

Friday, July 28, 2017, 8:15 a.m. Bismarck State College National Energy Center of Excellence Energy Generation Conference Room #335 1500 Edwards Avenue Bismarck, ND

AGENDA

I. CALL TO ORDER AND ACCEPTANCE OF AGENDA (by Parliamentarian Rob Lech)

A. Mr. Lech to serve as Chair Pro Tem (until election of officers or meeting adjourns) Board Action

II. ACCEPTANCE OF MINUTES (May 26, 2017)

III. ELECTION OF OFFICERS AND APPOINTMENTS 2017-18

- A. Options for Board Consideration
 - 1.) Postpone Elections and Appointments until August Board Action
 - 2.) Hold Elections Board Action
 - a) New Chair will Appoint Parliamentarian
 - b) SIB will appoint Audit Committee Board Action

IV. INVESTMENT GOVERNANCE (15 minutes)

- A. Legacy Fund Investment Policy Statement Mr. Hunter Board Acceptance
- B. Budget Stabilization Investment Policy Statement Mr. Hunter Board Acceptance
- C. Grand Forks Employee Pension Plan Investment Policy Statement Mr. Hunter Board Acceptance
- D. Code of Conduct Affirmation Mr. Schmidt Informational
- E. Fundamental Investment Beliefs Mr. Hunter Informational

V. CALLAN COLLEGE - BOARD EDUCATION (8:30 a.m. to Noon)

- A. Callan College Introduction and Welcome Remarks (8:30 to 8:45 a.m.)
- B. Callan College Capital Market Theory (8:45 to 9:45 a.m.)

- C. Callan College Asset Allocation (10:00 to 11:00 a.m.) (Potential Break for 5 minutes)
- D. Callan College Role of the Fiduciary and Investment Policy Statements (11:00 a.m. to Noon)

VI. OTHER

 United Way Awareness - Ms. Jena Gullo, Executive Director, MSA United Way (12:00 p.m. to 12:15 p.m.)
 Next Meetings: SIB - August 25, 2017, 8:30 am - State Capitol, Peace Garden Room SIB Audit Committee - September 22, 2017, 1:00 pm - Retirement and Investment Office, 3442 East Century Avenue, Bismarck, ND

VII. ADJOURNMENT

Note: The meeting is scheduled to adjourn at approximately 12:30 p.m. CT.

NORTH DAKOTA STATE INVESTMENT BOARD MINUTES OF THE MAY 26, 2017, BOARD MEETING

MEMBERS PRESENT:	Brent Sanford, Lt. Governor, Chair Mike Sandal, Vice Chair Jon Godfread, Insurance Commissioner Rob Lech, Parliamentarian Lance Gaebe, Commissioner of Trust Lands Mike Gessner, TFFR Board Mel Olson, TFFR Board Kelly Schmidt, State Treasurer Troy Seibel, PERS Board Yvonne Smith, PERS Board Cindy Ternes, WSI Designee
STAFF PRESENT:	Eric Chin, Investment Officer Connie Flanagan, Fiscal & Invt Ops Mgr Bonnie Heit, Assist to the SIB David Hunter, ED/CIO Fay Kopp, Dep ED/CRO Terra Miller Bowley, Supvr Audit Services Cody Schmidt, Compliance Officer Darren Schulz, Dep CIO Susan Walcker, Invt Acct
OTHERS PRESENT:	Alex Browning, Callan Associates Governor Doug Burgum, Governor's Office Jeff Engleson, Dept. of Trust Lands Levi Erdmann, Dept. of Trust Lands Paul Erlendson, Callan Associates Robbie Lauf, Governor's Office John Menard, Financial Recovery Technologies Jan Murtha, Attorney General's Office Lesley Oliver, Governor's Office

CALL TO ORDER:

Lt. Governor Sanford, Chair, called the State Investment Board (SIB) meeting to order at 8:33 a.m. on Friday, May 26, 2017, at the State Capitol, Peace Garden Room, Bismarck, ND.

Bryan Reinhardt, PERS

AGENDA/MINUTES:

IT WAS MOVED BY MS. SMITH AND SECONDED BY TREASURER SCHMIDT AND CARRIED BY A VOICE VOTE TO ACCEPT THE REVISED AGENDA FOR THE MAY 26, 2017, MEETING AND THE MINUTES OF THE APRIL 28, 2017, MEETING AS DISTRIBUTED.

AYES: COMMISSIONER GAEBE, TREASURER SCHMIDT, MR. SANDAL, MR. OLSON, MS. TERNES, MR. GESSNER, MR. SEIBEL, MR. LECH, MS. SMITH, AND LT. GOVERNOR SANFORD NAYS: NONE MOTION CARRIED ABSENT: COMMISSIONER GODFREAD

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INVESTMENTS:

Asset and Investment Performance Overview - Mr. Hunter highlighted assets under management and performance for the period ending March 31, 2017.

The SIB's client assets totaled approximately \$11.8 billion as of March 31, 2017, based on unaudited valuations. The SIB's client assets grew by nearly \$800 million or 7.3 percent in the last year due to a combination of net investment earnings across client funds and Legacy Fund deposits.

The Pension Trust posted a net return of 10.27% percent in the last year. During the last 5 years, the Pension Trust generated a net annualized return of 7.82 percent, exceeding the performance benchmark of 7.17 percent.

The Insurance Trust generated a net return of 6.67 percent in the last year. During the last 5 years, the Insurance Trust posted a net annualized return of 4.91 percent, exceeding the performance benchmark of 3.54 percent.

The Legacy Fund generated a net investment gain of 10.13% percent for the year ended March 31, 2017, exceeding its performance benchmark. Since inception, the Legacy Fund has generated a net annualized return of 3.91 percent (over the last 5 1/2 years) exceeding the performance benchmark of 3.02 percent.

Discussion followed on renewing Callan's contract. The previous contract was for the period of October 1, 2013 - September 30, 2018, with an option to extend at one-year intervals, with a 2% increase in fees at the renewal, subject to approval by the SIB and Callan.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MS. TERNES AND CARRIED BY A ROLL CALL VOTE TO RENEW CALLAN'S CONTRACT THROUGH THE 2017-19 BIENNIUM, ABSENCE OF ANY FEE INCREASE, AND AUTHORIZE RIO PERSONNEL TO CONDUCT AN INVESTMENT CONSULTANT SEARCH IN JUNE 2018 FOR THE 2019-21 BIENNIUM.

AYES: MR. GESSNER, COMMISSIONER GAEBE, MS. SMITH, MS. TERNES, TREASURER SCHMIDT, MR. LECH, COMMISSIONER GODFREAD, MR. OLSON, MR. SEIBEL, MR. SANDAL, AND LT. GOVERNOR SANFORD NAYS: NONE MOTION CARRIED

<u>Fixed Income Update</u> - Mr. Schulz updated the SIB on the timeline of restructuring the Pension Trust fixed income manager structure. The middle market direct lending fund mandates awarded to Ares and Cerberus are in the legal contract review phase and should be finalized soon. Staff is currently in the process of identifying two core fixed income mandates which they hope to bring before the SIB at their July 28, 2017, meeting.

<u>Callan Associates</u> - Callan representatives reviewed economic and market environments for the period ending March 31, 2017, as well as performance of the Pension Trust, Insurance Trust, and Legacy Fund portfolios.

IT WAS MOVED BY COMMISSIONER GAEBE AND SECONDED BY MS. SMITH AND CARRIED BY A VOICE VOTE TO ACCEPT THE CALLAN REPORT FOR THE QUARTER ENDING MARCH 31, 2017.

AYES: MR. OLSON, MR. SEIBEL, COMMISSIONER GAEBE, MR. GESSNER, COMMISSIONER GODFEAD, MS. SMITH, MR. SANDAL, TREASURER SCHMIDT, MS. TERNES, MR. LECH, AND LT. GOVERNOR SANFORD NAYS: NONE MOTION CARRIED

The Board recessed at 9:50 a.m. and reconvened at 10:04 a.m.

Mr. Sandal presided over the remainder of the meeting. Governor Burgum and Lt. Governor Sanford were absent.

Mr. Hunter recognized Mr. Sandal for his years of service on the SIB serving as a trustee and Vice Chair. Mr. Sandal's term on the PERS Board ends on June 30, 2017, and he has elected not to seek reelection. As a representative of PERS, Mr. Sandal has been serving on the SIB since July 20, 2007, and the SIB Audit Committee since Sept. 25, 2009. The SIB thanked Mr. Sandal and wished him all the best as he also has elected to retire from state service effective June 30, 2017.

<u>Financial Recovery Technologies</u> - At the SIB's August 26, 2016, meeting, the SIB authorized staff to identify a third party firm whom they could enter into a contract with to review the Northern Trust's class action claims filing process. Staff identified Financial Recovery Technologies (FRT) and the firm completed the review in May 2017 and confirmed that Northern Trust has been providing excellent service for U.S. cases.

FRT representative, Mr. Menard, reviewed the firm's monitoring and claims filing services. FRT has proposed to provide U.S. and Global claims filing services on either a fixed fee or contingency basis and antitrust claims monitoring on a contingency fee basis.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY TREASURER SCHMIDT AND CARRIED BY A ROLL CALL VOTE TO ENTER INTO EXECUTIVE SESSION TO DISCUSS CONTRACT NEGOTIATION AND PRICING STRUCTURE PER NDCC 44-04-19.2, 44-04-19.1 (9) AND 44-04-18.4.

AYES: TREASURER SCHMIDT, MR. GESSNER, COMMISSIONER GODFREAD, MS. TERNES, COMMISSIONER GAEBE, MS. SMITH, MR. LECH, MR. SANDAL, MR. SEIBEL, AND MR. OLSON NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

The SIB entered into Executive Session at 10:45 a.m. The SIB and RIO staff were present. After discussion, the SIB exited Executive Session at 10:51 a.m.

IT WAS MOVED BY MS. SMITH AND SECONDED BY MR. SEIBEL AND CARRIED BY A ROLL CALL VOTE TO AUTHORIZE RIO PERSONNEL TO CONTINUE TO INVESTIGATE THE SIB'S ABILITY TO ENHANCE THEIR GLOBAL CLASS ACTION CLAIMS MONITORING BY REVIEWING FIRM'S SUCH AS FRT AND OTHERS.

AYES: MS. SMITH, MR. SANDAL, MR. OLSON, MR. GESSNER, MR. LECH, MR. SEIBEL, MS. TERNES, COMMISSIONER GODFREAD, COMMISSIONER GAEBE, AND TREASURER SCHMIDT NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

<u>Investment Policy Statements</u> - Mr. Hunter reviewed a revised investment policy statement for the Job Service North Dakota fund.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. LECH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE REVISED INVESTMENT POLICY STATEMENT FOR JOB SERVICE NORTH DAKOTA. THE POLICY WAS REVISED TO REDUCE EQUITY TO 30% (FROM 40%) AND INCREASE FIXED INCOME TO 70% (FROM 60%).

AYES: TREASURER SCHMIDT, MR. SEIBEL, MR. OLSON, COMMISSIONER GAEBE, MR. LECH, MR. SANDAL, COMMISSIONER GODFREAD, MR. GESSNER, MS. SMITH, AND MS. TERNES NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD Mr. Hunter reviewed a revision to the investment policy statement for the Public Employees Retirement System main plan.

IT WAS MOVED BY MR. LECH AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE REVISED INVESTMENT POLICY STATEMENT FOR THE PERS MAIN PLAN. POLICY WAS REVISED TO REDUCE THE ACTUARIAL ASSUMED RATE OF RETURN TO 7.75% FROM 8.00%.

AYES: MS. TERNES, MR. OLSON, COMMISSIONER GODFREAD, TREASURER SCHMIDT, COMMISSIONER GAEBE, MR. SEIBEL, MR. LECH, MR. SANDAL, MS. SMITH, AND MR. GESSNER NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

Mr. Hunter reviewed a revised investment policy statement for the Park District of the City of Grand Forks.

IT WAS MOVED BY MS. TERNES AND SECONDED BY MR. GESSNER AND CARRIED BY A ROLL CALL VOTE TO ACCEPT THE REVISED INVESTMENT POLICY STATEMENT FOR THE PARK DISTRICT OF THE CITY OF GRAND FORKS. THE POLICY WAS REVISED TO CHANGE THE 10% ALLOCATION TO GLOBAL REAL ASSETS BY INCREASING INFRASTRUCTURE TO 7% (FROM 5%) AND REDUCING TIMBER TO 3% (FROM 5%).

AYES: MS. TERNES, COMMMISSIONER GODFREAD, MR. OLSON, MR. SANDAL, TREASURER SCHMIDT, MR. GESSNER, MS. SMITH, COMMISSIONER GAEBE, MR. LECH, AND MR. SEIBEL NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

<u>Tobacco Prevention/Control Trust Fund</u> - Ms. Flanagan provided an update on the Tobacco Prevention and Control Fund. Senate Bill 2024 eliminates the North Dakota Center for Tobacco Prevention and Control Executive Committee (BreathND). Effective July 1, 2017, the Office of Management and Budget will become the administrator of the Tobacco Prevention and Control Fund. Ms. Flanagan briefed the SIB on the status of the assets. The SIB has been under contract with the Center for Tobacco Prevention and Control since July 24, 2015.

ADMINISTRATION:

Audit Committee - Ms. Miller Bowley briefed the SIB on the SIB Audit Committee's May 25, 2017, meeting. Mr. Thomas Rey, CliftonLarsonAllen (CLA), presented RIO's Financial Audit Scope and Approach for the period of July 1, 2016 - June 30, 2017. CLA also provided the final GASB 68 Schedule for June 30, 2016.

Ms. Miller Bowley also reported on the 2016-17 third quarter internal audit activities, 2017-18 Workplan and meeting schedule. Ms. Miller Bowley also reported RIO now has a fraud hotline administered by EideBailly.

Ms. Miller Bowley also reminded the SIB on an annual basis, at their July meeting, the board determines the SIB Audit Committee's membership. As directed by SIB Policy B-6, Governance Process/Standing Committees, the Audit Committee shall consist of five members selected by the SIB. Three members of the Audit Committee represent the three groups on the SIB (TFFR board, PERS board, and the elected and appointed officials). The other two members will be selected from outside of the SIB and will be auditors with at least a Certified Public Accountant (CPA) or Certified Internal Auditor (CIA) designation.

IT WAS MOVED BY MR. GESSNER AND SECONDED BY MS. TERNES AND CARRIED BY A VOICE VOTE TO ACCEPT THE AUDIT REPORT.

AYES: MR. LECH, TREASURER SCHMIDT, MR. OLSON, COMMISSIONER GAEBE, MR. SEIBEL, MR. SANDAL, COMMISSIONER GODFREAD, MR. GESSNER, MS. SMITH, AND MS. TERNES

NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

Executive Review Committee - Ms. Smith, Chair, and Mr. Sandal along with Lt. Governor Sanford, met on May 25, 2017, with Mr. Hunter to conduct the Executive Director/CIO performance evaluation for calendar year 2016. SIB members were provided a copy of the evaluation. Ms. Smith reviewed the evaluation.

The Executive Review Committee and Lt. Governor Sanford were in agreement that Mr. Hunter's performance is exceptional. He has solid credibility among those with whom he interacts. His strong communication skills foster understanding among the SIB board members, clients, legislators, and other stakeholders, which create an environment where positive decisions are made and fiduciary responsibilites are accomplished.

The Executive Review Committee recommended no adjustment in compensation at this time taking into consideration the Legislative directive for state employee compensation and the State revenue shortfall predictions. If circumstances should change, compensation may be readdressed.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE EXECUTIVE REVIEW COMMITTEE REPORT AND COMPENSATION RECOMMENDATION.

AYES: COMMISSIONER GODFREAD, MS. TERNES, COMMISSIONER GAEBE, MR. GESSNER, MS. SMITH, MR. SEIBEL, MR. SANDAL, MR. LECH, MR. OLSON, AND TREASURER SCHMIDT NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

<u>Code of Conduct and Ethics</u> - Mr. Schulz reviewed a publication by the CFA Institute entitled "Code of Conduct for Members of a Pension Scheme Governing Body."

<u>Callan College</u> - Mr. Hunter reminded the SIB their July 28, 2017, meeting will be held at the Bismarck State College Energy Center. Callan Associates will be presenting the following educational segments - Capital Market Theory, Asset Allocation, and the Role of the Fiduciary and Investment Policy Statements.

An invite will be extended to all of the SIB clients, Legislative leadership, Interest Groups, and the Governor's Office.

<u>Agency Update</u> - Mr. Hunter stated RIO personnel are close to finalizing a lease for a new office space for RIO at 3442 East Century Avenue. A new fiber line will need to be installed and Mr. Hunter requested authorization to utilize RIO's contingency line item for the expense only if needed.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MS. SMITH AND CARRIED BY A ROLL CALL VOTE TO AUTHORIZE RIO PERSONNEL TO EXPEND, IF NEEDED, UP TO \$65,000 FROM THE AGENCY'S CONTENGENCY LINE ITEM FOR A NEW FIBER LINE. THE STATE INFORMATION TECHNOLOGY DEPARTMENT WILL BE OVERSEEING THE INSTALLATION OF THE SECURED LINE.

AYES: MR. GESSNER, COMMISSIONER GAEBE, MS. SMITH, TREASURER SCHMIDT, MR. LECH, COMMISSIONER GODFREAD, MR. OLSON, MR. SEIBEL, MR. SANDAL, AND MS. TERNES NAYS: NONE MOTION CARRIED ABSENT: LT. GOVERNOR SANFORD

OTHER:

The next meeting of the SIB is scheduled for July 28, 2017, at 8:30 a.m. at the BSC Energy Center - Room #335, Bismarck, ND.

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The next meeting of the SIB Audit Committee is scheduled for September 22, 2017, at 1:00 p.m. at the State Capitol, Peace Garden Room, Bismarck, ND.

ADJOURNMENT :

With no further business to come before the SIB, Mr. Sandal adjourned the meeting at 11:27 a.m.

Lt. Governor Sanford, Chair State Investment Board

Bonnie Heit Assistant to the Board

BOARD ACCEPTANCE REQUESTED

TO: State Investment Board

FROM: Dave Hunter

DATE: July 28, 2017

SUBJECT:Recommended Investment Policy Statement Changes – LegacyFund, Budget Stabilization and City of Grand Forks Employee Plan

RIO requests the SIB accept investment policy statement changes recently approved by the boards which provide oversight of the Legacy and Budget Stabilization Funds and City of Grand Forks Employee Pension Plan.

On June 17, 2017, the Advisory Board for the Legacy and Budget Stabilization Funds approved RIO's recommendation to acknowledge the full and complete transfer of the Bank of North Dakota Matching Loan CD Program from the Budget Stabilization Fund to the Legacy Fund. There were no other changes recommended for these two investment policy statements.

On June 19, 2017, the City of Grand Forks Employee Pension Plan approved a change in the Global Real Asset Allocation in which Real Estate was increased to 7% (from 5%) and Timber was decreased to 3% (from 5%). The SIB is not committing any new capital to the timber sector such that our timber investment is effectively in a liquidation mode. In contrast, SIB clients continue to commit new capital to real estate. As such, this sector aligns the City of Grand Forks Employee Pension Plan real asset allocation with our other SIB clients with a timber allocation.

On June 19, 2017, the City of Grand Forks Employee Pension Plan also approved a change within Global Fixed Income to reclassify sectors as either Investment Grade or Non-Investment Grade while eliminating International Fixed Income as a distinct allocation. The SIB intends to eliminate dedicated international debt mandates in the upcoming year due to poor risk adjusted returns projected for this sector for the next 5-to-10 years. As such, the 5% International Fixed Income allocation was redistributed to Investment Grade (+3%) and Non-Investment Grade (+2%).

NORTH DAKOTA LEGACY FUND

INVESTMENT POLICY STATEMENT

1. PLAN CHARACTERISTICS AND FUND CONSTRAINTS

The North Dakota legacy fund was created in 2010 when the voters of North Dakota approved a constitutional amendment--now Article X, Section 26, of the Constitution of North Dakota--to provide that 30 percent of oil and gas gross production and oil extraction taxes on oil and gas produced after June 30, 2011, be transferred to the legacy fund. The principal and earnings of the legacy fund may not be spent until after June 30, 2017, and any expenditure of principal after that date requires a vote of at least two-thirds of the members elected to each house of the Legislative Assembly. Not more than 15 percent of the principal of the legacy fund may be spent during a biennium. The Legislative Assembly may transfer funds from any source to the legacy fund, and such transfers become part of the principal of the fund. The State Investment Board (SIB) is responsible for investment of the principal of the legacy fund. Interest earnings accruing after June 30, 2017, are transferred to the general fund at the end of each biennium. North Dakota Century Code Section 21-10-11 provides that the goal of investment for the legacy fund is principal preservation while maximizing total return.

2. FUND MISSION

The legacy fund was created, in part, due to the recognition that state revenue from the oil and gas industry will be derived over a finite timeframe. The legacy fund defers the recognition of 30 percent of this revenue for the benefit of future generations. The primary mission of the legacy fund is to preserve the real inflation-adjusted purchasing power of the money deposited into the fund while maximizing total return.

3. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD

The Legacy and Budget Stabilization Fund Advisory Board (the "Advisory Board") is charged by law under Section 21-10-11 with the responsibility of recommending policies on investment goals and asset allocation of the legacy fund. The SIB is charged with implementing policies and asset allocation and investing the assets of the legacy fund in the manner provided in Section 21-10-07-the prudent institutional investor rule. The fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income.

Management responsibility for the investment program not assigned to the SIB in Chapter 21-10 is hereby delegated to the SIB, which must establish written policies for the operation of the investment program consistent with this investment policy.

The SIB may delegate investment responsibility to professional money managers, which are also required to employ investment strategies consistent with the investment policy. Where a money manager has been retained, the SIB's role in determining investment strategy and security selection is supervisory not advisory.

At the discretion of the SIB, the fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset class pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and the objectives of the funds participating in the pool.

The SIB is responsible for establishing criteria, procedures, and making decisions with respect to hiring, retaining, and terminating money managers. The SIB investment responsibility also includes selecting performance measurement services, consultants, report formats, and frequency of meetings with managers.

The SIB shall notify the Advisory Board within 30 days of any substantial or notable changes in money managers; performance measurement services; and consultants, including hiring or terminating a money manager, performance measurement service, or a consultant.

The SIB, after consultation with the board, will implement necessary changes to this policy in an efficient and prudent manner.

4. RISK TOLERANCE

The Advisory Board's risk tolerance with respect to the primary aspect of the legacy fund's mission is low. The Advisory Board is unwilling to undertake investment strategies that might jeopardize the ability of the legacy fund to maintain principal value over time. The Advisory Board recognizes that the plan will evolve as the legacy fund matures and economic conditions and opportunities change.

5. INVESTMENT OBJECTIVES

The Advisory Board's investment objectives are expressed in terms of reward and risk expectations relative to investable, passive benchmarks. The legacy fund's policy benchmark is comprised of policy mix weights of appropriate asset class benchmarks as set by the SIB:

- a. The legacy fund's rate of return, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.
- b. The legacy fund's risk, measured by the standard deviation of net returns, should not exceed 115 percent of the policy benchmark over a minimum evaluation period of five years.
- c. The risk-adjusted performance of the legacy fund, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.

6. POLICY ASSET MIX

After consideration of all the inputs and a discussion of its own collective risk tolerance, the Advisory Board approved the following policy asset mix for the legacy fund as of April 2, 2013:

Asset Class	Policy Target Percentage
Broad US Equity	30%
Broad International Equity	20%
Fixed Income and BND CD	35%
Core Real Estate	5%
Diversified Real Assets	10%

Rebalancing of the fund to this target will be done in accordance with the SIB's rebalancing policy, but not less than annually. The SIB approved an 18-month implementation strategy which completed in January of 2015. On June 17, 2017, the Advisory Board acknowledged the transfer of the Bank of North Dakota Match Loan Certificates of Deposit Program ("BND CD") to the Legacy Fund in early-2017. The BND CD investment will be limited to the lesser of \$200 million or 5% of the Legacy Fund (and represent a sector allocation within fixed income). The Advisory Board approved this future change in the Legacy Fund's asset allocation without exception. BND will be requested to guarantee a minimum 1.75% investment return. The minimum return requirement will be periodically reviewed in connection with the Legacy Fund's overall asset allocation framework. BND CD's are rated AA by S&P.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the legacy fund's assets will be invested, it is understood that:

- a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
- b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers.
- c. No transaction may be made that would threaten the tax-exempt status of the legacy fund.
- d. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.
- e. No unhedged short sales or speculative margin purchases may be made.
- f. Social investing is prohibited unless it meets the exclusive benefit rule, and it can be substantiated that the investment provides an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk. For the purpose of this document, social investing is defined as the consideration of socially responsible criteria in the investment or commitment of public fund money for the purpose of obtaining an effect other than a maximized return to the Fund.
- g. Economically targeted investing is prohibited unless the investment meets the exclusive benefit rule.

For the purpose of this document, economically targeted investment is defined as an investment designed to produce a competitive rate of return commensurate with risk involved as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

Also, for the purpose of this document, the exclusive benefit rule is met if the following four conditions are satisfied:

- The cost does not exceed the fair market value at the time of investment.
- The investment provides the legacy fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
- Sufficient liquidity is maintained in the legacy fund to permit distributions in accordance with the terms of the plan.

• The safeguards and diversity that a prudent investor would adhere to are present.

Where investment characteristics, including yield, risk, and liquidity, are equivalent, the Advisory Board's policy favors investments which will have a positive impact on the economy of North Dakota.

8. INTERNAL CONTROLS

A system of internal controls must be in place by the SIB to prevent losses of public funds arising from fraud or employee error. Such controls deemed most important are the separation of responsibilities for investment purchases from the recording of investment activity, custodial safekeeping, written confirmation of investment transactions, and established criteria for investment manager selection and monitoring. The annual financial audit must include a comprehensive review of the portfolio, accounting procedures for security transactions, and compliance with the investment policy.

9. EVALUATION AND REVIEW

Investment management of the legacy fund will be evaluated against the fund's investment objectives and investment performance standards. Emphasis will be placed on 5-year and 10-year results. Evaluation should include an assessment of the continued feasibility of achieving the investment objectives and the appropriateness of the investment policy statement for achieving those objectives.

Performance reports will be provided to the Advisory Board periodically, but not less than quarterly. Such reports will include asset returns and allocation data. Additionally, not less than annually, reports will include information regarding all significant and/or material matters and changes pertaining to the investment of the legacy fund, including:

- Changes in asset class portfolio structures, tactical approaches, and market values.
- Loss of principal, if any.
- Management costs associated with various types of investments.
- All material legal or legislative proceedings affecting the SIB.
- Compliance with this investment policy statement.
- An evaluation of the national economic climate.
- A forecast of the expected economic opportunities and dangers.
- Management of risk by the SIB.

In addition to the quarterly and annual evaluation and review process, the SIB shall notify the Advisory Board within 30 days of any substantial or notable deviation from the normal management of the legacy fund, including any anomalies, notable losses, gains, or liquidation of assets affecting the fund.

Approved by:

LEGACY AND BUDGET STABILIZATION FUND ADVISORY BOARD STATE INVESTMENT BOARD

Representative Keith Kempenich Chairman David Hunter Executive Director / CIO

Date: _____

Date: _____

Approved by the NDSIB: Approved by the LBSFAB: 6/17/2017

BUDGET STABILIZATION FUND INVESTMENT POLICY STATEMENT

1. FUND CHARACTERISTICS AND CONSTRAINTS.

The Budget Stabilization Fund (Fund) is a special fund created in 1987 under Chapter 54-27.2 of the North Dakota Century Code used to deposit general fund moneys in excess of appropriations. Notwithstanding the provisions of sections 54-27.2-01 and 54-27.2-02, \$124,936,548 was required to be transferred by the state treasurer to the budget stabilization fund from the general fund on July 1, 2009 along with \$61,414,562 on July 1, 2011 and \$181,060,584 on July 1, 2013. These transfers provide over \$580 million in the budget stabilization fund as of May 31, 2016. The statutory cap for the 2015-17 biennium is \$572,485,454. The state investment board shall supervise investment of the budget stabilization fund in accordance with chapter 21-10.

Any interest or other budget stabilization fund earnings must be deposited in the fund. Any amounts provided by law for deposit in the fund and any interest or earnings of the fund which would bring the balance in the fund to an amount greater than five percent of the current biennial state general fund budget, as finally approved by the most recently adjourned special or regular session of the legislative assembly, may not be deposited or retained in the fund but must be deposited instead in the state general fund.

If the director of the office of management and budget projects that general fund revenues for the biennium will be at least two and one-half percent less than estimated by the most recently adjourned special or regular session of the legislative assembly, and if the governor orders a transfer, the state treasurer shall transfer the appropriate funds from the budget stabilization fund to the state general fund to offset the decrease in general fund revenues. The amount transferred from the budget stabilization fund upon order of the governor may not exceed the difference between an amount two and one-half percent below the general fund revenue projections for the biennium and the general fund revenue projections for the biennium by the director of the office of management and budget.

2. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD (SIB).

The Fund is charged by law under NDCC 21-10-02.1 with the responsibility of establishing policies on investment goals and asset allocation of the Fund. The SIB is charged with implementing these policies and asset allocation and investing the assets of the Fund in a manner consistent with the prudent investor rule as provided in NDCC 21-10-07.

At the discretion of the SIB, the Fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset class pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and objectives of the funds participating in the pools.

The SIB may delegate investment responsibility to professional money managers. When a money manager has been retained, the SIB's role in determining investment strategy and security

selection is supervisory, not advisory. In accordance with this Investment Policy Statement, the Fund's assets may be invested directly or through collective investment vehicles.

The SIB is responsible for establishing criteria and procedures and making decisions with respect to hiring, maintaining, and terminating money managers. This responsibility includes selecting performance measurement services, consultants, and report formats and determining the frequency of meetings with managers.

The SIB will implement changes to this policy as promptly as is prudent.

3. INVESTMENT OBJECTIVES.

The investment objectives of the Fund reflect the relatively unknown life-span and the moderate risk tolerance of the Fund. Operating and statutory considerations shape the Fund's policies and priorities as outlined below:

Objective: Sufficient liquidity is to be maintained to meet known or anticipated financial obligations and preserve the value of the surplus. Cash equivalent investments will be used to achieve this objective.

4. STANDARDS OF INVESTMENT PERFORMANCE.

The Fund's investment objectives are expressed in terms of reward and risk expectations relative to investable, passive benchmarks. The Fund's policy benchmark is comprised of policy mix weights of appropriate asset class benchmarks as set by the SIB:

- a. The Fund's rate of return, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.
- b. The risk-adjusted performance of the Fund, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.

5. POLICY AND GUIDELINES.

The asset allocation of the Budget Stabilization Fund is established by the SIB, with input from the Legacy and Budget Stabilization Advisory Board ("Advisory Board"). Asset allocation is based upon the appraisal of projected liquidity and income requirements, and estimates of the investment returns likely to be achieved by the various asset classes over the next five years.

In recognition of these factors, the following allocation is deemed appropriate for the fund:

Short-term Fixed Income	Minimum of 90%
Bank Loans w/floating yield	Maximum of 5%
Absolute Return Strategies	Maximum of 5%

On June 17, 2017, the Advisory Board acknowledged the Bank of North Dakota Match Loan Certificates of Deposit Program (BND CD) was transferred to the Legacy Fund in early-2017.

Rebalancing of the Fund to this target will be done in accordance with the SIB's rebalancing policy.

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation

b. Derivative use will be monitored to ensure that undue risks are not taken by the money managers.

c. All assets will be held in custody by the State Investment Board's master custodian or such other custodians as are acceptable to the State Investment Board.

d. No funds shall be borrowed excluding a SIB approved securities lending program.

e. No unhedged short sales or speculative margin purchases shall be made.

f. Social investing is prohibited unless it meets the Exclusive Benefit Rule and it can be substantiated that the investment must provide an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.

For the purpose of this document, Social Investing is defined as "The investment or commitment of public pension fund money for the purpose of obtaining an effect other than a maximized return to the intended beneficiaries."

g. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule. For the purpose of this document economically targeted investment is defined as an investment designed to produce a competitive rate of return

commensurate with risk involved, as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

Also, for the purpose of this document, the Exclusive Benefit Rule is met if the following four conditions are satisfied:

- (1) The cost does not exceed the fair market value at the time of investment.
- (2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
- (3) Sufficient liquidity is maintained in the Fund to permit distributions in accordance with the terms of the plan.
- (4) The safeguards and diversity that a prudent investor would adhere to are present.

Where investment characteristics, including yield, risk, and liquidity are equivalent, the Fund's policy favors investments which will have a positive impact on the economy of North Dakota.

6. EVALUATION AND REVIEW.

Investment management of the Fund will be evaluated against the Fund's investment objectives and investment performance standards. Evaluation will be conducted quarterly by the SIB through its review of funds participating in the Insurance Trust.

Money managers will be evaluated by the SIB quarterly. Meetings will be held with the money managers at least annually.

Approved by:

LEGACY AND BUDGET STABILIZATION FUND ADVISORY BOARD STATE INVESTMENT BOARD

NORTH DAKOTA STATE INVESTMENT BOARD

Representative Keith Kempenich Chairman David Hunter Executive Director/CIO, RIO

Date: _____

Date: _____

Approved by the NDSIB: Approved by the LBSFAB: 6/17/2017

CITY OF GRAND FORKS PENSION PLAN

INVESTMENT POLICY STATEMENT

1. PLAN CHARACTERISTICS AND FUND CONSTRAINTS

The City of Grand Forks Pension Fund (the "Fund") is operated by the Grand Forks City Council pursuant to the authority granted in the Grand Forks City Code Chapter 7.

The City of Grand Forks, North Dakota Pension Plan (the "Plan") is a cost-sharing multiple employer public employee pension plan. All classified employees who earned at least one hour of service prior to January 1, 1996 are eligible to participate in the Plan. Some participants have elected to cease benefit accruals under the Plan as of June 30, 2008 and to participate in the North Dakota Public Employees Retirement System.

Benefit provisions are established by the City Council. The employers contribute such amounts as necessary to provide the promised benefits. The contribution amounts are determined by the annual actuarial valuation report and approved by the City Council.

2. FUND GOALS

The plan benefits are financed through both employer and employee contributions and the investment earnings on assets held in the Fund. The City Council recognizes that a sound investment program is essential to meet the pension obligations.

As a result, the Fund goals are to:

- Improve the Plan's funding status to protect and sustain current and future benefits.
- Minimize the employee and employer contributions needed to fund the Plan over the long term.
- Avoid substantial volatility in required contribution rates and fluctuations in the Plan's funding status.
- Accumulate a funding surplus to provide increases in retiree annuity payments to preserve the purchasing power of their retirement benefit.

The City Council acknowledges the material impact that funding the pension plan has on the City's financial performance. These goals affect the Fund's investment strategies and often represent conflicting goals. For example, minimizing the long-term funding costs implies a less conservative investment program, whereas dampening the volatility of contributions and avoiding large swings in the funding status implies a more conservative investment program. The City Council places greater emphasis on the strategy of improving the funding status and reducing the contributions that must be made to the Fund, as it is most consistent with the long-term goal of conserving money to apply to other important projects.

3. RESPONSIBILITIES AND DISCRETION OF THE STATE INVESTMENT BOARD (SIB)

The City Council has entered into a contract with the SIB for investment services as allowed under NDCC 21-10-06. The City Council is responsible for establishing policies on investment goals and asset allocation of the Fund. The SIB is charged with implementing

these policies and investing the assets of the Fund in the manner provided in NDCC 21-10-07, the prudent investor rule. Under this rule, the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The Fund must be invested exclusively for the benefit of the members and their beneficiaries in accordance with this investment policy.

Management responsibility for the investment program not assigned to the SIB in Chapter 21-10 of the North Dakota Century Code (NDCC) is hereby delegated to the SIB, who must establish written policies for the operation of the investment program, consistent with this investment policy.

The SIB may delegate investment responsibility to professional money managers. Where a money manager has been retained, the SIB's role in determining investment strategy and security selection is supervisory, not advisory.

At the discretion of the SIB, the Fund's assets may be pooled with other funds. In pooling funds, the SIB may establish whatever asset class pools it deems necessary with specific quality, diversification, restrictions, and performance objectives appropriate to the prudent investor rule and the objectives of the funds participating in the pools.

The SIB is responsible for establishing criteria, procedures, and making decisions with respect to hiring, keeping, and terminating money managers. SIB investment responsibility also includes selecting performance measurement services, consultants, report formats, and frequency of meetings with managers.

The SIB will implement changes to this policy as promptly as is prudent.

4. RISK TOLERANCE

The City Council is unwilling to undertake investment strategies that might jeopardize the ability of the Fund to finance the pension benefits promised to plan participants. However, funding the pension promise in an economical manner is critical to the City Council's ability to continue to provide pension benefits to plan participants. Thus, the City Council actively seeks to lower the cost of funding the plan's pension obligations by taking on risk for which it expects to be compensated over the long term. The City Council understands that a prudent investment approach to risk taking can result in periods of under-performance for the Fund in which the funding status may decline. These periods, in turn, can lead to higher required contribution rates. Nevertheless, the City Council believes that such an approach, prudently implemented, best serves the long-run interests of the City and, therefore, of plan participants.

5. INVESTMENT OBJECTIVES

The City Council's investment objectives are expressed in terms of reward and risk expectations relative to investable, passive benchmarks. The Fund's policy benchmark is comprised of policy mix weights of appropriate asset class benchmarks as set by the SIB.

- 1. The fund's rate of return, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.
- 2. The fund's risk, measured by the standard deviation of net returns, should not exceed 115% of the policy benchmark over a minimum evaluation period of five years.
- 3. The risk-adjusted performance of the fund, net of fees and expenses, should at least match that of the policy benchmark over a minimum evaluation period of five years.

6. POLICY ASSET MIX

Benefit payments are projected to occur over a long period of time. This allows the City Council to adopt a long-term investment horizon and asset allocation policy for the management of fund assets. Asset allocation policy is critical because it defines the basic risk and return characteristics of the investment portfolio. Asset allocation targets are established using an asset-liability analysis designed to assist the City Council in determining an acceptable volatility target for the fund and an optimal asset allocation policy mix. This asset-liability analysis considers both sides of the plan balance sheet, utilizing both quantitative and qualitative inputs, in order to estimate the potential impact of various asset class mixes on key measures of total plan risk, including the resulting estimated impact of funded status and contribution rates. After consideration of all the inputs and a discussion of its own collective risk tolerance, the City Council approves the appropriate policy asset mix for the Fund.

	Policy
Asset Class	Target %
Global Equity	60
Domestic Equity	40
Large	30
Small	10
International Equity	15
Developed	10
Emerging	5
Private Equity	5
Global Fixed Income	24
Investment Grade	17
Non-Investment Grade	7
Global Real Assets	15
Global Real Estate	7
Infrastructure	5
Timber	3
Cash	1

While the City Council recognizes fluctuations in market values will lead to short-term deviations from policy targets, the City Council does not intend to engage in tactical asset allocation. Rebalancing of the Fund to this target will be done in accordance with the SIB's rebalancing policy, but not less than annually.

7. RESTRICTIONS

While the SIB is responsible for establishing specific quality, diversification, restrictions, and performance objectives for the investment vehicles in which the Fund's assets will be invested, it is understood that:

- a. Futures and options may be used to hedge or replicate underlying index exposure, but not for speculation.
- b. Derivatives use will be monitored to ensure that undue risks are not taken by the money managers.
- c. No transaction shall be made which threatens the tax exempt status of the Fund.
- d. All assets will be held in custody by the SIB's master custodian or such other custodians as are acceptable to the SIB.
- e. No unhedged short sales or speculative margin purchases shall be made.
- f. Social investing is prohibited unless it meets the exclusive benefit rule, and it can be substantiated that the investment provides an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.

For the purpose of this document, social investing is defined as the consideration of socially responsible criteria in the investment or commitment of public fund money for the purpose of obtaining an effect other than a maximized return to the Fund.

g. Economically targeted investing is prohibited unless the investment meets the Exclusive Benefit Rule.

For the purpose of this document economically targeted investment is defined as an investment designed to produce a competitive rate of return commensurate with risk involved, as well as to create collateral economic benefits for a targeted geographic area, group of people, or sector of the economy.

Also, for the purpose of this document, the Exclusive Benefit Rule is met if the following four conditions are satisfied:

- (1) The cost does not exceed the fair market value at the time of investment.
- (2) The investment provides the Fund with an equivalent or superior rate of return for a similar investment with a similar time horizon and similar risk.
- (3) Sufficient liquidity is maintained in the Fund to permit distributions in accordance with the terms of the plan.
- (4) The safeguards and diversity that a prudent investor would adhere to are present.

Where investment characteristics, including yield, risk, and liquidity are equivalent, the City Council's policy favors investments which will have a positive impact on the economy of North Dakota.

8. INTERNAL CONTROLS

A system of internal controls must be in place by the SIB to prevent losses of public funds arising from fraud or employee error. Such controls deemed most important are the separation of responsibilities for investment purchases from the recording of investment activity, custodial safekeeping, written confirmation of investment transactions, and established criteria for investment manager selection and monitoring. The annual financial audit must include a comprehensive review of the portfolio, accounting procedures for security transactions and compliance with the investment policy.

9. EVALUATION AND REVIEW

Investment management of the Fund will be evaluated against the Fund's investment objectives. Emphasis will be placed on five year results. Evaluation should include an assessment of the continued feasibility of achieving the investment objectives and the appropriateness of the Investment Policy Statement for achieving those objectives.

Performance reports will be provided to the City Council periodically, but not less than annually. Such reports will include asset returns and allocation data as well as information regarding all significant and/or material matters and changes pertaining to the investment of the Fund, including, but not limited to:

- 1. A list of the advisory services managing investments for the SIB.
- 2. A list of investments at market value, compared to previous reporting period, of each account managed by each advisory service.
- 3. Earnings, percentage earned, and change in market value of each account's investments.
- 4. Comparison of the performance of each account managed by each advisory service to other accounts under the SIB's control and to generally accepted market indicators.
- 5. All material legal or legislative proceedings affecting the SIB.
- 6. Compliance with this investment policy statement.

Trustee for the City of Grand Forks, North Dakota Pension Plan	David Hunter Executive Director/CIO Retirement and Investment Office				
Ву:					
Date:	Date:				
Ву:					

Date:

Approved by the City of Grand Forks: June 19, 2017 Approved by the State Investment Board: SIB Members should review the attached *Board Members' Code* of *Conduct* and <u>sign</u> the annual affirmation statement today.

Memorandum

To: State Investment Board

From: RIO Compliance Officer

Date: July 28, 2017

RE: Annual Affirmation of Code of Conduct Policy

Governance Process Policy B-8, *Board Members' Code of Conduct,* which is attached to this memorandum, details the Code of Ethical Responsibility for the SIB. Item #10 of this policy indicates that each Board Member is required to reaffirm their understanding of this policy annually and disclose any conflicts of interest. Therefore, please read and sign the statement below to comply with this requirement.

"I have read and understand SIB Governance Process Policy B-8 *Board Members' Code of Conduct*. I have disclosed any conflicts of interest as required by this policy."

Name (printed) ______

Signature_____

Date_____

Detail of any conflicts of interest (if any):

Memorandum

To: State Investment Board

From: RIO Compliance Officer

Date: July 28, 2017

RE: Annual Affirmation of Code of Conduct Policy

Governance Process Policy B-8, *Board Members' Code of Conduct,* which is attached to this memorandum, details the Code of Ethical Responsibility for the SIB. Item #10 of this policy indicates that each Board Member is required to reaffirm their understanding of this policy annually and disclose any conflicts of interest. Therefore, please read and sign the statement below to comply with this requirement.

"I have read and understand SIB Governance Process Policy B-8 *Board Members' Code of Conduct*. I have disclosed any conflicts of interest as required by this policy."

Name (printed) _____

Signature_____

Date	ē			

Detail of any conflicts of interest (if any):

The following will be the Code of Ethical Responsibility for the SIB:

- 1. SIB members owe a duty to conduct themselves so as to inspire the confidence, respect, and trust of the SIB members and to strive to avoid not only professional impropriety but also the appearance of impropriety.
- 2. SIB members should perform the duties of their offices impartially and diligently. SIB members are expected to fulfill their responsibilities in accord with the intent of all applicable laws and regulations and to refrain from any form of dishonest or unethical conduct. Board members should be unswayed by partisan interest, public sentiment, or fear of criticism.
- 3. Conflicts of interest and the appearance of impropriety shall be avoided by SIB members. Board members must not allow their family, social, professional, or other relationships to influence their judgment in discharging their responsibilities. Board members must refrain from financial and business dealings that tend to reflect adversely on their duties. If a conflict of interest unavoidably arises, the board member shall immediately disclose the conflict to the SIB. A board member must abstain in those situations where the board member is faced with taking some official action regarding property or a contract in which the board member has a personal interest. Conflicts of interest to be avoided include, but are not limited to: receiving consideration for advice given to a person concerning any matter over which the board member has any direct or indirect control, acting as an agent or attorney for a person in a transaction involving the board, and participation in any transaction involving for which the board member has acquire information unavailable to the general public, through participation on the board.

"Conflict of Interest" means a situation in which a board member or staff member has a direct and substantial personal or financial interest in a matter which also involves the member's fiduciary responsibility.

- 4. The board should not unnecessarily retain consultants. The hiring of consultants shall be based on merit, avoiding nepotism and preference based upon considerations other than merit that may occur for any reason, including prior working relationships. The compensation of such consultants shall not exceed the fair value of services rendered.
- 5. Board members must abide by North Dakota Century code 21-10-09, which reads: "No member, officer, agent, or employee of the state investment board shall profit in any manner from transactions on behalf of the funds. Any person violating any of the provisions of this section shall be guilty of a Class A misdemeanor."
- 6. Board members shall perform their respective duties in a manner that satisfies their fiduciary responsibilities.
- 7. All activities and transactions performed on behalf of the public funds must be for the exclusive purpose of providing benefits to plan participants and defraying reasonable expenses of administering the plan.

- 8. <u>Prohibited transactions</u>. Prohibited transactions are those involving self-dealing. Self-dealing refers to the fiduciary's use of plan assets or material, non-public information for personal gain; engaging in transactions on behalf of parties whose interests are adverse to the plan; or receiving personal consideration in connection with any planned transaction.
- 9. Violation of these rules may result in an official reprimand from the SIB. No reprimand may be issued until the board member or employee has had the opportunity to be heard by the board.
- 10. Board Members are required to affirm their understanding of this policy annually, in writing, and must disclose any conflicts of interest that may arise (See Exhibit B-I).

Policy Implemented: June 23, 1995. **Amended:** January 22, 1999, February 25, 2011, January 27, 2012, February 27, 2015. Informational

North Dakota State Investment Board Fundamental Investment Beliefs

July 28, 2017

Dave Hunter, Executive Director / CIO Darren Schulz, Deputy Chief Investment Officer ND Retirement & Investment Office (RIO) State Investment Board (SIB)

NDSIB - Fundamental Investment Beliefs

□ Asset allocation is the # 1 driver of investment returns.

- □ The prudent use of active management can improve investment returns and contribute towards ensuring our clients attain their stated investment objectives. (See example below.)
 - If SIB client assets started out the year at \$11 billion and earned 10% in one-year, SIB assets would end the year at \$12.1 billion assuming no contributions or withdrawals (e.g. \$11 billion x 10% = \$1.1 billion + \$11 billion to start = \$12.1 billion at year-end).
 - RIO estimates that SIB clients earned \$100 million of incremental income from the prudent use of active investment management for the fiscal year ended June 30, 2017.
 - If these estimates are accurate, "asset allocation" was responsible for \$1 billion (> 90%) of the net investment return, while "active management" was responsible for \$100 million (< 10%) of the net investment return for the fiscal year ended June 30, 2017.

ND STATE INVESTMENT BOARD

State Investment Board Statement of Net Position As of 5/31/2017

ASSETS:	•	As of <u>5-31-17</u>		As of <u>6-30-16</u>	
INVESTMENTS (AT FAIR VALUE) DOMESTIC EQUITIES GLOBAL/INTERNATIONAL EQUITIES DOMESTIC FIXED INCOME INTERNATIONAL FIXED INCOME REAL ASSETS PRIVATE EQUITY	\$	2,993,355,226 2,876,370,541 3,766,235,078 258,524,351 1,978,392,038 162,589,479	\$	2,592,080,592 2,361,800,570 3,920,837,562 259,720,306 1,874,452,281 159,339,949	ADE INVE G L(N
INVESTED CASH (NOTE 1)		93,024,587		110,032,440	N
TOTAL INVESTMENTS		12,128,491,300		11,278,263,700	NET
RECEIVABLES DIVIDEND/INTEREST RECEIVABLE MISCELLANEOUS RECEIVABLE		34,941,945 25,534		44,972,716 17,231	INTE
TOTAL RECEIVABLES		34,967,479		44,989,947	LE
OTHER ASSETS INVESTED SECURITIES LENDING COLLATERAL (NOTE 2) OPERATING CASH		62,424,814 168,634		116,570,414 230,530	NET SE SE
TOTAL ASSETS		12,226,052,227		11,440,054,591	NE
DEFERRED OUTFLOWS OF RESOURCES DEFERRED OUTFLOWS RELATED TO PENSIONS		87,046		140,933	NET
LIABILITIES: SECURITIES LENDING COLLATERAL (NOTE 2) ACCOUNTS PAYABLE ACCRUED EXPENSES INVESTMENT EXPENSE PAYABLE		62,424,814 - 523,187 8,088,448		116,570,414 57,341 574,826 8,080,178	TOT DEC ADN
TOTAL LIABILITIES		71,036,449		125,282,759	RED
DEFERRED INFLOWS OF RESOURCES DEFERRED INFLOWS RELATED TO PENSIONS		53,603		53,603	тот СНА
NET POSITION: HELD IN TRUST		12,155,049,221	_	11,314,859,162	NET BE
TOTAL NET POSITION	\$	12,155,049,221	\$	11,314,859,162	EN
	4				

ND STATE INVESTMENT BOARD

State Investment Board Statement of Changes in Net Position For the Month Ended 5/31/2017

ADDITIONS: INVESTMENT INCOME		Month Ended <u>5-31-17</u>	Year-to-Date
GAIN ON SALE OF INVESTI LOSS ON SALE OF INVEST		\$ 83,312,018 72,323,201	\$ 1,169,490,889 885,467,225
NET GAINS (LOSSES) INVE	STMENTS	10,988,817	284,023,664
NET APPREC (DEPREC) M	ARKET VALUE	119,065,671	661,044,481
NET CHANGE IN FAIR VALUE	OF INVESTMENTS	130,054,488	945,068,145
INTEREST, DIVIDEND & OTH	ER INVESTMENT INCOME	24,153,529	243,243,514
LESS INVESTMENT EXPENS	SES	2,702,203	28,140,940
NET INCOME FROM INVESTI	NG ACTIVITIES	151,505,814	1,160,170,719
SECURITIES LENDING INCO SECURITIES LENDING EXPE NET SECURITIES LENDING	ENSES	123,322 24,647 98,675	1,257,245 251,236 1,006,009
NET INVESTMENT INCOME	Net investment	154.004.400	1,161,176,728
PURCHASE OF UNITS (\$1/U	income exceeds	74,645,799	615,887,704
TOTAL ADDITIONS	\$1.1 billion for the 11 months ended	226,250,288	1,777,064,432
DEDUCTIONS: ADMINISTRATIVE EXPENSE REDEMPTION OF UNITS (\$1/	May 31, 2017.	123,198 37,508,425	1,206,271 935,668,102
TOTAL DEDUCTIONS		37,631,623	936,874,373
CHANGE IN NET POSITION		188,618,665	840,190,059
NET POSITION: BEGINNING OF PERIOD		11,966,430,556	11,314,859,162
END OF PERIOD		\$ 12,155,049,221	\$ 12,155,049,221

These financial statements are preliminary, unaudited is subject to a subject to a

3

subject to change. 6/27/2017

These financial statements are preliminary, unaudited and subject to change.

6/27/2017

SIB assets exceed \$12 billion as of May 31, 2017, and have doubled from \$6 billion the last 5 years.

Preliminary Return Estimates – Fiscal 2017

Pension Trust +12% (\$550 million of net income - \$5.3 billion AUM)

- Asset Allocation 58% Equity, 23% Fixed Income, 19% Real Assets
- Equities up 19%; Fixed Income and Real Assets up 4%

Legacy Fund +11% (\$440 million of net income - \$4.6 billion AUM)

- Asset Allocation 50% Equity, 35% Fixed Income, 15% Real Assets
- Equities up 19%; Fixed Income and Real Assets up 3%

Insurance Trust +7% (\$160 million of net income - \$2.1 billion AUM)

- Allocation 24% Equity, 52% Fixed Income, 19% Real Assets, 5% Cash
- Equities up 19%; Fixed Income and Real Assets up 3%

AUM = Assets Under Management, preliminary estimates as of June 30, 2017

Affirm Commitment to Board Education and Governance

- Maintain a persistent awareness to the importance of continuing board education.
 - Emphasize continuing board education at SIB meetings and promote the attendance of educationally focused industry conferences.
 - Given current budget pressures, the SIB engaged our consultant to offer "Callan College" in Bismarck in order improve accessibility for board members and clients while seeking to reduce costs.
- Reaffirm organizational commitment to our current governance structure.
 - Annual board review of SIB governance manual (conducted every September) including governance meetings in July of 2015 and 2016.

Board Education – July 1, 2015 to June 30, 2017

SIB members have actively participated in numerous educational opportunities over the last year including the following sessions which occurred during our regularly scheduled board meetings:

- Capital Market Updates & Performance Review Education by Callan (6 hours)
- Portfolio Reviews by JPMorgan, PIMCO, Western Asset Management, Invesco, Epoch and Adams Street Partners (6 hours)
- Investment Performance Reviews by RIO Staff (6 hours)
- Governance Education by Aon Hewitt, Callan & KPA Advisory (6 hours)
- Litigation Monitoring Education by the Office of the Attorney General (2 hours)
- Investment Management Fee Reviews by Callan (2 hours)
- Capital Market, Portfolio & Securities Lending Updates by Northern Trust (2 hours)
- Time spent by board members reviewing meeting materials in advance (10+ hours)

Several board members and RIO staff have obtained additional investment education by attending conferences sponsored by a wide variety of industry experts such as:

- Callan's Annual Conference and/or Callan College (two to three days)
- Common Fund Forums (two to three days)
- Great Plains (and/or Mountain States) Investor Forum (one to two days)
- National Association of State Retirement Officers (two to three days)
- National Association of State Investment Officers (two to three days)
- National Association of State Investment Professionals (two to three days)
- Various conferences sponsored by "Pensions and Investments" (one to three days)

Next Educational Opportunity: Today's Callan College Onsite

Annual Board Planning Cycle – Biennial Agenda SIB Approved on April 28, 2017

Annual Board Planning Cycle

Biennial Agenda

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Fiscal 2017-18	July 2017	August	September	October	November	December	January 2018	February	March	April	May
	Board	Annual	Annual	Annual	Investment	No Meeting	Board	Investment	Review	Review	Investment
	Education	Investment	Review of	Evaluation	Director	Scheduled	Education	Director	Budget	"Ends"	Director
	(BSC Offsite)	Performance	Gov. Manual	of RIO vs.	Report on		Risk	Report on	Guidelines	Policies,	Report on
	- Election of	Review		Ends policies	Investment		Management	Investment	for next	Biennial	Investment
	Officers*	- Establish	- New Board	- Annual	Work Plan			Work Plan	Biennium	Agenda,	Work Plan
	- Appoint	Investment	Member	Board	Board			- Executive		Strategic	ED/CIO
	Audit Comm.*	Work Plan	Orientation	Evaluation	Education			Limitations		Plan and	Review
	- Plan Annual	- Add Invest.	Complete		Investments			Review		Budget	- Investment
	Agenda	Education								Guidelines	Guidelines
	* May be delayed										
Fiscal 2018-19	July 2018	August	September	October	November	December	January 2019	February	March	April	May
	Plan Board	Annual	Annual	Annual	Investment	Reserved	Board	Investment	Confirm	Review	Investment
	Education	Investment	Review of	Evaluation	Director	for a	Education	Director	Budget	Biennial	Director
	Offsite	Performance	Gov. Manual	of RIO vs.	Report on	potential	Risk	Report on	Guidelines	Agenda,	Report on
The SIB Meeting	- Election of	Review	- New Board	Ends policies	Investment	SIB meeting	Management	Investment		End Policies,	Investment
Agenda has not	Officers,	- Establish	Member	- Annual	Work Plan	in advance of		Work Plan		Strategic	Work Plan
been establised	- Appoint	Investment	Orientation	Board	Board	Legislative	- Legislative	- Executive	- Legislative	Investment	ED/CIO
for Fiscal 2018-19	Audit Comm.	Work Plan	Complete	Evaluation	Education	Session	Update	Limitations	Update	Plan and	Review
	- Plan Annual	- Add Invest.			Investments	(Preview RIO		Review		Budget	- Investment
	Agenda	Education				Budget)				Guidelines	Guidelines

1.) SIB Governance Policy B-7 on Governance Process states that "the Board will follow a biennial agenda which (a) completes a re-exploration of Ends policies annually (April) (which is also referred to as "RIO's Mission Statement") and (b) continually improves its performance through attention to board education and to enriched input and deliberation."

- 2.) "In the first three months of the new cycle, the Board will develop its agenda for the ensuing year. Scheduled monitoring will be used to evaluate and adjust the annual agenda as needed."
- 3.) "The Board will identify areas of education and input needed to increase the level of wisdom forethought it can give to subsequent choices. A board education plan will be developed during July and August of each year."
- 4.) Budget Guidelines: RIO will prepare and submit a biennial budget pursuant to OMB guidelines as established by the Governor which will not reduce the level of service provided by RIO. Expenditures for budget items will not exceed the appropriation without approval of the State Investment Board.

Annual SIB Meeting Schedule for 2017-18

July 28, 2017	January 26, 2018
August 25, 2017	February 23, 2018
September 22, 2017	March 23, 2018
October 27, 2017	April 27, 2018
November 17, 2017	May 25, 2018
December – No Meeting	June – No Meeting

The SIB approved the above meeting schedule on April 28, 2017.

Regular attendance at SIB meetings is important.

Strategic Investment Plan – SIB Approved April 28, 2017

Fundamental Investment Beliefs

Asset allocation decisions are the primary driver of investment returns, but the prudent use of active investment management is an important contributor towards ensuring our clients attain their stated investment objectives. SIB clients generated over \$250 million of incremental income via the prudent use of active investment management the last five years including \$100 million of incremental income (or excess return) in 2016.

Strategic Investment Plan

- 1. Reaffirm our organizational commitment to the importance of continuing board education and strong board governance.
- 2. Enhance understanding of our core goals and beliefs while enhancing overall transparency.
 - a. Remain steadfast in our commitment to the prudent use of active investment management.
 - b. Expand awareness to downside risk management which is essential to achieving our long term investment goals.
 - c. Given actual and projected growth of SIB client assets and the heightened public awareness of the Legacy Fund, align our investment platforms to promote greater clarity and efficiency in reporting and implementing client investment policies.
- 3. Expand RIO's influence and ability to create positive and sustainable change by building deeper relationships with existing clients, organizations and legislative leaders.
 - a. Enhance community outreach to build upon public awareness and confidence.
 - b. Develop concise presentations which highlight our overall risk, return and cost control framework including our progress towards attaining our long-term goals.
- 4. Heighten employee engagement by promoting an open and collaborative work environment while encouraging employee participation in staff meetings, offer team members more opportunities to impact RIO's change initiatives and improve the office environment for staff and clients.
 - a. RIO's ability to continue to deliver strong results is dependent on the combined efforts of our highly valuable team members.
- 5. Enhance our internal control environment by improving use of proven risk management solutions relating to fraud risk assessments, investment risk management and overall enterprise risk management.
 - a. A robust risk management framework serves as a foundation to support a sound internal control environment and lessen downside risks.
 - b. Broaden stakeholder awareness of the challenges faced in estimating Legacy Fund earnings for any given period. A deeper understanding may serve to change the basic methodology used for determining budget estimates in future biennia.
- 6. Evaluate and expand the efficient use of technology in our investment program activities including risk management, compliance monitoring, client satisfaction surveys, website design and communications in order to increase overall efficiency and effectiveness.

RIO Update – July 2017

- RIO moved to 3442 East Century Ave. (about a ¼ mile west of the new Caribou Coffee / Einstein Bagels in N.E. Bismarck). The move went well & we continue to get settled in our new space.
- RIO staff did an exceptional job coordinating the move and sorting out all of the issues that go into an office transition.
- RIO expects to be \$75,000 under budget for the 2015-17 biennium after including incremental costs with relocating our office in late-June. RIO will provide further guidance on the impact of recent budget cuts on board and staff travel shortly.
- After 10-years of dedicated service, Darlene Roppel will retire from RIO effective July 28, 2017. We sincerely thank Darlene for all of her great work over the past decade and wish her and her family all the best in the future.

Callan



July 28, 2017

North Dakota State Investment Board

"Callan College"

Paul Erlendson Senior Vice President

Alex Browning Vice President

John Pirone, CFA, CAIA Senior Vice President

Table of Contents

- Callan College Capital Market Theory
- Callan College Asset Allocation
- Callan College Role of the Fiduciary



Capital Market Theory

July 2017

Capital Markets are an Auction



- For financial investments, Capital market theory attempts to explain the relationship between investment returns and risks.
- Addresses both individual investments and portfolios of multiple investments.
- Uses:
 - Asset valuation: How much is an asset worth given the characteristics of the other assets in market?
 - Performance measurement. How did an asset perform historically relative to the other assets in similar markets? How are risk and return related?
 - Portfolio construction: How should a portfolio of assets be constructed given the variety of different assets available for investment?
- Capital market theory provides the bedrock language we use to communicate on investments with all investor types.

Agenda

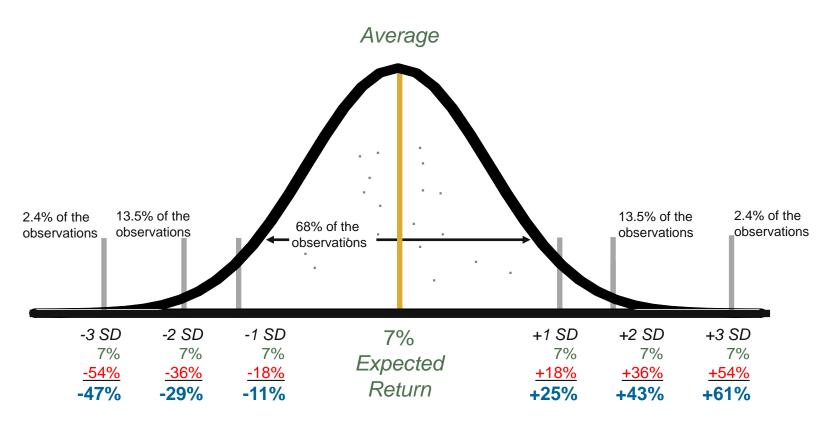
Capital Market Theory

- Basics
 - Return and risk
 - Diversification
 - Modern portfolio theory (MPT)
 - Creating optimal portfolios
- Practical applications
 - Portfolio optimization
 - Risk and return attribution

Risk According to Modern Portfolio Theory

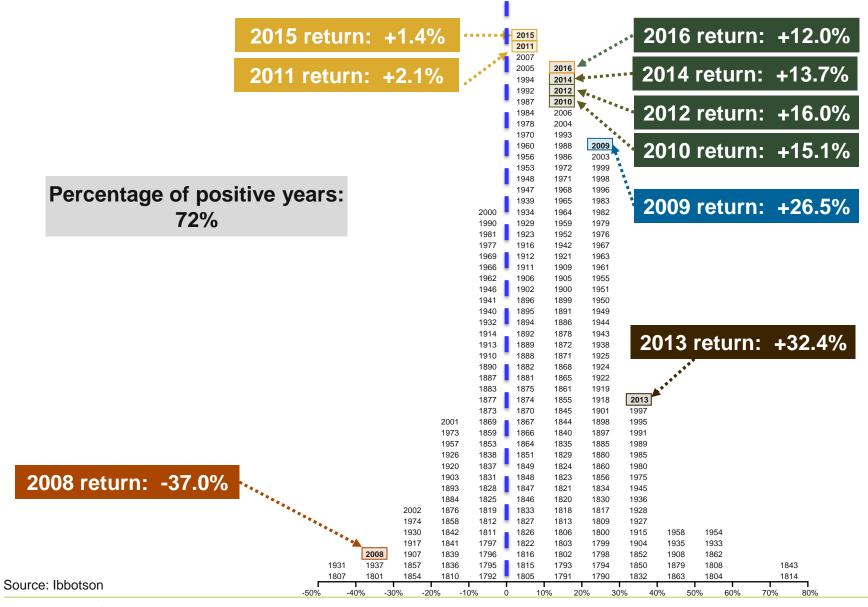
Equity Range of Returns Example:

Expected Return:7%Standard Deviation:18%



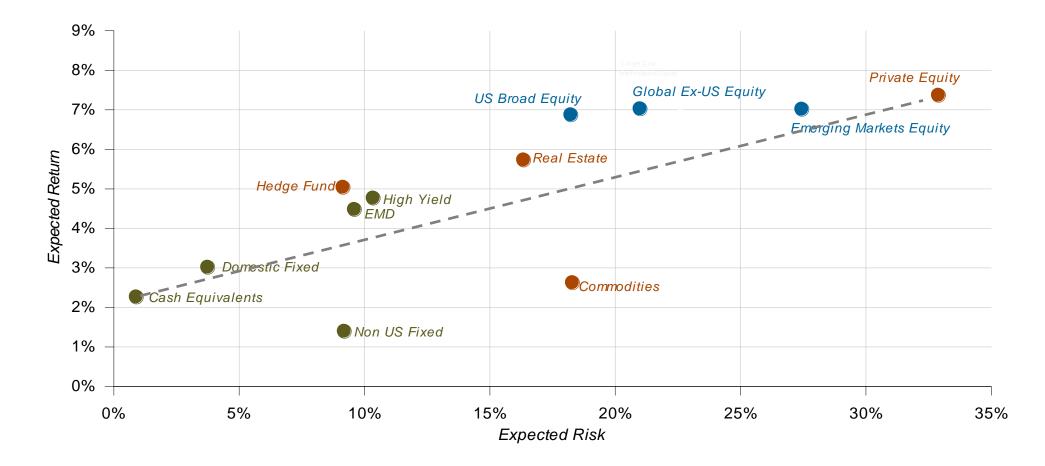
Stock Market Returns by Calendar Year

History of the U.S. Stock Market (228 Years of Returns)



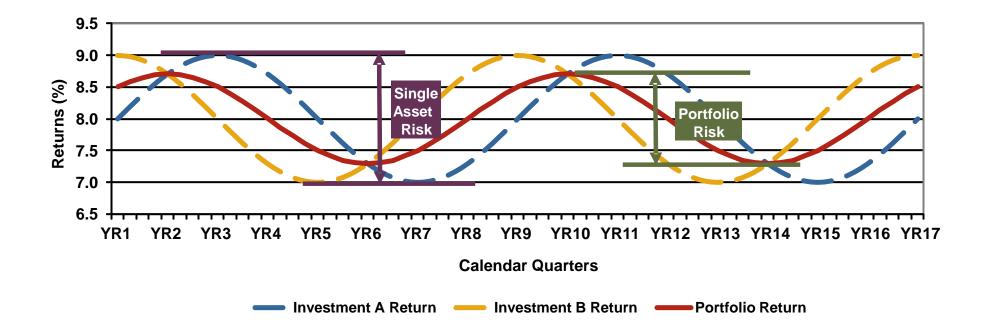
Callan Knowledge. Experience. Integrity.

Relationship Between Risk and Return – Capital Market Line



- Modern portfolio theory assumes investors are risk averse.
 - Given a choice between two assets with the same level of return, an investor will select the asset with a lower level of risk.
 - The risk premium demanded by investors provides evidence of risk aversion.
 - For example, investors demand a greater return from private equity over public equity for the increased risk they are assuming.

Diversification



- "Don't put all of your eggs in one basket".
 - Diversification is an age-old concept.
- If one outcome is bad, all is not lost.
 - The goal is risk control.
- The key is to diversify across risky assets that react differently to various macroeconomic scenarios.

- Correlation measures the degree to which two investments, move in relation to each other.
- Correlations range from -1 to +1.

• +1 correlation:

- Returns are "perfectly correlated" or synchronized.
- No diversification benefit or reduction in volatility

• 0 correlation:

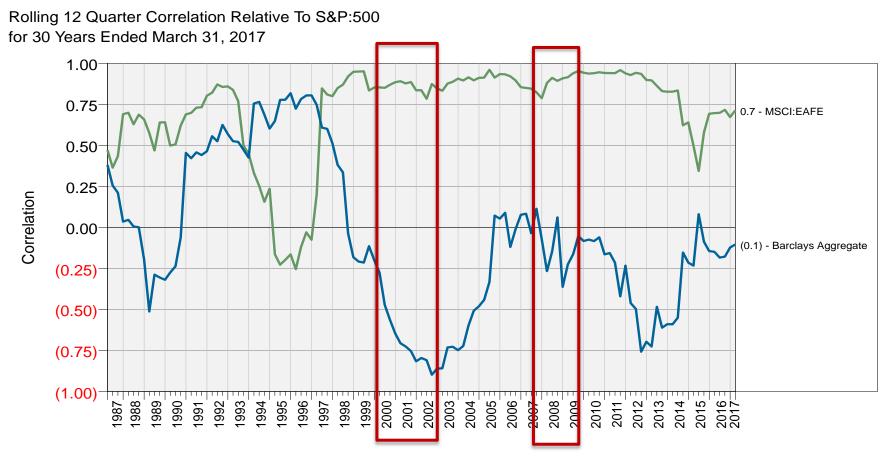
- The relationship between the returns of two investments is completely random.
- Substantial reduction in volatility.

-1 correlation:

- Returns are completely unsynchronized.
- Good and bad returns exactly cancel out, leaving no volatility.
- Low correlations maximize the benefits of diversification.

Correlations in Practice

Correlations Can Change over Time



• Fixed income serves as the portfolio's "anchor" during crises.

- Fixed income correlations with equity decreased during the Dot Com Crash (2000-2002) and the Global Financial Crisis (2007-2009).
- Strategic long-term investors still experienced diversification.

2017 Capital Market Expectations—Correlation Coefficient Matrix

Key to Constructing Efficient Portfolios

Broad US Equity	1.000																		
Large Cap	0.996	1.000																	
Small/Mid Cap	0.966	0.940	1.000																
Global ex-US Equity	0.874	0.872	0.839	1.000															
Non-US Equity	0.840	0.840	0.800	0.987	1.000														
Em Mkts Equity	0.866	0.860	0.845	0.936	0.865	1.000													
Short Duration	-0.250	-0.240	-0.270	-0.271	-0.250	-0.290	1.000		_										
US Fixed	-0.110	-0.100	-0.135	-0.130	-0.115	-0.160	0.870	1.000											
Long Duration	0.133	0.136	0.119	0.104	0.117	0.066	0.730	0.925	1.000										
TIPS	-0.054	-0.045	-0.080	-0.049	-0.030	-0.085	0.525	0.600	0.528	1.000									
High Yield	0.636	0.635	0.610	0.627	0.605	0.615	-0.140	0.020	0.217	0.060	1.000								
Non-US Fixed	0.013	0.050	-0.100	0.013	0.060	-0.090	0.480	0.510	0.542	0.340	0.120	1.000							
Em Mkt Debt	0.573	0.570	0.555	0.577	0.550	0.580	-0.040	0.100	0.157	0.180	0.600	0.010	1.000						
Real Estate	0.732	0.730	0.705	0.677	0.660	0.650	-0.165	-0.030	0.188	0.000	0.560	-0.050	0.440	1.000					
Private Equity	0.948	0.945	0.915	0.927	0.895	0.910	-0.260	-0.200	0.020	-0.110	0.640	-0.060	0.570	0.715	1.000				
Hedge Funds	0.802	0.800	0.770	0.760	0.730	0.755	-0.130	0.080	0.301	0.075	0.570	-0.080	0.540	0.605	0.780	1.000			
Commodities	0.152	0.150	0.150	0.161	0.155	0.160	-0.220	-0.100	-0.041	0.120	0.100	0.050	0.190	0.200	0.180	0.210	1.000		_
Cash Equivalents	-0.043	-0.030	-0.080	-0.040	-0.010	-0.100	0.300	0.100	-0.048	0.070	-0.110	-0.090	-0.070	-0.060	0.000	-0.070	0.070	1.000	
Inflation	-0.010	-0.020	0.020	0.010	0.000	0.030	-0.200	-0.280	-0.285	0.180	0.070	-0.150	0.000	0.100	0.060	0.200	0.400	0.000	1.000
	Broad US Eq	Large Cap	Sm/Mid Cap	Global ex-US	Non-US Equity	Em Mkt Eq	Sht Dur	US Fixed	Long Duration	TIPS	High Yield	Non-US Fixed	Em Mkt Debt	Real Estate	Private Equity	Hedge Funds	Comm	Cash Equiv	Inflation

- Relationships between asset classes is as important as standard deviation.
- To determine portfolio mixes, Callan employs mean-variance optimization.
- Return, standard deviation and correlation determine the composition of efficient asset mixes.

Source: Callan Associates

2017 Capital Market Expectations—Return and Risk

Summary of Callan's Long-Term Capital Market Projections (2017 – 2026)

		PRO	JECTED RET	URN	PROJECTED RISK		
Asset Class	Index	1-Year Arithmetic	10-Year Geometric*	Real	Standard Deviation	Sharpe Ratio	
Equities							
Broad Domestic Equity	Russell 3000	8.30%	6.85%	4.60%	18.25%	0.332	U.S. Equity
Large Cap	S&P 500	8.05%	6.75%	4.50%	17.40%	0.333	Projections:
Small/Mid Cap	Russell 2500	9.30%	7.00%	4.75%	22.60%	0.312	-
Global ex-U.S. Equity	MSCI ACWI ex USA	8.95%	7.00%	4.75%	21.00%	0.319	6.85% Return
International Equity	MSCI World ex USA	8.45%	6.75%	4.50%	19.70%	0.315	18.70% Risk
Emerging Markets Equity	MSCI Emerging Markets	10.50%	7.00%	4.75%	27.45%	0.301	
Fixed Income							_
Short Duration	Barclays G/C 1-3	2.60%	2.60%	0.35%	2.10%	0.167	
Domestic Fixed	Barclays Aggregate	3.05%	3.00%	0.75%	3.75%	0.213	U.S. Fixed Income
Long Duration	Barclays Long G/C	3.75%	3.20%	0.95%	10.90%	0.138	Projections:
TIPS	Barclays TIPS	3.10%	3.00%	0.75%	5.25%	0.162	3.00% Return
High Yield	Barclays High Yield	5.20%	4.75%	2.50%	10.35%	0.285	
Non-U.S. Fixed	Barclays Global Aggregate ex US	1.80%	1.40%	-0.85%	9.20%	-0.049	3.75% Risk
Emerging Market Debt	EMBI Global Diversified	4.85%	4.50%	2.25%	9.60%	0.271	
Other							_
Real Estate	Callan Real Estate	6.90%	5.75%	3.50%	16.35%	0.284	
Private Equity	TR Post Venture Cap	12.45%	7.35%	5.10%	32.90%	0.310	
Hedge Funds	Callan Hedge FOF Database	5.35%	5.05%	2.80%	9.15%	0.339	
Commodities	Bloomberg Commodity	4.25%	2.65%	0.40%	18.30%	0.109	
Cash Equivalents	90-Day T-Bill	2.25%	2.25%	0.00%	0.90%	0.000	
Inflation	CPI-U		2.25%		1.50%		_

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

Source: Callan Associates

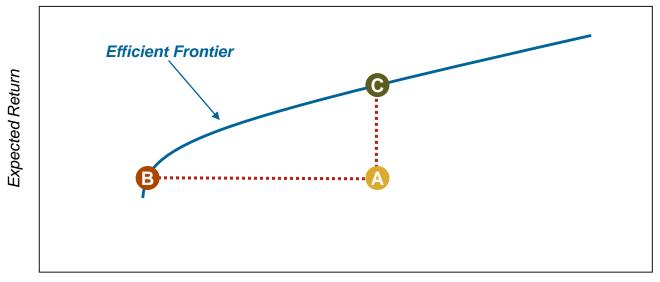
Callan

The Mean Variance Optimization Machine

How efficient portfolios are built



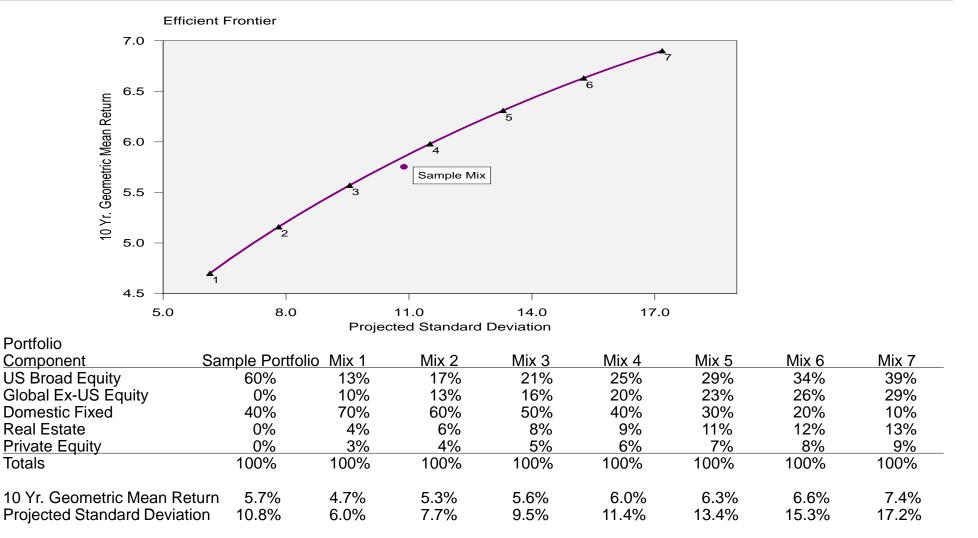
Diversification and the Efficient Frontier



Expected Standard Deviation (Risk)

- An efficient portfolio is the combination of available assets that provides the highest level of return for a given level of risk.
 - C's return ≥ A's return
- Alternatively, it is the portfolio that provides the lowest level of risk for a given level of return.
 − B's risk ≤ A's risk
- The efficient frontier comprises all efficient portfolios in risk and return space.

Portfolio Mean-Variance Optimization Example



• The optimization model determines the portfolios with the highest expected return for any given risk level.

- The sample portfolio is below the efficient frontier because it is relatively undiversified.
- Determining the efficient frontier is the first step in developing asset allocation policy.

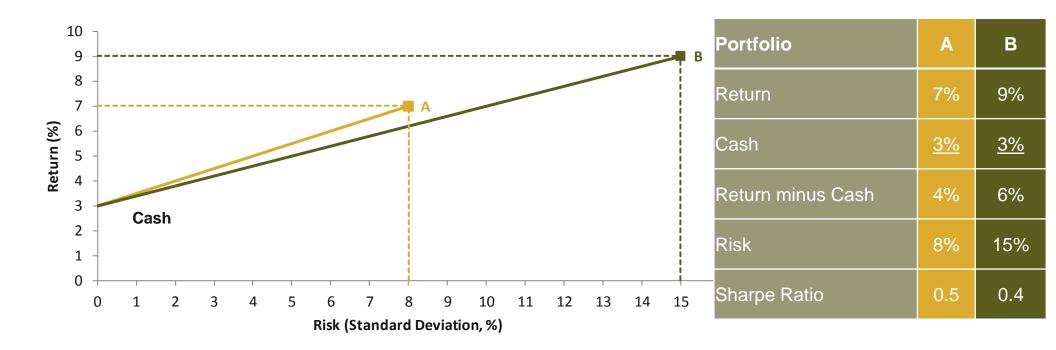
At the asset class level:

- Absolute measures:
 - Total return vs. standard deviation of return
- Risk-adjusted measure:
 - Sharpe Ratio

At the individual manager or group of managers (manager structure level):

- Focus is on relative measures versus the benchmark:
 - Excess return
 - Tracking error
 - Peer groups

The Sharpe Ratio: Measure of Risk-Adjusted Performance

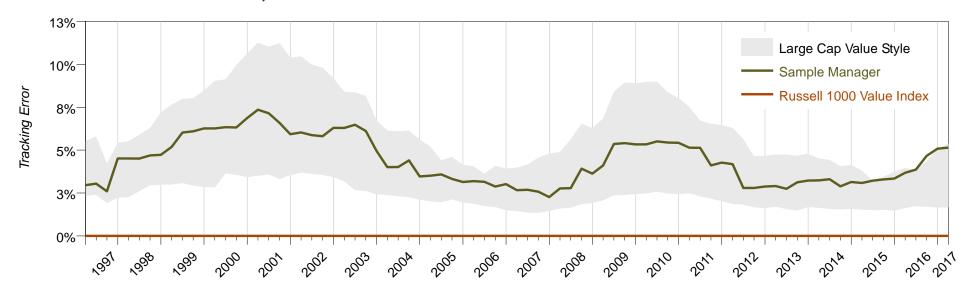


- Sharpe Ratio = (Return Cash) / Risk (standard deviation).
 - The Sharpe ratio represents a risk premium (reward) earned per unit of risk.
- More diversified portfolios generally have higher Sharpe Ratios.
- However, "...You can't eat a Sharpe Ratio"

- Index Basket of securities that replicate a market or a portion of a market.
- Benchmark Proxy (typically an index) against which investment performance is compared to determine whether the manager has added value.
- Passive Management Portfolio which mimics the overall performance of the asset class or relevant market index.
- Active Management Actively managing investment securities with the objective of earning positive returns.
- **Style** Investment approach that a manager uses to make choices in the selection of securities for the fund's portfolio.

Measuring Manager Performance: Excess Return and Tracking Error

Rolling 12 Quarter Tracking Error Relative To Russell:1000 Value for 20 Years Ended March 31, 2017



- Excess return measures a portfolio's return relative to a specified benchmark.
 - Excess return = portfolio return minus the return of its benchmark.
 - For example, if a manager returned 9%/year and its S&P 500 benchmark returned 7%/year, the manager's excess return is 2%/year.
- Tracking error is the standard deviation of a portfolio's excess returns.
 - Tracking error measures how much a portfolio could out or underperform its benchmark over time.
 - A portfolio that is actively managed in an aggressive manner would have a large amount of tracking error versus its benchmark index. A portfolio which tightly hugs the benchmark would have smaller amounts of tracking error.
 - Index funds have essentially no tracking error.

Application of Excess Return: Active vs. Passive Management

In Domestic Equity, Small Cap Has Been a Better Hunting Ground for Active Managers

Style	Benchmark	Annualized Historical Gross Excess Returns	Estimated Fees	Annualized Historical Net Excess Returns
US Large Cap Core	S&P 500	-0.08%	0.30%	-0.22%
US Large Cap Value	Russell 1000 Value	-0.53%	0.30%	-0.83%
US Large Cap Growth	Russell 1000 Growth	0.21%	0.30%	-0.09%
US Small Cap Core	Russell 2000	1.94%	0.50%	1.44%
US Small Cap Value	Russell 2000 Value	1.88%	0.50%	1.38%
US Small Cap Growth	Russell 2000 Growth	1.73%	0.50%	1.23%

Based on 20 years of rolling 3 year median manager returns (Period Q2 1997- Q1 2017)

• In U.S. large cap, the median active manager has <u>underperformed</u> its benchmark after fees, whereas the median small cap U.S. equity manager has <u>outperformed</u> after fees.

Source: Callan Associates Manager Database

Application of Excess Return: Active vs. Passive Management

International Equity Active Managers Have Been Successful

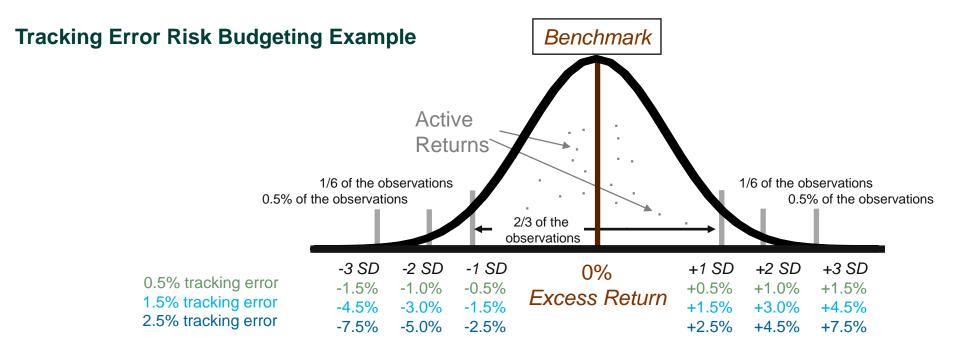
Style	Benchmark	Annualized Historical Gross Excess Returns	Estimated Fees	Annualized Historical Net Excess Returns
International Large Cap	MSCI ACWI ex-US	2.04%	0.60%	1.44%
Developed Large Cap	MSCI EAFE	1.93%	0.50%	1.43%
Emerging Large Cap	MSCI Emerging	1.50%	0.80%	0.70%
Developed Small Cap	MSCI EAFE Small Cap	1.61%	0.85%	0.76%

Based on 20 years of rolling 3 year median manager returns (Period Q2 1997- Q1 2017)

- In both developed and emerging markets, the median international active manager has outperformed its benchmark net of fees.
- Supports case for active manager in international equity
 - However, index funds have lower costs and are good liquidity sources
 - Relative allocation to active vs. passive also depends on level of tracking error comfortable with (next slide)

What Tracking Error is Appropriate?

- Higher tracking error budgets increase the potential for outperformance or underperformance of the plan relative to its benchmark
- Aversion to underperformance is often a key driver when choosing the plan's tracking error
- More indexing results in lower fees and tracking error
- Successful active management would shift the entire distribution to the right



- Capital markets are simply large auctions where investors discover "market prices".
- As investors, we prefer investments with higher returns and less risk.
- In portfolios of multiple investments, correlation helps control expected risk.
- Using risk, return, and correlation forecasts, Mean Variance Optimization (MVO) produces a selection of "efficient" portfolios.
- When building portfolios of managers, tracking error can help determine the appropriate level of active vs. passive management.



Asset Allocation

July 2017

Asset Allocation and Baking Bread

Not so different

- In Baking Bread, you mix:
 - Yeast
 - Water
 - Flour
 - Salt
 - Butter
- In Asset Allocation, you mix:
 - Equities
 - Fixed Income
 - Cash
 - Real Estate
 - Alternatives



- Like baking, if you follow the recipe, you have a nice loaf of bread at the end.
- But if you haphazardly mix ingredients, you end up hungry.
- The goal of Asset Allocation is to create something that is greater than the sum of its parts.

- Overview of Asset Allocation
- Asset-Liability Background
- Asset-Liability Case Study

- You decide what the appropriate asset allocation should be

- Asset allocation is the primary determinant of investment return and risk
 - It is far and away the most important decision for your plan
- Asset allocation is the process of determining the optimal allocation of a portfolio among broad asset classes based upon, among other factors:
 - Liability characteristics
 - Capital market expectations
 - Cash flow considerations
 - Risk tolerance
 - Investment goals
 - Time horizon
- Elements of an appropriate target asset allocation include:
 - Identifying asset classes for inclusion (avoid overlaps and minimize gaps)
 - Special considerations such as asset class limitations, implementation challenges, size or capacity constraints
 - Liquidity requirements

• Primary asset classes used by institutional investors include:

"Traditional" Asset Classes

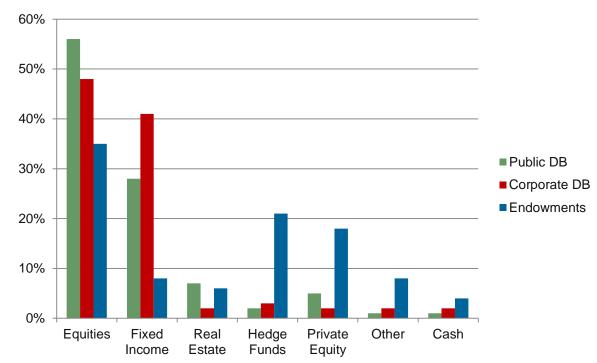
- US Stocks
- Non-US Stocks
 - Developed Markets (ex US)
 - Emerging Markets
- Bonds
 - US Bonds
 - Non US Bonds
- Cash

"Alternative" Asset Classes

- Real Estate
- Private Equity
- Hedge Funds

Asset Allocation Policies Can Vary Widely by Plan Type

Average Allocations



- Corporate and public pensions invest less in alternative assets than endowments
- Regulatory considerations incent corporate pensions to hold relatively high allocations to fixed income
- Within plan types, asset allocations vary widely as well, influenced by:
 - Funded status
 - The characteristics of the plan's liabilities
 - Cash flow needs

Callan Knowledge. Experience. Integrity.

Interaction of Three Key Policies

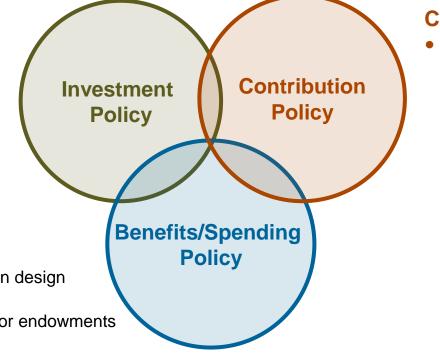
Three strategic policies govern any pool of assets whether it be a pension fund, endowment, or foundation.

Investment Policy

- How will the assets supporting the benefits/spending be invested?
- What risk and return objectives?
- How to manage cash flows?

Benefits Policy

- For pensions, governed by plan design
 - Open, closed or frozen?
- What type of spending policy for endowments and foundations?



Contribution Policy

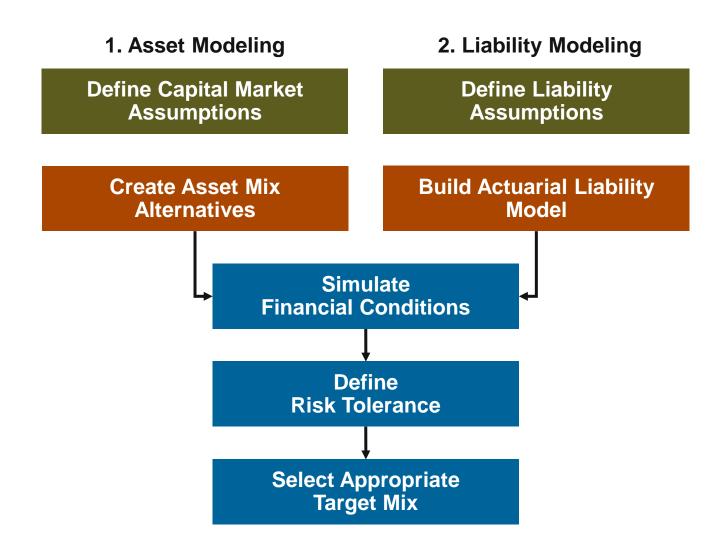
 What are expected inflows (contributions, fundraising, bequests, royalties)?

Goal of the Asset-Liability Study

- The goal of an asset-liability study is to establish a long-term strategic asset allocation target
- Pension plan equation of balance:

- An appropriate asset allocation will depend on the Plan Sponsor's investment objectives:
 - Minimize costs over the long run (long-term goal)
 - How much return generation is necessary to lower contributions and/or improve funded status?
 - Minimize funded status volatility (short-term goal)
 - How much risk reduction to reduce contribution/funded status volatility?
- The strategic asset allocation target should be an optimal balance between sustainable funded status volatility and minimization of contributions over the long run
- The strategic asset allocation will vary by the unique circumstances of the Plan Sponsor – No "one-size-fits-all" solution exists

Callan Asset Allocation and Liability Process



Annualized Capital Market Return Expectations

Callan's Long-Term Capital Market Projections (2017 - 2026)

• Domestic Equity (S&P 500) forecasted at 6.75%, Non-U.S. Equity at 7.00%

- Building up US equity returns from long-term fundamentals, we arrive at 6.75%:
 - -+ 2.25% real GDP growth
 - -+ 2.25% inflation forecast translates to 4.5% nominal earnings growth,
 - + 2.25% dividend yield = 6.75%
 - Small premium for Non-US over Domestic, largely driven by Emerging Markets

Broad market bond returns forecasted to be 3.0%

- We forecast a modest rise in interest rates over the next 10 years, with most of the increase front-loaded to the first three years
- Project an upward sloping yield curve, but a only a modest risk premium for bonds over cash (0.75%)
- Cash returns over horizon of 2.25%, reflecting a continued rise in the Fed Funds rate

Real Estate expected return of 5.75%

- Reflects downward pressure on income returns with increased competition for investment
- Asset class eyed by those hungering for yield

Hedge Fund expected return of 5.00%

- Expectations of T-bills plus 2.75%
- Combination of return from equity market exposure as well as liquid and illiquid factor exposures

Capital Market Expectations—Expected Return and Risk

Summary of Callan's Long-Term Capital Market Projections (2017–2026)

Asset Class	Benchmark	Expected Return*	Standard Deviation
US Broad Equity	Russell 3000	6.85%	18.25%
Global Ex-US Equity	MSCI ACWI ex-US	7.00%	21.00%
US Broad Fixed Income	Bloomberg Barclays Aggregate	3.00%	3.75%
Private Real Estate	Callan Real Estate	6.00%	16.45%
Private Equity	Post Venture Economics	7.35%	32.90%
Hedge Funds	Callan Hedge FOF Database	5.00%	9.15%
Real Assets	Composite**	4.80%	9.25%

* 10 yr annualized return

** Proxied with 1/3 TIPS, 1/3 Commodities, 1/3 US Equity

Grouping Asset Classes by Economic Roles

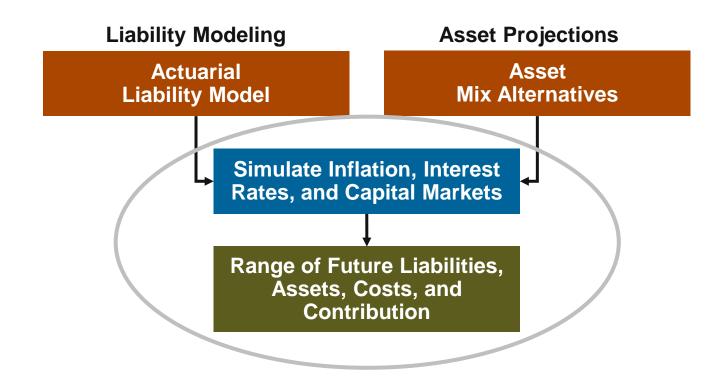
Economic Growth

Low Growth	High Growth
High Inflation (Stagflation)	High Inflation
Real Assets TIPS Commodities	Real Estate, Timberland, Farmland
Low Growth	High Growth
Low Inflation (Deflation)	Low Inflation
Cash	Equity
Government Bonds	Corporate Debt

• Investors seek economic diversification to a range of scenarios like - high inflation, deflation, stagflation, and growth given uncertainty in the capital markets going forward

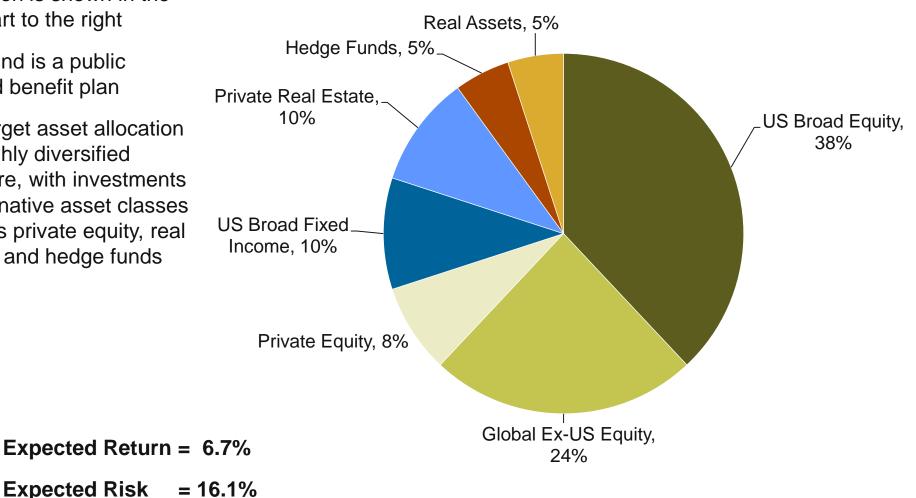
- Scenarios (quadrants) are not equally likely and the graph does not imply 25% of assets should be dedicated to each bucket
- Asset classes may not perform well in scenario indicated above (no guarantees)
- No distinction is made between unexpected or expected inflation which can have ramifications for how an asset class performs.

Inflation



- Generate 2,000 simulations per year, per asset mix to capture possible future economic scenarios and their effect on the portfolio
- The simulation results were then ranked from highest to lowest to develop probability distributions

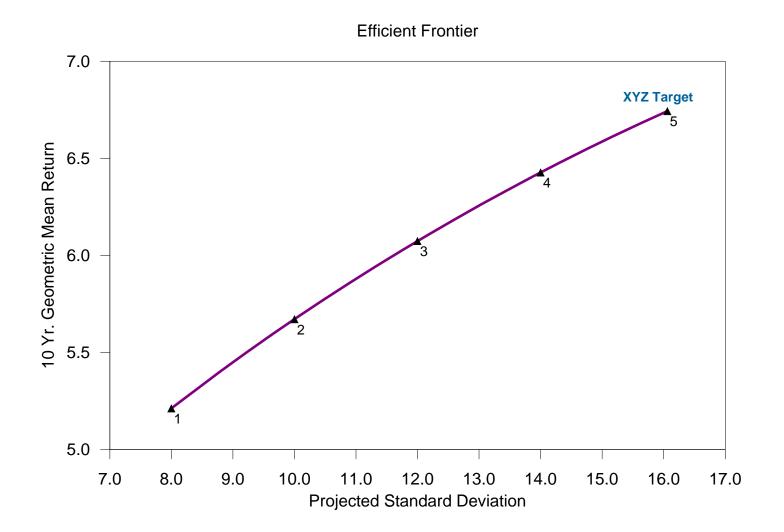
- The Fund's current target allocation is shown in the pie chart to the right
- The Fund is a public defined benefit plan
- The target asset allocation is a highly diversified structure, with investments in alternative asset classes such as private equity, real estate, and hedge funds



Target Asset Allocation

Callan Knowledge. Experience. Integrity.

The Efficient Frontier Shows Risk/Return Tradeoffs



• XYZ target portfolio is on the efficient frontier with same risk as Mix 5

Comparison of Mixes Across the Efficient Frontier

	XYZ Target	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Broad US Equity	38%	14%	19%	24%	28%	33%
Global Ex-US Equity	24%	13%	16%	19%	23%	26%
Private Equity	8%	4%	5%	6%	7%	8%
Broad US Fixed Income	10%	49%	38%	28%	18%	7%
Private Real Estate	10%	5%	7%	9%	10%	12%
Hedge Funds	5%	5%	6%	6%	6%	7%
Real Assets	5%	10%	9%	8%	8%	7%
Total	100%	100%	100%	100%	100%	100%
Total Equity	70%	31%	40%	49%	58%	67%
Fixed Income	10%	49%	38%	28%	18%	7%
Illiquid Assets	23%	14%	18%	21%	23%	27%
Inflation Hedging Assets	15%	15%	16%	17%	18 %	19%
Mix Characteristics						
Expected Return*	6.7%	5.2%	5.7%	6.1%	6.4%	6.7%
Standard Deviation	16.1%	8.0%	10.0%	12.0%	14.0%	16.1%
Sharpe Ratio	0.28	0.37	0.34	0.32	0.30	0.28
95% Value at Risk**	-18%	-8%	-10%	-13%	-15%	-18%

* 10 year annualized return

Callan

** 95% chance that the portfolio will not lose more than the percentage shown in one year

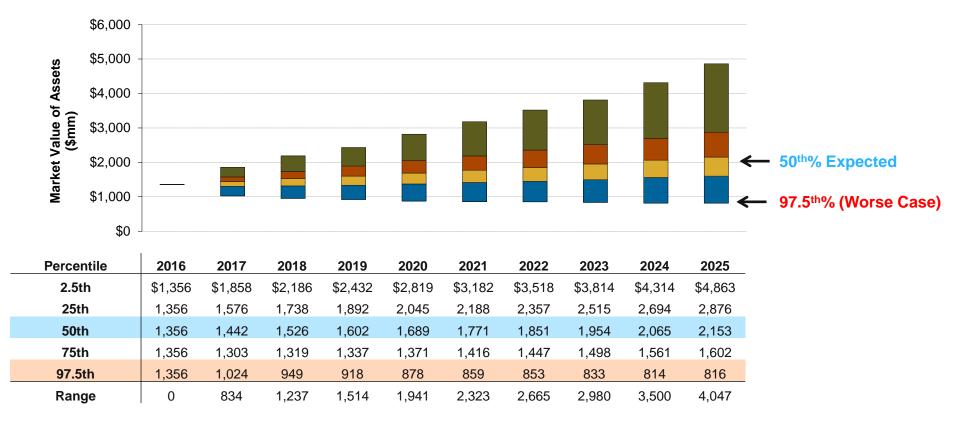
- Current XYZ target portfolio has essentially identical properties as optimal Mix 5.
- Current XYZ portfolio risk level is aggressive.

- Callan built an actuarial liability model to reproduce actuarial valuation
- Liability model is based on the actuarial valuation report from plan's actuary
- Plan is a public defined benefit plan just shy of fully funded

December 31, 2016 Financial Position				
XYZ Market Value of Assets	\$1,356 Million			
XYZ Actuarial Liability	\$1,423 Million			
XYZ Funded Status	95%			

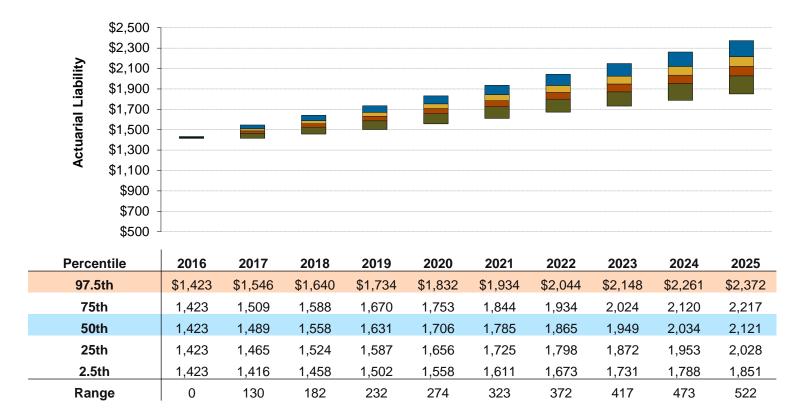
Key Assumptions	Actuarial	Callan
Investment Return	7.0%	6.7% (Target Mix)
Price Inflation	3.0%	2.25%
Salary Growth	3.50% + Merit/ Seniority	2.75% + Merit/ Seniority

Market Value of Assets for Current Target Mix



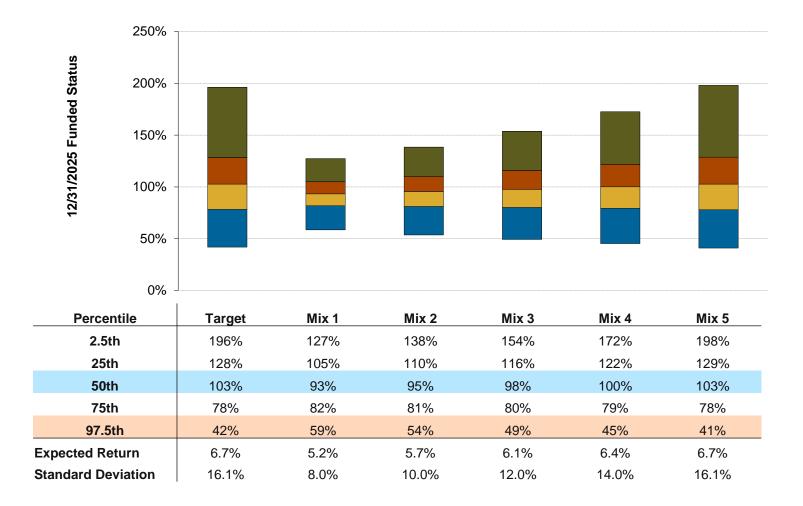
- The expected outcome is the 50th percentile, a 50/50 chance of occurrence
- The worse case scenario is the 97.5th percentile; a 1 in 40 chance of occurrence
 - For example, there is a 1 in 40 chance (2.5% probability) that the 12/31/2025 market value of assets will be \$816m or less.

Actuarial Liability Forecast Over Time



• Plan liabilities are increasing at a steady pace

Evaluating 12/31/2025 Funded Status by Policy Mix



- In 50th percentile case, both mixes 4 and 5 result in fully funded plan on an actuarial basis
- More aggressive mixes are <u>expected</u> to have a higher funded status over time but will have a lower funded status in a worse case scenario (97.5th percentile)

- The table to the right compares the current target and proposed mixes
- Relative to XYZ's current target:
 - Mix 5 has virtually identical characteristics with an expected return of 6.7%
 - Mix 4 has an expected return of 6.4% and is expected to preserve funded status over time
 - Mix 3 is most conservative with lowest potential drawdown but lowest expected return
- What asset allocation do you think is appropriate?
 – Why?

	XYZ Target	Mix 3	Mix 4	Mix 5
Broad US Equity	38%	24%	28%	33%
Global Ex-US Equity	24%	19%	23%	26%
Private Equity	8%	6%	7%	8%
Broad US Fixed Income	10%	28%	18%	7%
Private Real Estate	10%	9%	10%	12%
Hedge Funds	5%	6%	6%	7%
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Sharpe Ratio	0.28	0.32	0.30	0.28
95% Value at Risk**	-18%	-13%	-15%	-18%

* 10 year annualized return

** 95% chance that the portfolio will not lose more than the percentage shown in one year

Factor	Public Pension	Corporate Pension	Endowment and Foundation
Investment Goal	\checkmark	\checkmark	\checkmark
Time Horizon	✓	$\checkmark\checkmark$	√
Liquidity Needs	\checkmark	✓	✓
Willingness to take Risk	$\checkmark\checkmark$	$\checkmark\checkmark$	✓
Size of Plan/Fund relative to Sponsor	✓	$\checkmark \checkmark$	√
Financial Strength of Sponsor	✓	$\checkmark\checkmark$	√
Absolute Return Target	$\checkmark \checkmark \checkmark$		√ √ √
Projected Funded Status	$\checkmark\checkmark$	✓	
Contribution Volatility	$\checkmark\checkmark$	√ √	
Liability Characteristics	\checkmark	$\checkmark\checkmark$	
Financial Statement Sensitivity		✓	
Permissible Investments	\checkmark		
Spending Volatility			✓
Peer Group Comparison	$\checkmark\checkmark$	√	✓



The Role of the Fiduciary

July 28, 2017

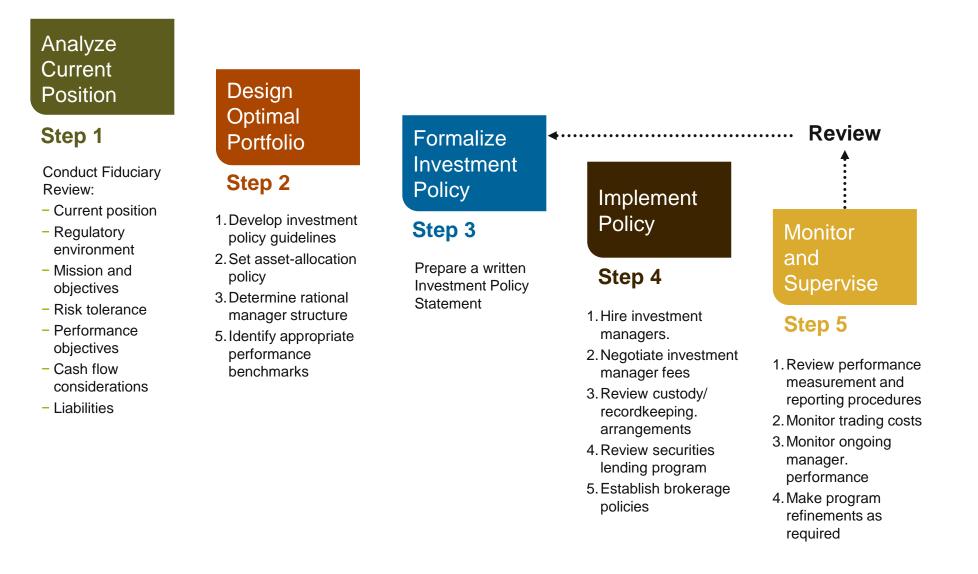
Framing the Discussion

Topics of Discussion

- 1. An overview of the fiduciary process as relates to operating an investment program
- 2. A practical understanding of who is a "fiduciary" and a description of fiduciary duties
- 3. An overview of "governance": what is it in practice and why does governance matter
- 4. Best practices: a noble if aspirational goal for fiduciaries and investors
- 5. A listing of suggested readings

Framing the Discussion: Steps in the Investment Process

A recommended fiduciary process for all types of funds



Who is a fiduciary?

Comments below are of a practical nature and should not be construed as legal advice

- A fiduciary is anyone who has discretionary authority or control over plan assets and/or the administration of the employee benefit plan. This status is not derived from one's title, fiduciary status results from the functions one performs.
- The United States Department of Labor describes fiduciaries as those who:
 - "exercise discretionary control or authority over plan management or plan assets, have discretionary authority or responsibility for the administration of a plan, or provide investment advice to a plan for compensation or have any authority or responsibility to do so."¹
- Depending on the individual's or firm's responsibilities, fiduciary status may apply to administrators, staff, trustees, investment committee members, investment managers, and consultants.
- The legal definition of "fiduciary" is defined in law. Laws vary so one should consult with qualified legal counsel to determine one's legal status within a fiduciary construct.

¹ The quotation is taken from the US Department of Labor website: <u>https://www.dol.gov/general/topic/health-plans/fiduciaryresp</u>.

The duties of a fiduciary

Paraphrased from "The Clapman Report 2.0²

- **Duty of Loyalty**: A Trustee must discharge his or her duties with respect to the system solely in the interests of and for the exclusive purpose of providing benefits to participants and their beneficiaries. There are related duties such as minimizing employer contributions and defraying reasonable expenses but the Trustee's duty to participants and their beneficiaries takes precedence over all other duties.
- **Duty of Impartiality**: The duty of impartiality requires a Trustee to act in a way that serves the overall best interests of all members of the system when the Board is required to make a decision that may impact groups of participants differently.
- **Duty of Care (prudence)**: Fiduciaries must discharge their duties with respect to the system with the same care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character with like aims.
- Fiduciaries are also expected to run the plan solely in the interest of participants and beneficiaries ("exclusive benefit rule); diversify plan assets to minimize likelihood of large losses; control expenses; avoid conflicts of interest; and follow Plan documents.

² These duties are addressed in detail in Clapman Report 2.0: Model Governance Provisions to Support Pension Fund Best Practice Principles," (2013). Published by The Stanford Institutional Investors' Forum Committee on Fund Governance.

Prohibited Transactions

"ERISA"³ applies to private sector employee benefit plans. One element of ERISA speaks to certain types of transactions that are prohibited conduct by Plan Fiduciaries..

- Self-dealing by a fiduciary: A fiduciary can't engage in transactions with the Plan if that fiduciary
 - 1. has a personal interest (self-dealing) in the transaction,
 - 2. has or represents adverse interests, or
 - 3. receives compensation from a third party...
- **Party in interest transactions:** The duty of impartiality requires a Trustee to act in the overall best interests of all members of the system whenever the Board makes a decision that may affect groups of participants differently (e.g.– retired members, active members, future members).

Prohibited transaction rules are complex. There may be significant monetary and potential criminal penalties.

³ The Employee Retirement Income Security Act ("ERISA") of 1974 was created to address problems that had arisen within the private sector trust fund world. It addresses a number of procedural issues including fiduciary behavior.

- 1. Prepare, follow and periodically review written investment policies.
- 2. Diversify portfolio assets with regard to the specific risk/return objectives of participants/beneficiaries.
- 3. Use qualified professionals ("prudent experts") to provide advice and make discretionary investment decisions.
- 4. Control and account for all investment and administrative expenses.
- 5. Monitor the activities of all money managers and service providers.
- 6. Document the process used to make investment policy decisions

What is "governance"?

An essential element of any successful enterprise

- Governance models define principles, procedures and responsibilities.
- There is much variety yet no single 'best' model.
- In their 2014 white paper⁴, Randy Miller and Rick Funston identified four basic governance models utilized by public pension funds (from most to least common):
 - 1. An integrated investment and pension administration organization with a single board;
 - 2. A separate investment management organization with its own board;
 - 3. Separate investment and pension administration organizations reporting to one board; and
 - 4. Sole fiduciary.

⁴ "Public Pension Governance That Works" (2014). By Randy Miller and Rick Funston, Funston Advisory Services LLC.

- NCPERS⁵ has proposed a series of topics to be addressed in a governance model:
 - Governance Manual
 - Board Practices
 - Board Policies
 - Risk Oversight
 - Strategic Planning
 - Reporting: Key Performance and Risk Measures
 - Stakeholder Communications
- Two key elements of successful governance models:
 - Continuing education for Trustees and staff, including formal training for new Trustees
 - Active and regular participation by each Trustee in the fiduciary process

⁵ National Conference on Public Employee Retirement Systems, "Best Governance Practices for Public Retirement Systems"

One firm's view of "best practices"

Vanguard conducted a survey and identified the following best practices⁶

- An explicit understanding of a portfolio's purpose and objective and a clear definition of success in determining whether the portfolio fulfills that purpose and meets that objective.
- A charter outlining the roles and responsibilities of committee members, support staff, and if applicable consultants.
- A clear investment strategy that includes a reasonable set of assumptions about a sponsoring organization's risk tolerance and expected returns.
- A straightforward process for hiring managers to implement that investment strategy and for identifying the circumstances under which such relationships can be terminated.
- Common sense and discipline.
- A recognition that investment theory is often at odds with behavioral tendencies, necessitating that committee members adopt a disciplined investment system and maintain their focus on the investment goals.
- A willingness by committee members to challenge and debate the issues at hand using facts and data instead of relying on strong opinions to prevail.
- A desire by Trustees to establish constructive relationships and discussions among themselves and with those with whom they work in order to be the best committee or Board possible.

⁶ "Investment Committees: Vanguard's Views of Best Practices" (2004). The Vanguard Group.

A selection of additional readings

The following publication present a variety of governance and best practice suggestions. While they may not always agree, they provide the reader with informed points of view.

 The "Uniform Management of Public Employee Retirement Systems Act" (UMPERA, 1997), 67 pages. UMPERA is a model law drafted by the National Conference of Commissioners on Uniform State Laws. It addresses prudent investment rules; trustee liability; and disclosures among other issues. Available online at:

http://www.uniformlaws.org/shared/docs/management_public_employee_retirement_systems/mper sa_final_97.pdf

- "A Practical Guide for 21st Century Public Pension Trustees" offered by the Funston Advisory Services LLC (2017). Available for purchase at <u>www.Amazon.com</u> and through the International Foundation of Employee Benefit Plans <u>www.IFEBP.org</u>
- "The Cambridge Handbook of Institutional Investment and Fiduciary Duty" (2014), >460 pages. Available for purchase at <u>www.Amazon.com</u>.
- "Best Practices for Plan Fiduciaries" (2013), 70 pages. Produced by the Vanguard Group. Available online at https://institutional.vanguard.com/iam/pdf/BestPracticesPlanFiduciaries.pdf
- "A Primer for Investment Trustees" (2011), 120 pages. Published by the Research Foundation of CFA Institute. Available online at <u>http://www.cfapubs.org/doi/pdf/10.2470/rf.v2011.n1.1</u>
- The "CFA Institute Asset Manager Code" (2017), 2 pages. The CFAI urges code adoption by asset managers. Available at: <u>https://www.cfainstitute.org/ethics/Documents/amc_outreach_flyer.pdf</u>

A selection of additional readings (continued)

- "Clapman Report 2.0: Model Governance Provisions to Support Pension Fund Best Practice Principles" (2013), 85 pages. Published by The Stanford Institutional Investors' Forum Committee on Fund Governance. It is an update to the earlier "Clapman Report" released May 2007. Available online at: <u>https://law.stanford.edu/index.php?webauth-</u> <u>document=event/392911/media/slspublic/ClapmanReport_6-6-13.pdf</u>
- "Best Governance Practices for Investment Committees" (2014), 60 pages. Published by the Greenwich Roundtable. Addresses roles and responsibilities of the Board, Chair, Investment Committee, and Chief Investment Officer. Also discusses the investment policy statement. Available online at: <u>https://www.cfainstitute.org/ethics/Documents/GR%20BP%20Governance.pdf</u>
- "Enhancing Public Retiree Pension Plan Security: Best Practice Policies for Trustees and Pension Systems" (2009), 44 pages. Published by the American Federation of State, Municipal and County Employees (AFSCME) and available online at: <u>https://www.afscme.org/news/publications/for-leaders/pdf/AFSCME-report-pension-best-practices-1.pdf</u>
- "How Group Dynamics Affect Decisions" (2013), 4 pages. Published by Bain & Co. Available at: <u>http://www.bain.com/Images/Decision_Insights_How_group_dynamics_affect_decisions.pdf</u>
- "OECD Guidelines For Pension Fund Governance" (2009), 13 pages. Published by OECD. Available online at: <u>https://www.oecd.org/finance/private-pensions/34799965.pdf</u>
- "Developing an effective governance operating model: A guide for financial services boards and management teams" (2013), 16 pages. Published by Deloitte Development LLC. Available online at: <u>http://deloitte.wsj.com/riskandcompliance/files/2013/06/Developinganeffectivegovernance.pdf</u>

A selection of additional readings (continued)

- "10 Tips from Successful Investment Committees" (2016), 9 pages. Published by Callan Associates Inc. Available online at: <u>https://www.callan.com/wp-content/uploads/2017/03/Callan-10-Tips-From-Successful-Investment-Committees.pdf</u>
- "Ethical Mindfulness: A Guide for New Financial Services Professionals" (2014), 9 pages. By Donald C. Langevoort, published by the CFA Institute. Available online at: <u>https://www.cfainstitute.org/learning/future/Documents/Ethical%20Mindfulness.pdf</u>
- "Public Pension Governance That Works" (2014), 18 pages. White paper by Randy Miller and Rick Funston, Funston Advisory Services LLC. Available online at: <u>http://www.nasra.org/Files/Topical%20Reports/Governance%20and%20Legislation/FunstonGovernance1403.pdf</u>
- "Best Governance Practices for Public Retirement Systems" (2012), 5 pages. White paper published by the National Conference on Public Employee Retirement Systems. Available online at: <u>http://www.ncpers.org/Files/2012_ncpers_best_governance_practices.pdf</u>
- "Duty, opportunity, mastery: Investment committee best practices" (2017), 21 pages. White paper published by Vanguard. Available online at: <u>https://institutional.vanguard.com/iam/pdf/ISGICBP.pdf?cbdForceDomain=false</u>
- ""Investment Committees: Vanguard's Views of Best Practices" (2004), 12 pages. The Vanguard Group. Available online at: <u>http://www.vanguard.com/pdf/ICRIC_062004.pdf</u>