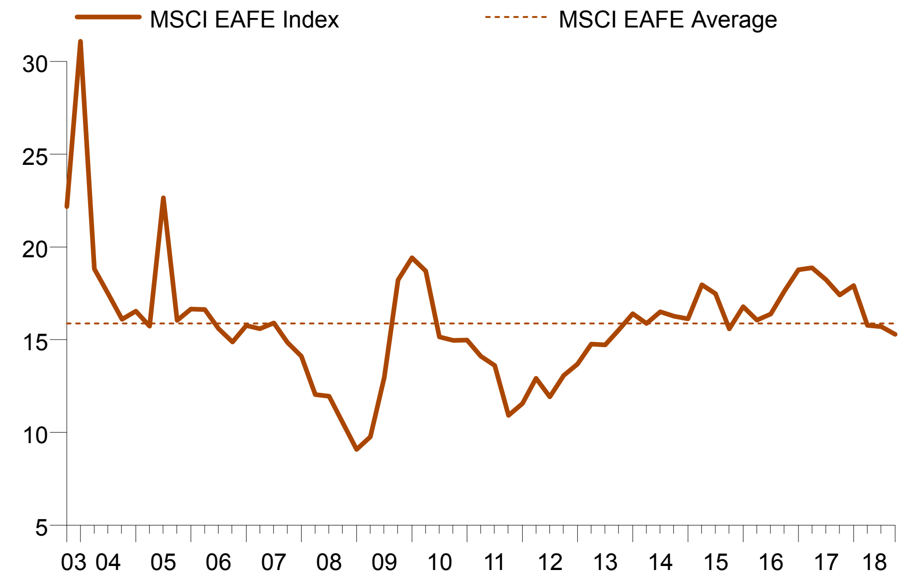

*Cash Equivalents (3 Month T-Bill), US Fixed Income (Bloomberg Barclays Aggregate Index), US Equity (Russell 3000 Index), and International Equity (MSCI EAFE Index).*

# Equity Valuations – Historical Perspective

**US Equity Price-to-Earnings Ratio**
**15 Years ended September 30, 2018**




**International Equity Price-to-Earnings Ratio**
**15 Years ended September 30, 2018**




- US equity valuations have slipped since the start of the year but remain high relative to the 15-year average.
- Current valuations are well below the tech-bubble era and have recuperated steadily after the Global Financial Crisis.
- US equity valuations are higher relative to non-U.S. equity; MSCI EAFE valuations are at their 15-year average.

Sources: MSCI, Standard & Poor's

## Asset Distribution Across Investment Options

| | September 30, 2018 | | | | June 30, 2018 | |
|---|---|---|---|---|---|---|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| **Individual Fund Options** | **$4,042,373** | **37.99%** | **$401,171** | **$88,446** | **$3,552,757** | **38.85%** |
| US Stock Fund | 1,202,895 | 11.31% | 162,407 | 72,087 | 968,401 | 10.59% |
| International Stock Fund | 325,014 | 3.05% | 12,387 | 4,915 | 307,711 | 3.37% |
| US Bond Fund | 392,149 | 3.69% | 27,717 | 40 | 364,392 | 3.98% |
| Money Market Fund | 2,122,315 | 19.95% | 198,659 | 11,404 | 1,912,253 | 20.91% |
| **Predesigned Portfolio Options** | **$6,567,843** | **61.73%** | **$802,208** | **$197,937** | **$5,567,698** | **60.89%** |
| Conservative Portfolio | 2,620,919 | 24.63% | 327,237 | 58,494 | 2,235,187 | 24.44% |
| Moderate Portfolio | 1,814,115 | 17.05% | 220,548 | 57,281 | 1,536,286 | 16.80% |
| Growth Portfolio | 2,132,810 | 20.05% | 254,423 | 82,162 | 1,796,225 | 19.64% |
| Clearing Account | 29,183 | 0.27% | 5,291 | 156 | 23,736 | 0.26% |
| **Total Investment Options** | **$10,639,400** | **100.0%** | **$1,208,670** | **$286,538** | **$9,144,191** | **100.0%** |

- There was an investment gain of $286 thousand in the third quarter.
- Total assets increased to $10.6 million as a result of inflows and market returns.

# Investment Fund Option Performance

### Four

Individual funds from which a custom portfolio may be built.

### Highlights (Last Year)

## +17.26%

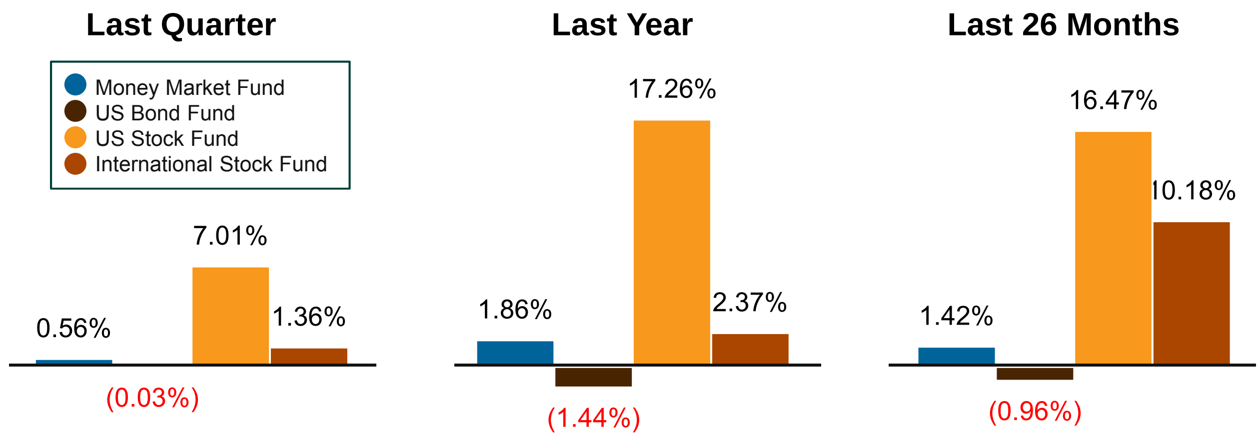
The return for the US Stock Fund.

## Dominated

The **+2.37%** return for the International Stock Fund.

## Capital Loss

The US Bond Fund finished in the red **(1.44%)**.




| 3Q16 | 4Q16 | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | 3Q18 |
|---|---|---|---|---|---|---|---|---|
| US Stock Fund 3.3% | US Stock Fund 4.1% | International Stock Fund 7.6% | International Stock Fund 6.3% | International Stock Fund 5.1% | US Stock Fund 6.3% | Money Market Fund 0.4% | US Stock Fund 3.8% | US Stock Fund 7.0% |
| International Stock Fund 2.5% | Money Market Fund 0.2% | US Stock Fund 5.7% | US Stock Fund 2.9% | US Stock Fund 4.5% | International Stock Fund 3.7% | US Stock Fund (0.7%) | Money Market Fund 0.5% | International Stock Fund 1.4% |
| Money Market Fund 2.0% | International Stock Fund (1.5%) | US Bond Fund 0.9% | US Bond Fund 1.4% | US Bond Fund 0.7% | US Bond Fund 0.3% | International Stock Fund (0.9%) | US Bond Fund (0.2%) | Money Market Fund 0.6% |
| US Bond Fund 0.0% | US Bond Fund (3.3%) | Money Market Fund 0.3% | Money Market Fund 0.3% | Money Market Fund 0.3% | Money Market Fund 0.3% | US Bond Fund (1.5%) | International Stock Fund (1.8%) | US Bond Fund 0.0% |

*Investment returns are net of the ABLE United Investment Administration Fee.*

## Predesigned Portfolio Option Performance

### Three

Well diversified fund options designed by risk tolerance.

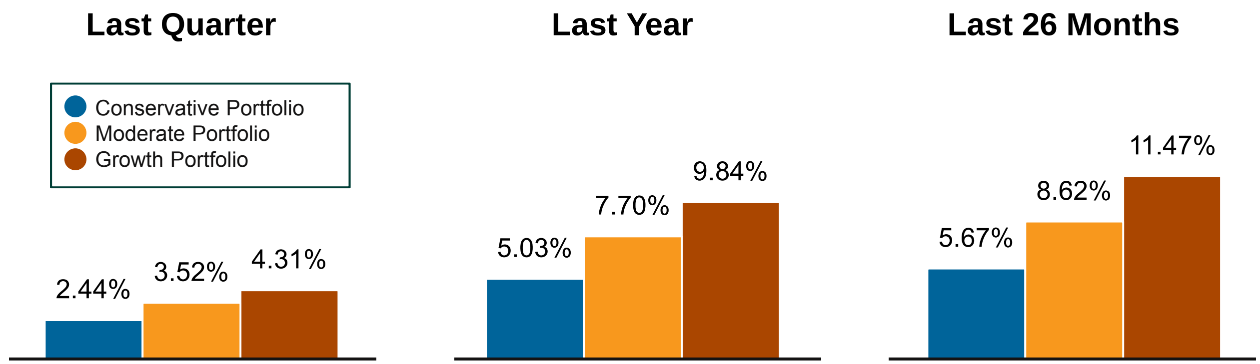
### Highlights (Last Year)

### ~5% to 10% Return

A range of returns suitable for most investors willing to assume investment risk.

### Linear Risk-Return Relationship

Higher risk options have posted higher returns.



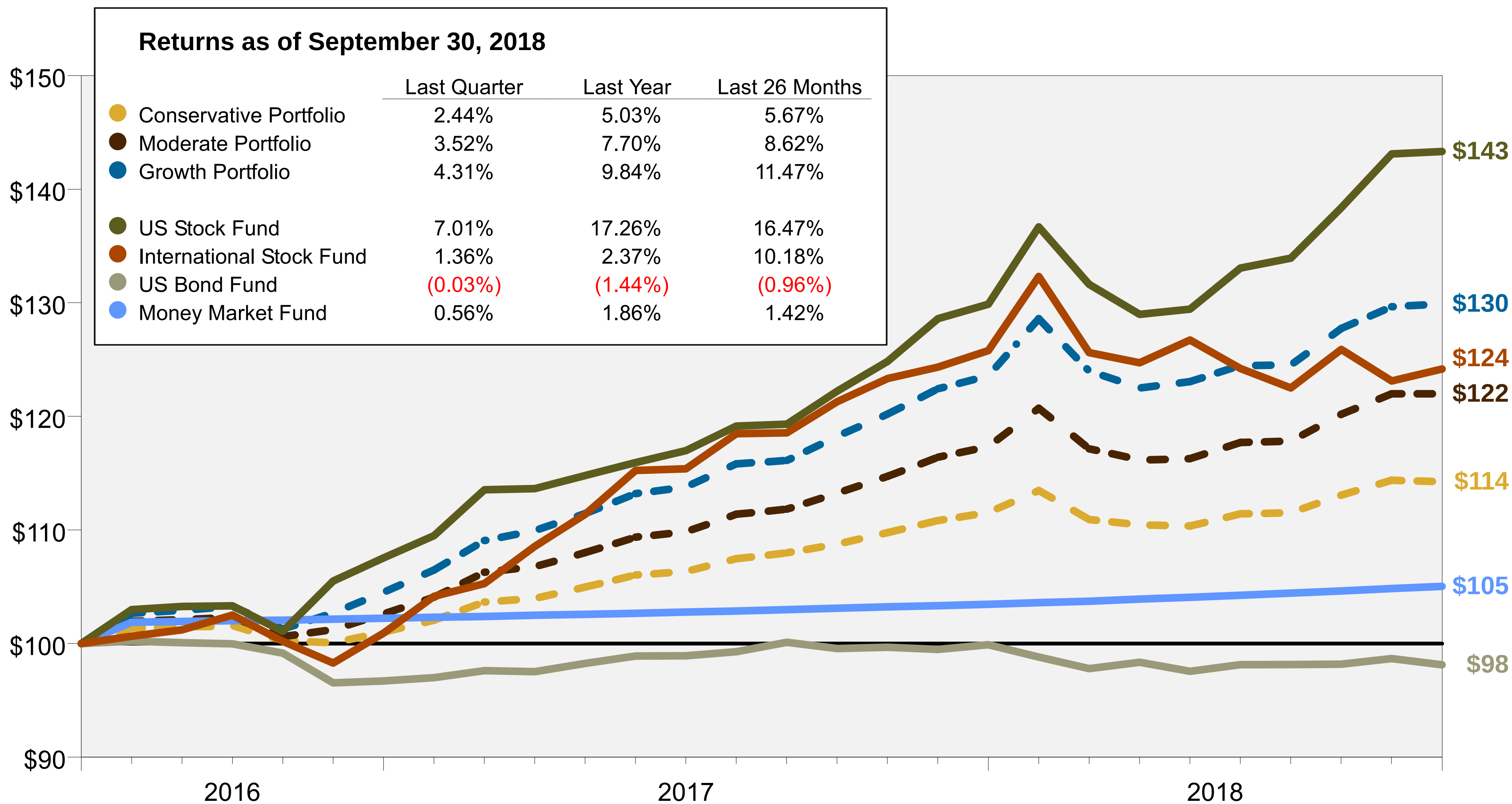

| 3Q16 | 4Q16 | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | 3Q18 |
|---|---|---|---|---|---|---|---|---|
| Growth Portfolio 3.3% | Growth Portfolio 1.2% | Growth Portfolio 5.2% | Growth Portfolio 3.5% | Growth Portfolio 3.9% | Growth Portfolio 4.5% | Growth Portfolio (0.9%) | Growth Portfolio 1.7% | Growth Portfolio 4.3% |
| Moderate Portfolio 2.3% | Moderate Portfolio 0.3% | Moderate Portfolio 4.1% | Moderate Portfolio 2.9% | Moderate Portfolio 3.1% | Moderate Portfolio 3.6% | Conservative Portfolio (1.0%) | Moderate Portfolio 1.4% | Moderate Portfolio 3.5% |
| Conservative Portfolio 1.6% | Conservative Portfolio (0.5%) | Conservative Portfolio 2.9% | Conservative Portfolio 2.3% | Conservative Portfolio 2.3% | Conservative Portfolio 2.5% | Moderate Portfolio (1.0%) | Conservative Portfolio 1.0% | Conservative Portfolio 2.4% |

*Investment returns are net of the ABLE United Investment Administration Fee.*

# Growth of $100 by Investment Option

**Returns as of September 30, 2018**

| | Last Quarter | Last Year | Last 26 Months |
|---|---|---|---|
| Conservative Portfolio | 2.44% | 5.03% | 5.67% |
| Moderate Portfolio | 3.52% | 7.70% | 8.62% |
| Growth Portfolio | 4.31% | 9.84% | 11.47% |
| US Stock Fund | 7.01% | 17.26% | 16.47% |
| International Stock Fund | 1.36% | 2.37% | 10.18% |
| US Bond Fund | (0.03%) | (1.44%) | (0.96%) |
| Money Market Fund | 0.56% | 1.86% | 1.42% |




**Investment Options Span the Risk-Reward Spectrum**

*Investment returns are net of the ABLE United Investment Administration Fee.*

# ABLE United Periodic Table of Investment Options

## Returns Ranked in Order of Performance (Best to Worst)

| 2017 | Jan 2018 | Feb 2018 | Mar 2018 | Apr 2018 | May 2018 | Jun 2018 | Jul 2018 | Aug 2018 | Sep 2018 | YTD 2018 |
|---|---|---|---|---|---|---|---|---|---|---|
| International Stock Fund **24.6%** | US Stock Fund **5.2%** | Money Market Fund **0.1%** | US Bond Fund **0.6%** | International Stock Fund **1.6%** | US Stock Fund **2.8%** | US Stock Fund **0.7%** | US Stock Fund **3.3%** | US Stock Fund **3.4%** | International Stock Fund **0.9%** | US Stock Fund **10.4%** |
| US Stock Fund **20.8%** | International Stock Fund **5.2%** | US Bond Fund **(1.0%)** | Money Market Fund **0.2%** | Growth Portfolio **0.5%** | Moderate Portfolio **1.2%** | Money Market Fund **0.2%** | International Stock Fund **2.8%** | Growth Portfolio **1.5%** | Growth Portfolio **0.2%** | Growth Portfolio **5.1%** |
| Growth Portfolio **18.2%** | Growth Portfolio **4.1%** | Conservative Portfolio **(2.2%)** | Conservative Portfolio **(0.4%)** | US Stock Fund **0.4%** | Growth Portfolio **1.2%** | Moderate Portfolio **0.1%** | Growth Portfolio **2.6%** | Moderate Portfolio **1.5%** | Money Market Fund **0.2%** | Moderate Portfolio **3.9%** |
| Moderate Portfolio **14.4%** | Moderate Portfolio **2.9%** | Moderate Portfolio **(3.0%)** | International Stock Fund **(0.7%)** | Money Market Fund **0.1%** | Conservative Portfolio **1.0%** | Conservative Portfolio **0.1%** | Moderate Portfolio **2.0%** | Conservative Portfolio **1.2%** | US Stock Fund **0.1%** | Conservative Portfolio **2.4%** |
| Conservative Portfolio **10.4%** | Conservative Portfolio **1.7%** | Growth Portfolio **(3.6%)** | Moderate Portfolio **(0.8%)** | Moderate Portfolio **0.1%** | US Bond Fund **0.6%** | Growth Portfolio **0.0%** | Conservative Portfolio **1.4%** | US Bond Fund **0.5%** | Moderate Portfolio **0.0%** | Money Market Fund **1.5%** |
| US Bond Fund **3.3%** | Money Market Fund **0.1%** | US Stock Fund **(3.7%)** | Growth Portfolio **(1.2%)** | Conservative Portfolio **(0.1%)** | Money Market Fund **0.2%** | US Bond Fund **0.0%** | Money Market Fund **0.2%** | Money Market Fund **0.2%** | Conservative Portfolio **(0.1%)** | International Stock Fund **(1.3%)** |
| Money Market Fund **1.2%** | US Bond Fund **(1.1%)** | International Stock Fund **(5.1%)** | US Stock Fund **(2.0%)** | US Bond Fund **(0.8%)** | International Stock Fund **(2.0%)** | International Stock Fund **(1.4%)** | US Bond Fund **0.0%** | International Stock Fund **(2.2%)** | US Bond Fund **(0.6%)** | US Bond Fund **(1.8%)** |

*Investment returns are net of the ABLE United Investment Administration Fee.*

## Investment Option Excess Return

| | Last Quarter | Last Year | Last 26 Months |
|---|---|---|---|
| **Net Returns** | | | |
| US Stock Fund | 7.01% | 17.26% | 16.47% |
| Russell 3000 Index | 7.12% | 17.58% | 16.86% |
| **Excess Return** | **(0.11%)** | **(0.32%)** | **(0.38%)** |
| International Stock Fund | 1.36% | 2.37% | 10.18% |
| MSCI EAFE | 1.35% | 2.74% | 10.42% |
| **Excess Return** | **0.01%** | **(0.36%)** | **(0.24%)** |
| US Bond Fund | (0.03%) | (1.44%) | (0.96%) |
| Blmbg Aggregate Index | 0.02% | (1.22%) | (0.61%) |
| **Excess Return** | **(0.05%)** | **(0.22%)** | **(0.36%)** |
| Money Market Fund | 0.56% | 1.86% | 1.42% |
| 3-month Treasury Bill | 0.49% | 1.59% | 1.07% |
| **Excess Return** | **0.07%** | **0.27%** | **0.35%** |
| Conservative Portfolio | 2.44% | 5.03% | 5.67% |
| Custom Conservative Benchmark (1) | 2.31% | 4.91% | 5.72% |
| **Excess Return** | **0.13%** | **0.12%** | **(0.05%)** |
| Moderate Portfolio | 3.52% | 7.70% | 8.62% |
| Custom Moderate Benchmark (2) | 3.39% | 7.62% | 8.73% |
| **Excess Return** | **0.13%** | **0.09%** | **(0.10%)** |
| Growth Portfolio | 4.31% | 9.84% | 11.47% |
| Custom Growth Benchmark (3) | 4.25% | 9.92% | 11.66% |
| **Excess Return** | **0.06%** | **(0.08%)** | **(0.19%)** |

*Manager performance tracked from first full month of returns (07/31/2016). Investment option returns also include program fees.
(1) Custom Conservative Benchmark = 10% 3 month Treasury Bill, 50% Barclays Aggregate, 30% Russell 3000, 10% MSCI EAFE
(2) Custom Balanced Benchmark = 40% Barclays Aggregate, 45% Russell 3000, 15% MSCI EAFE
(3) Custom Growth Benchmark = 20% Barclays Aggregate, 55% Russell 3000, 25% MSCI EAFE

# Appendix

## Investment Manager Excess Return

| | Last Quarter | Last Year | Last 26 Months |
|---|---|---|---|
| **Net Returns** | | | |
| **Domestic Equity** | | | |
| Vanguard Total Stock | 7.09% | 17.62% | 16.85% |
| Russell 3000 Index | 7.12% | 17.58% | 16.86% |
| **Excess Return** | **(0.03%)** | **0.04%** | **(0.01%)** |
| **International Equity** | | | |
| Blackrock Intl Index | 1.42% | 2.68% | 10.53% |
| MSCI EAFE | 1.35% | 2.74% | 10.42% |
| **Excess Return** | **0.07%** | **(0.06%)** | **0.11%** |
| **Domestic Fixed Income** | | | |
| Vanguard Total Bond | 0.03% | (1.21%) | (0.73%) |
| Blmbg Aggregate Idx | 0.02% | (1.22%) | (0.61%) |
| **Excess Return** | **0.01%** | **0.00%** | **(0.12%)** |
| **Money Market** | | | |
| Florida Prime | 0.56% | 1.85% | 1.41% |
| 3-month Treasury Bill | 0.49% | 1.59% | 1.07% |
| **Excess Return** | **0.07%** | **0.26%** | **0.34%** |

## Asset Distribution Across Investment Managers

| | September 30, 2018 | | | | June 30, 2018 | |
|---|---|---|---|---|---|---|
| | Market Value | Weight | Net New Inv. | Inv. Return | Market Value | Weight |
| **Domestic Equity** | **$4,169,731** | **39.29%** | **$495,768** | **$254,548** | **$3,419,414** | **37.49%** |
| Vanguard Total Stock | 4,169,731 | 39.29% | 495,768 | 254,548 | 3,419,414 | 37.49% |
| **International Equity** | **$1,363,362** | **12.85%** | **$140,940** | **$19,265** | **$1,203,158** | **13.19%** |
| Blackrock Intl Index | 1,363,362 | 12.85% | 140,940 | 19,265 | 1,203,158 | 13.19% |
| **Domestic Fixed Income** | **$2,659,141** | **25.06%** | **$322,402** | **$(41)** | **$2,336,780** | **25.62%** |
| Vanguard Total Bond | 2,659,141 | 25.06% | 322,402 | (41) | 2,336,780 | 25.62% |
| **Money Market** | **$2,373,163** | **22.36%** | **$231,382** | **$12,720** | **$2,129,061** | **23.34%** |
| Florida Prime | 2,373,163 | 22.36% | 231,382 | 12,720 | 2,129,061 | 23.34% |
| **Cash Sleeves** | **$46,313** | **0.44%** | **$12,887** | **$54** | **$33,372** | **0.37%** |
| **Total Fund** | **$10,611,710** | **100.0%** | **$1,203,379** | **$286,546** | **$9,121,785** | **100.0%** |

- There was an investment gain of $286 thousand in the third quarter.
- Total assets increased to $10.6 million as a result of inflows and market returns.

# Manager Investment Philosophy

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Milliman

# Florida Prepaid College Board

## 2018 Actuarial Adequacy Report

Prepared by:

**Alan Perry, FSA, CFA, MAAA**
Principal & Consulting Actuary (Philadelphia)

**Matt Larrabee, FSA, EA, MAAA**
Principal & Consulting Actuary (Portland)

Milliman, Inc.
1550 Liberty Ridge Drive, Suite 200
Wayne, PA 19087

111 SW Fifth Avenue, Suite 3700
Portland, OR 97204

Tel (Philadelphia) +1 610 687 5644
Tel (Portland) +1 503 227 0634
milliman.com

Presented September 26, 2018

## Table of Contents

# Executive Summary

## A. Summary of Key Valuation Results

| | Adequacy Valuation as of: | |
|---|---|---|
| | June 30, 2017 | June 30, 2018 |
| **Resources** | | |
| Invested Assets at Fair Market Value | $11,405,000,000 | $11,539,000,000 |
| Present Value of Projected Future Premium Contributions | 2,118,000,000 | 2,178,000,000 |
| Total Resources | $13,523,000,000 | $13,717,000,000 |
| **Obligations** | | |
| Present Value of Projected Future: | | |
| Program Benefits* | $10,188,000,000 | $9,837,000,000 |
| Cancellation Refunds | 712,000,000 | 647,000,000 |
| Certain Expenses** | 226,000,000 | 249,000,000 |
| Total Liability Obligations | $11,126,000,000 | $10,733,000,000 |
| **Actuarial Adequacy Reserve** | | |
| Actuarial Adequacy Reserve (Resources Less Obligations) | $2,397,000,000 | $2,984,000,000 |
| Adequacy Reserve as a % of Total Obligations | 21.5% | 27.8% |
| **Other Metric(s)** | | |
| Single Effective Discount Rate for Total Obligations Calculation | 2.66% | 3.17% |

* 2018 figure includes $5 million of projected “hold harmless” obligations using adequacy valuation assumptions

** Asset management, records administration, administrative budget, lockbox

## B. Actuarial Discussion and Analysis

A comprehensive adequacy valuation of the Stanley G. Tate Florida Prepaid College Program (the "Program") is conducted annually, with interim valuation updates quarterly, to analyze the ability of projected Program resources to fully meet projected Program contract obligations and Program expenses. Consistent with Section 1009.98(1) of Florida Statutes, the actuarial adequacy reserve is the amount, stated in present value terms, by which the expected value of Program assets (resources) exceeds the expected value of Program liabilities, including expenses (obligations). The calculation is done as of a single point in time, using a single set of actuarial assumptions and methods as approved by the Florida Prepaid College Board (the "Board").

While the adequacy analysis uses a single set of actuarial assumptions, actual future Program experience will differ from the assumptions used in the adequacy valuation's calculations. Given that, use of assumptions which in combined effect include a margin of conservatism to account for potential adverse actual future Program experience is prudent. Per its statutory role, final decisions regarding the assumptions used in the adequacy valuation and the appropriate margin of conservatism to include in those assumptions resides with the Board.

With exceptions as noted in this report, the valuation was conducted using the same actuarial assumptions and methods used in the adequacy valuation conducted as of June 30, 2017. The assumptions used were approved by the Board, based on the Board's review of Program experience and economic conditions.

## C. Program Experience

"Experience" encompasses the performance of the Program during the year, including investment performance, along with the effects of changes in the discount rate yield curve, tuition, fees, and the Program's contract data.

The Program experience during the year is quantified through changes in the actuarial adequacy reserve. The year-to-year changes in the reserve are detailed in Exhibit 7 of the report. The adequacy reserve increased by $587 million during the year. As noted in Exhibit 7, the two factors that made significant contributions to the reserve increase were:

- $214 million – positive return on equity investments
- $623 million – actual one-year tuition, fee, and dormitory cost were less as compared to valuation assumption

The above increase factors were partially offset by a $155 million decrease in the reserve due to the effects of new contract sales during the year, and a decrease in the reserve of $69 million due to the combined effects of a modified application of the plan surrender assumption along with the addition of a liability for projected "hold harmless" payments, plus $23 million due to all other sources not otherwise discussed on this page (primarily contract usage behavior different than assumption).

As noted in Exhibit 7, the combined effects on the reserve from changes to the market value of fixed income securities and changes to the discounted present value of Program obligations and future premium payments due to discount rate yield curve shifts and the passage of time generated a net reserve decrease of $3 million. The magnitude of this change is the outcome of an asset/liability immunization policy, where fixed income assets are invested in such a manner that decreases (or increases) in Program liabilities due to yield curve shifts will be mirrored to a significant extent by decreases (or increases) in the market value of the Program's fixed income investments.

## D. Changes in Actuarial Assumptions and Methods

The actuarial assumptions and methods used in this valuation are the same as those used in the valuation conducted as of June 30, 2017 except as summarized below, with more details in Appendix A:

- Discount rate yield curve updated to reflect changes in capital market conditions between valuation dates.
- As the University of South Florida formally became a Preeminent State Research University in 2018, the tuition inflation assumption for university TDF was changed to a uniform 3.0% for all years. Further, an

additional one-time 2019-2020 catch-up increase assumption of 6.00% was added to the Florida University dormitory inflation assumption in this valuation.

- Modified mathematical application of the surrender rate assumption to better reflect the anticipated level of future contract surrenders, based on the Board's most recent Program experience study.
- Updated methodology to calculate an additional projected "hold harmless" liability for the small minority of contracts where expected total payments at contract depletion would be less than total premiums paid, absent an additional "hold harmless" payment.

Please see Appendix A for a more detailed summary of this valuation's actuarial assumptions and methods.

## E. Changes in Program Provisions

There have been no changes in Program provisions that affect actuarial calculations since the prior valuation. Please see Appendix B for a summary of principal Program provisions.

# Exhibits

# Exhibit 1

## Market Value of Assets

The fair market value of assets as of June 30, 2017 and June 30, 2018 is shown below, and was provided by Program administrative staff.

| | | June 30, 2017 | June 30, 2018 |
|---|---|---|---|
| 1. | Domestic fixed income | $9,664,000,000 | $9,651,000,000 |
| 2. | Domestic equity | 1,362,000,000 | 1,517,000,000 |
| 3. | International equity | 353,000,000 | 347,000,000 |
| 4. | Cash / short term investments* | 26,000,000 | 24,000,000 |
| 5. | Market value of assets* | $11,405,000,000 | $11,539,000,000 |

*Includes unrealized gains/losses on securities lending activity

## Exhibit 2

### Change in Market Value of Assets

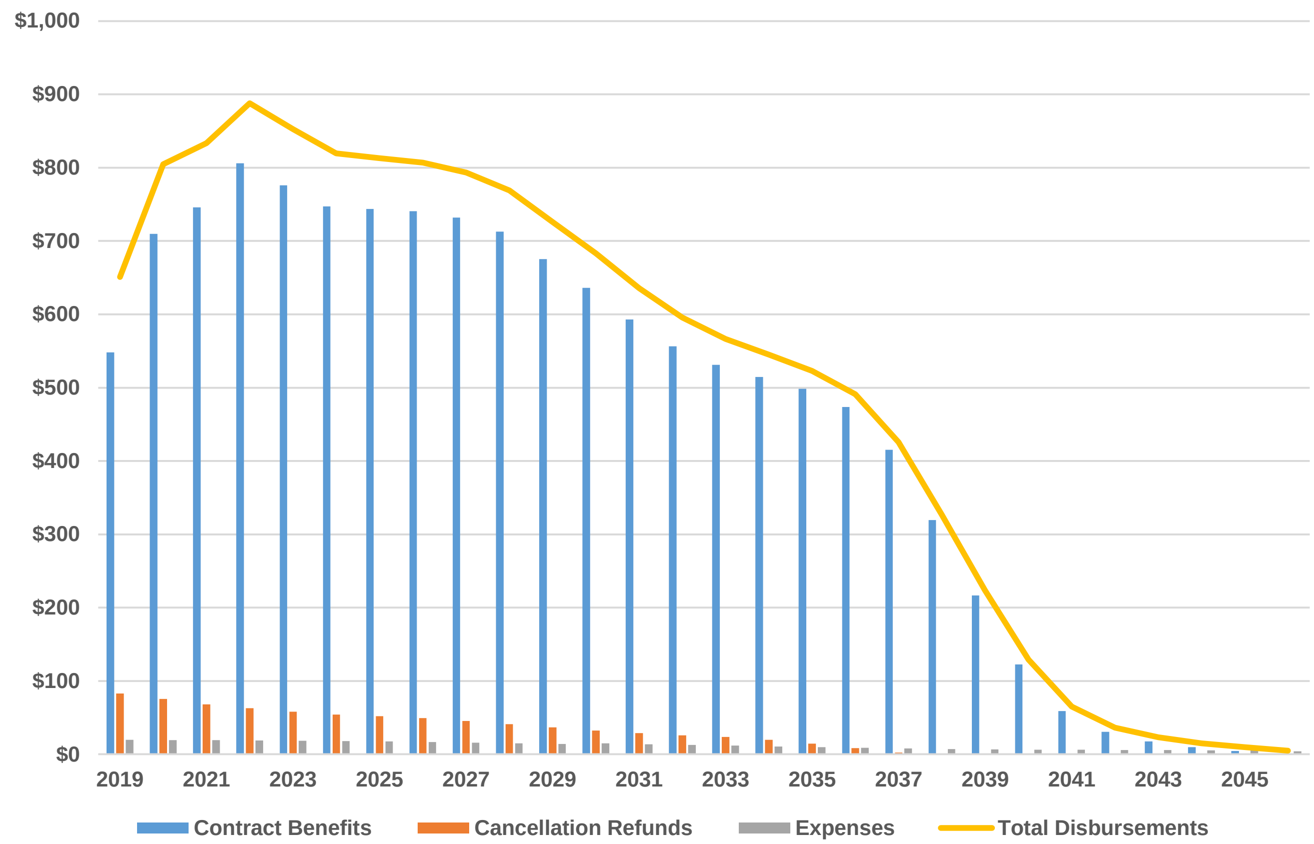
The change in the market value of assets from June 30, 2017 to June 30, 2018 is shown below, and was provided by Program administrative staff.

| | | |
|---|---|---|
| 1. | Market value of assets as of June 30, 2017 | $11,405,000,000 |
| 2. | Premium contributions | 565,000,000 |
| 3. | Total disbursements | 564,000,000 |
| 4. | Net transfers in/(out) | 10,000,000 |
| 5. | Investment performance | |
| | a. Dividend and interest income | 137,000,000 |
| | b. Realized gains / (losses) | 369,000,000 |
| | c. Unrealized gains / (losses) | (388,000,000) |
| | d. Net securities lending income | 5,000,000 |
| | e. Total net investment performance | 123,000,000 |
| 6. | Net increase / (decrease) in market value of assets [(2) - (3) + (4) + (5e)] | 134,000,000 |
| 7. | Market value of assets as of June 30, 2018 [(1) + (5)] | $11,539,000,000 |

## Exhibit 3

### Projected Fiscal Year-by-Fiscal Year Program Benefit Payments, Cancellations and Expenses

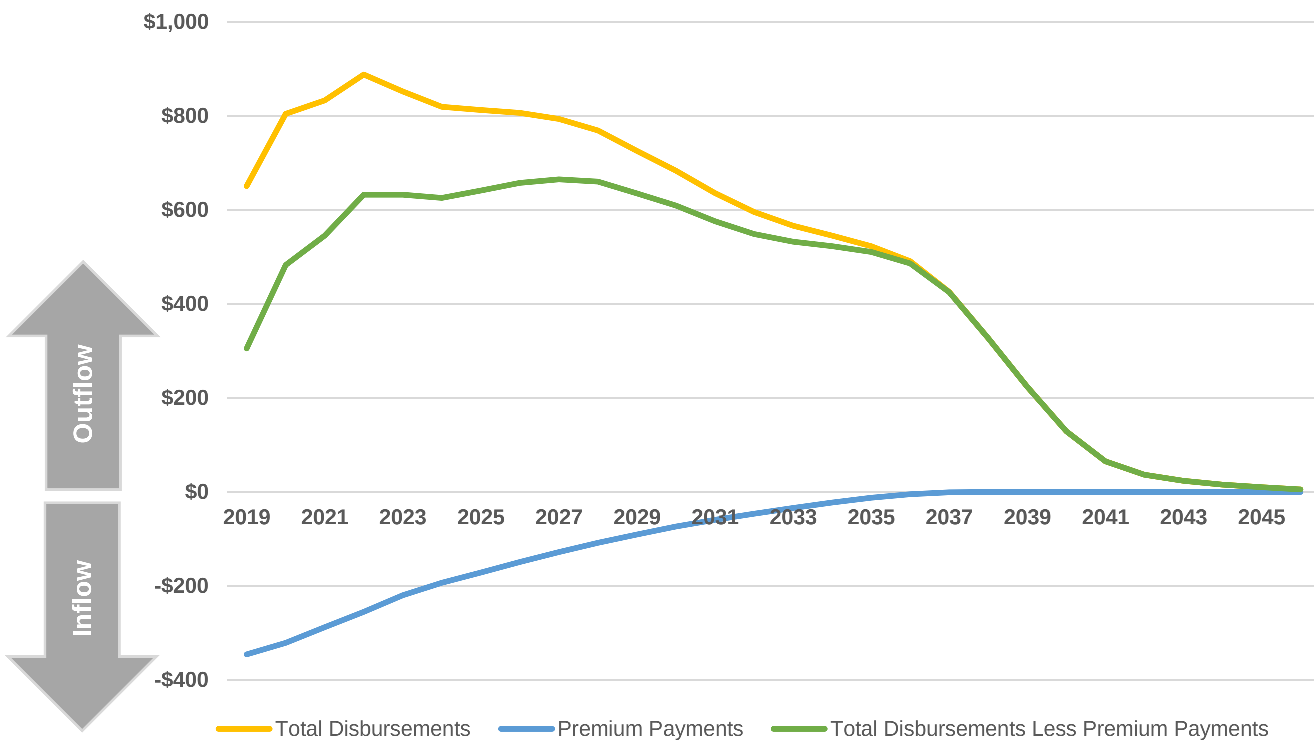
Projections are based on the assumptions and methods used in this year's adequacy reserve valuation, including the effect of applying "catch-up" inflation assumptions to projected 2019-2020 costs. Figures represent payments from contracts currently in force as of the valuation date, with no projections for payments due to contracts purchased subsequent to the valuation date. Results are shown in $ millions and years in the chart represent the respective Program year end (e.g., the "2019" entry represents projected Program benefit payments, cancellations and expenses for the 2018-2019 Program year).



# Exhibit 4

## Projected Fiscal Year-by-Fiscal Year Total Disbursements Less Premium Payments

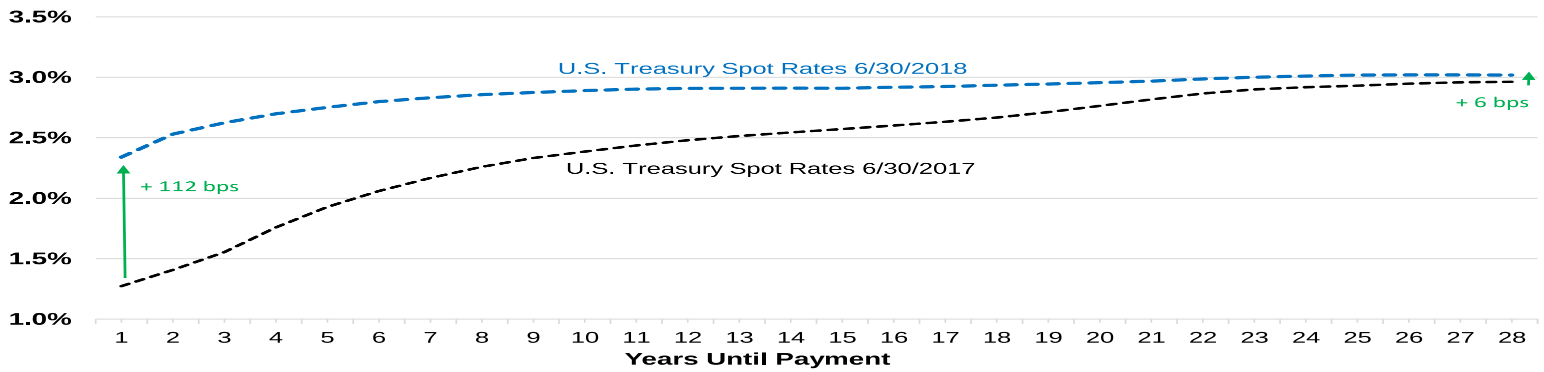
The green line on the graph below shows the projected difference fiscal year-by-fiscal year between total disbursements (yellow line) and contract premium payments (blue line). A proxy for an immunization-style fixed income investment policy would be to match projected fixed income proceeds to the green line. The projections below are based on the assumptions and methods used in this year's adequacy reserve valuation, and represent contributions and disbursements from contracts currently in force as of the valuation date, with no projections for contributions or disbursements for contract purchases subsequent to the valuation date. Projections included the effect of applying "catch-up" inflation assumptions in 2019-2020. Amounts are shown in $ millions and years in the chart represent the respective Program year end (e.g., the "2019" entry represents projected total disbursements and premium payments for the 2018-2019 Program year).

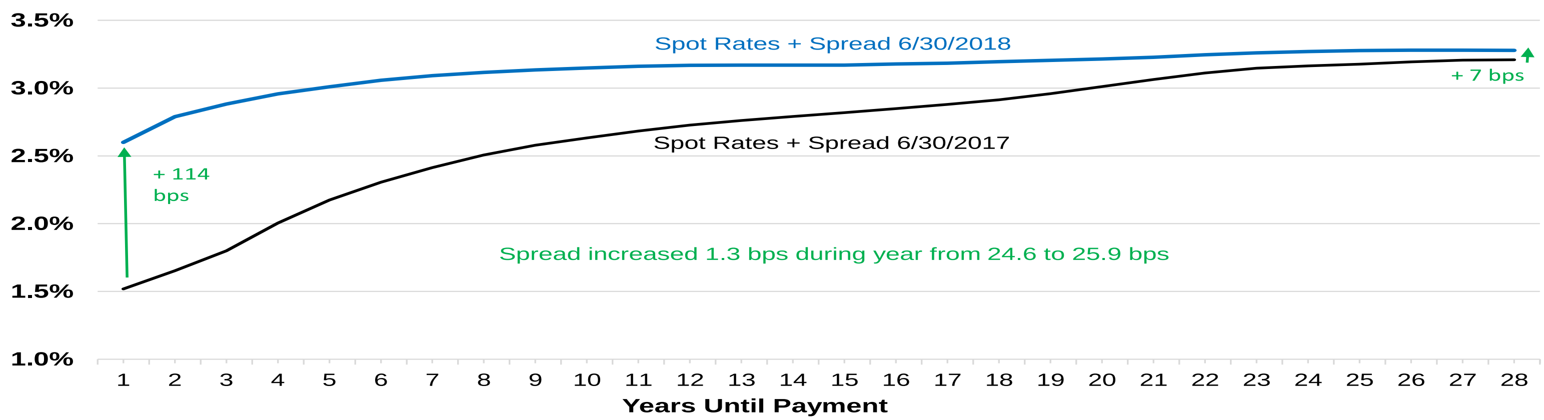


# Exhibit 5

## Discount Rate Yield Curves Used in Current and Prior Valuations

The present values of Program obligations and projected future premium contributions are calculated using discount rate yield curves developed by the Program's investment consultant and provided to Milliman by Program staff. The yield curve is based on US Treasury spot rates increased by an option adjusted spread determined by the Program's investment consultant. The US Treasury spot rates as of the two most recent annual valuation dates, followed by the discount rate yield curves used in the current and prior valuations are shown below. The equivalent single effective interest rate used to determine Total Program Obligations as calculated by Milliman increased from 2.66% in the June 30, 2017 valuation to 3.17% in this valuation.



## Exhibit 6

### Actuarial Adequacy Reserve as of June 30, 2018

Consistent with Section 1009.98(1) of Florida Statutes, the actuarial adequacy reserve is the amount, stated in present value terms, by which the expected value of Program assets (resources) exceeds the expected value of Program liabilities, including expenses (obligations). The calculation is done as of a single point in time, using a single set of actuarial assumptions and methods approved by the Program's Board. Present values are calculated using the discount rate yield curve shown in Exhibit 5.

| | | |
|---|---|---|
| 1. | Assets at fair market value as of June 30, 2018 | $11,539,000,000 |
| 2. | Present value of expected future premium contributions (Exhibit 4*) | 2,178,000,000 |
| 3. | Total projected Program resources<br>[(1) + (2)] | $13,717,000,000 |
| 4. | Present value of projected future Program benefits and refunds (Exhibit 3*) | $9,837,000,000 |
| 5. | Present value of projected future cancellation refunds (Exhibit 3*) | 647,000,000 |
| 6. | Present value of certain** projected future expenses (Exhibit 3*) | 249,000,000 |
| 7. | Total projected Program obligations<br>[(4) + (5) + (6)] | $10,733,000,000 |
| 8. | Actuarial adequacy reserve as of June 30, 2018<br>[(3) - (7)] | $2,984,000,000 |
| 9. | Adequacy reserve as a percentage of total projected Program obligations<br>[(8) ÷ (7)] | 27.8% |

* Figures shown here are present values of the year-by-year projected amounts shown in the cited exhibits

** Asset management, records administration, administrative budget, lockbox

## Exhibit 7

### Change in Actuarial Adequacy Reserve from June 30, 2017 to June 30, 2018

A number of factors contributed to the year-to-year change in the actuarial adequacy reserve, as quantified below.

| | |
|---|---|
| 1. Actuarial adequacy reserve as of June 30, 2017 | $2,397,000,000 |
| Increase/(decrease) in reserve from June 30, 2017 to June 30, 2018 due to: | |
| 2. Equity returns | 214,000,000 |
| 3. Immunization | (3,000,000) |
| 4. Actual 2018-2019 tuition and fee policy* | 623,000,000 |
| 5. Updates to actuarial assumptions and methodology | (69,000,000) |
| 6. New sales | (155,000,000) |
| 7. Actual contract usage/cancellation behavior*, and all other sources | (23,000,000) |
| 8. Total increase/(decrease) in actuarial adequacy reserve during the year | 587,000,000 |
| 9. Actuarial adequacy reserve as of June 30, 2018 | $2,984,000,000 |

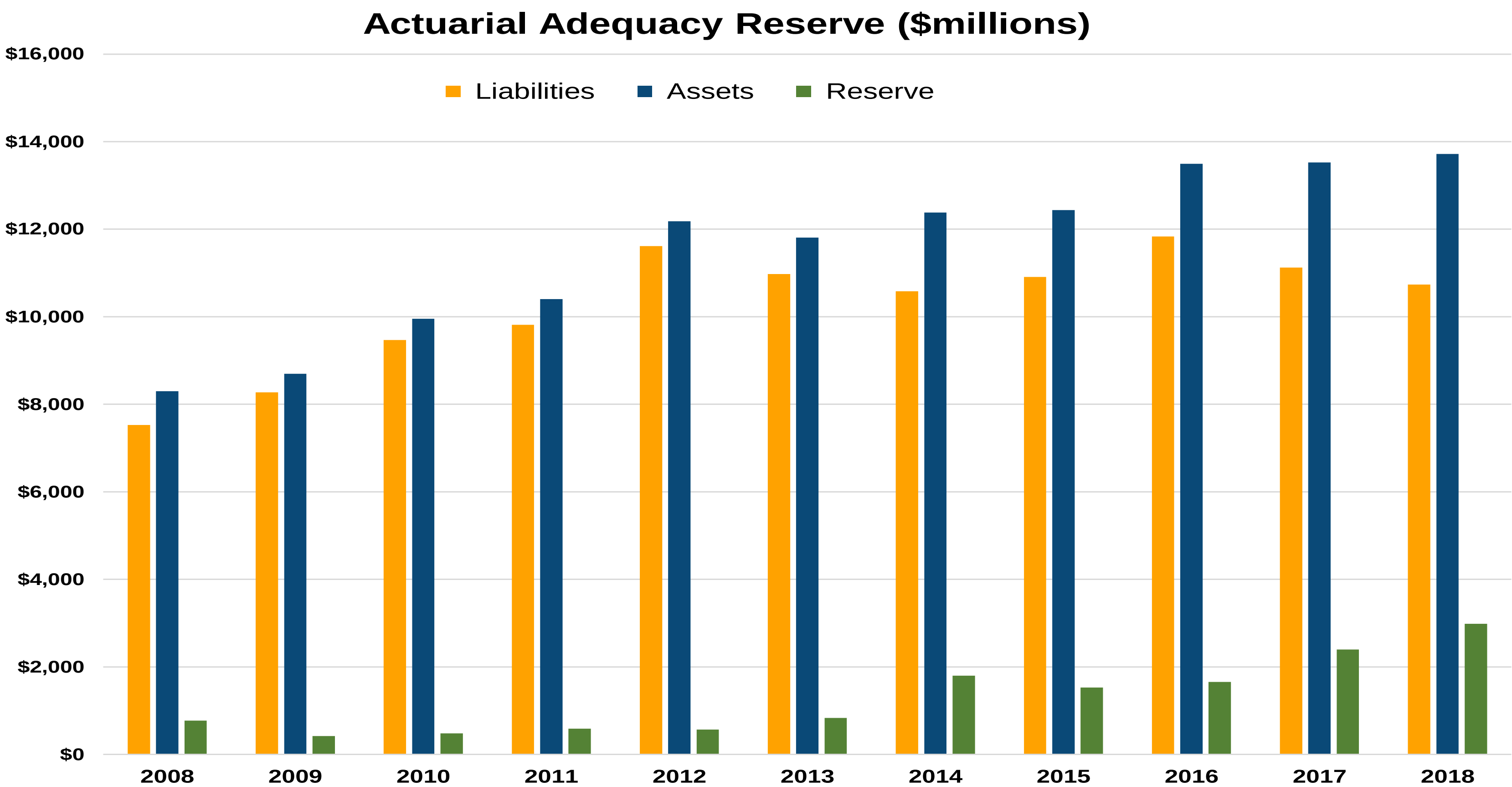
*Compared to that assumed in the prior valuation as of June 30, 2017

Immunization reflects the combined effects of changes to the present values of fixed income investments, Program obligations, and projected future premium payments due changes in the discount rate yield curve and the passage of time between June 30, 2017 and June 30, 2018.

Updates to actuarial assumptions and methods consisted of the net effects of a $64 million reserve decrease due to the modified mathematical application of the surrender rate assumption, and a $5 million reserve decrease due to the addition of a present value obligation for projected "hold harmless" payments for the small number of contracts where total payments would be less than total premium payments made absent an additional "hold harmless" payment.

## Exhibit 8

### History of Actuarial Adequacy Reserve




| Reserve: | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| In $ millions | $775 | $422 | $483 | $589 | $569 | $834 | $1,799 | $1,527 | $1,657 | $2,397 | $2,984 |
| As a % of liability | 10.3% | 5.1% | 5.1% | 6.0% | 4.9% | 7.6% | 17.0% | 14.0% | 14.0% | 21.5% | 27.8% |

## Exhibit 9

### Program Termination Liability as of June 30, 2018

Program termination liability is calculated in accordance with Florida Statutes and guidance from the Board. In the Program termination liability calculation the contract population is divided into two subsets, with differing liability determination methods applied to each subset.

In this valuation, Subset A consists of contracts with a projected enrollment year of 2022 or earlier. Subset A contracts are valued assuming that premium payments continue (where applicable) and that all purchased contract benefits are paid after matriculation.

In this valuation, Subset B consists of contracts with a projected enrollment year of 2023 or later. Subset B contracts are valued assuming a refund of all past premium payments, including interest at passbook rates.

| | | |
|---|---|---|
| 1. | Subset A liability | |
| | a. Present value of projected future Program benefit payments | $5,078,000,000 |
| | b. Present value of projected future premium payments | 225,000,000 |
| | c. Subset A liability [(1a) - (1b)] | $4,853,000,000 |
| 2. | Subset B liability | |
| | a. Refund of past premium payments | $ 2,515,000,000 |
| | b. Interest due on past payments | 10,000,000 |
| | c. Subset B liability [(2a) + (2b)] | $2,525,000,000 |
| 3. | Program termination liability as of June 30, 2018 [(1c) + (2c)] | $7,378,000,000 |

# Certification

## Caveats and Limitations of Use

The actuarial valuation of the Stanley G. Tate Florida Prepaid College Program (the “Program”) as of June 30, 2018 has been completed in accordance with our understanding of Program provisions as specified by Florida Statutes using assumptions and methods as approved by the Florida Prepaid College Board (the “Board”). It also has been completed in accordance with our understanding of any applicable guidance or interpretations provided by the Program’s administrative staff. The valuation results contained in this report are based on the actuarial assumptions and methods (Appendix A), principal Program provisions (Appendix B), and contract data (Appendix C, Appendix D) summarized in the appendices.

## Purpose of the Valuation

The adequacy reserve portion of the actuarial valuation assesses, as of a single point in time, the estimated sufficiency of Program resources (assets currently held and estimated future premium contributions for contracts currently in force) to satisfy Program obligations (estimated future Program benefit payments and administrative expenses). The adequacy reserve valuation uses assumptions and methods approved by the Board.

The Program termination portion of the actuarial valuation assesses, as of a single point in time, the estimated level of Program termination liability using parameters as specified by Section 1009.98(8) of Florida Statutes and by the Board.

## Assumptions and Methods

All liabilities shown in this report have been determined on the basis of actuarial assumptions and methods set forth in Appendix A and as approved by the Board. The assumptions are based on recent Board reviews of Program experience and economic conditions. The assumptions and methods used in this valuation are unchanged from those used in the prior valuation as of June 30, 2017, except as noted in this report.

## Limited Use

We believe the assumptions and methods used in this report for purposes of calculating the adequacy reserve and Program termination liability are reasonable for the purposes of the measurements. The results of this report are dependent upon future experience conforming to the assumptions disclosed in this report. Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: Program experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in Program provisions and/or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. Determinations for purposes other than meeting those requirements referenced above may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

## Reliance

In preparing our report we relied, without audit, on information (some oral and some written) supplied by the Board. This information includes, but is not limited to, statutory provisions, contract data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

This actuarial valuation was prepared and completed by us and those under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate. In our professional opinion, the techniques and assumptions used are reasonable. To the best of our knowledge, there is no benefit provision or related expense to be provided by the Program and/or paid from the Program's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation, and there were no known events that were not taken into account in the valuation.

Milliman's work product was prepared exclusively for the internal business use of the Board, for a specific and limited purpose. It is a complex technical analysis that assumes a high level of knowledge concerning the Program's operations, and uses Program data which Milliman has not audited. To the extent that Milliman's work is not subject to disclosure under applicable public record laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

(a) The Board may provide a copy of Milliman's work, in its entirety, to the Program's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Program.

(b) The Board may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the Program sponsor. We are not aware of any relationship that would impair the objectivity of our work.

## Certification

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with Actuarial Standards of Practice, the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Alan H Perry

Alan Perry, FSA, CFA, MAAA
Principal & Consulting Actuary

Matt Larrabee, FSA, EA, MAAA
Principal & Consulting Actuary

# Appendices

# Appendix A – Actuarial Assumptions and Methods

## PROGRAM BENEFIT COST ASSUMPTIONS

### Program Assumed Benefit Costs

For projected Program benefits paid during 2018-2019, actual cost rates were used. Both an annual inflation assumption and a one-time catch-up (or buffer) assumption are applied to 2018-2019 cost rates to develop 2019-2020 projected rates used in the valuation. In years after that, an annual inflation assumption is applied to the prior year's projected cost rates. Rates for the first three years, along with the one-time catch up and annual inflation assumptions, are shown in the tables below.

| Costs per Hour (per Semester for Dormitory) | 2018-2019 | 2019-2020 | 2020-2021 |
|---|---|---|---|
| University Tuition | $116.66 | $143.45 | $152.06 |
| University TDF (weighted average) | 45.13 | 46.48 | 47.87 |
| University Local Fees | 37.24 | 45.79 | 48.54 |
| College Tuition (Upper Division) | 109.06 | 133.30 | 141.30 |
| College Local Fees (Upper Division) | 12.91 | 15.78 | 16.85 |
| College Tuition (Lower Division) | 95.19 | 116.35 | 124.20 |
| College Local Fees (Lower Division) | 11.09 | 13.56 | 14.48 |
| | | | |
| Dormitory (per semester) | $3,145.43 | $3,534.21 | $3,746.26 |

| Cost Increase Assumptions | One-time Catch-up Increase | Annual Inflation |
|---|---|---|
| University Tuition | 16.00% | 6.00% |
| University TDF (weighted average) | 0.00% | 3.00% |
| University Local Fees | 16.01% | 6.00% |
| College Tuition (Upper Division) | 14.50% | 6.75%; capped at 95% of university tuition |
| College Local Fees (Upper Division) | 14.50% | 6.75% |
| College Tuition (Lower Division) | 14.50% | 6.75%; capped at 85% of university tuition |
| College Local Fees (Lower Division) | 14.50% | 6.75% |
| | | |
| Dormitory (per semester) | 6.00% | 6.00% |

# ASSUMED CONTRACT USAGE AND EARLY SURRENDER PATTERNS

## Assumed Annual Usage Pattern for Contract Benefits

In 2014, a study to assess 10-year usage patterns for various benefit types was conducted. As an outcome of that study, the following expected 10-year assumed usage patterns were approved by the Board for use in the valuation. The usage patterns in the table below are applied to all benefits for contracts where the matriculation year is the valuation year or later. For contracts where the matriculation year is prior to the valuation year with remaining unused benefits, the schedule below is applied to the amount of future benefits assumed to be remaining at the time of valuation per the ten-year schedule.

| Year | 4-Year University | 4-Year College | 2+2 Plans | 2-Year College | 1-Year University | All Dormitory Plans |
|---|---|---|---|---|---|---|
| 1st | 12.50% | 7.80% | 7.80% | 20.70% | 0.00% | 49.16% |
| 2nd | 23.40% | 16.55% | 16.55% | 39.20% | 0.00% | 28.71% |
| 3rd | 22.90% | 23.70% | 23.70% | 17.40% | 23.33% | 11.03% |
| 4th | 22.30% | 25.15% | 25.15% | 8.70% | 76.67% | 5.67% |
| 5th | 11.50% | 13.25% | 13.25% | 4.80% | 0.00% | 2.83% |
| 6th | 3.50% | 6.00% | 6.00% | 3.00% | 0.00% | 1.07% |
| 7th | 1.70% | 3.00% | 3.00% | 2.30% | 0.00% | 0.61% |
| 8th | 1.00% | 1.95% | 1.95% | 1.40% | 0.00% | 0.44% |
| 9th | 0.70% | 1.40% | 1.40% | 1.20% | 0.00% | 0.30% |
| 10th | 0.50% | 1.20% | 1.20% | 1.30% | 0.00% | 0.21% |

To the extent that the amount of unused benefits actually remaining differs from the amount of unused benefits assumed to be remaining, the difference is assumed to be used over a forward-looking 10-year period commencing on the valuation date. That usage is assumed to follow the ten-year usage pattern shown above.

## Assumed Monthly Usage Pattern

In addition to modeling assumed annual usage levels as noted above, the usage by month is also modeled. Within a given academic year, the usage by month follows the pattern shown in the table below.

| Month | Tuition | Dormitory |
|---|---|---|
| July | 7.5% | 12.5% |
| August | 5.4% | 13.9% |
| September | 30.9% | 13.3% |
| October | 6.0% | 12.6% |
| November | 3.2% | 10.2% |
| December | 0.8% | 9.5% |
| January | 25.2% | 8.9% |
| February | 12.9% | 9.4% |
| March | 2.9% | 3.3% |
| April | 0.4% | 1.5% |
| May | 2.9% | 0.9% |
| June | 1.9% | 4.0% |

## Assumed Contract Early Surrender Rates through Expected Matriculation Year

Assumed contract surrender rates vary by contract type, payment option selected, and the amount of time that has passed since contract purchase. The two tables below show the rates that were applied in the valuation.

| Contract Early Surrender Rates - Tuition and Fee Plans | | | |
|---|---|---|---|
| | | Payment Type | |
| Year of contract purchase / matriculation | Lump Sum | 55-Month | Monthly |
| Year of purchase | 1.0% | 1.5% | 1.7% |
| 1st year after purchase | 3.0% | 7.9% | 12.4% |
| 2nd year after purchase | 0.4% | 3.5% | 5.5% |
| 3rd year after purchase | 0.4% | 2.3% | 3.7% |
| 4th year after purchase | 0.3% | 1.5% | 2.7% |
| 5th year after purchase | 0.3% | 1.0% | 2.0% |
| 6th, and each subsequent year, after purchase | 0.2% | 0.3% | 0.9% |
| Year immediately prior to matriculation* | 1.0% | 1.2% | 2.5% |
| Year of matriculation* | 1.4% | 1.8% | 2.8% |

*When a contract is in the year of projected enrollment or the year immediately prior, the applicable projected enrollment year-specific rate is used, rather than the rate related to year of purchase.

| Contract Early Surrender Rates - Dormitory Plans | | | |
|---|---|---|---|
| | Payment Type | | |
| Year of contract purchase / matriculation | Lump Sum | 55-Month | Monthly |
| Year of purchase | 3.9% | 5.7% | 7.5% |
| 1st year after purchase | 5.3% | 10.0% | 16.0% |
| 2nd year after purchase | 0.6% | 3.4% | 5.6% |
| 3rd year after purchase | 0.5% | 2.4% | 3.9% |
| 4th year after purchase | 0.4% | 1.5% | 2.8% |
| 5th year after purchase | 0.3% | 0.9% | 2.2% |
| 6th, and each subsequent year, after purchase | 0.2% | 0.3% | 0.9% |
| Year immediately prior to matriculation* | 2.6% | 3.0% | 3.9% |
| Year of projected matriculation* | 5.7% | 5.8% | 6.8% |

*When a contract is in the year of projected enrollment or the year immediately prior, the applicable projected enrollment year-specific rate is used, rather than the rate related to year of purchase.

## Assumed Contract Surrender after Projected Enrollment Year

No surrender is assumed to occur after the projected enrollment year. As an example, in this valuation contracts with projected enrollment years of 2017 and earlier are assumed to use all remaining benefits rather than having some benefits go unused and/or be refunded via surrender/cancellation.

# ECONOMIC ASSUMPTIONS

## Discount Rates

Valuation calculations use a discount rate yield curve provided by the Board as displayed in Exhibit 5. The yield curve is based on US Treasury spot rates increased by an incremental return determined by the Program's investment consultants.

# CHANGES IN ASSUMPTIONS AND METHODS SINCE PRIOR VALUATION

**Discount rate yield curves:** The discount rate yield curve was updated as shown in this report, reflecting changes in capital market conditions between valuation dates.

**Cost inflation assumptions:** Tuition inflation for university TDF inflation was changed to a uniform 3.0% for all years. Further, an additional one-time 2019-2020 catch-up increase assumption of 6.00% was added to the Florida University dormitory inflation assumption in this valuation.

**Application of surrender rate assumption:** The mathematical application of the surrender rate assumption was modified to better reflect the anticipated level of future contract surrenders, based on the Board's most recent Program experience study.

# Appendix B – Summary of Principal Program Provisions

This summary of principal Program provisions is intended to only describe the essential features of the Program. All eligibility requirements and benefits shall be determined in strict accordance with governing statutes and Program administrative policies as adopted by the Board.

## Eligibility for Contract Purchase

Contracts can be purchased during the annual open enrollment period. The Board establishes pricing for offered plans.

## Premium Payment Options

Three premium payment options are offered to purchasers:

- Single lump sum
- 55 level monthly payments
- Level monthly payments until October of the projected enrollment year

## Contract Types Available to Purchasers in the 2017-2018 Open Enrollment Period

| Bundled Plans | Add-on Plans |
|---|---|
| 2 + 2 Florida Plan | Dormitory Plan |
| 4 Year Florida College Plan | 4 Year University TDF Plan |
| 2 Year Florida College Plan | 2 + 2 TDF Plan |
| 4 Year Florida University Plan | 4 Year University Local Fee Plan |
| 1 Year Florida University Plan | 2 + 2 Local Fee Plan |
| | 2 Year Florida College Local Fee Plan |

## Contract Types Available to Purchasers in Prior Open Enrollment Periods

Until 2010, the legacy 4-Yr Florida University Tuition Plan, 2+2 Tuition Plan and 2-Yr Florida College Tuition Plan (formerly the two-year community college tuition plan) were offered. In addition, until 2014 Florida University dormitory benefits were sold in multi-year increments.

## Contract Cancellation / Early Surrender

For contracts which are cancelled, the purchaser will received a refund of the total payments made minus all fees, including late fees owed at the time of cancellation. A cancellation fee of no greater than $50 may also be deducted from the refund amount in certain circumstances.

## Changes in Principal Program Provisions since Prior Valuation

None.

# Appendix C – Summary Contract Data - Matriculation 2018 and Prior

**4 Year University Tuition Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 6,442 | 4,906 | 5,767 | 7,167 | 8,713 | 10,629 | 15,423 | 21,665 | 21,294 | 21,044 | 21,152 | **144,202** |
| Total Hours Remaining | 307,913 | 212,723 | 262,560 | 335,378 | 417,005 | 512,905 | 732,315 | 1,181,126 | 1,631,827 | 2,095,688 | 2,534,116 | **10,223,556** |
| Avg. Hours per Contract | 47.8 | 43.4 | 45.5 | 46.8 | 47.9 | 48.3 | 47.5 | 54.5 | 76.6 | 99.6 | 119.8 | **70.9** |

**4 Year Florida University Plan, Bundled, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | - | - | 1 | 25 | 54 | 124 | 314 | 494 | 779 | 1,059 | **2,850** |
| Total Hours Remaining | - | - | - | 63 | 1,461 | 3,010 | 6,102 | 15,279 | 36,294 | 75,846 | 127,063 | **265,118** |
| Avg. Hours per Contract | - | - | - | 63.0 | 58.4 | 55.7 | 49.2 | 48.7 | 73.5 | 97.4 | 120.0 | **93.0** |

**4 Year University Local Fees Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 945 | 1,442 | 1,953 | 2,594 | 3,175 | 3,942 | 5,472 | 8,065 | 8,493 | 8,697 | 8,954 | **53,732** |
| Total Hours Remaining | 54,652 | 72,706 | 99,156 | 139,894 | 176,034 | 219,997 | 294,541 | 479,912 | 680,578 | 879,752 | 1,073,745 | **4,170,967** |
| Avg. Hours per Contract | 57.8 | 50.4 | 50.8 | 53.9 | 55.4 | 55.8 | 53.8 | 59.5 | 80.1 | 101.2 | 119.9 | **77.6** |

**4 Year University TDF Fees Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | 4 | - | 17 | 81 | 176 | 431 | 656 | 711 | 808 | 911 | **3,795** |
| Total Hours Remaining | - | 83 | - | 1,341 | 4,672 | 10,270 | 22,655 | 38,888 | 55,828 | 81,115 | 109,311 | **324,163** |
| Avg. Hours per Contract | - | 20.8 | - | 78.9 | 57.7 | 58.4 | 52.6 | 59.3 | 78.5 | 100.4 | 120.0 | **85.4** |

**2 + 2 Tuition Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 3,027 | 1,920 | 2,230 | 2,652 | 2,967 | 3,781 | 4,298 | 4,853 | 4,438 | 4,382 | 4,139 | **38,687** |
| Total Lower Hours Remaining | 37,743 | 24,074 | 29,491 | 37,330 | 42,799 | 68,760 | 80,781 | 83,167 | 106,138 | 183,404 | 246,667 | **940,354** |
| Avg. Lower Hours per Contract | 12.5 | 12.5 | 13.2 | 14.1 | 14.4 | 18.2 | 18.8 | 17.1 | 23.9 | 41.9 | 59.6 | **24.3** |
| Upper Hours Remaining | 117,481 | 74,808 | 90,294 | 110,073 | 126,632 | 168,490 | 192,230 | 227,126 | 249,708 | 261,256 | 248,104 | **1,866,202** |
| Avg. Upper Hours per Contract | 38.8 | 39.0 | 40.5 | 41.5 | 42.7 | 44.6 | 44.7 | 46.8 | 56.3 | 59.6 | 59.9 | **48.2** |

**2 + 2 Florida College Plan, Bundled, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | - | - | - | 10 | 22 | 55 | 86 | 178 | 244 | 434 | **1,029** |
| Total Lower Hours Remaining | - | - | - | - | 331 | 341 | 942 | 1,404 | 4,472 | 8,390 | 26,008 | **41,888** |
| Avg. Lower Hours per Contract | - | - | - | - | 33.1 | 15.5 | 17.1 | 16.3 | 25.1 | 34.4 | 59.9 | **40.7** |
| Upper Hours Remaining | - | - | - | - | 516 | 975 | 2,753 | 3,957 | 9,607 | 14,447 | 26,040 | **58,295** |
| Avg. Upper Hours per Contract | - | - | - | - | 51.6 | 44.3 | 50.1 | 46.0 | 54.0 | 59.2 | 60.0 | **56.7** |

**2 + 2 Local Fees Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 517 | 405 | 507 | 636 | 772 | 872 | 1,017 | 1,199 | 1,480 | 1,508 | 1,502 | **10,415** |
| Total Lower Hours Remaining | 8,736 | 4,780 | 5,791 | 7,799 | 9,232 | 13,860 | 17,229 | 22,556 | 34,969 | 53,205 | 89,583 | **267,740** |
| Avg. Lower Hours per Contract | 16.9 | 11.8 | 11.4 | 12.3 | 12.0 | 15.9 | 16.9 | 18.8 | 23.6 | 35.3 | 59.6 | **25.7** |
| Upper Hours Remaining | 22,218 | 17,112 | 22,084 | 27,059 | 34,253 | 40,566 | 47,689 | 59,102 | 74,506 | 85,990 | 90,039 | **520,618** |
| Avg. Upper Hours per Contract | 43.0 | 42.3 | 43.6 | 42.5 | 44.4 | 46.5 | 46.9 | 49.3 | 50.3 | 57.0 | 59.9 | **50.0** |

**2 Year University TDF Fee Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | - | - | 2 | 17 | 47 | 79 | 105 | 100 | 135 | 163 | **648** |
| Total Hours Remaining | - | - | - | 120 | 682 | 2,238 | 3,938 | 5,440 | 5,285 | 7,612 | 9,780 | **35,095** |
| Avg. Hours per Contract | - | - | - | 60.0 | 40.1 | 47.6 | 49.8 | 51.8 | 52.9 | 56.4 | 60.0 | **54.2** |

**4 Year Florida College Plan, Bundled, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | - | - | - | 8 | 19 | 70 | 230 | 340 | 415 | 531 | **1,613** |
| Total Lower Hours Remaining | - | - | - | - | 33 | 218 | 1,601 | 5,412 | 8,191 | 15,395 | 31,825 | **62,675** |
| Avg. Lower Hours per Contract | - | - | - | - | 4.1 | 11.5 | 22.9 | 23.5 | 24.1 | 37.1 | 59.9 | **38.9** |
| Upper Hours Remaining | - | - | - | - | 227 | 878 | 3,401 | 11,741 | 16,832 | 24,572 | 31,860 | **89,511** |
| Avg. Upper Hours per Contract | - | - | - | - | 28.4 | 46.2 | 48.6 | 51.0 | 49.5 | 59.2 | 60.0 | **55.5** |

**2 Year Florida College Tuition Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 390 | 318 | 419 | 446 | 545 | 574 | 570 | 615 | 737 | 800 | 879 | **6,293** |
| Total Hours Remaining | 12,205 | 9,741 | 12,754 | 14,600 | 18,949 | 20,841 | 20,813 | 23,350 | 28,866 | 37,310 | 52,530 | **251,959** |
| Avg. Hours per Contract | 31.3 | 30.6 | 30.4 | 32.7 | 34.8 | 36.3 | 36.5 | 38.0 | 39.2 | 46.6 | 59.8 | **40.0** |

**2 Year Florida College Plan, Bundled, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | 1 | - | 46 | 491 | 68 | 162 | 279 | 863 | 1,356 | 1,606 | **4,872** |
| Total Hours Remaining | - | 60 | - | 1,508 | 19,165 | 2,255 | 5,442 | 11,038 | 35,522 | 64,649 | 96,308 | **235,947** |
| Avg. Hours per Contract | - | 60.0 | - | 32.8 | 39.0 | 33.2 | 33.6 | 39.6 | 41.2 | 47.7 | 60.0 | **48.4** |

**2 Year Foundation Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 50 | 9 | 15 | 33 | 6 | 4 | 31 | 15 | 10 | 13 | - | **186** |
| Total Hours Remaining | 1,536 | 327 | 708 | 1,503 | 269 | 104 | 1,008 | 641 | 502 | 931 | - | **7,529** |
| Avg. Hours per Contract | 30.7 | 36.3 | 47.2 | 45.5 | 44.8 | 26.0 | 32.5 | 42.7 | 50.2 | 71.6 | - | **40.5** |

**2 Year Foundation Plan, Bundled, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | - | - | - | 33 | 26 | 39 | - | 5 | 1 | 39 | **143** |
| Total Hours Remaining | - | - | - | - | 1,796 | 1,076 | 2,360 | - | 291 | 22 | 2,808 | **8,353** |
| Avg. Hours per Contract | - | - | - | - | 54.4 | 41.4 | 60.5 | - | 58.2 | 22.0 | 72.0 | **58.4** |

**2 Year Florida College Local Fee Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | 22 | 28 | 35 | 56 | 78 | 63 | 78 | 99 | 101 | 98 | 136 | **794** |
| Total Hours Remaining | 706 | 999 | 1,158 | 1,952 | 2,744 | 2,383 | 3,251 | 3,760 | 4,388 | 4,871 | 8,160 | **34,372** |
| Avg. Hours per Contract | 32.1 | 35.7 | 33.1 | 34.9 | 35.2 | 37.8 | 41.7 | 38.0 | 43.4 | 49.7 | 60.0 | **43.3** |

**72 Hour Local Fee Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | 2 | - | - | - | - | 2 | - | 1 | 5 | - | **10** |
| Total Hours Remaining | - | 61 | - | - | - | - | 114 | - | 46 | 355 | - | **576** |
| Avg. Hours per Contract | - | 30.5 | - | - | - | - | 57.0 | - | 46.0 | 71.0 | - | **57.6** |

**1 Year Florida University Plan, by Matriculation Year**

| | <=2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Contracts | - | - | - | - | - | - | - | - | 44 | 137 | 309 | **490** |
| Total Hours Remaining | - | - | - | - | - | - | - | - | 923 | 3,196 | 9,266 | **13,385** |
| Avg. Hours per Contract | - | - | - | - | - | - | - | - | 21.0 | 23.3 | 30.0 | **27.3** |

# Appendix D – Summary Contract Data – Matriculation 2019 and Later

**4 Year University Tuition Plan, by Matriculation Year and Payment Option**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 6,221 | 5,303 | 5,227 | 4,714 | 4,344 | 3,497 | 2,846 | 2,007 | 1,323 | 392 | 21 | 10 | **35,905** |
| 55-Month | 6,183 | 5,477 | 5,480 | 4,948 | 4,298 | 3,643 | 3,033 | 2,398 | 1,657 | 487 | 9 | 17 | **37,630** |
| Monthly | 8,876 | 8,545 | 8,661 | 8,091 | 7,636 | 7,100 | 6,411 | 5,613 | 4,172 | 1,340 | 17 | 11 | **66,473** |
| Total | **21,280** | **19,325** | **19,368** | **17,753** | **16,278** | **14,240** | **12,290** | **10,018** | **7,152** | **2,219** | **47** | **38** | **140,008** |

**4 Year Florida University Plan, Bundled, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 548 | 624 | 732 | 792 | 885 | 925 | 946 | 990 | 1,018 |
| 55-Month | 212 | 240 | 389 | 469 | 522 | 565 | 655 | 666 | 783 |
| Monthly | 747 | 985 | 1,365 | 1,514 | 1,987 | 2,286 | 2,723 | 3,015 | 3,461 |
| Total | **1,507** | **1,849** | **2,486** | **2,775** | **3,394** | **3,776** | **4,324** | **4,671** | **5,262** |

| | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 1,323 | 1,334 | 1,239 | 1,205 | 1,261 | 1,190 | 1,008 | 848 | 294 | **17,162** |
| 55-Month | 1,142 | 1,173 | 959 | 974 | 906 | 866 | 716 | 562 | 220 | **12,019** |
| Monthly | 4,906 | 5,412 | 4,744 | 4,520 | 4,747 | 4,550 | 4,073 | 3,396 | 1,295 | **55,726** |
| Total | **7,371** | **7,919** | **6,942** | **6,699** | **6,914** | **6,606** | **5,797** | **4,806** | **1,809** | **84,907** |

**2 + 2 Tuition Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 805 | 603 | 508 | 424 | 377 | 300 | 236 | 159 | 104 | 29 | 3 | 3 | **3,551** |
| 55-Month | 1,030 | 868 | 803 | 686 | 557 | 450 | 343 | 272 | 189 | 71 | 12 | 8 | **5,289** |
| Monthly | 1,926 | 1,822 | 1,702 | 1,446 | 1,284 | 1,196 | 1,100 | 865 | 571 | 179 | 3 | 4 | **12,098** |
| Total | **3,761** | **3,293** | **3,013** | **2,556** | **2,218** | **1,946** | **1,679** | **1,296** | **864** | **279** | **18** | **15** | **20,938** |

**2 + 2 Florida College Plan, Bundled, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 212 | 226 | 200 | 207 | 219 | 207 | 146 | 147 | 144 | |
| 55-Month | 56 | 81 | 69 | 107 | 81 | 93 | 99 | 133 | 114 | |
| Monthly | 277 | 349 | 469 | 534 | 711 | 820 | 927 | 1,026 | 1,113 | |
| Total | **545** | **656** | **738** | **848** | **1,011** | **1,120** | **1,172** | **1,306** | **1,371** | |
| | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | Totals |
| Lump Sum | 231 | 272 | 161 | 131 | 142 | 138 | 119 | 76 | 26 | **3,004** |
| 55-Month | 165 | 169 | 153 | 138 | 125 | 136 | 75 | 58 | 26 | **1,878** |
| Monthly | 1,503 | 1,539 | 1,516 | 1,338 | 1,404 | 1,274 | 1,051 | 848 | 314 | **17,013** |
| Total | **1,899** | **1,980** | **1,830** | **1,607** | **1,671** | **1,548** | **1,245** | **982** | **366** | **21,895** |

**4 Year Florida College Plan, Bundled, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 345 | 310 | 260 | 258 | 180 | 141 | 116 | 77 | 95 | |
| 55-Month | 62 | 53 | 77 | 92 | 79 | 87 | 73 | 94 | 108 | |
| Monthly | 311 | 392 | 443 | 531 | 662 | 678 | 762 | 806 | 888 | |
| Total | **718** | **755** | **780** | **881** | **921** | **906** | **951** | **977** | **1,091** | |
| | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | Totals |
| Lump Sum | 115 | 151 | 86 | 77 | 68 | 31 | 31 | 25 | 4 | **2,370** |
| 55-Month | 139 | 163 | 126 | 102 | 78 | 58 | 40 | 38 | 15 | **1,484** |
| Monthly | 1,144 | 1,259 | 1,167 | 916 | 679 | 593 | 470 | 420 | 150 | **12,271** |
| Total | **1,398** | **1,573** | **1,379** | **1,095** | **825** | **682** | **541** | **483** | **169** | **16,125** |

**2 Year Florida College Tuition Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 219 | 128 | 107 | 79 | 89 | 76 | 51 | 40 | 25 | 9 | 1 | 1 | **825** |
| 55-Month | 197 | 124 | 143 | 118 | 106 | 82 | 74 | 49 | 26 | 14 | - | 1 | **934** |
| Monthly | 505 | 392 | 373 | 385 | 310 | 283 | 256 | 214 | 151 | 52 | - | - | **2,921** |
| Total | **921** | **644** | **623** | **582** | **505** | **441** | **381** | **303** | **202** | **75** | **1** | **2** | **4,680** |

**2 Year Florida College Plan, Bundled, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 1,604 | 1,348 | 1,194 | 1,216 | 542 | 229 | 92 | 98 | 81 |
| 55-Month | 77 | 78 | 92 | 111 | 115 | 123 | 112 | 110 | 102 |
| Monthly | 420 | 491 | 614 | 631 | 746 | 894 | 898 | 974 | 941 |
| Total | **2,101** | **1,917** | **1,900** | **1,958** | **1,403** | **1,246** | **1,102** | **1,182** | **1,124** |

| | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 75 | 122 | 76 | 60 | 82 | 114 | 53 | 42 | 15 | **7,043** |
| 55-Month | 118 | 141 | 108 | 106 | 109 | 87 | 64 | 61 | 25 | **1,739** |
| Monthly | 1,127 | 1,110 | 1,054 | 925 | 848 | 845 | 734 | 601 | 229 | **14,082** |
| Total | **1,320** | **1,373** | **1,238** | **1,091** | **1,039** | **1,046** | **851** | **704** | **269** | **22,864** |

**2 Year Foundation Plan, Bundled, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 26 | 71 | 32 | 50 | 26 | 9 | 2 | - | - | **216** |
| 55-Month | - | - | - | - | - | - | - | - | - | **-** |
| Monthly | - | - | - | - | - | - | - | - | - | **-** |
| Total | **26** | **71** | **32** | **50** | **26** | **9** | **2** | **-** | **-** | **216** |

**2 Year Foundation Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | - | - | - | - | - | 1 | - | - | - | - | - | - | **1** |
| 55-Month | - | - | - | - | - | - | - | - | - | - | - | - | **-** |
| Monthly | - | - | - | - | - | - | - | - | - | - | - | - | **-** |
| Total | **-** | **-** | **-** | **-** | **-** | **1** | **-** | **-** | **-** | **-** | **-** | **-** | **1** |

**1 Year Florida University Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 169 | 181 | 150 | 169 | 259 | 223 | 239 | 255 | 250 |
| 55-Month | 47 | 79 | 109 | 192 | 123 | 137 | 114 | 100 | 98 |
| Monthly | 314 | 438 | 493 | 600 | 627 | 740 | 786 | 882 | 865 |
| Total | **530** | **698** | **752** | **961** | **1,009** | **1,100** | **1,139** | **1,237** | **1,213** |

| | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 273 | 304 | 294 | 280 | 298 | 457 | 305 | 143 | 55 | **4,304** |
| 55-Month | 123 | 136 | 118 | 128 | 186 | 186 | 120 | 97 | 40 | **2,133** |
| Monthly | 949 | 939 | 985 | 980 | 1,059 | 901 | 821 | 694 | 226 | **13,299** |
| Total | **1,345** | **1,379** | **1,397** | **1,388** | **1,543** | **1,544** | **1,246** | **934** | **321** | **19,736** |

**4 Year University Local Fees Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 2,951 | 2,577 | 2,614 | 2,353 | 2,149 | 1,827 | 1,440 | 1,014 | 706 | 205 | 5 | 2 | **17,843** |
| 55-Month | 2,534 | 2,316 | 2,365 | 2,199 | 1,930 | 1,636 | 1,348 | 1,044 | 721 | 181 | 2 | 2 | **16,278** |
| Monthly | 3,339 | 3,111 | 3,286 | 3,196 | 2,986 | 2,867 | 2,542 | 2,062 | 1,628 | 493 | 2 | 4 | **25,516** |
| Total | **8,824** | **8,004** | **8,265** | **7,748** | **7,065** | **6,330** | **5,330** | **4,120** | **3,055** | **879** | **9** | **8** | **59,637** |

**4 Year University TDF Fees Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 293 | 326 | 319 | 341 | 347 | 470 | 878 | 928 | 620 | 172 | 1 | - | **4,695** |
| 55-Month | 234 | 255 | 291 | 345 | 373 | 417 | 801 | 953 | 679 | 193 | - | - | **4,541** |
| Monthly | 461 | 498 | 566 | 612 | 681 | 857 | 1,618 | 1,975 | 1,525 | 480 | 1 | 2 | **9,276** |
| Total | **988** | **1,079** | **1,176** | **1,298** | **1,401** | **1,744** | **3,297** | **3,856** | **2,824** | **845** | **2** | **2** | **18,512** |

**2 + 2 Local Fees Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 364 | 258 | 226 | 160 | 179 | 154 | 106 | 71 | 51 | 13 | 1 | 2 | **1,585** |
| 55-Month | 400 | 327 | 294 | 253 | 216 | 182 | 118 | 104 | 66 | 17 | 4 | 1 | **1,982** |
| Monthly | 599 | 573 | 566 | 479 | 475 | 403 | 336 | 278 | 163 | 68 | 1 | 1 | **3,942** |
| Total | **1,363** | **1,158** | **1,086** | **892** | **870** | **739** | **560** | **453** | **280** | **98** | **6** | **4** | **7,509** |

**2 Year University TDF Fee Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 32 | 27 | 25 | 27 | 39 | 51 | 69 | 53 | 51 | 9 | - | - | **383** |
| 55-Month | 21 | 19 | 24 | 29 | 35 | 50 | 64 | 85 | 50 | 16 | 1 | - | **394** |
| Monthly | 65 | 101 | 89 | 81 | 91 | 100 | 190 | 232 | 162 | 61 | - | - | **1,172** |
| Total | **118** | **147** | **138** | **137** | **165** | **201** | **323** | **370** | **263** | **86** | **1** | **-** | **1,949** |

**2 Year Florida College Local Fee Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 123 | 74 | 86 | 99 | 73 | 68 | 58 | 45 | 27 | 7 | - | - | **660** |
| 55-Month | 1 | - | - | 1 | - | - | - | 1 | - | - | - | - | **3** |
| Monthly | - | - | - | - | - | - | - | - | - | - | - | - | **-** |
| Total | **124** | **74** | **86** | **100** | **73** | **68** | **58** | **46** | **27** | **7** | **-** | **-** | **663** |

**1 Year Dormitory Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 1,030 | 937 | 911 | 891 | 810 | 711 | 602 | 480 | 388 |
| 55-Month | 719 | 691 | 775 | 706 | 668 | 543 | 489 | 383 | 345 |
| Monthly | 1,250 | 1,288 | 1,344 | 1,277 | 1,393 | 1,379 | 1,346 | 1,378 | 1,210 |
| Total | **2,999** | **2,916** | **3,030** | **2,874** | **2,871** | **2,633** | **2,437** | **2,241** | **1,943** |

| | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 296 | 225 | 253 | 206 | 214 | 247 | 227 | 200 | 72 | **8,700** |
| 55-Month | 253 | 187 | 155 | 132 | 154 | 142 | 115 | 108 | 53 | **6,618** |
| Monthly | 1,098 | 927 | 908 | 770 | 967 | 1,135 | 1,084 | 860 | 313 | **19,927** |
| Total | **1,647** | **1,339** | **1,316** | **1,108** | **1,335** | **1,524** | **1,426** | **1,168** | **438** | **35,245** |

**2 Year Dormitory Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 480 | 369 | 331 | 290 | 218 | 207 | 145 | 105 | 69 | 34 | 38 | 39 | **2,325** |
| 55-Month | 420 | 380 | 330 | 327 | 257 | 222 | 165 | 120 | 75 | 50 | 30 | 51 | **2,427** |
| Monthly | 648 | 630 | 616 | 598 | 509 | 469 | 401 | 293 | 247 | 156 | 139 | 126 | **4,832** |
| Total | **1,548** | **1,379** | **1,277** | **1,215** | **984** | **898** | **711** | **518** | **391** | **240** | **207** | **216** | **9,584** |

**3 Year Dormitory Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 13 | 9 | 6 | 8 | 3 | 6 | 1 | 3 | - | 1 | 1 | - | **51** |
| 55-Month | 5 | 12 | 11 | 4 | 8 | 5 | 2 | 2 | 3 | - | 1 | 3 | **56** |
| Monthly | 22 | 14 | 14 | 19 | 14 | 14 | 9 | 15 | 2 | 3 | 4 | 2 | **132** |
| Total | **40** | **35** | **31** | **31** | **25** | **25** | **12** | **20** | **5** | **4** | **6** | **5** | **239** |

**4 Year Dormitory Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 236 | 190 | 177 | 148 | 114 | 98 | 66 | 51 | 35 | 18 | 18 | 18 | **1,169** |
| 55-Month | 185 | 153 | 117 | 129 | 82 | 62 | 51 | 41 | 35 | 25 | 14 | 19 | **913** |
| Monthly | 316 | 260 | 262 | 256 | 239 | 229 | 159 | 122 | 125 | 82 | 54 | 79 | **2,183** |
| Total | **737** | **603** | **556** | **533** | **435** | **389** | **276** | **214** | **195** | **125** | **86** | **116** | **4,265** |

**5 Year Dormitory Plan, by Matriculation Year**

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | >=2030 | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lump Sum | 6 | 7 | 7 | 6 | 6 | - | 1 | - | 2 | 1 | - | 1 | **37** |
| 55-Month | 10 | 4 | 7 | 10 | 4 | 3 | 3 | 6 | 3 | - | - | - | **50** |
| Monthly | 9 | 17 | 12 | 15 | 9 | 4 | 13 | 8 | 5 | 2 | - | - | **94** |
| Total | **25** | **28** | **26** | **31** | **19** | **7** | **17** | **14** | **10** | **3** | **-** | **1** | **181** |

Callan

March 21, 2018

FLORIDA PREPAID COLLEGE BOARD

# Florida Prepaid College Plan

## Asset/Liability Study


**Jim Van Heuit**
Senior Vice President, Capital Markets Research

**Weston Lewis, CFA, CAIA**
Senior Vice President, Fund Sponsor Consulting

**Brian Smith, CFA**
Senior Vice President, Fund Sponsor Consulting

# Asset Allocation and Liability Study

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# Executive Summary

# Executive Summary

## Motivation for the Current Study

- Consistent with fiduciary best practices, the Comprehensive Investment Plan (CIP) requires a review
  - "An asset / liability study shall be conducted once every five years"
  - Fiduciaries need not change strategy – it is reasonable to conclude that the existing strategy is most consistent with the program goals and risk tolerances relative to the alternatives
- This asset / liability study provides an opportunity to determine whether or not improvements can be made by comparing a series of strategy alternatives to the current investment strategy and highlighting the pros and cons of each
- The study provides interested parties the justification for the strategy chosen and implemented
  - Evidence of fiduciary duty to Plan stakeholders
  - Confidence for the Board in times of market stress
- Asset allocation is reviewed on two levels:
  - Liability Driven Investment (LDI) Portion – determining the most appropriate weights of fixed income sectors that can serve as a liability hedge
  - Actuarial Reserve – determining the appropriate mix of asset classes commensurate with the investment objectives of the actuarial reserves

# Executive Summary

## Investment Portfolio Construction

- The current investment strategy is to divide the assets into a liability-driven investment (LDI) portfolio and an actuarial reserve portfolio
- The assets in the LDI portfolio are invested to track the liabilities
  - The assets always allocated primarily to fund the most recent estimate of the existing liabilities
  - The assets are invested solely in fixed income to avoid equity risk
  - The assets are invested so that they will continue to mirror the liabilities even if interest rates change
- The assets in the LDI portfolio could deviate from the liabilities for several reasons, requiring the gap to be filled by transferring assets from the actuarial reserve
  - Unanticipated changes in the liability discount rate (Customer Fixed Income Benchmark)
  - Active investment management decisions underperforming the Custom Fixed Income Benchmark
  - Actual costs, especially Florida University Tuition Fees, exceeding those anticipated
  - Realized experiences differing from assumptions about contract usage (e.g., types of colleges attended, matriculation dates, and credit hours utilized)
- The assets in the actuarial reserve portfolio are intended to provide a backstop for the LDI portfolio
  - The current intent is for the actuarial reserve assets to be invested entirely in a diversified equity portfolio
  - The Comprehensive Investment Policy currently limits equity investments to 15% of total Plan assets
  - Since the actuarial reserve is currently greater than 15% of total Plan assets some of the reserve is invested in the LDI strategy

# Executive Summary

## Questions Addressed by the Current Study

- The LDI portfolio was reviewed to see if there could be improvements in the operational efficiency of the current investment strategy
  - Are the appropriate fixed income instruments being used to hedge the interest rate sensitivity of the liabilities?
  - Is the benchmark being properly constructed?
  - Which new markets could add value at reasonable levels of risk?
  - Are the appropriate risk controls in place?
- Enhancements to the current LDI strategy were evaluated
  - Should the LDI strategy be enhanced by reallocating among markets currently in the portfolio?
    - *Treasury STRIPS*
    - *Corporate bonds*
    - *Mortgage-backed securities*
  - Should the LDI strategy be expanded to include new markets?
    - *Asset-backed securities*
    - *Commercial mortgage-backed securities*
    - *Non-corporate credit*
    - *Intermediate and long corporates*
  - What are the performance forecasts for potential strategies?
    - *Returns and risks?*
    - *At what rate do returns increase for increasing levels of risk?*
    - *What is the appropriate level of risk?*

# Executive Summary

## Questions Addressed by the Current Study

- Enhancements to the current actuarial reserve strategy were evaluated
  - Should the allocations to existing asset classes be changed?
  - Should new asset classes be introduced?
  - How do returns change with increasing levels of risk?
  - What is the necessary rate of return for the portfolio?
  - What is the appropriate level of risk for the portfolio?
  - What are the probabilities that the actuarial reserve will have sufficient assets to fully fund the LDI portfolio?
    - *How do these probabilities change with different asset allocations?*
    - *How do these probabilities change under different funding approaches implemented by the Board?*

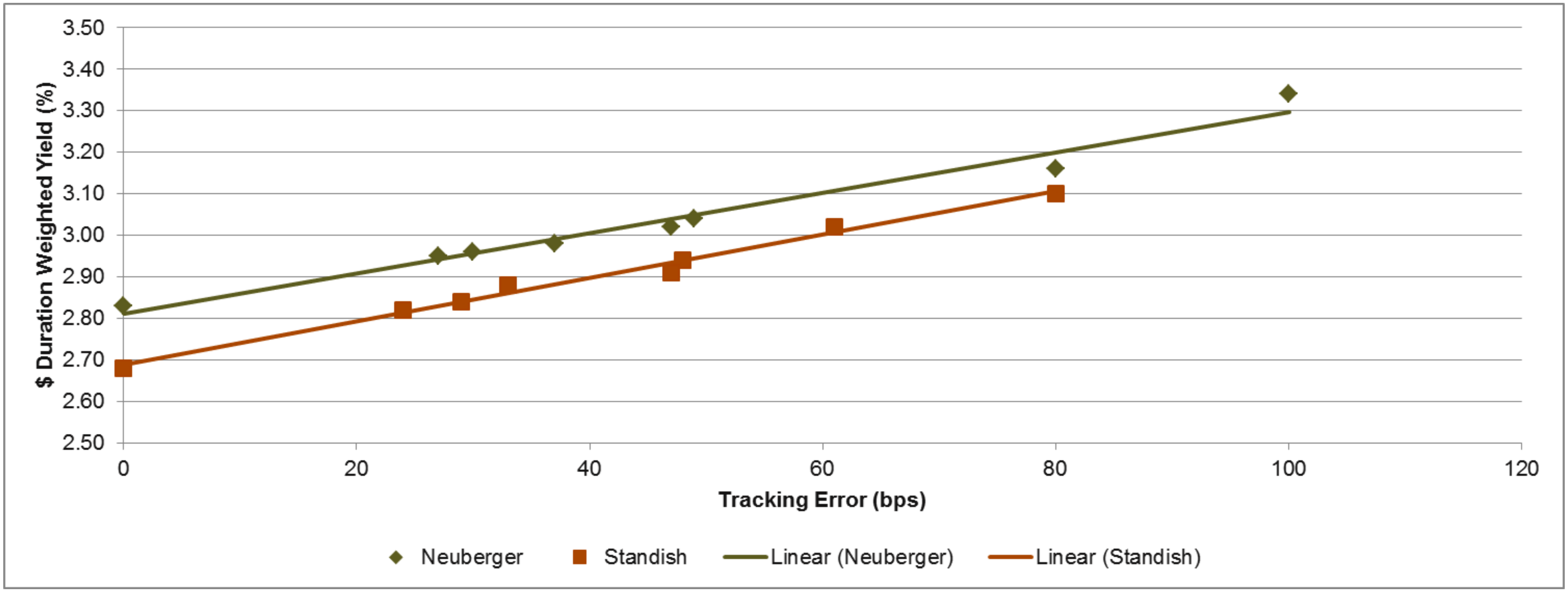
# Executive Summary

## LDI Study Methodology

- LDI Managers' Manager Survey
  - Construction of the pricing and manager benchmarks
  - Types of securities to hold
  - Underlying indices
  - Duration management
  - Risk control
- LDI Portfolio Construction
  - Alternative LDI portfolios were constructed
    - *Range of markets*
    - *Multiple approaches to hedging liabilities*
  - Active LDI fixed income managers evaluated performance
    - *Neuberger Berman and Standish*
    - *Managers used different models*
  - Results were compiled, subjected to further analysis and compared
    - *Analysis conducted by Callan with manager feedback*
    - *Raw results compared and ranked*
    - *Relationship between return and risk examined*
    - *Impact of yield and tracking error on liabilities and prices evaluated using simulation analysis*

# Executive Summary

## Key Finding for the LDI Portfolio




- Yield cannot be increased in the short term without increases in risk (tracking error)
- The yield that the LDI portfolio can earn is faces two limitations
  - The current yields available in the fixed income market
  - The amount of tracking error the Board is willing to take
- Fixed income yields are projected to rise longer term
  - Ultimately the LDI portfolio could earn higher returns without necessarily adding to tracking error

# Executive Summary

## Recommendations for the LDI Portfolio

= No Action Required (green) = Board Action Required (yellow)

| Issues Studied | Key Takeaways |
|---|---|
| Should the LDI strategy be enhanced by reallocating among markets currently in the portfolio – STRIPS, corporate bonds, mortgage-backed securities? | Callan recommends maintaining the existing long term target weights – 60% STRIPS/30% corporate/10% MBS. Increasing the STRIPS allocation reduces expected yield. Increasing the corporate allocation or reducing the MBS allocation increases tracking error. |
| How should STRIPS be represented in the portfolio? | Continue to use the existing approach to optimizing the STRIPS portfolio; provides the tightest match to the liabilities for the least cost |
| Should the Corporates Index be subdivided to better manage duration or potential mismatch? | Divide the Corporate benchmark into intermediate and long segments while allowing managers flexibility to determine weights as part of the benchmark construction process; provides best fit at highest level of yield; fixing allocations to predetermined targets has a high probability of increasing tracking error |
| Should the spread benchmark include broader securitized instruments? | Maintain the allocation to MBS, but do not target an allocation to ABS and/or CMBS; MBS diversifies the STRIPS and Corporates allocation; ABS and CMBS do not significantly increase diversification of the portfolio but add implementation challenges and increase complexity |
| Should the Corporate Index be expanded to the Credit index? | Callan recommends that the benchmark remain focused on the corporate rather than the credit index because the credit index could reduce expected yield |
| Should multiple Option Adjusted Spread (OAS) values be calculated? | Callan recommends continuing to use a single OAS; Multiple OAS increase benchmark construction complexity without any significant benefit |
| How much latitude should the CIP give managers? | Callan recommends tighter parameters for fixed income than currently expressed in the CIP. The CIP is being restructured to separate fixed income guidelines from equity guidelines |

# Executive Summary

## Actuarial Reserve Study Methodology

- Identify potential new asset classes for the actuarial reserve
  – Broad market US fixed income
  – Emerging markets equity
  – Private real estate
- Forecasts asset class performance parameters
  – Returns
  – Risks
  – Correlations
- Construct alternative asset allocations
  – Used new and existing asset classes
  – Asset allocations covered a wide range of returns and risks
- Forecast range of returns
  – Range of returns generated using Monte Carlo simulation analysis
  – Ranges evaluated over 1 and 10 years on an annualized and cumulative basis

# Executive Summary

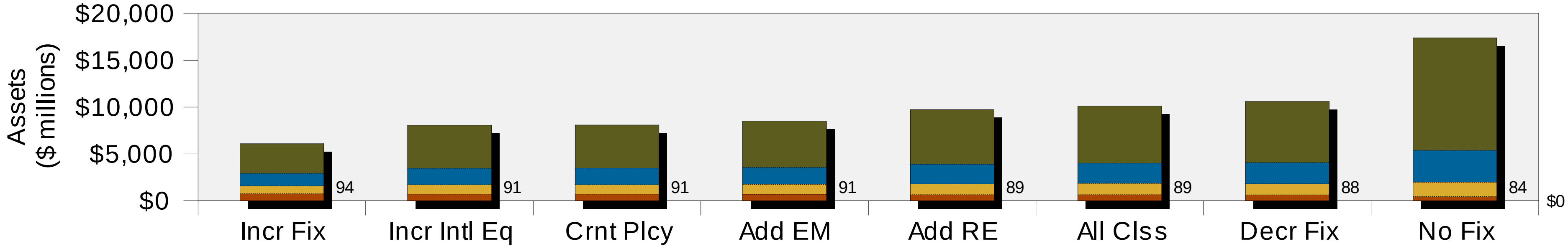
## Actuarial Reserve Study Methodology

- Review impact on dollar value of the actuarial reserve forecast under different cash flow scenarios
  - Range of dollar values forecast using Monte Carlo simulation analysis
- Different liability scenarios studied
  - Adequacy study assumptions realized – (i.e. No Cash Flows, base case)
  - Tuition and Fees Grow at Statutory Maximum (“APA”) which is seen as a worst case
- Different asset transfer from actuarial reserve to LDI Portfolio scenarios studied
  - No asset transfers
  - Periodic transfers
  - Immediate transfers
- Simulation analysis was performed
  - 5,000 simulated returns were calculated for each asset mix for each year
  - Returns and cash flows applied to forecast assets in actuarial reserve to get range of reserve asset values in each year
  - Results tabulated for a range of outcomes
    - *Focus on the median (best estimate) and 95$^{th}$ percentile (poor investment outcome) as well as the probability of having sufficient assets in the reserve to fund any shortfalls in the LDI portfolio*
- Examples of analytical results contained in this presentation

# Executive Summary

## Key Finding for the Actuarial Reserve Asset Allocation

Range of Asset Values for the Actuarial Reserve, Tuition and Fees Grow at Statutory Maximum ("APA"), FYE 2044




| | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EM | Add RE | All Clss | Decr Fix | No Fix |
|---|---|---|---|---|---|---|---|---|
| 5th Percentile | $6,099 | $8,081 | $8,093 | $8,522 | $9,731 | $10,120 | $10,601 | $17,381 |
| 25th Percentile | $2,885 | $3,466 | $3,484 | $3,575 | $3,895 | $4,022 | $4,084 | $5,383 |
| Median | $1,589 | $1,718 | $1,716 | $1,749 | $1,805 | $1,855 | $1,819 | $1,965 |
| 75th Percentile | $755 | $706 | $707 | $696 | $664 | $653 | $647 | $455 |
| 95th Percentile | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Prob > $0 | 94% | 91% | 91% | 91% | 89% | 89% | 88% | 84% |

- The alternative asset mixes range from 60% equity ("Incr Fix") to 100% equity ("No Fix") with 70% and 80% equity allocations in between
  - Descriptions of the alternative asset allocations are shown on slide 49
- Asset values reflect returns and asset transfer to LDI portfolio to fund full APA
- Larger allocations to equity increase the median asset values
- Larger allocations to equity decrease the 75th percentile asset values
- Probabilities of having assets until all benefits are paid range from 84% to 94%

# Executive Summary

## Recommendations for the Actuarial Reserve Asset Allocation

= No Action Required = Board Action Required

| Issues Studied | Key Takeaways |
|---|---|
| Should emerging markets equity and/or private real estate be introduced? | Limit asset classes to those currently held since introducing emerging markets equity and/or private real estate increases complexity without adding appreciably to return |
| Should the existing actuarial reserve asset allocation be changed? | A new policy of 60% equity and 40% fixed income should be implemented<br>• The existing relative sizes of the equity components should be maintained<br>• The fixed income portfolio should reflect the characteristics of the broad US fixed income market<br>• The new policy reduces reserves to $11.5 billion after benefits are paid in a reasonable scenario<br>• The new policy more than doubles the probability of having assets to fund the LDI portfolio in adverse circumstances |
| Should the 15% of total assets cap on the equity allocation be removed? | The 15% of total asset value cap on the equity allocation should be removed<br>• If the new policy were implemented today equity would be close to the cap<br>• The 60% equity allocation is necessary for the reserves to grow sufficiently to provide assets for the LDI portfolio in adverse circumstances<br>• The 40% allocation to fixed income provides the risk control that the 15% equity cap was intended to provide |

# LDI Managers' Suggestions for LDI Guidelines

# LDI Managers' Suggestions for LDI Guidelines

## Methodology

- Questionnaire sent to current fixed income managers
  - Questions based on prior meeting with managers to discuss potential improvements in the fixed income portfolio
- Manager answers were compiled and evaluated
  - Evaluation of responses by fixed income experts in Callan's Global Manager Research and Capital Markets Research groups
  - Issues in which managers are in agreement
  - Issues in which managers are in disagreement
- Issue clarification
  - Consult with Prepaid staff on manager responses
  - Create language for areas of agreement for incorporation in CIP as required
- Discuss remaining issues with managers
  - Sharpen the focus of areas of disagreement to create a specific list of pros and cons
  - Determine metrics to evaluate tradeoffs between different investment choices
  - Managers evaluate alternative investment ideas using their tools
  - Illustrate tradeoffs using identified metrics
- Consult with Prepaid staff on results of evaluation
- Make recommendations to the Board

# LDI Managers’ Suggestions for LDI Guidelines

## Current LDI Portfolio

- Duration of the Portfolio Driven by the Duration of the Liabilities
  - Overall duration
  - Duration “buckets”
- Existing Sector Components
  - 76% US Treasury STRIPS
  - 14% Bloomberg Barclays Corporate Index
  - 10% Bloomberg Barclays Fixed Rate Mortgage Index
- Benchmark Construction Methodology
  - Corporate and mortgage benchmarks have specified allocations to the duration buckets
  - Treasury STRIPS used to align the duration of the benchmark with that of the liabilities

# LDI Managers' Suggestions for LDI Guidelines

## Summary of Issues and Recommendations

- How should STRIPS be represented in the portfolio?
  - Callan recommends using individual principal and coupon STRIPS with eligible STRIPS meeting a liquidity requirement determined based on market conditions at the time of benchmark construction
- How Should the Corporate Index Duration Exposure Be Managed?
  - Callan recommends dividing the corporate benchmark into intermediate and long segments based on manager suggestions but allow managers to determine the target weights
  - The weighting of the intermediate and long segments should be flexible rather than the fixed allocations studied in the LDI portfolio construction section of this presentation
- Should the Spread Benchmark Include Broader Securitized Instruments?
  - Callan recommends maintaining the allocation to MBS but not adding allocations to ABS and CMBS based on manager suggestions and the analyses of potential LDI portfolios which follows
- Should the Corporate Index Be Expanded to the Credit Index?
  - Callan recommends that the benchmark remain focused on the corporate rather than the credit index based on the analyses of potential LDI portfolios which follows
- Should Multiple Option-Adjusted Spread (OAS) Values Be Calculated?
  - Callan recommends continuing to use a single OAS
- How Much Latitude Should the Investment Policy Give Managers?
  - Callan recommends tighter parameters for fixed income than currently expressed in the CIP. The CIP is being restructured to separate fixed income guidelines from equity guidelines

# LDI Managers' Suggestions for LDI Guidelines

## What Types of STRIPS Should Be Used in the Benchmarks?

- How should STRIPS be represented?
  - Managers recommended continuing to use individual STRIPS instead of STRIPS benchmarks
  - Individual STRIPS provide a tighter liability match
  - Individual STRIPS are more liquid and cost less to trade
  - STRIPS in benchmarks depend on the supply of Treasuries and the demand for STRIPS
  - STRIPS in benchmarks attempt to maintain a constant duration
- If individual STRIPS are used, what types of STRIPS should be used?
  - Managers favored using both principal and coupon STRIPS
  - Provides better liability match by improving the probability of finding securities at the desired maturities
  - Improves liquidity
  - Maximizes yield and reduces cost
- What liquidity parameters should be used to determine eligibility for inclusion in the benchmark?
  - Managers generally opposed predetermined rules for liquidity because market conditions change over time
  - Managers acknowledged that liquidity was the primary concern but several parameters were also key to security selection

*Callan recommends continuing to use the existing approach to optimizing the STRIPS portfolio; provides the tightest match to the liabilities at the least cost. Managers will continue to focus on liquidity and trading costs for eligible STRIPS based on market conditions at the time of benchmark construction.*

# LDI Managers' Suggestions for LDI Guidelines

## How Should the Corporate Index Duration Exposure Be Managed?

- Should the spread portions include the full range of durations, broad portions of the range (i.e. intermediate and long) or finer maturity gradations?
  - "Spread" bonds are bonds with credit risk that compensate for this by offering a yield spread over Treasuries
  - Managers consistently preferred dividing the corporate benchmark into intermediate and long segments
    - *Allows managers more latitude to adjust yield and liability match*
  - Managers consistently did not want smaller maturity segments
    - *May not have sufficient diversification in some segments*
    - *Availability of bonds in each segment depends on issuance*

*Callan recommends dividing the corporate benchmark into intermediate and long segments based on manager suggestions but allow managers to determine the target weights annually at benchmark construction*

# LDI Managers' Suggestions for LDI Guidelines

## Should the Spread Benchmark Include Broader Securitized Instruments?

- There are three primary types of securitized investments
  - Residential mortgage-backed securities (MBS)
  - Commercial mortgage-backed securities (CMBS)
  - Asset-backed securities (ABS)
    - *Credit cards and car loans*
- Managers expressed mixed opinions on all three
- MBS
  - Earns a spread over Treasuries
  - "Negative convexity" does not match liabilities well but offers diversification
- CMBS
  - Earns a spread with more transparency than MBS
  - Better call protection than MBS
  - Implemented portfolios unlikely to look like the benchmark

# LDI Managers' Suggestions for LDI Guidelines

## Should the Spread Benchmark Include Broader Securitized Instruments?

- ABS
  - High credit quality and short duration reduce spread as well as risk
  - Implemented portfolios unlikely to look like the benchmark
- Allocations to all three types of securitized investments need to be large enough to have an impact on total portfolio return or there should be no investment

*Callan recommends maintaining the allocation to MBS but not adding allocations to ABS and CMBS based on manager suggestions and the analyses of potential LDI portfolios which follows*

# LDI Managers' Suggestions for LDI Guidelines

## Should the Corporate Index Be Expanded to the Credit Index?

- Opinions were mixed
- Expanding the corporate index to credit would almost certainly reduce yield somewhat
  - The credit index includes the corporate index plus government and NGO bonds which often have lower yields
- The credit index has some advantages
  - Greater diversification
  - Slight increase in overall credit quality
  - Slightly shorter duration (more consistent with the liabilities)
  - Improved liability match

*Callan recommends that the benchmark remain focused on the corporate rather than the credit index based on the analyses of potential LDI portfolios which follows*

# LDI Managers' Suggestions for LDI Guidelines

## Should Multiple Option-Adjusted Spread (OAS) Values Be Calculated?

- OAS is the yield in excess of a baseline yield ("spread") supplied by a benchmark as compensation for additional credit risk
  - The option adjustment accounts for the possibility that the bond issuer could exercise the call option embedded in a callable bond prior to maturity
- Currently a single OAS is calculated and applied to the entire STRIPS curve
- Managers generally favored a single OAS
  - Managers did not have strong opinions
  - A single OAS is generally favored for the sake of simplicity

*Callan recommends continuing to use a single OAS*

# LDI Managers' Suggestions for LDI Guidelines

## How Much Latitude Should the Investment Policy Give Managers?

- What should the policy be for out-of-benchmark securities?
  - The out of benchmark securities currently permitted by the CIP seems adequate
  - Out of benchmark securities should be limited to 10% to 15% of the credit portfolio
  - Limits on individual securities and issuers should be tightened
- What should the policy be for deviations from the benchmark parameters?
  - Suggestions for variations from the benchmark duration varied from narrow to wide
    - *Smallest recommended range was ±0.1 years*
    - *Largest recommended range was ±10% of benchmark duration (~±0.9 years)*
- Performance measurement parameters should focus on risk

*Callan recommends tighter parameters for fixed income than currently expressed in the CIP. The CIP is being restructured to separate fixed income guidelines from equity guidelines*

# LDI Portfolio Construction

# LDI Portfolio Construction

## Methodology

- Existing bond sector components
  - 76% US Treasury STRIPS
  - 14% Bloomberg Barclays Corporate Index
  - 10% Bloomberg Barclays Fixed Rate Mortgage Index
- Create Alternative Sectors Allocations
  - Reweight existing sectors
  - Introduce new sectors
- Active LDI Managers were asked to evaluate a range of LDI portfolios
  - Standish and Neuberger Berman performed the analysis
    - *Used two different analytical systems and associated sets of assumptions*
    - *Provides two perspectives on the problem*
  - Managers performed analysis because they have the appropriate tools
- Portfolio evaluations based on relevant variables
  - Return variables (yield, option-adjusted spread)
  - Risk variables (spread duration, tracking error)
  - Risk-adjusted return variable (excess OAS per unit of excess spread duration, yield per unit of tracking error)
- Objective
  - Ideally find an LDI portfolio with higher returns for a given level of risk or lower risk for a given level of return
  - Failing the first objective, find an LDI portfolio that has a higher level of return for an acceptable level of risk

# LDI Portfolio Construction

## Alternative Sector Allocations

| Indices | Interim Target | Long-Term Target | Credit | 40% in Corporates | 40% in Corporates, STRIPS Duration = Liability Duration | 40% in Corporates, Corporate Duration = Liability Duration | Diversified Securitized | No Securitized |
|---|---|---|---|---|---|---|---|---|
| Custom STRIPS | 76.0% | 60.0% | 60.0% | 50.0% | 50.0% | 50.0% | 50.0% | 60.0% |
| Corporate | 14.0% | 30.0% | 0.0% | 40.0% | 0.0% | 0.0% | 30.0% | 40.0% |
| Corporate Intermediate | 0.0% | 0.0% | 0.0% | 0.0% | TBD | TBD | 0.0% | 0.0% |
| Corporate Long | 0.0% | 0.0% | 0.0% | 0.0% | TBD | TBD | 0.0% | 0.0% |
| Credit | 0.0% | 0.0% | 30.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| MBS | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 0.0% |
| ABS | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% | 0.0% |
| CMBS | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 5.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Total Credit | 14.0% | 30.0% | 30.0% | 40.0% | 40.0% | 40.0% | 30.0% | 40.0% |
| Total Securitized | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 20.0% | 0.0% |

- A wide range of LDI portfolios were considered
- Descriptions of the portfolios are on the following slides

# LDI Portfolio Construction

## Alternative Sector Allocation Descriptions

- Interim Target
  - Existing target portfolio
  - It reflects the progress made so far in the move from 80% custom STRIPS, 10% corporate bonds and 10% mortgage-backed securities (MBS) to the long-term target
  - The STRIPS portfolio is constructed to align the asset and liability durations given index exposures to corporates and MBS
- Long-Term Target
  - The long-term target is the target determined by the last asset/liability study
  - That study determined that 30% of the LDI portfolio could be invested in corporate bonds, 10% in MBS and remainder in the custom STRIPS index
  - This result increased yield which helped reduce contract prices
  - The STRIPS portfolio is constructed to align the assets and liabilities durations given index exposures to corporates and MBS
- Credit
  - This portfolio is the same as the long-term target but replaces the corporate index with the credit index
  - The credit index is 83% corporates plus 17% in bonds that are generally exposed to dollar-denominated securities issued by non-US entities
    - *Governments*
    - *Non-governmental organizations*
    - *Other*

# LDI Portfolio Construction

## Alternative Sector Allocation Descriptions

- 40% in Corporates
  - The allocation to corporate bonds is increased to 40% from 30% in the long-term target
  - The 10% increase in corporates is funded from a 10% decrease in the custom STRIPS index which is reduced to 50%
  - The 10% allocation to MBS is maintained
- 40% in Corporates, STRIPS Duration = Liability Duration
  - The allocation to corporate bonds is increased to 40% from 30% in the long-term target with the corporate allocation divided between intermediate and long corporates
    - *The STRIPS allocation was used to align the asset and liability durations*
    - *The allocations to intermediate and long corporate bonds were set to maintain the portfolio duration in line with the liability duration given the relatively short duration of the MBS portion of the portfolio*
  - The 10% increase in corporates is funded from a 10% decrease in the custom STRIPS index which is reduced to 50%
  - The 10% allocation to MBS is maintained
- 40% in Corporates, Corporate Duration = Liability Duration
  - The allocation to corporate bonds is increased to 40% from 30% in the long-term target with the corporate allocation divided between intermediate and long corporates
    - *The allocations to intermediate and long corporate bonds were used to align the asset and liability durations*
    - *The STRIPS allocation was set to maintain the portfolio duration in line with the liability duration given the relatively short duration of the MBS portion of the portfolio*
    - *The 10% increase in corporates is funded from a 10% decrease in the custom STRIPS index which is reduced to 50%*
  - The 10% allocation to MBS is maintained

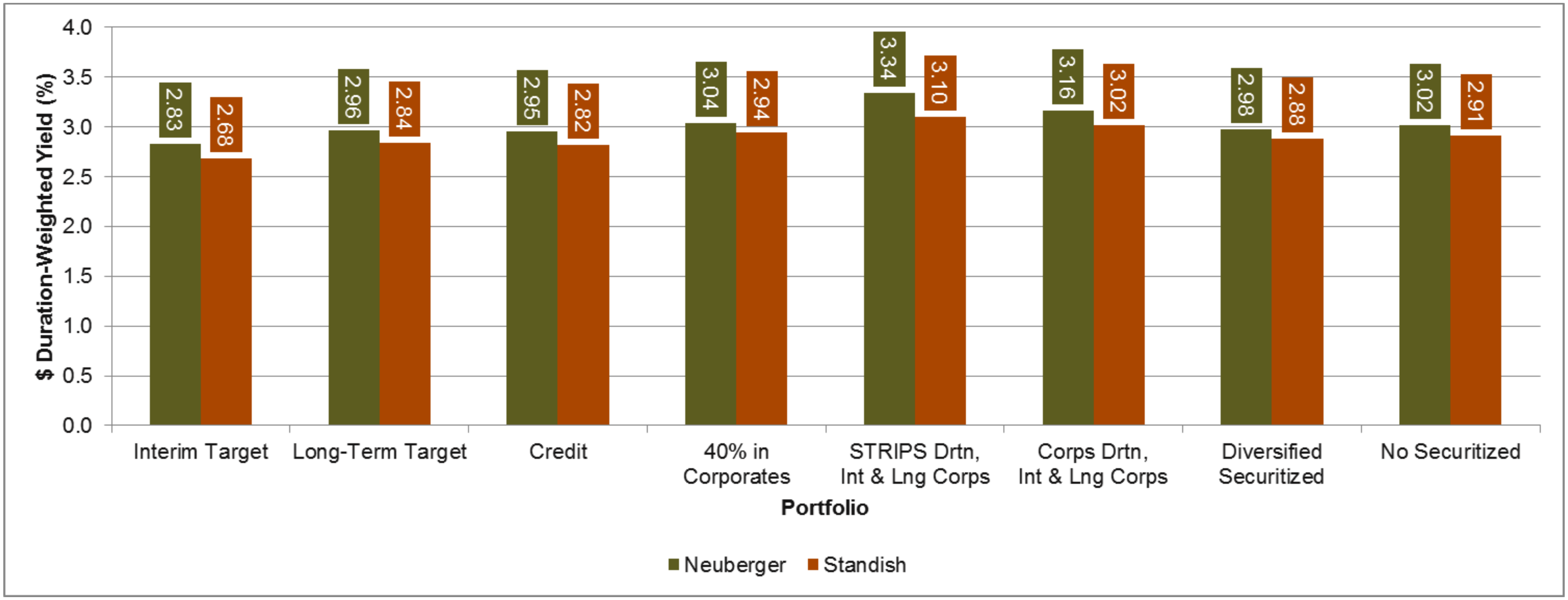
# LDI Portfolio Construction

## Alternative Sector Allocation Descriptions

- Diversified Securitized
  - The STRIPS portfolio is reduced to 50% from 60% in the long-term target
  - The corporate index weight is 30% which is the same as the long-term target
  - The 10% reduction in the STRIPS portfolio is used to fund a 5% allocation to asset-backed securities (ABS) and a 5% allocation to commercial mortgage-backed securities (CMBS)
  - The 10% allocation to MBS is maintained
  - The STRIPS portfolio is constructed to align the assets and liabilities durations given index exposures to corporates, MBS, ABS and CMBS
- No Securitized
  - The custom STRIPS portfolio is maintained at the same 60% allocation as the long-term target
  - The 10% allocation to MBS is eliminated and used to increase the corporate bond allocation to 40%
  - The STRIPS portfolio is constructed to align the asset and liabilities durations given the exposure to the overall corporate index

# LDI Portfolio Construction

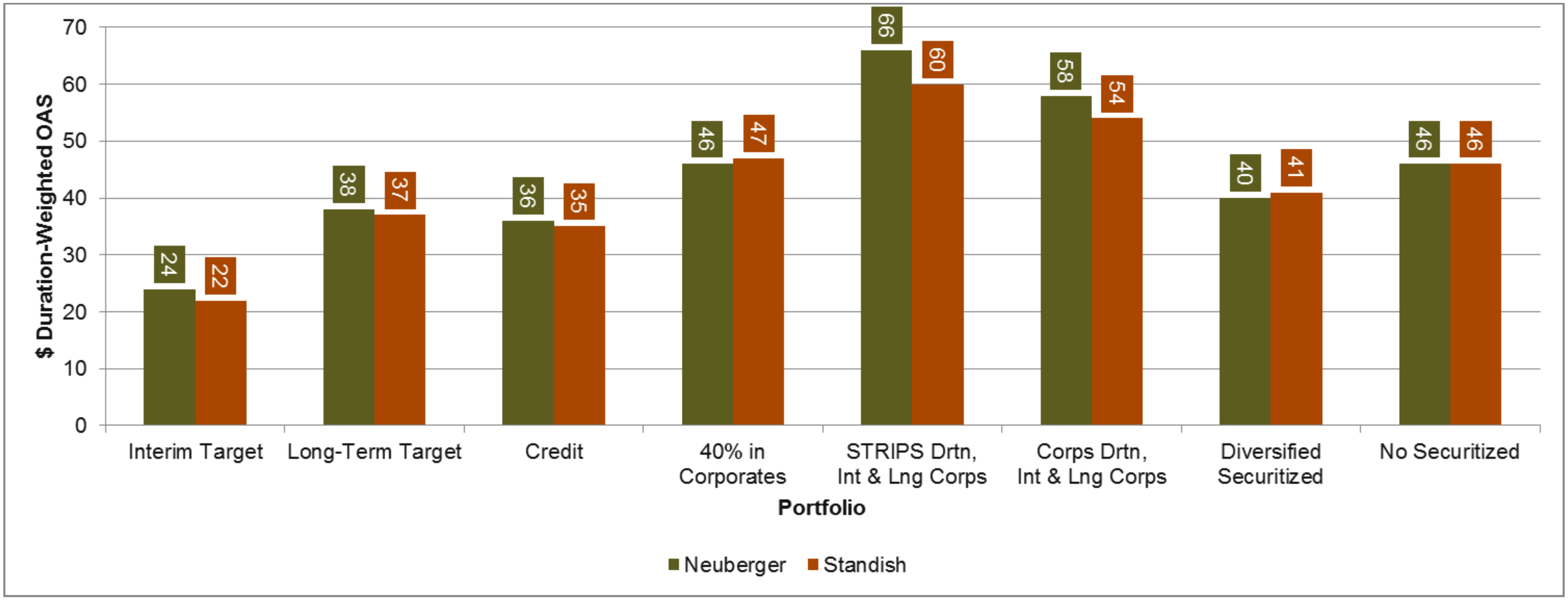
## Yield (Return)




- Higher yields help reduce Plan prices
- Portfolios with intermediate and long duration segments corporates have the highest yields
  - Dividing up the overall corporate index increases yield relative to using portfolios containing the overall corporate index regardless of whether the STRIPS or the intermediate and long corporate indices are used as the primary determinant of duration
- The interim target has the lowest yield followed by the credit index and the long-term target

# LDI Portfolio Construction

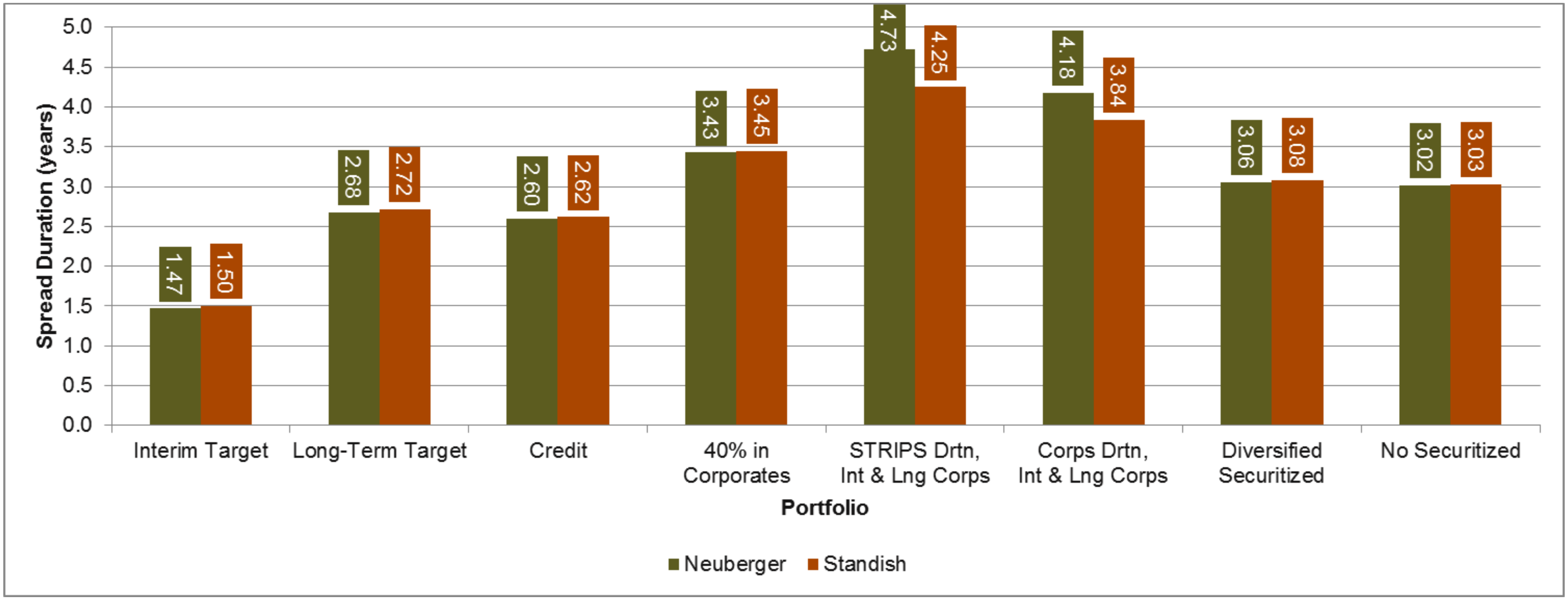
## Option-Adjusted Spread (Return)




- Higher option-adjusted spreads (OAS) result in lower Plan prices
- Portfolios with intermediate and long duration segments have highest OAS
  - Dividing up the overall corporate index increases OAS relative to containing the overall corporate index regardless of whether the STRIPS or the intermediate and long corporate indices are used as the primary determinant of duration
- The interim target has the lowest OAS followed by the credit index and the long-term target

# LDI Portfolio Construction

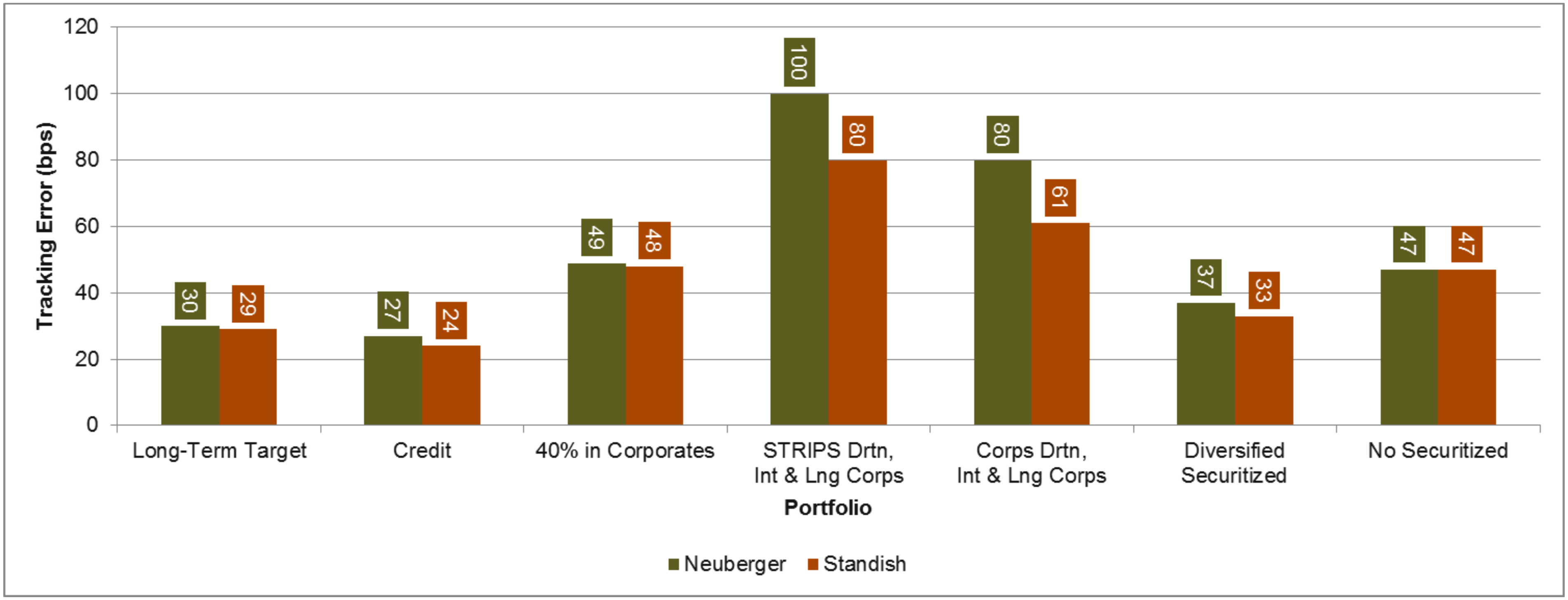
## Spread Duration (Risk)




- Spread duration is the interest rate sensitivity of the yield earned in excess of the Treasury yield
- Lower spread durations (less interest rate sensitivity) is preferred
- Portfolios with intermediate and long duration segments have the highest spread durations
  - Using STRIPS to set the portfolio duration increases spread duration by 0.41 (Standish) and 0.55 (Neuberger) relative to using the intermediate and long corporate indices
- The interim target has the lowest spread duration followed by credit index and the long-term target

# LDI Portfolio Construction

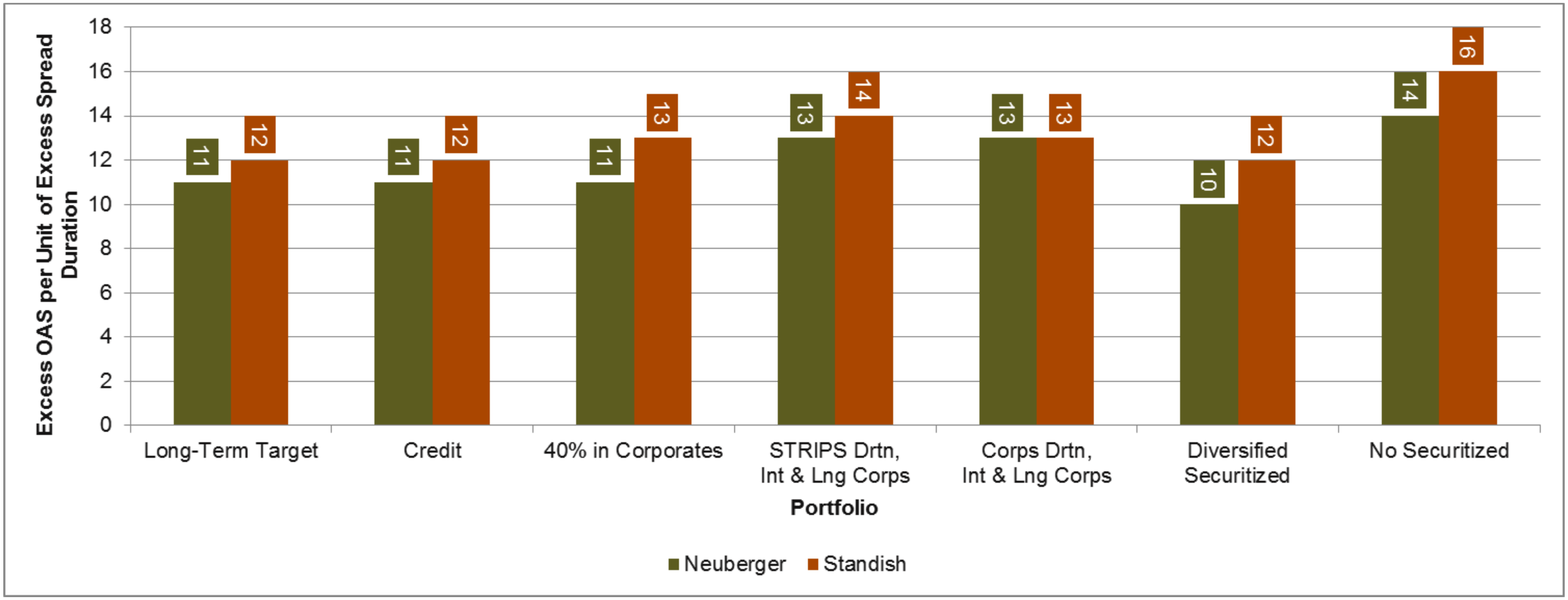
## Tracking Error Relative to the Interim Target (Risk)




- Tracking error represents the risk of deviating from the LDI benchmark so lower is better
- The credit index and the long-term target have the lowest tracking errors
- Portfolios with corporates broken up into intermediate and long duration segments have the highest tracking errors
  - Aligning the corporate duration with the liabilities more than doubles the tracking error
  - Aligning the STRIPS duration with the liabilities more or less triples the tracking error

# LDI Portfolio Construction

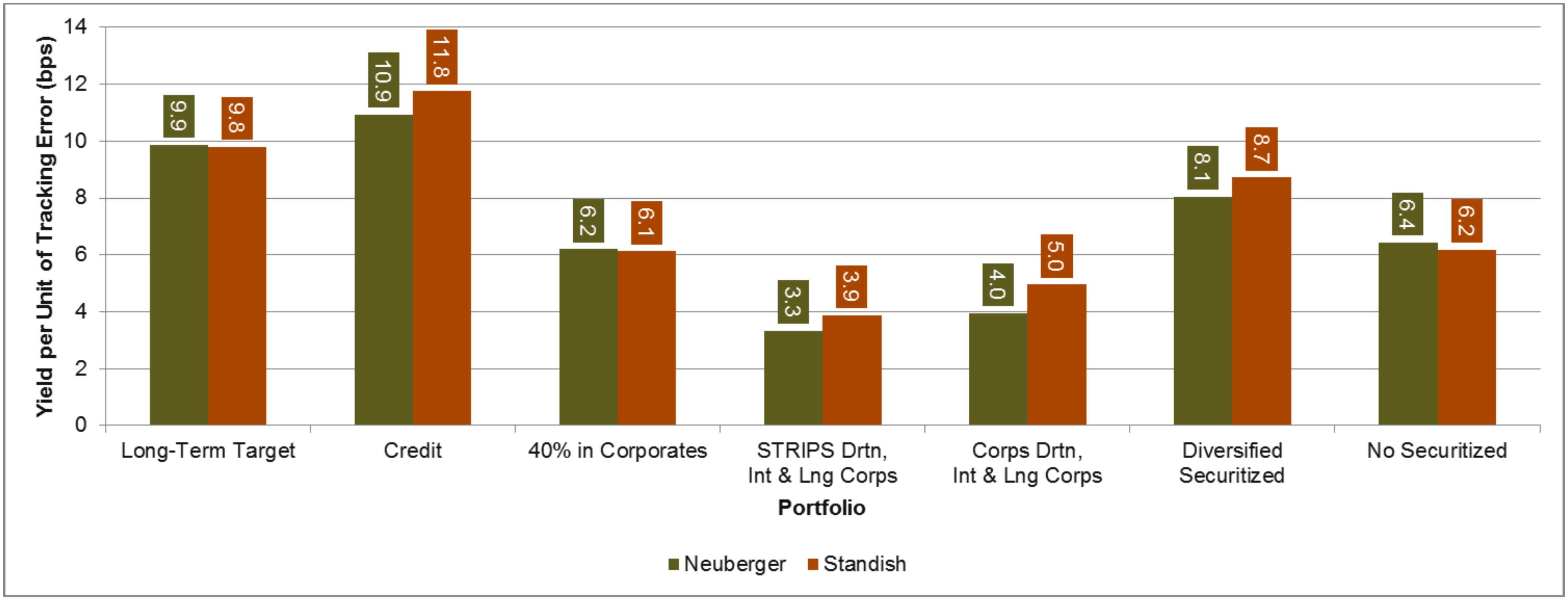
## Excess OAS per Unit of Excess Spread Duration Relative to the Interim Target




- Excess OAS per unit of excess spread duration represents the extra yield earned per unit risk taken to earn the yield (risk-adjusted return) so higher is better
- Eliminating MBS and not adding ABS or CMBS results in the highest risk-adjusted return
- Portfolios with intermediate and long duration segments have next highest risk-adjusted returns
- The diversified securitized portfolio (includes MBS, ABS and CMBS), long-term target and credit portfolios have the lowest risk-adjusted returns

# LDI Portfolio Construction

## Yield per Unit of Tracking Error Relative to the Interim Target (Risk-Adjusted Return)




- Yield per unit of tracking error is the extra yield earned per unit risk so higher is better
- Credit has low yields on a relative basis but even lower relative tracking errors resulting in a high yield per unit of tracking error
- The Long-Term Target performs nearly as well as Credit
- Other strategies take disproportionately more risk to earn their higher yields

# LDI Portfolio Construction

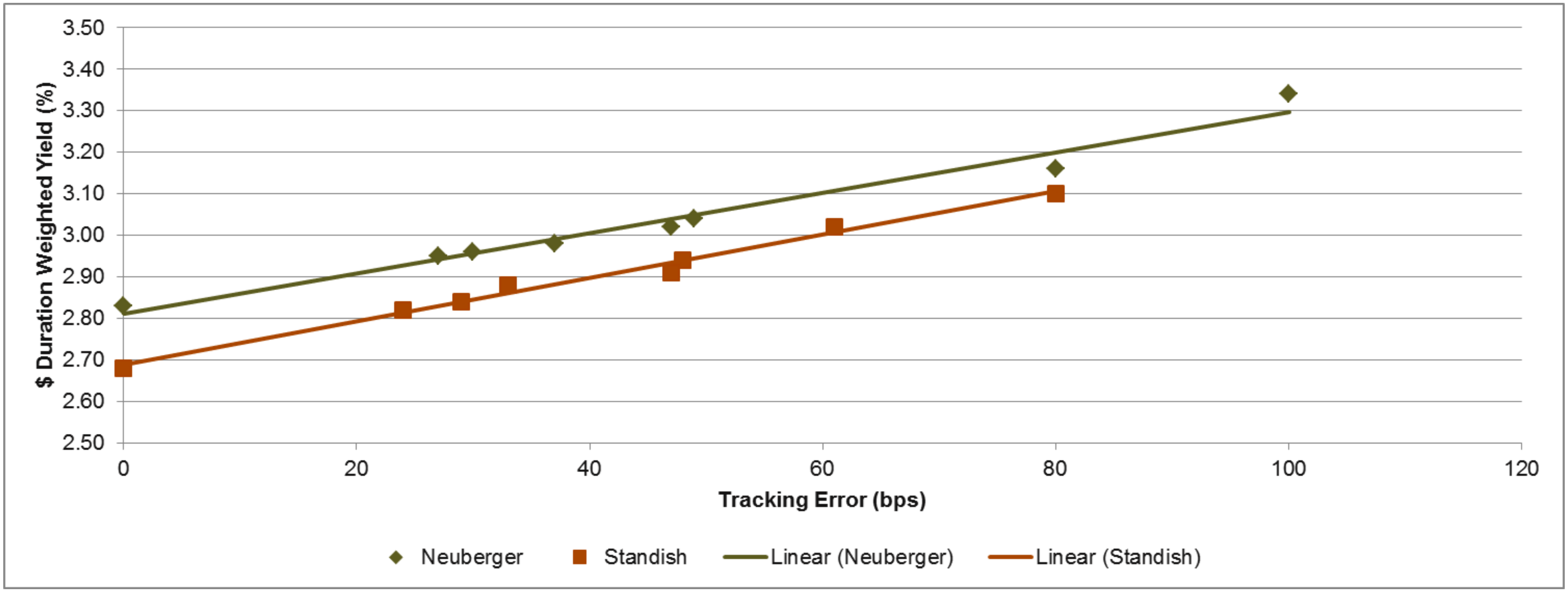
## Return, Risk and Risk-Adjusted Return Rankings

| Statistic | | | | | | |
|---|---|---|---|---|---|---|
| $ Duration-Weighted Yield (%) | $ Duration-Weighted OAS (bps) | Spread Duration (years) | Tracking Error (bps) | Excess OAS per Unit of Excess Spread Duration | | Yield per Unit of Tracking Error |
| Manager Rankings | Manager Rankings | Manager Rankings | Manager Rankings | NB | Standish | Manager Rankings |
| STRIPS Drtn, Int & Lng Corps | STRIPS Drtn, Int & Lng Corps | Interim Target | N/A for Interim Target | No Securitized | No Securitized | Credit |
| Corps Drtn, Int & Lng Corps | Corps Drtn, Int & Lng Corps | Credit | Credit | STRIPS Drtn, Int & Lng Corps | STRIPS Drtn, Int & Lng Corps | Long-Term Target |
| 40% in Corporates | 40% in Corporates | Long-Term Target | Long-Term Target | Corps Drtn, Int & Lng Corps | 40% in Corporates | Diversified Securitized |
| No Securitized | No Securitized | No Securitized | Diversified Securitized | Long-Term Target | Corps Drtn, Int & Lng Corps | No Securitized |
| Diversified Securitized | Diversified Securitized | Diversified Securitized | No Securitized | Credit | Long-Term Target | 40% in Corporates |
| Long-Term Target | Long-Term Target | 40% in Corporates | 40% in Corporates | 40% in Corporates | Credit | Corps Drtn, Int & Lng Corps |
| Credit | Credit | Corps Drtn, Int & Lng Corps | Corps Drtn, Int & Lng Corps | Diversified Securitized | Diversified Securitized | STRIPS Drtn, Int & Lng Corps |
| Interim Target | Interim Target | STRIPS Drtn, Int & Lng Corps | STRIPS Drtn, Int & Lng Corps | Interim Target | Interim Target | N/A for Interim Target |

- The table above ranks the strategies based on the values provided for metrics, most desirable characteristics are on top, least desirable characteristics on bottom
- There are no portfolios that have higher returns and lower risks than the existing targets
- Strategies which use intermediate and long corporates have the highest yields and tracking errors
- Long-Term Target and Credit have the lowest yields but also the lowest tracking errors so rank higher in yield per unit of tracking error than strategies with intermediate and long corporates

# LDI Portfolio Construction

## Yield vs. Tracking Error




- The analyses performed by both managers show there is no LDI portfolio with higher returns for a given level of risk or lower risk for a given level of return
  - There is an upward sloping essentially a linear relationship between levels of tracking error and yields
  - Higher returns can only be earned by taking more risk
- The Board's tolerance for tracking error determines the available yield

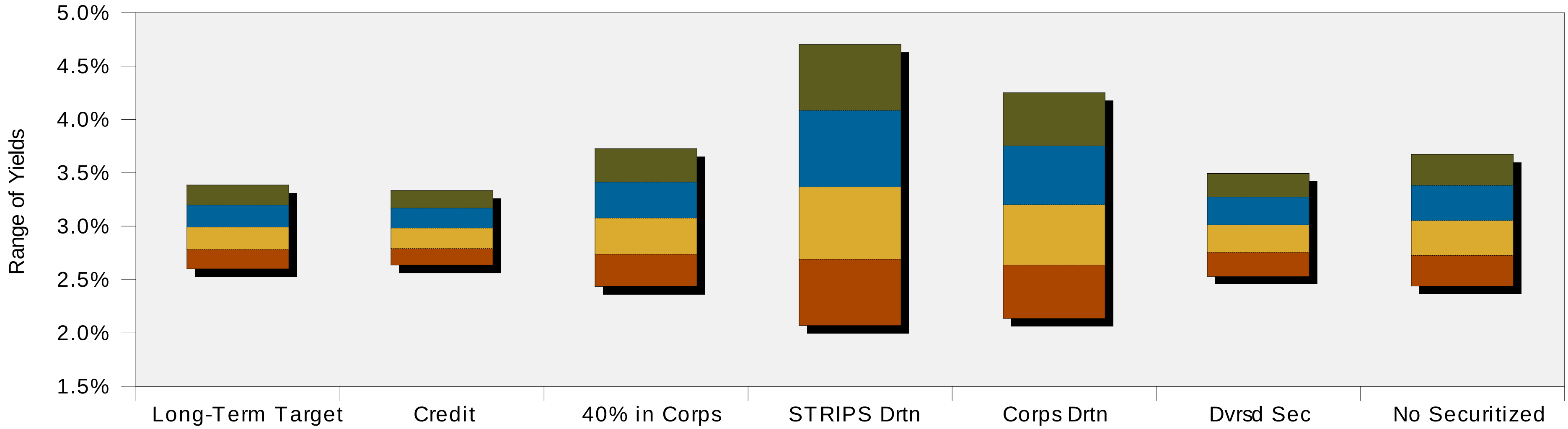
# LDI Portfolio Construction

## Simulated Dollar Impacts of LDI Portfolios on Plan Prices and Liabilities

- Given that higher returns can't be earned without taking more risk the Board needs to determine their "risk tolerance" or maximum amount of risk they feel comfortable taking
- It is challenging to specify risk tolerance in terms of statistical return and risk measures
  - Spread duration and tracking error are especially unintuitive measures of risk
- Risk tolerance is easier to identify in terms of dollar values
  - Expected yields calculated by managers can be translated into dollar benefits
  - Tracking errors calculated by managers can be translated into dollar risks
- Plan impact assumptions provided by Staff
  - 10 bps change in yield results in a $100 million change in actuarial liabilities
  - 10 bps change in yield results in a 2% change in Plan prices
- Made the additional assumption that the plan price for the Long-Term Target is $30,000
- Created 2,000 yield simulations for each managers estimates of yield and tracking error
- Applied assumptions above to create simulated range of actuarial liabilities and Plan prices to provide a basis for the Board to specify a risk tolerance

# LDI Portfolio Construction

## Range of Yields, Neuberger Berman

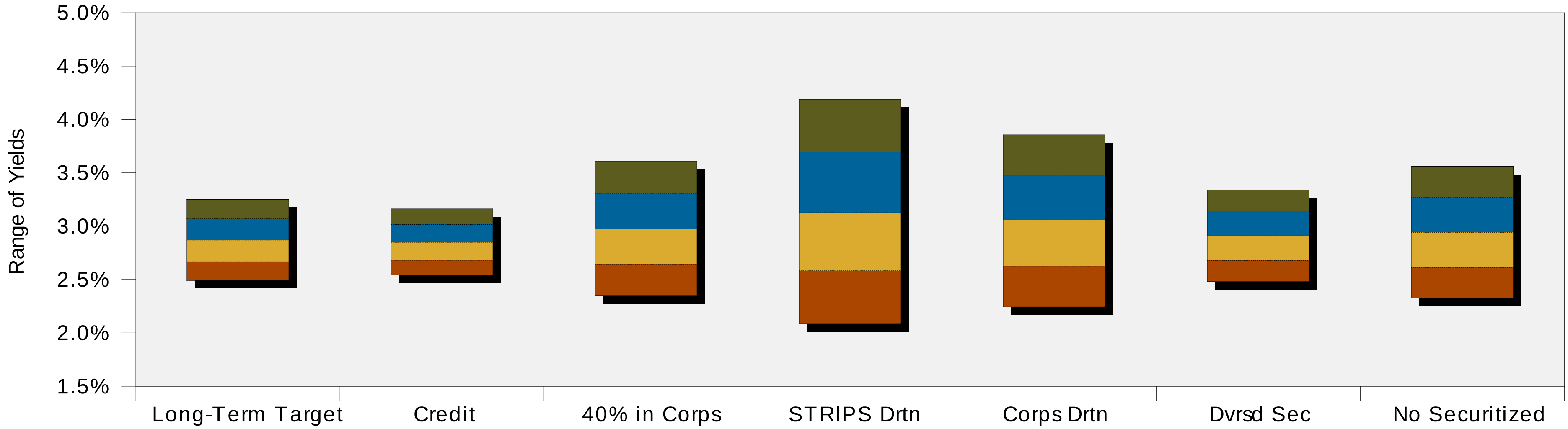



| | Long-Term Target | Credit | 40% in Corps | STRIPS Drtn | Corps Drtn | Dvrsd Sec | No Securitized |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 3.4% | 3.3% | 3.7% | 4.7% | 4.3% | 3.5% | 3.7% |
| 25th Percentile | 3.2% | 3.2% | 3.4% | 4.1% | 3.8% | 3.3% | 3.4% |
| Median | 3.0% | 3.0% | 3.1% | 3.4% | 3.2% | 3.0% | 3.1% |
| 75th Percentile | 2.8% | 2.8% | 2.7% | 2.7% | 2.6% | 2.8% | 2.7% |
| 90th Percentile | 2.6% | 2.6% | 2.4% | 2.1% | 2.1% | 2.5% | 2.4% |

- The range of yields above represents 2,000 simulations based on Neuberger Berman’s estimates of yield and tracking error
- The Long-Term Target and Credit have narrower ranges of yield than other portfolios
- Associated changes in adequacy liabilities and Plan pricing are shown on subsequent slides

# LDI Portfolio Construction

## Range of Yields, Standish

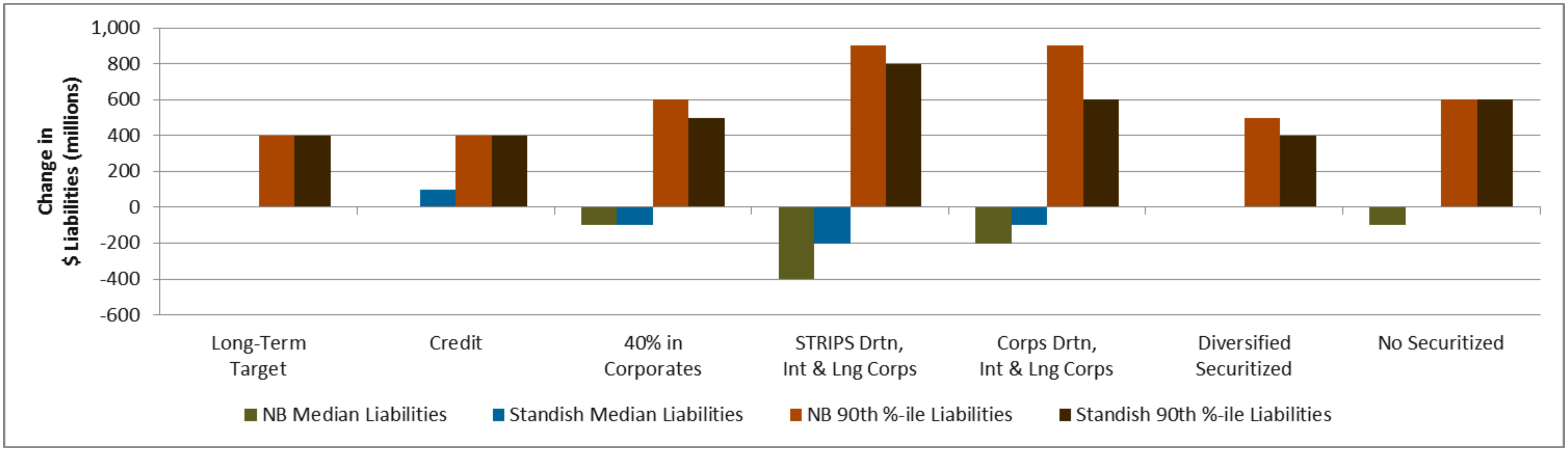



| | Long-Term Target | Credit | 40% in Corps | STRIPS Drtn | Corps Drtn | Dvrsd Sec | No Securitized |
|---|---|---|---|---|---|---|---|
| 10th Percentile | 3.3% | 3.2% | 3.6% | 4.2% | 3.9% | 3.3% | 3.6% |
| 25th Percentile | 3.1% | 3.0% | 3.3% | 3.7% | 3.5% | 3.1% | 3.3% |
| Median | 2.9% | 2.8% | 3.0% | 3.1% | 3.1% | 2.9% | 2.9% |
| 75th Percentile | 2.7% | 2.7% | 2.6% | 2.6% | 2.6% | 2.7% | 2.6% |
| 90th Percentile | 2.5% | 2.5% | 2.3% | 2.1% | 2.2% | 2.5% | 2.3% |

- The range of yields above represents 2,000 simulations based on Standish's estimates of yield and tracking error
- The Long-Term Target and Credit have narrower ranges of yield than other portfolios
- Associated changes in adequacy liabilities and Plan pricing are shown on subsequent slides

# LDI Portfolio Construction

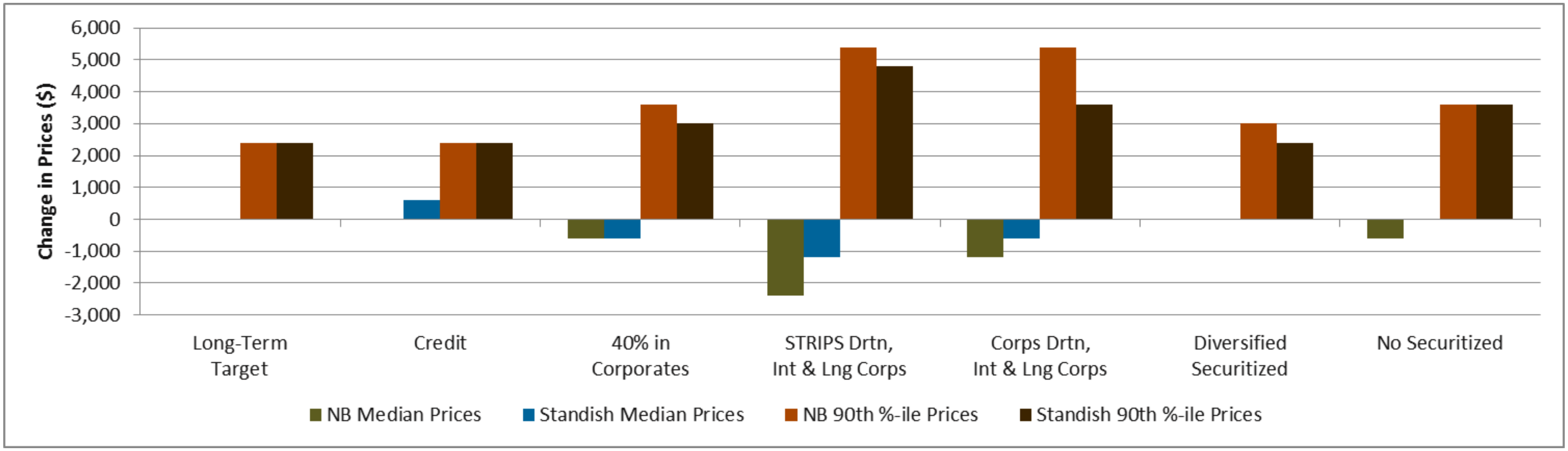
## Median and 90th Percentile Liabilities




- STRIPS Drtn (-$200 mm to -$400 mm) and Corp Drtn (-$100 mm to -$200 mm) both have the potential to reduce the liabilities in the median outcomes because they have higher median yields
- STRIPS Drtn (+$800 to +$900 mm) and Corp Drtn (+$600 to +$900 mm) both increase the liabilities substantially in the 90th percentile outcomes since they have the highest tracking errors
- 40% in Corporates is expected to lower liabilities by -$100 mm in the median case and raise them $500 mm to $600 mm in the 90th percentile
- Long-Term Target keeps the liabilities approximately the same as the Interim Target in the median outcomes but increase them about $400 mm in the 90th percentile
  - All performance is measured relative to the Intermediate Target because it is not possible to measure it relative to the pricing benchmark

# LDI Portfolio Construction

## Range of Prices



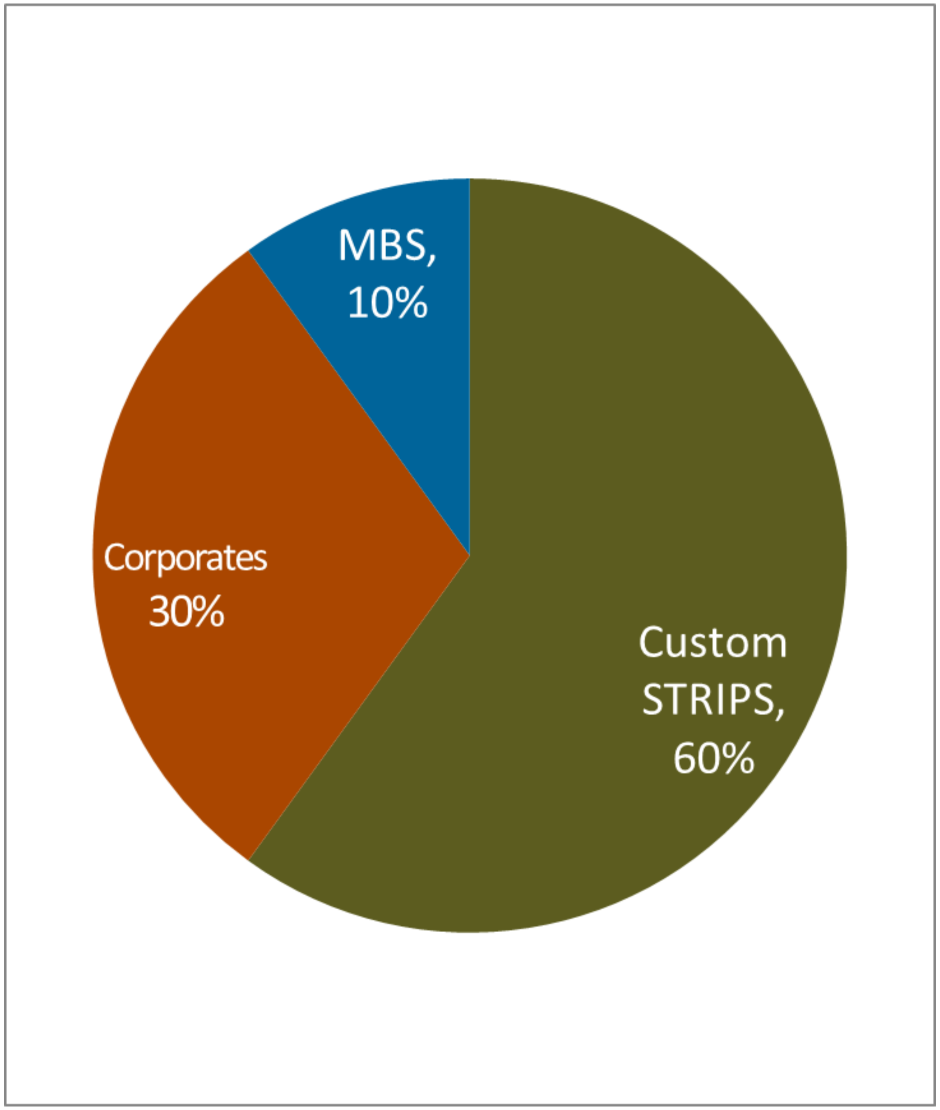

- STRIPS Drtn (-$1,200 to -$2,400) and Corp Drtn (-$600 to -$1,200) both have the potential reduce the Plan prices in the median outcomes because they have higher median yields
- STRIPS Drtn (+$4,800 to +$5,400) and Corp Drtn (+$3,600 to +$5,400) both increase Plan prices substantially in the $90^{th}$ percentile outcomes since they have the highest tracking errors
- 40% in Corporates is expected to lower Plan prices by -$600 in the median case and raise them $3,000 to $3,600 in the $90^{th}$ percentile
- Long-Term Target keeps Plan prices approximately the same as the Interim Target in the median outcomes but increase them about $2,400 in the $90^{th}$ percentile
  - All performance is measured relative to the Intermediate Target because it is not possible to measure it relative to the pricing benchmark

# LDI Portfolio Construction

## Recommendation

*Callan recommends maintaining the existing Long-Term Target*

- Moving away from the existing Long-Term Target generally involves increasing risk
- Alternative potential targets do not appear to add sufficient yield to reduce prices and liabilities in the median simulated outcomes enough to compensate for the additional tracking error which increases prices and liabilities in poor markets
- The corporate index should be divided into its intermediate and long duration components so that these components can be used to create benchmarks
  - Liability matching should be implemented with both STRIPS and corporates to improve the liability match
  - Neither the STRIPS not the corporates should be individually aligned with the liabilities



# Actuarial Reserve Asset Allocation

# Actuarial Reserve Asset Allocation

## Actuarial Reserve Study Methodology

- Identify potential new asset classes for the actuarial reserve
  - Broad market US fixed income
  - Emerging markets equity
  - Private real estate
- Forecasts asset class performance parameters
  - Returns
  - Risks
  - Correlations
- Construct alternative asset allocations
  - Used new and existing asset classes
  - Asset allocations covered a wide range of returns and risks
- Forecast range of returns
  - Range of returns generated using Monte Carlo simulation analysis
  - Ranges evaluated over 1 and 10 years on an annualized and cumulative basis

# Actuarial Reserve Asset Allocation

## Methodology

- Review impact on dollar value of the actuarial reserve forecast under different cash flow scenarios
  - Range of dollar values forecast using Monte Carlo simulation analysis
- Different liability scenarios studied
  - Adequacy study assumptions realized
  - Tuition and Fees Grow at Statutory Maximum (“APA”)
- Different asset transfer from actuarial reserve to LDI Portfolio scenarios studied
  - No asset transfers
  - Periodic transfers
  - Immediate transfers
- Simulation analysis was performed
  - 5,000 simulated returns were calculated for each asset mix for each year
  - Returns and cash flows applied to forecast assets in actuarial reserve to get range of reserve asset values in each year
  - Results tabulated for a range of outcomes
    - *Focus on the median (best estimate) and 95$^{th}$ percentile (poor investment outcome) as well as the probability of having sufficient assets in the reserve to fund any shortfalls in the LDI portfolio*

# Actuarial Reserve Asset Allocation

## Capital Market Projections, 2018-2027

- Asset class projections are for a ten-year time horizon
- Projected returns and risks represent broad market passive implementation net of fees
  - No assumption for active management value added
  - Fees assumed to be for passive implementation
- Projected returns are measurably below historical averages
- Projected risks are above recent history
- Domestic fixed income provides the lowest return but also the lowest risk and highest diversification

| | | RETURN | | | RISK |
|---|---|---|---|---|---|
| **Asset Class** | **Index** | **1-Year Arithmetic** | **10-Year Geometric*** | **Real** | **Standard Deviation** |
| Large Cap | S&P 500 | 8.05% | 6.75% | 4.50% | 17.40% |
| Small/Mid Cap | Russell 2500 | 9.30% | 7.00% | 4.75% | 22.60% |
| International Equity | MSCI World ex USA | 8.45% | 6.75% | 4.50% | 19.70% |
| Emerging Markets Equity | MSCI Emerging Markets | 10.50% | 7.00% | 4.75% | 27.45% |
| Domestic Fixed | BB Aggregate | 3.05% | 3.00% | 0.75% | 3.75% |
| Real Estate | Callan RE Database | 6.90% | 5.75% | 3.50% | 16.35% |
| **Inflation** | CPI-U | | 2.25% | | 1.50% |

** Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).*

| | Large Cap | Small/Mid Cap | International Equity | Emerging Markets | Domestic Fixed | Real Estate | Inflation |
|---|---|---|---|---|---|---|---|
| Large Cap | 1.000 | | | | | | |
| Small/Mid Cap | 0.940 | 1.000 | | | | | |
| International Equity | 0.840 | 0.800 | 1.000 | | | | |
| Emerging Markets Equity | 0.860 | 0.845 | 0.865 | 1.000 | | | |
| Domestic Fixed | -0.100 | -0.135 | -0.110 | -0.160 | 1.000 | | |
| Real Estate | 0.730 | 0.705 | 0.660 | 0.650 | -0.030 | 1.000 | |
| Inflation | -0.020 | 0.020 | 0.000 | 0.030 | -0.280 | 0.100 | 1.000 |

# Actuarial Reserve Asset Allocation

## Asset Allocations to be Evaluated in the Context of Projected Plan Cash Flows

| Name | Increase Fixed Income | Increase International Equity | Current Policy | Add Emerging Markets Equity | Add Real Estate | Diversify Across All Classes | Decrease Fixed Income | No Fixed Income |
|---|---|---|---|---|---|---|---|---|
| Abbreviation | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EME | Add RE | All Clss | Decr Fix | No Fix |
| Large Cap | 36% | 37% | 42% | 37% | 42% | 37% | 48% | 60% |
| Small Cap | 6% | 6% | 7% | 6% | 7% | 6% | 8% | 10% |
| Mid Cap | 6% | 6% | 7% | 6% | 7% | 6% | 8% | 10% |
| International Equity | 12% | 21% | 14% | 16% | 14% | 16% | 16% | 20% |
| Emerging Markets Equity | 0% | 0% | 0% | 5% | 0% | 5% | 0% | 0% |
| Domestic Fixed | 40% | 30% | 30% | 30% | 20% | 20% | 20% | 0% |
| Real Estate | 0% | 0% | 0% | 0% | 10% | 10% | 0% | 0% |
| Totals | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| | | | | | | | | |
| Projected Arithmetic Return | 6.25 | 6.78 | 6.78 | 6.89 | 7.17 | 7.27 | 7.31 | 8.38 |
| 10 Yr. Geometric Mean Return | 5.80 | 6.15 | 6.15 | 6.22 | 6.38 | 6.45 | 6.45 | 6.96 |
| Projected Standard Deviation | 10.85 | 12.63 | 12.66 | 12.96 | 13.93 | 14.22 | 14.49 | 18.20 |

- The test allocations run across a spectrum of returns and risks
  - Returns and risks are calculated using the asset class returns and risks
  - Compound returns run from 5.8% to almost 7%
  - Risks (standard deviations) run from under 11% to over 18%
- New as well as existing asset classes are evaluated
- The test allocations are described on the following slides

# Actuarial Reserve Asset Allocation

## Asset Allocation Descriptions

- Increase Fixed Income (Incr Fix)
  - Domestic fixed income is increased by 10% over the existing application of the current policy
  - Domestic fixed income is modeled as core fixed income
    - *Diversified across major sectors*
    - *Market interest rate sensitivity (duration)*
  - The additional fixed income allocation is funded by reducing equity by 10% overall
  - Components of the equity allocation are reduced proportionately
- Increase International Equity (Incr Intl Eq)
  - International equity is increased by 7% over the current policy
  - Total equity and total fixed income remain at the same levels as the current policy
  - The international equity exposure is only in developed markets consistent with the current policy
  - International equity is funded proportionately from US large, mid and small cap equity
- Current Policy (Crnt Plcy)
  - The existing application of the current policy results in 70% equity and 30% fixed income
  - Historically the actuarial reserve has been invested 100% in equity
    - *Since the reserve has grown to more than 15% of total assets and the CIP limits equity to 15% of total assets, the reserve in excess of 15% is invested in fixed income*
  - The fixed income is currently invested in the LDI portfolio but was modeled as core fixed income

# Actuarial Reserve Asset Allocation

## Asset Allocation Descriptions

- Add Emerging Markets Equity (Add EME)
  - Add EME is based on Increase International Equity
    - *Need enough overall international equity to make the emerging markets allocation meaningful*
  - The EME allocation is funded from the developed markets equity allocation
    - *EME has a 5% allocation*
    - *Developed markets equity is reduced from 21% to 16%*
  - The overall non-US equity allocation is divided 75% developed markets, 25% emerging markets
    - *This split is roughly in line with current market capitalizations*
- Add Real Estate (Add RE)
  - This allocation includes 10% real estate
    - *The 10% allocation contributes enough to return to justify the implementation and monitoring requirements*
  - Real estate is modeled as core, open-end, commingled funds
    - *Fully invested*
    - *Diversified*
    - *Low debt, high occupancy, fully developed*
  - The allocation is funded from fixed income
    - *Both fixed income and real estate serve to diversify the equity allocation*
    - *Funding from fixed income increases the return*
- Diversify Across All Asset Classes (All Clss)
  - Combination of Add Emerging Markets Equity and Add Real Estate

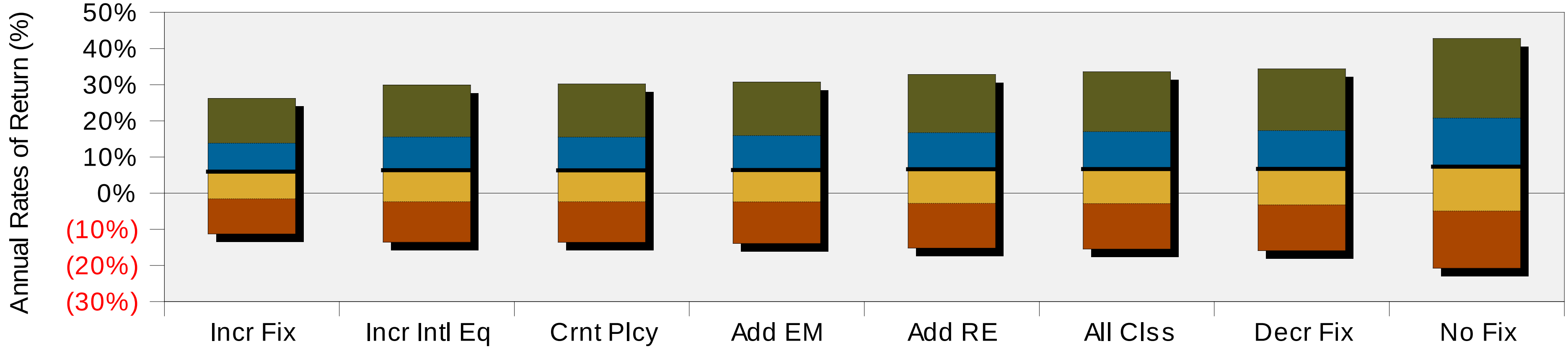
# Actuarial Reserve Asset Allocation

## Asset Allocation Descriptions

- Decrease Fixed Income (Decr Fix)
  - Equity is increased by 10% relative to the existing application of the current policy
    - *Components of equity are increased proportionately*
  - The increase in equity if funded from fixed income which is reduced from 30% to 20%
  - There are no allocations to either emerging markets equity or core real estate
- No Fixed Income (No Fix)
  - The reserve is invested 100% in equity
  - This was the reserve asset allocation before the reserve grew to more than 15% of total assets
  - The allocation is 80% US equity invested across capitalization and 20% developed markets non-US equity

# Capital Market Projections

## Range of Projected Returns, 1 Year

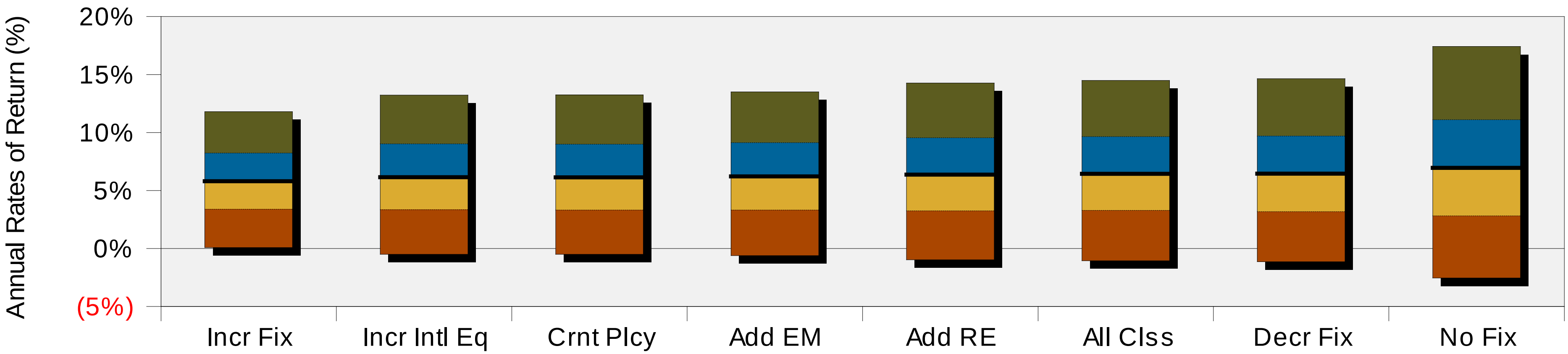



| | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EM | Add RE | All Clss | Decr Fix | No Fix |
|---|---|---|---|---|---|---|---|---|
| Average | 5.9% | 6.3% | 6.3% | 6.4% | 6.6% | 6.7% | 6.7% | 7.3% |
| 5th Percentile | 26.2% | 29.9% | 30.2% | 30.7% | 32.8% | 33.6% | 34.4% | 42.8% |
| 25th Percentile | 13.8% | 15.5% | 15.5% | 15.9% | 16.7% | 17.0% | 17.3% | 20.7% |
| Median | 5.8% | 6.2% | 6.2% | 6.3% | 6.5% | 6.6% | 6.5% | 7.3% |
| 75th Percentile | (1.5%) | (2.4%) | (2.3%) | (2.4%) | (2.8%) | (2.9%) | (3.2%) | (4.9%) |
| 95th Percentile | (11.3%) | (13.6%) | (13.6%) | (13.9%) | (15.2%) | (15.5%) | (15.9%) | (20.7%) |

- The range of returns shown above is based on 5,000 simulations using the capital market projections and the asset allocations described earlier
- The exhibit shows that return is proportional to risk
  - Incr Fix has the lowest return and risk while No Fix has the highest return and risk
- The 95th percentile represents the best return of the bottom 5% of the simulations
  - There is a 5% probability that returns could be as bad or worse than the 95th percentile
  - All of the mixes examined have a least a 5% probability of a double digit loss in any one year

# Capital Market Projections

## Range of Projected Returns, 10 Years Annualized

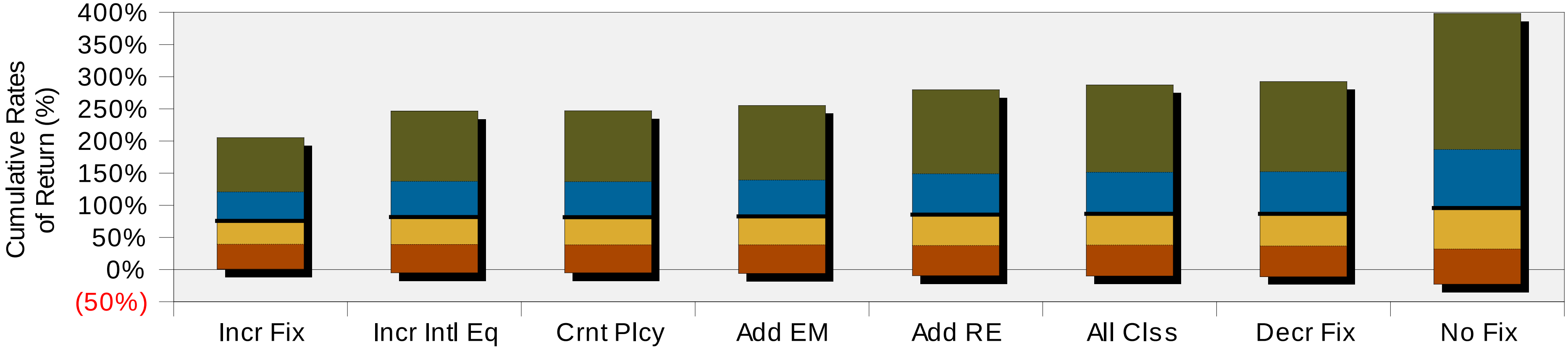



| | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EM | Add RE | All Clss | Decr Fix | No Fix |
|---|---|---|---|---|---|---|---|---|
| Average | 5.8% | 6.2% | 6.1% | 6.2% | 6.4% | 6.4% | 6.5% | 7.0% |
| 5th Percentile | 11.8% | 13.2% | 13.3% | 13.5% | 14.3% | 14.5% | 14.7% | 17.4% |
| 25th Percentile | 8.2% | 9.0% | 9.0% | 9.1% | 9.6% | 9.7% | 9.7% | 11.1% |
| Median | 5.8% | 6.1% | 6.2% | 6.2% | 6.4% | 6.4% | 6.5% | 6.9% |
| 75th Percentile | 3.4% | 3.4% | 3.3% | 3.3% | 3.2% | 3.3% | 3.2% | 2.8% |
| 95th Percentile | 0.1% | (0.5%) | (0.5%) | (0.6%) | (1.0%) | (1.0%) | (1.1%) | (2.5%) |

- The range of annualized returns is more compressed over 10 years than 1 year
  - Annualization averages returns
- Losses generally fall into the single digits in the 95th percentile
  - Incr Fix has a 0.1% gain
  - There is a very low probability that the worst outcome in any one year would be repeated over 10 years
  - The returns are annualized

# Capital Market Projections

## Range of Projected Returns, 10 Years Cumulative




| | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EM | Add RE | All Clss | Decr Fix | No Fix |
|---|---|---|---|---|---|---|---|---|
| Average | 75.8% | 81.7% | 81.6% | 82.8% | 85.6% | 86.8% | 86.9% | 95.9% |
| 5th Percentile | 205.3% | 246.5% | 247.1% | 255.2% | 279.7% | 287.1% | 292.5% | 398.3% |
| 25th Percentile | 120.7% | 137.3% | 136.8% | 139.3% | 149.0% | 151.3% | 152.3% | 186.6% |
| Median | 76.0% | 81.6% | 81.7% | 82.9% | 85.6% | 86.6% | 87.1% | 95.3% |
| 75th Percentile | 39.7% | 39.1% | 38.6% | 38.7% | 37.6% | 38.2% | 36.8% | 32.1% |
| 95th Percentile | 0.9% | (4.8%) | (4.9%) | (5.9%) | (9.3%) | (10.0%) | (10.8%) | (22.7%) |

- The range of cumulative returns is broader over 10 years than 1 year
  – The returns are not annualized
  – Returns are additive
- Broad range of results in the 95th percentile
  – Incr Fix has a 0.9% gain
  – No Fix has a loss of -22.7%
    – *In the absence of cash flows assets would be only ¾ their current value in this scenario*

# Actuarial Reserve Analysis

## Cash Flow Assumptions

- Cash flow assumptions allow the ranges of returns shown in the prior slides to be translated into ranges of dollar values
- Ranges of dollar values are more intuitive than ranges of returns
- Using dollar values allows cash flows to be introduced
- Results are shown in terms of the range of assets in the actuarial reserve
- Exhibits reflect two sets of assumptions
  - No cash flows
  - Tuition and Fees Grow at Statutory Maximum (“APA”)

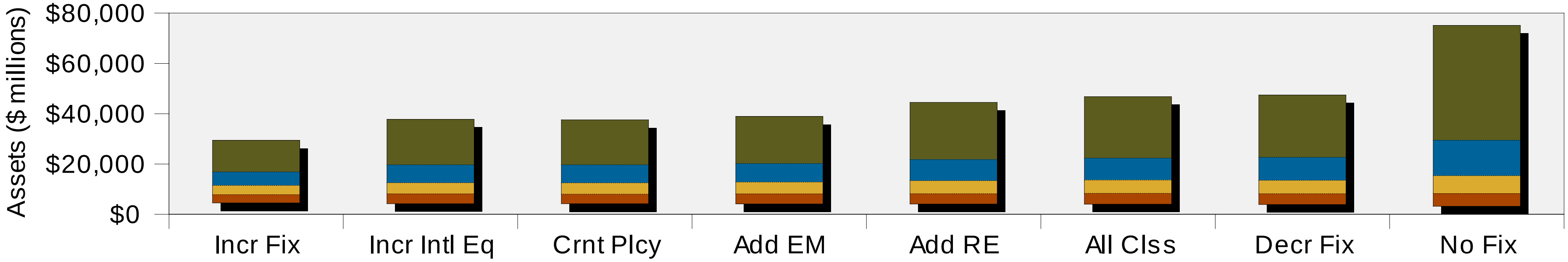
# Actuarial Reserve Analysis

## No Cash Flows

- If the assumption used in the 2017 Actuarial Adequacy Study are experienced then there will be no need to transfer assets out of the actuarial reserve into the LDI portfolio
  - The LDI portfolio would have sufficient assets to cover all of the liabilities
- The current assets are assumed to grow with the returns forecast for the alternative asset allocations
- Investment risk is represented by the potential to have a smaller backstop for the LDI portfolio in the event that the adequacy assumptions are not realized in a period beyond the analysis period
- The size of the actuarial reserve could grow substantially

# Actuarial Reserve Analysis

## No Cash Flows, Range of Simulated Assets, FYE 2044




| | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EM | Add RE | All Clss | Decr Fix | No Fix |
|---|---|---|---|---|---|---|---|---|
| 5th Percentile | $29,460 | $37,756 | $37,603 | $38,891 | $44,497 | $46,797 | $47,467 | $75,152 |
| 25th Percentile | $16,879 | $19,705 | $19,667 | $20,230 | $21,755 | $22,367 | $22,693 | $29,449 |
| Median | $11,504 | $12,581 | $12,522 | $12,827 | $13,396 | $13,575 | $13,534 | $15,363 |
| 75th Percentile | $7,874 | $8,148 | $8,077 | $8,169 | $8,269 | $8,381 | $8,241 | $8,255 |
| 95th Percentile | $4,540 | $4,264 | $4,247 | $4,196 | $4,125 | $4,039 | $3,939 | $3,200 |

- All benefits are paid at the end of FY 2044 so the actuarial reserve is unencumbered
- The median assets will grow substantially
  - For the Increase Fixed Income portfolio they will be almost $11.5 billion or almost 5 times their current value
  - With the No Fixed Income portfolio they will $15.4 billion or just under 6.5 times their current value
- The 95th percentile assets will also grow significantly
  - The Increase Fixed Income portfolio value of $4.5 billion is almost twice the current Reserve value
  - The No Fixed income portfolio projected value is about a third higher than the current Reserve value
- A key question for the Board is what to do with these residual assets?

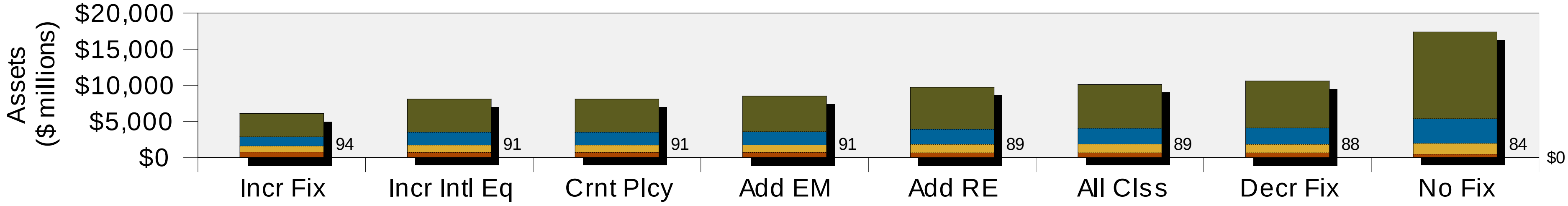
# Actuarial Reserve Analysis

## Cash Flow Assumption Sets

- Tuition and Fees Grow at Statutory Maximum (“APA”)
  - Assumes that cash flows required will rise to reflect Florida University tuition and fees and growth rates at the maximum pursuant to statute
    - *These assumptions increase the liabilities as well as the required cash flows*
  - Assumes that the LDI portfolio is restructured to reflect the higher cash flows at the end of the first year of the analysis
  - This requires drawing assets from the actuarial reserve equal to the difference between the liability from the Adequacy Report and Florida University tuition and fees and growth rates at the maximum pursuant to statute

# Actuarial Reserve Analysis

Tuition and Fees Grow at Statutory Maximum (“APA”), Range of Simulated Assets, FYE 2044




| | Incr Fix | Incr Intl Eq | Crnt Plcy | Add EM | Add RE | All Clss | Decr Fix | No Fix |
|---|---|---|---|---|---|---|---|---|
| 5th Percentile | $6,099 | $8,081 | $8,093 | $8,522 | $9,731 | $10,120 | $10,601 | $17,381 |
| 25th Percentile | $2,885 | $3,466 | $3,484 | $3,575 | $3,895 | $4,022 | $4,084 | $5,383 |
| Median | $1,589 | $1,718 | $1,716 | $1,749 | $1,805 | $1,855 | $1,819 | $1,965 |
| 75th Percentile | $755 | $706 | $707 | $696 | $664 | $653 | $647 | $455 |
| 95th Percentile | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| | | | | | | | | |
| Prob > $0 | 94% | 91% | 91% | 91% | 89% | 89% | 88% | 84% |

- All benefits are paid at the end of FY 2044 so the actuarial reserve is unencumbered
- There is no increase in the probability of depletion since the transfer is made
- Median asset values are somewhat less than current asset values
- No Fixed Income has $300 million less than Increased Fixed Income in the 75th percentile
- No Fixed Income has almost $400 million more than Increased Fixed Income in the median

# Actuarial Reserve Analysis

## Summary of Findings

- The existing asset allocation policy is to invest the actuarial reserve 100% in equity when represents less than 15% of total assets
  - The actuarial reserve currently has only 70% equity because it is over 15% of assets
- A 100% equity policy has two important characteristics
  - In the median scenario the 100% equity policy results in the ***highest*** value of the Reserve at the time that all of the benefits are paid
    - *Depending on the cash flow scenario the residual amount ranges from almost <u>$2 billion to more than $15 billion</u>*
  - In the APA scenario 100% equity is the ***most*** likely to exhaust assets before all of the benefits are paid
    - *In the worst scenario studied 100% equity had a <u>16% probability of exhausting assets</u> before benefits were completely paid*
- The Increase Fixed Income has characteristics that contrast with the 100% equity policy
  - In the median scenario the Increase Fixed Income policy results in the ***lowest*** value of the Reserve at the time that all of the benefits are paid
    - *Depending on the cash flow scenario the residual amount ranges from <u>$1.6 billion to more than $11.5 billion</u>*
  - In the APA scenario Increase Fixed Income is the ***least*** likely to exhaust assets before all of the benefits are paid
    - *In the worst scenario studied 100% equity had a <u>6% probability of exhausting assets</u> before benefits were completely paid*

# Actuarial Reserve Analysis

## Summary of Findings

- Asset allocations with 20% fixed income have results that are similar to each other
  - The introduction of private real estate and/or emerging markets equity does not have a substantial impact on returns, risks and funding
  - In the median scenario in which 100% Equity has almost $2 billion and Increase Fixed Income has $1.6 billion asset allocations with 20% fixed income have about $1.8 billion
  - When 100% Equity has a 16% probability of exhausting assets and Increase Fixed Income has a 6% probability, the allocations with 20% fixed income have 11% to 12% probabilities
- Asset allocations with 30% fixed income have results that are similar to each other
  - Increasing the allocation to developed international equity or adding emerging markets equity has a limited impact on returns, risks and funding
  - In the median scenario in which 100% Equity has almost $2 billion and Increase Fixed Income has $1.6 billion asset allocations with 30% fixed income have about $1.7 billion
  - When 100% Equity has a 16% probability of exhausting assets and Increase Fixed Income has a 6% probability, the allocations with 30% fixed income have 9% probabilities
- Given the priority the Board has given to safety the increased probability of being able to fund benefits in adverse scenarios indicates that the Increase Fixed Income asset allocation is the most appropriate

# Actuarial Reserve Analysis

## Summary of Findings

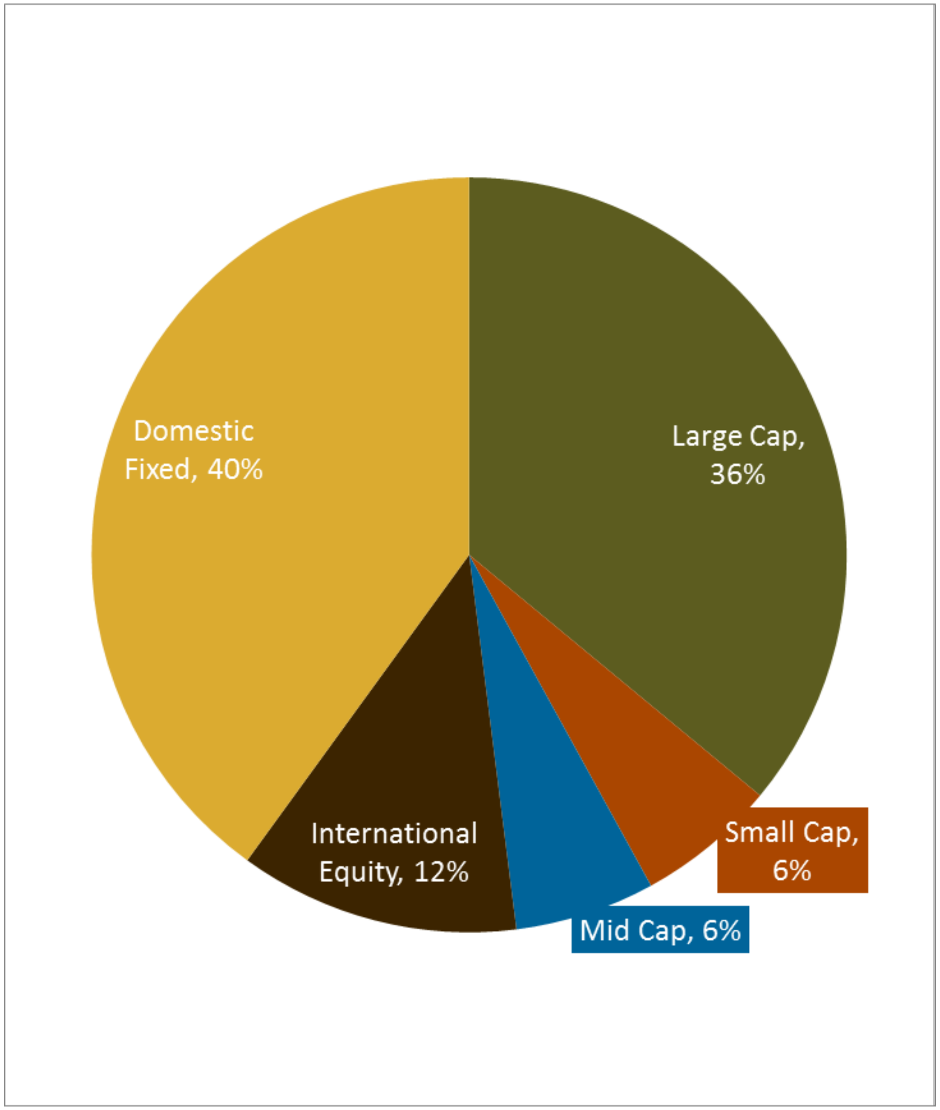
- At the time of the Adequacy Report the Plan had approximately $11.4 billion in assets of which $2.4 billion were in the actuarial reserve
- Implementing a 40% allocation to fixed income in the Reserve implies that there would be approximately $960 million invested in fixed income and $1.43 billion in equity. This implies that approximately 13% of total Plan assets would be in equity which is close to the existing 15% equity cap
- The ability of the actuarial reserve to supplement LDI assets under adverse scenarios depends on the ability of the actuarial reserve to grow through investment returns
- If the 15% equity cap forces more of the Reserve to be invested in fixed income then the growth of the Reserve will be limited which could impair its ability to supplement the LDI assets
- The 40% allocation to fixed income provides the risk control that the 15% equity cap was intended to provide
- For this reason, the 15% of total assets cap on equities should be removed

# Actuarial Reserve Analysis

## Recommendation

*Callan Recommends Implementing the Increased Fixed Income Asset Allocation for the Actuarial Reserve*

- The Increased Fixed Income allocation has the highest probability of supplying assets to the LDI portfolio in adverse circumstances
- In particularly adverse circumstance the median asset values for Increased Fixed Income are consistent with those of the other asset allocations
- The fixed income portion of the allocation should be implemented consistent with the characteristics of the broad US fixed income market
- The 15% cap on equity should be removed so that it does not disrupt the growth of the actuarial reserve



# Disclaimers

*This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.*

*This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.*

*Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.*

*Past performance is no guarantee of future results.*

*The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.*

# 2019 Performance Summary

The following table summarizes the investment return for each of the Investment Options, net of administrative fees, offered under the Florida 529 Savings Plan.**
For information about your account visit www.myfloridaprepaid.com, "My Account" or call 1-800-552-GRAD (4723).

**Investment Returns***

| | Jan 2019 (1/01-1/31) | Dec 2018 (12/01-12/31) | Nov 2018 (11/01-11/30) | 2018 Fourth Quarter (10/01 - 12/31) |
|---|---|---|---|---|
| **Portfolio Options** | | | | |
| Age 0 - 4 / 14 or More Years to Enrollment | 9.19% | -9.00% | 1.63% | -14.76% |
| Age 5 - 8 / 10 -13 Years to Enrollment | 7.08% | -6.42% | 1.31% | -11.12% |
| Age 9 - 12 / 6 - 9 Years to Enrollment | 5.01% | -3.63% | 0.98% | -7.07% |
| Age 13 - 15 / 3 - 5 Years to Enrollment | 3.02% | -1.01% | 0.67% | -3.15% |
| Age 16 & Above / 0 - 2 Years to Enrollment | 1.19% | 1.64% | 0.36% | 0.93% |
| Blended Equity Portfolio | 9.19% | -9.00% | 1.63% | -14.76% |
| Balanced Portfolio | 5.01% | -3.63% | 0.98% | -7.07% |
| **Fund Options** | | | | |
| Money Market Fund | 0.23% | 0.18% | 0.30% | 0.66% |
| Fixed Income Fund | 1.19% | 1.64% | -1.05% | 0.93% |
| Domestic Equity Index Fund | 7.85% | -8.96% | -6.80% | -13.45% |
| Large Cap Growth Fund | 7.70% | -8.12% | -8.61% | -15.39% |
| Large Cap Value Fund | 10.37% | -11.19% | -5.74% | -14.33% |
| Mid Cap Fund | 14.87% | -13.06% | -11.36% | -21.34% |
| Small Cap Fund | 11.01% | -10.65% | -8.52% | -14.11% |
| International (Developed Markets) Fund | 7.74% | -4.63% | -8.06% | -12.87% |

**Average Annual Returns***

| | 1 year return (for period ending 1/31/2019) | 3 year return (for period ending 1/31/2019) | 5 year return (for period ending 1/31/2019) | Since Inception (for period ending 1/31/2019) |
|---|---|---|---|---|
| **Portfolio Options** | | | | |
| Age 0 - 4 / 14 or More Years to Enrollment | -6.07% | 11.57% | 7.54% | 7.79% |
| Age 5 - 8 / 10 -13 Years to Enrollment | -4.38% | 9.26% | 6.31% | 6.90% |
| Age 9 - 12 / 6 - 9 Years to Enrollment | -2.42% | 6.79% | 4.98% | 5.93% |
| Age 13 - 15 / 3 - 5 Years to Enrollment | -0.70% | 4.27% | 3.50% | 4.78% |
| Age 16 & Above / 0 - 2 Years to Enrollment | 1.15% | 1.78% | 2.08% | 3.51% |
| Blended Equity Portfolio | -6.07% | 11.57% | 7.54% | 7.65% |
| Balanced Portfolio | -2.42% | 6.79% | 4.98% | 5.96% |
| **Fund Options** | | | | |
| Money Market Fund | 2.28% | 1.42% | 0.92% | 1.34% |
| Fixed Income Fund | 1.15% | 1.78% | 2.08% | 3.54% |
| Domestic Equity Index Fund | -2.65% | 13.44% | 10.37% | 11.00% |
| Large Cap Growth Fund | 0.63% | 13.39% | 9.87% | 12.39% |
| Large Cap Value Fund | -8.74% | 11.48% | 7.28% | 8.05% |
| Mid Cap Fund | -8.73% | 11.53% | 5.09% | 7.49% |
| Small Cap Fund | -4.49% | 13.01% | 7.64% | 9.66% |
| International (Developed Markets) Fund | -13.74% | 6.98% | 3.40% | 4.70% |

* The investment returns for the Investment Options are provided as general information only and are not intended to provide investment or other advice. Past performance is no guarantee of future performance.

** The administrative fees are available in the Program Description and Participation Agreement found on our website.

The investment return shown for each Investment Option reflects the composite returns for the institutional portfolios comprising the investment options available to participants in the Florida 529 Savings Plan.

Please see the Disclosure Statement and Program Description & Participation Agreement for the Florida 529 Savings Plan dated October 1, 2013.

The assets of the Florida 529 Savings Plan are invested by AllianceBernstein, BMO, Fiduciary Management, Columbia, Florida Prime, PanAgora, The Boston Co. and QMA in accordance with the guidelines.

Investment returns shown in the table above were calculated by Callan LLC, the Board's investment consultant, by computing the percentage change in the trust unit value of each Investment Option. The unit values were provided to Callan for computing the investment returns. The investment periods covered for the Investment options are from December 1, 2002 through January 31, 2019. Initial funding for the Plan began in December 2002.

Under no circumstances is the information contained herein to be used or considered as an offer to sell or a solicitation of an offer to buy a particular investment.

ABLE United
Save for a better life experience

# 2019 Performance Summary

The following table summarizes the investment return for each of the Investment Options, net of the Investment Administration Fee, offered under the ABLE United Program. For information about your account visit www.ableunited.com, "Sign In" or call 1-888-524-ABLE (2253).

| *Investment Returns* | | | | |
|---|---|---|---|---|
| | Jan 2019 (1/1-1/31/19) | Dec 2018 (12/1-12/31/18) | Nov 2018 (11/1-11/30/18) | 4th Quarter (10/1-12/31/18) |
| **Predesigned Portfolio Options** | | | | |
| Conservative | 3.71% | -2.61% | 0.94% | -5.22% |
| Moderate | 5.21% | -4.49% | 1.20% | -8.23% |
| Growth | 6.53% | -6.23% | 1.32% | -11.01% |
| **Fund Options** | | | | |
| Money Market Fund | 0.23% | 0.18% | 0.18% | 0.67% |
| U.S. Bond Fund | 0.99% | 1.78% | 0.51% | 1.56% |
| U.S. Stock Fund | 8.56% | -9.33% | 2.06% | -14.33% |
| International Stock Fund | 6.59% | -5.11% | 0.21% | -12.47% |

| *Average Annual Returns for Periods Ending 1/31/2019* | | | | |
|---|---|---|---|---|
| | 1 Year | 3 Years | 5 Years | Since Inception |
| **Predesigned Portfolio Options** | | | | |
| Conservative | -1.03% | N/A | N/A | 4.18% |
| Moderate | -2.44% | N/A | N/A | 5.94% |
| Growth | -4.24% | N/A | N/A | 7.55% |
| **Fund Options** | | | | |
| Money Market Fund | 2.28% | N/A | N/A | 1.59% |
| U.S. Bond Fund | 1.86% | N/A | N/A | 0.18% |
| U.S. Stock Fund | -2.49% | N/A | N/A | 10.86% |
| International Stock Fund | -12.45% | N/A | N/A | 5.78% |

*The investment returns provided were calculated by Callan LLC, the Program's investment consultant, by computing the percentage change in the trust unit value of each Investment Option. The unit values were provided to Callan for computing the investment returns.*

*Under no circumstances is the information contained herein to be used or considered as an offer to sell or a solicitation of an offer to buy a particular investment. The net investment returns are provided for general information only and are not intended to provide investment or other advice. Past performance is no guarantee of future performance. Actual results for future periods could differ significantly from past performance.*

*For more information about the investment options and current Investment Administrative Fees, please review the Program Description and Participation Agreement at www.ableunited.com/pdpa.*

**FLORIDA PREPAID COLLEGE BOARD**
**INVESTMENT COMMITTEE MEETING**

DECEMBER 7, 2017

Hermitage Centre – Hermitage Room

Tallahassee, Florida

**MEMBERS PRESENT** **(constituting a quorum)**
John D. Rood, Chairman
Philip Marshall, Vice Chairman
Rad Lovett
Adria Starkey

**WELCOME AND CALL TO ORDER**

Chairman Rood called the December 7, 2017, meeting of the Florida Prepaid College Board Investment Committee to order at 8:30 a.m.

**APPROVAL OF MINUTES**

Chairman Rood stated that each member received copies of the September 28, 2017, Investment Committee meeting minutes prior to the meeting.

Chairman Rood requested a motion to approve the minutes of the September 28, 2017, Investment Committee meeting.

Ms. Starkey moved approval of the September 28, 2017, Investment Committee meeting minutes, as presented. Mr. Lovett seconded the motion, and it passed unanimously.

A copy of the minutes was included under Tab 1.

**THIRD QUARTER PERFORMANCE REVIEW**

Chairman Rood invited Mr. Weston Lewis and Mr. Brian Smith, with Callan Associates, to present the third quarter investment performance reports for the Prepaid College Plan and the 529 Savings Plan.

**PREPAID PLAN REPORT**

Mr. Smith provided a brief overview of the economic and capital market environment for the Prepaid College Plan.

Mr. Lewis provided an overview of the total asset distribution for the Prepaid College Plan.

Mr. Lewis reported that the total value of the Florida Prepaid College Trust Fund as of September 30, 2017, was $11.4 billion, a $151 million increase from the prior quarter.

Mr. Lewis presented a brief overview of the performance results for each investment manager.

A copy of the Prepaid College Plan performance report was included under Tab 2.

**SAVINGS PLAN REPORT**

Mr. Smith provided the Committee an overview of the performance results for the 529 Savings Plan.

Mr. Smith reported the total market value of the 529 Savings Plan Fund as of September 30, 2017, was approximately $550 million, representing approximately a $19 million increase from the prior quarter.

Mr. Smith presented a review of the asset distribution among the investment options and provided the Committee with a brief summary of the performance results for each investment manager.

Chairman Rood thanked Mr. Lewis and Mr. Smith for their update.

A copy of the 529 Savings Plan performance report was included under Tab 3.

**STANDISH FIXED INCOME PORTFOLIO**

Chairman Rood invited Mr. Anthony Criscuolo and Mr. Robert Bayston with Standish, to present the fixed income portfolio performance report.

Mr. Robert Bayston, Portfolio Manager, provided the members with a review of the fixed income portfolio performance, including risk factors of the portfolio.

Discussion ensued between Board members and Standish concerning the underperformance and expectations defined in the Comprehensive Investment Plan (CIP).

Mr. Criscuolo, Relationship Manager, provided the Committee with a brief overview of the merger between Standish, The Boston Company and Mellon Capital.

Mr. Criscuolo informed the Committee that the merger would provide a wide spectrum of strategies to clients and additional services to clients in a more cost effective way.

Mr. Bayston provided closing remarks regarding the merger and assured the Board that Standish would be providing the same level of service in conjunction with Callan Associates.

Chairman Rood thanked Mr. Criscuolo and Mr. Bayston for their presentation.

A copy of the Standish presentation was included under Tab 4.

**ALLIANCEBERNSTEIN S&P 500 INDEX PORTFOLIO**

Chairman Rood introduced Ms. Judi DeVivo and Mr. Craig Schorr with Alliance Bernstein (AB), to present the S&P 500 Index portfolio performance report.

Mr. Schorr provided an update on the firm and stated they had no major personnel changes.

Mr. Schorr stated Florida Prepaid uses a passive strategy, which requires AB to closely track the S&P 500 Index at a low fee.

Ms. DeVivo reported updated numbers through the previous night (December 6, 2017) for the Prepaid College Plan at $749.6 million and $71.6 million for the 529 Savings Plan.

Discussion ensued between Board members and AB regarding performance relative to the S&P 500 Index.

Chairman Rood thanked Ms. DeVivo and Mr. Schorr for their presentation.

A copy of the AllianceBernstein presentation was included under Tab 5.

**SILVANT CAPITAL MANAGEMENT LARGE CAP GROWTH PORTFOLIO**

Chairman Rood introduced Mr. Michael Sansoterra with Silvant Capital Management to present the large cap growth performance report.

Mr. Sansoterra, Chief Investment Manager at Silvant for the large cap growth strategies, provided an overview of the firm and stated there had been no personnel changes at Silvant.

Mr. Sansoterra provided the Committee a brief overview of the underperformance for 2016, the year to date for current year performance, and the third quarter performance for Silvant.

Discussion ensued between Board members and Mr. Sansoterra regarding the top ten contributors for excess return.

Mr. Sansoterra discussed how Silvant balanced searching for earnings growth and paying a reasonable price.

Chairman Rood thanked Mr. Sansoterra for his presentation.

Chairman Rood requested a motion to accept the third quarter 2017 investment performance reports for the Prepaid College Plan and for the 529 Savings Plan, as submitted.

Mr. Lovett moved to accept the third quarter 2017 investment performance reports, as presented. Ms. Starkey seconded the motion, and it passed unanimously.

A copy of the Silvant Capital Management presentation was included under Tab 6.

## Executive Director's Report

**Asset Allocation Rebalancing**

Chairman Rood introduced Mr. Kevin Thompson to provide an update on asset allocation rebalancing.

Mr. Thompson explained the Comprehensive Investment Plan (CIP) requirements for rebalancing and provided supporting calculations for the rebalancing recommendation.

Mr. Thompson stated that to be in compliance with the CIP, $64,000,000 should be transferred from the equity segment to the fixed income segment of the Fund.

Chairman Rood thanked Mr. Thompson for his update on Asset Allocation Rebalancing.

Chairman Rood requested a motion that the Investment Committee approve and recommend that the Board approve to rebalance the Fund as of September 30, 2017, by transferring $64,000,000 from the equity segment to the fixed income segment of the Florida Prepaid College Trust Fund, as discussed in Tab 7.

Mr. Lovett moved the motion, as presented. Ms. Starkey seconded the motion, and it passed unanimously.

A summary of the Asset Allocation Rebalancing report was included under Tab 7.

**ITN Update**

Mr. Thompson provided a summary of the ITNs currently in process. Mr. Thompson stated the ITNs were as follows:

- Index replication for Prepaid Plan and the 529 Savings Plan
- Florida ABLE, Inc., Records Administration
- Active large-cap growth manager for Prepaid Plan and 529 Savings Plan

Chairman Rood thanked Mr. Thompson for his ITN Update.

A copy of the ITN Update was included under Tab 8.

**Adjourn**

There being no further business to come before the Investment Committee, the meeting was adjourned at 10:35 a.m.

# Florida Prepaid College Board
# Investment Committee Meeting

March 21, 2018

Sawgrass Marriott Resort, Master's Ballroom

Ponte Vedra Beach, Florida

**Members Present** — **(constituting a quorum)**
John D. Rood, Chairman
Philip Marshall, Vice Chairman
Adria Starkey

**VIA TELEPHONE** — Rad Lovett

**Welcome and Call to Order**

Chairman Rood called the March 21, 2018, meeting of the Florida Prepaid College Board Investment Committee to order at 9:10 a.m.

**Approval of Minutes**

Chairman Rood stated that each member received copies of the December 7, 2017, Investment Committee meeting minutes prior to the meeting.

Chairman Rood requested a motion to approve the minutes of the December 7, 2017, Investment Committee meeting.

Mr. Marshall moved approval of the December 7, 2017, Investment Committee meeting minutes, as presented. Ms. Starkey seconded the motion, and it passed unanimously.

A copy of the minutes was included under Tab 1.

**Asset liability study**

Chairman Rood invited Mr. James VanHeuit, with Callan Associates, to make a presentation on the Asset Liability Study.

Mr. VanHeuit presented to the Board an overview of the Asset Liability Study. Mr. VanHeuit stated the Study was divided into two parts: LDI portfolio and Actuarial Reserve portfolio.

Mr. VanHeuit discussed the motivation and the process for the Asset Liability Study, which is required by the CIP to be performed every five years and provides the opportunity to determine if there is a better way to invest the Trust Fund.

Mr. VanHeuit advised the Board that there is no right or wrong result from the Study. He said the solution depends on the Board's desire for returns within certain risk tolerances and that the Study is intended to provide the risk and return information so the Board can make an informed decision.

Mr. VanHeuit summarized the current structure of the LDI portfolio and Actuarial Reserve portfolio. Mr. VanHeuit stated one of the key issues is diversification and suggested to diversify further in an effort to reduce risk and still maintain the level of return.

Mr. VanHeuit recommended based on the Study that the Board maintain the target LDI allocation of 60% in Treasury Strips, 30% in Corporates and 10% in Mortgage Backed Securities. However, Mr. VanHeuit recommended dividing the corporate portion into intermediate and long term indexes.

Discussion ensued among Board members, Callan and staff regarding how the LDI portfolio would react under various market scenarios and asset allocations.

For the Actuarial Reserve portfolio, Mr. VanHeuit recommended removing the 15% cap on equities and allocating a portion of the portfolio into a broad US fixed income index.

Discussion ensued among Board members, Callan and staff regarding how the Actuarial Reserve portfolio would react under various market scenarios and asset allocations. The discussion also included the purpose of the Actuarial Reserve portfolio.

Chairman Rood recommended to the Board that the Asset Liability Study be tabled until the June Board meeting for Board Staff and Callan to supplement the presented information and to permit additional time for Board consideration and discussion.

Chairman Rood thanked Mr. VanHeuit for his presentation.

A copy of the Asset Liability Study presentation was included under Tab 2.

**FOURTH QUARTER PERFORMANCE REVIEW**

Chairman Rood invited Mr. Weston Lewis and Mr. Brian Smith, with Callan Associates, to present the fourth quarter investment performance reports for the Prepaid College Plan and the 529 Savings Plan.

**PREPAID PLAN REPORT**

Mr. Lewis began his presentation of the fourth quarter investment performance report for the Prepaid College Plan with a brief overview of the market environment. Mr. Lewis stated the market environment for active management was challenging.

Mr. Lewis reported that the total value of the Florida Prepaid College Trust Fund as of December 31, 2017, was $11.7 billion.

Mr. Lewis presented a brief overview of the performance results for each investment manager.

Mr. Lewis stated that two investment managers, Silvant and The Boston Company, had individual challenges specific to their organizations, their personnel, as well as their investment style.

A copy of the Prepaid College Plan performance report was included under Tab 3.

**SAVINGS PLAN REPORT**

Mr. Smith provided the Committee an overview of the performance results for the 529 Savings Plan.

Mr. Smith reported the total market value of the 529 Savings Plan as of December 31, 2017, was approximately $575 million, representing approximately a $30 million dollar increase from the prior quarter.

Mr. Smith presented a review of the asset distribution among the investment options and provided the Committee with a brief summary of the performance results for each investment manager.

A copy of the 529 Savings Plan performance report was included under Tab 4.

**NEUBERGER BERMAN FIXED INCOME PORTFOLIO**

Chairman Rood invited Mr. Thanos Bardas and Ms. Carter Reynolds with Neuberger Berman, to present the fixed income portfolio performance report.

Ms. Reynolds summarized Neuberger Berman's organization and relationship with Florida Prepaid. Ms. Reynolds continued to provide a brief overview of the strategy used in managing the fixed income portfolio.

Ms. Reynolds stated they were in compliance with the Comprehensive Investment Plan (CIP) and provided an update on personnel changes.

Ms. Reynolds stated as of December 2017, Neuberger Berman managed close to $300 billion in assets, and $130 billion was invested in fixed income.

Mr. Bardas presented the performance report for the fixed income portfolio.

Mr. Bardas provided the Committee with an overview of current economic conditions and provided a market outlook. Mr. Bardas provided a presentation on the portfolio and its positioning relative to the custom fixed income benchmark.

Chairman Rood thanked Mr. Bardas and Ms. Reynolds for their presentation.

A copy of the Neuberger Berman presentation was included under Tab 5.

**THE BOSTON COMPANY MANAGEMENT, LLC MID CAP EQUITY**

Chairman Rood introduced Mr. Jerry Navarrete and Mr. Jim Boyd with the Boston Company Management, to present the mid cap equity portfolio performance report.

**PORTFOLIO** Mr. Navarrete provided the Board with a brief overview of The Boston Company, Mellon Capital Management, and Standish merger.

Mr. Navarrete spoke briefly about Mr. Dave Daglio as acting Chief Investment Officer and portfolio manager.

Mr. Boyd reviewed briefly the investment process and provided an update on the performance of the mid cap equity portfolio.

Discussion ensued between Board members and Mr. Navarrete regarding the risks involved with the merger.

Chairman Rood thanked Mr. Navarrete and Mr. Boyd for their presentation.

A copy of the Boston Company Management, LLC presentation was included under Tab 6.

**FLORIDA PRIME MONEY MARKET** Chairman Rood introduced Mr. Michael McCauley, with the State Board of Administration, to present an update on the Florida PRIME Money Market account.

Mr. McCauley provided a brief overview of Florida PRIME and its performance. Mr. McCauley stated Florida PRIME had consistently provided strong performance and healthy returns.

Chairman Rood thanked Mr. McCauley for his presentation.

A copy of the Florida PRIME presentation was included under Tab 7.

**EXECUTIVE DIRECTOR'S REPORT**

**ASSET ALLOCATION REBALANCING** Chairman Rood stated the asset allocation rebalancing would be postponed until the June Board meeting pending further discussion on the Asset Liability Study.

**ITN UPDATE** Chairman Rood invited Mr. Kevin Thompson to provide an ITN Update.

Mr. Thompson informed the Board that the current large cap growth contract with Silvant Capital Management would expire March 31, 2018.

Mr. Thompson stated BMO Global Asset Management was selected through the ITN process as the new large cap growth investment manager effective April 1, 2018.

Lastly, Mr. Thompson informed the Board that an ITN was in progress to hire a LDI fixed income investment manager to replace Columbia Threadneedle.

A copy of the ITN Update was included under Tab 9.

**OTHER** Chairman Rood announced that the next Investment Committee meeting would be held June 27, 2018.

**ADJOURN** There being no further business to come before the Investment Committee, the meeting was adjourned at 12:27 p.m.

**FLORIDA PREPAID COLLEGE BOARD**
**INVESTMENT COMMITTEE MEETING**

JUNE 26, 2018

Hermitage Centre- Hermitage Room
TALLAHASSEE, FLORIDA

**MEMBERS PRESENT** **(constituting a quorum)**
John D. Rood, Chairman
Rad Lovett
Adria Starkey

**WELCOME AND CALL TO ORDER** Chairman Rood called the June 26, 2018, meeting of the Florida Prepaid College Board Investment Committee to order at 9:00 a.m.

Chairman Rood announced Philip Marshall would be participating by conference call.

**APPROVAL OF MINUTES** Chairman Rood stated that each member received copies of the March 21, 2018, Investment Committee meeting minutes prior to the meeting.

Chairman Rood requested a motion to approve the minutes of the March 21, 2018, Investment Committee meeting.

Ms. Starkey moved approval of the March 21 2018, Investment Committee meeting minutes, as presented. Mr. Lovett seconded the motion, and it passed unanimously.

A copy of the minutes was included under Tab 1.

**ASSET LIABILITY STUDY FOLLOW UP** Chairman Rood invited Mr. Brian Smith, with Callan Associates, and Mr. Will Thompson, with the Florida Prepaid College Board to provide the Asset Liability Study (Study) follow up discussion.

Mr. Smith provided a summary of recommendations from the Study. The recommendations were as follows:

- Retain the fixed income sector components of the customized benchmark for the interim, the 76/14/10 allocation between STRIPS, corporates, and mortgages, with a 60/30/10 target allocation long-term.
- Split the allocation within the corporate component between intermediate and long-term indices.
- Retain a 10 percent allocation to mortgage-backed securities.
- Within the actual reserve, remove the 15 percent cap on equities and replace with either a 60/40 or 70/30 stock/bond mix.

Discussion ensued among Board members and staff regarding Callan's recommendation relating to mortgage-backed securities.

The Board members requested that staff discuss this issue in more detail with managers to better understand if the Board were to move forward how it would proceed and what risks would be involved.

Discussion then ensued among Board members and staff regarding allocating the reserve between fixed income and equities.

Mr. Will Thompson provided the Board context related to the growth and purpose of the Actuarial Reserve. Mr. Will Thompson said the primary purpose of the actuarial reserve was to protect against any unfunded status. Mr. Thompson stated the reserve could be used to assist existing participants (e.g., refunds) or new participants (e.g., lower prices).

Mr. Thompson stated that staff recommended allocating 30 percent to the fixed income and 70 percent to equity securities in the Actuarial Reserve segment of the portfolio.

Discussion ensued among Board members and staff regarding the 60/40 vs 70/30 split.

Chairman Rood then requested a motion to approve using the Intermediate and Long Duration Benchmarks for the Corporate allocation in the Liability segment and allocating 30% to fixed income and 70% to equity securities in the Actuarial Reserve segment.

Mr. Marshall moved approval of the motion, as presented. Mr. Lovett seconded the motion, and it passed unanimously.

Chairman Rood thanked Mr. Smith and Mr. Thompson for their updates.

A copy of the Asset Liability Study Follow Up presentation was included under Tab 2.

**FIRST QUARTER PERFORMANCE REVIEW**

Chairman Rood invited Mr. Brian Smith, with Callan Associates, to present the first quarter investment performance reports for the Prepaid College Plan and the 529 Savings Plan.

**PREPAID PLAN REPORT**

Mr. Smith began his presentation of the first quarter investment performance report for the Prepaid College Plan with a brief overview of the economic activity and the capital market environment.

Mr. Smith presented a brief overview of the performance for the Prepaid Fund.

A copy of the Prepaid College Plan performance report was included under Tab 3.

**SAVINGS PLAN REPORT**

Mr. Brian Smith provided the Committee an overview of the performance results for the 529 Savings Plan.

Chairman Rood thanked Mr. Smith for his report.

A copy of the 529 Savings Plan performance report was included under Tab 4.

**COLUMBIA THREADNEEDLE INVESTMENTS FIXED INCOME (SAVINGS) PORTFOLIO**

Chairman Rood invited Mr. Peter Mitchell and Ms. Mary Werler with Columbia Threadneedle Investments, to present the fixed income Savings Plan portfolio performance report.

Mr. Mitchell provided a brief overview of Columbia Threadneedle Investments process, philosophy, team and how the Savings Plan portfolio was structured.

Ms. Werler provided the Committee with an overview of the Savings Plan performance results.

Ms. Werler stated that Columbia Threadneedle Investments had an excess return of 4 basis points gross of fees and 3 basis points net of fees, as it related to the benchmark.

Ms. Werler provided the Committee with an overview of the current economic and market conditions that impact the Savings Plan fixed income portfolio and provided the Committee with Columbia's investment environment outlook.

Chairman Rood thanked Mr. Mitchell and Ms. Werler for their presentations.

A copy of the Columbia Threadneedle Investments presentation was included under Tab 5.

**PANAGORA ASSET MANAGEMENT INTERNATIONAL EQUITY PORTFOLIO**

Chairman Rood introduced Ms. Allison Kiely and Ms. Jaime Lee with PanAgora Asset Management, to present the international equity portfolio performance report.

Ms. Kiely provided the Committee a brief overview of the strategy and team of PanAgora Asset Management.

Ms. Kiely stated they were in compliance with the Comprehensive Investment Plan (CIP) and had met the objective of outperforming the benchmark since inception.

Ms. Lee provided the Committee with an update on the performance of the international equity portfolio.

Ms. Lee reviewed PanAgora's stock selection criteria and provided an overview of the current economic conditions and a brief market outlook.

Discussion ensued among Board members and staff regarding emerging markets in the future.

Chairman Rood thanked Ms. Kiely and Ms. Lee for their presentations.

A copy of PanAgora Asset Management presentation was included under Tab 6.

**FIDUCIARY MANAGEMENT SMALL CAP EQUITY PORTFOLIO**

Chairman Rood introduced Mr. Bladen Burns with Fiduciary Management, to present the small cap equity portfolio performance report.

Mr. Burns provided a brief overview of the firm's structure and market outlook.

Mr. Burns commented on the fund's performance and stated over the last three to five years the portfolio was ahead of the Russell 2000 index.

Discussion ensued among Board members and staff regarding the less than 2 percent cash in the portfolio.

Chairman Rood thanked Mr. Bladen for his presentation.

A copy of the Fiduciary Management presentation was included under Tab 7.

Chairman Rood requested a motion to accept the first quarter 2018 investment performance reports for the Prepaid College Plan and for the 529 Savings Plan, as submitted.

Mr. Lovett moved to accept the first quarter 2018 investment reports, as presented. Ms. Starkey seconded the motion, and it passed unanimously.

**RESTRUCTURE OF THE COMPREHENSIVE INVESTMENT PLAN**

Chairman Rood invited Mr. Bert Wilkerson, with the Florida Prepaid College Board, to present the restructure of the Comprehensive Investment Plans (CIP) for the Prepaid Plan and 529 Savings Plan.

Mr. Wilkerson provided the Board an overview of the current CIP framework and the proposed restructure of the CIPs.

Mr. Wilkerson stated the CIP was a key initiative for 2017/2018 and the focus was on three items: 1) create flexibility; 2) clarify and enhance without taking away policy, and 3) add policy and guideline direction where needed. Mr. Wilkerson elaborated on each of these key initiatives.

Discussion ensued among Board members and staff regarding the CIP restructure.

Chairman Rood requested a motion to accept the restructure of the CIPs, as presented.

Mr. Lovett moved to accept the restructure of the CIPs. Ms. Starkey seconded the motion, and it passed unanimously.

A copy of the Restructured Comprehensive Investment Plan was included under Tab 8.

**INVESTMENT MANAGER UPDATE**

Chairman Rood invited Mr. Bert Wilkerson, with the Florida Prepaid College Board, to present the investment manager update.

Mr. Wilkerson stated that Insight Investment, a subsidiary of BNY Mellon Asset Management, was selected through an ITN process to replace Columbia Threadneedle as a LDI fixed income manager. Mr. Wilkerson provided a brief overview on Insight Investment.

Mr. Wilkerson added that through the ITN process staff identified BlackRock Financial Management as a strong alternative vendor. Mr. Wilkerson stated staff reviewed the current LDI vendor structure as a whole.

Mr. Wilkerson said staff identified concerns with the timing of the current LDI investment manager contracts (three ending at the same time), having a large concentration of assets with Bank of New York Mellon (Standish and Insight), and Standish's organizational concerns pointed out by the Callan.

Mr. Wilkerson stated that due to these concerns, staff recommended replacing Standish with BlackRock and that Callan concurred with the recommendation.

Chairman Rood requested a motion to replace Standish with BlackRock Financial Management.

Ms. Starkey moved to accept the motion to replace Standish with BlackRock Financial Management, as presented. Mr. Lovett seconded the motion, and it passed unanimously.

Next, Mr. Wilkerson stated that Callan and staff reviewed Boston Management, a mid-cap manager, in regard to performance, organization concerns, and contract timing.

Mr. Wilkerson stated that staff recommended to the Board to issue an ITN for a new mid-cap manager, primarily based on the organizational concerns and that Callan concurred with the recommendation.

Discussion ensued among Board members and Callan regarding Boston Management and an ITN for a mid-cap manager.

Mr. Wilkerson informed the Board that an ITN was issued June 5, 2018, for a fixed income manager. Mr. Wilkerson said this mandate is within the Savings Program and the current manager is Columbia Threadneedle.

Mr. Wilkerson stated that Columbia Threadneedle has had organizational issues with key staff leaving. Mr. Wilkerson said as a result, the Board removed them as a LDI fixed income manager in December 2017. Mr. Wilkerson stated the ITN was issued due to continued organizational concerns at Callan's recommendation.

Chairman Rood thanked Mr. Wilkerson for his update.

A copy of the Investment Manager Update was included under Tab 9.

**ASSET ALLOCATION REBALANCING**

Chairman Rood introduced Mr. Kevin Thompson to provide an update on asset allocation rebalancing.

Mr. Kevin Thompson stated that the Board was materially in compliance with the 70/30 reserve allocations that were approved earlier in the meeting, and therefore staff does not recommend rebalancing the fund as of March 31, 2018.

A summary of the Asset Allocation Rebalancing report was included under Tab 10.

**ITN UPDATE**

Chairman Rood invited Mr. Kevin Thompson to provide an ITN Update.

Mr. Thompson stated that Mr. Wilkerson had already provided an ITN update regarding the investment managers.

A copy of the ITN Update was included under Tab 11.

**CONTRACT UPDATE**

Chairman Rood invited Mr. Kevin Thompson to provide a Contract Update.

Mr. Thompson provided a summary of the proposed contract renewals recommended by staff. Mr. Thompson stated the following proposed one year renewals were from July 1, 2019 to June 30, 2020:

- Neuberger Berman
- Northern Trust Investments
- PanAgora Asset Management
- Quantitative Management Associates

Chairman Rood requested a motion to approve and recommend that the Prepaid Board approve the contract renewals included in Tab 12, as submitted.

Ms. Starkey moved to accept the motion, as presented. Mr. Marshall seconded the motion, and it passed unanimously.

Chairman Rood thanked Mr. Thompson for his report.

A copy of the Contract Update was included under Tab 12.

**ADJOURN** There being no further business to come before the Investment Committee, the meeting was adjourned at 10:58 a.m.

**Florida Prepaid College Board**
**Investment Committee Meeting**

September 26, 2018

Florida Atlantic University – Majestic Palm Room
Boca Raton, Florida

**MEMBERS PRESENT** **(constituting a quorum)**
John D. Rood, Chairman
Rad Lovett
Adria Starkey

**WELCOME AND CALL TO ORDER** Chairman Rood called the September 26, 2018, meeting of the Florida Prepaid College Board Investment Committee to order at 9:16 a.m.

**APPROVAL OF MINUTES** Chairman Rood stated that each member received copies of the June 26, 2018, Investment Committee meeting minutes prior to the meeting.

Chairman Rood requested a motion to approve the minutes of the June 26, 2018, Investment Committee meeting.

Mr. Lovett moved approval of the June 26, 2018, Investment Committee meeting minutes, as presented. Ms. Starkey seconded the motion, and it passed unanimously.

A copy of the minutes was included under Tab 1.

**SECOND QUARTER PERFORMANCE REVIEW**

Chairman Rood invited Mr. Weston Lewis and Mr. Brian Smith, with Callan Associates, to present the second quarter investment performance reports for the Prepaid College Plan and the 529 Savings Plan.

**PREPAID PLAN REPORT** Mr. Lewis provided a brief overview of the economic and capital market environment for the Prepaid College Plan.

Mr. Lewis provided an overview of the total asset distribution for the Prepaid College Plan.

Mr. Lewis reported that the total value of the Florida Prepaid College Trust Fund as of June 30, 2018, was $11.5 billion which was approximately $100 million more than the previous quarter.

Mr. Smith presented a brief overview of the performance results for each investment manager.

A copy of the Prepaid College Plan performance report was included under Tab 2.

**Savings Plan Report**

Mr. Smith provided the Committee an overview of the performance results for the 529 Savings Plan.

Mr. Smith reported the total market value of the 529 Savings Plan Fund as of June 30, 2018, was approximately $600 million, representing approximately an $11 million increase from the previous quarter.

Mr. Smith presented a review of the asset distribution among the investment options and provided the Committee with a brief summary of the performance results for each investment manager.

Chairman Rood thanked Mr. Lewis and Mr. Smith for their update.

A copy of the 529 Savings Plan performance report was included under Tab 3.

Chairman Rood introduced Ms. Samira Mattin and Mr. Gerard Berrigan with Insight Investment North America. Chairman Rood stated they were fixed income managers replacing Columbia.

**Quantitative Management Associates Large Cap Value Portfolio**

Chairman Rood invited Mr. Stephen Courtney and Mr. Kevin O'Rourke with Quantitative Management Associates (QMA), to present the large cap value portfolio performance report.

Mr. O'Rourke provided a brief overview of the firm. Mr. Courtney reported that QMA managed $242 million in assets for the Prepaid College Plan and Savings Plan.

Mr. O'Rourke reviewed QMA's investment team and recognized new members of the team.

Mr. Courtney presented QMA's investment strategy and philosophy. Mr. Courtney stated that QMA believes value stocks outperform over time, and QMA will continue to focus on those stocks.

Mr. Courtney next reviewed QMA's performance results for the Prepaid Plan and Savings Plan.

Discussion ensued among Board members and Mr. Courtney regarding OMA's investment process.

Chairman Rood thanked Mr. Courtney and Mr. O'Rourke for their presentation.

A copy of the Quantitative Management Associates presentation was included under Tab 4.

**NORTHERN TRUST INVESTMENTS FIXED INCOME PORTFOLIO**

Chairman Rood introduced Ms. Ashley Hartman Alson and Mr. Michael Chico with Northern Trust Investments, to present the fixed income portfolio performance report.

Ms. Alson provided a high level update on Northern Trust's asset management business.

Ms. Alson stated Northern Trust managed $2.4 billion in assets for the Board.

Ms. Alson provided highlights on the fixed income business as it related to Northern Trust.

Following her remarks, Ms. Alson introduced Mr. Michael Chico, senior portfolio manager, to present the fixed income portfolio performance and a brief overview of the strategy utilized by Northern Trust.

Mr. Chico provided a brief overview of the firm. Mr. Chico stated that they are the only fixed income manager that has a passive mandate. Mr. Chico stated that the performance for the portfolio was in line with the custom benchmark.

Mr. Chico noted they are seeing a greater move towards customized benchmarks.

Discussion ensued among Board members and Mr. Chico regarding customized benchmarks.

Chairman Rood thanked Ms. Alson and Mr. Chico for their presentation.

A copy of Northern Trust Investments presentation was included under Tab 5.

**THE NORTHERN TRUST COMPANY TRUSTEE SERVICES AND SECURITIES LENDING**

Chairman Rood introduced Mr. Jaime Hernandez and Mr. Don Anderson with the Northern Trust Company, to present the trustee services and securities lending performance report.

Mr. Hernandez provided the Committee with a brief overview of Northern Trust's global custody services.

Mr. Hernandez discussed the trading process utilized by Northern Trust to meet the investment strategy mandate.

Mr. Hernandez stated Northern Trust was in compliance with the Comprehensive Investment Plan (CIP).

Mr. Hernandez provided an overview of the services Northern Trust performed for the Board.

Mr. Hernandez provided the Committee a brief overview of Northern Trust's future business strategies including investments in emerging technology.

Next, Mr. Don Anderson provided the Committee with an overview of the securities lending process and a brief overview of the securities lending market.

Mr. Anderson reported that the Board averaged, for last fiscal year, about $2.4 billion of securities on loan.

Mr. Anderson reported that the Board had earned approximately $4.5 million from securities lending activities to date for 2018.

Discussion ensued among Board members and Mr. Anderson regarding borrowers, lending, and risk.

Mr. Bert Wilkerson, Board staff, presented on a joint project with Northern Trust to enhance the security lending program. Mr. Wilkerson discussed oversight and an opportunity to increase securities lending income.

Chairman Rood thanked Mr. Hernandez and Mr. Anderson for their presentation.

A copy of The Northern Trust Company presentation was included under Tab 6 and Tab 7.

Chairman Rood requested a motion to accept the second quarter 2018 investment performance reports for the Prepaid College Plan and for the 529 Savings Plan, as submitted.

Mr. Lovett moved to accept the second quarter 2018 investment performance reports, as presented. Ms. Starkey seconded the motion, and it passed unanimously.

**COMPREHENSIVE INVESTMENT PLAN AND GUIDELINES UPDATE**

Chairman Rood introduced Mr. Bert Wilkerson to provide an update on the Comprehensive Investment Plan (CIP) and Guidelines.

Mr. Wilkerson provided a brief update on the CIP restructuring and stated that staff anticipates the CIP to be approved at the December 4, 2018, State Board of Administration, Board of Trustee meeting.

Mr. Wilkerson informed the Committee of additional CIP and guideline updates, which included security lending enhancements and various clean-up type items.

Chairman Rood thanked Mr. Wilkerson for his update.

A copy of the Comprehensive Investment Plan and Guidelines Update was included under Tab 8.

Chairman Rood requested a motion to accept the revised Comprehensive Investment Plans and Guidelines, included in Tab 12.

Ms. Starkey moved to accept the revised Comprehensive Investment Plans and Guidelines, included in Tab 12. Mr. Lovett seconded the motion, and it passed unanimously.

Chairman Rood asked that Mr. Kevin Thompson's report be presented at the Board meeting.

**ADJOURN**

There being no further business to come before the Investment Committee, the meeting was adjourned at 11:07 a.m.