



Legacy Fund

RIO Update

LEGACY FUND
Statement of Net Position
As of 9/30/2018

Legacy Fund balances and returns are posted on RIO's website at each month-end.

LEGACY FUND
Statement of Changes in Net Position
For the Month Ended 9/30/2018

	As of 9-30-18	As of 6-30-18
ASSETS:		
INVESTMENTS (AT FAIR VALUE)		
GLOBAL EQUITIES	\$ 2,944,414,308	\$ 2,766,036,036
GLOBAL FIXED INCOME	2,037,448,765	1,929,981,907
GLOBAL REAL ASSETS	828,654,190	805,149,765
INVESTED CASH (NOTE 1)	52,443,540	54,793,877
TOTAL INVESTMENTS	5,862,960,803	5,555,961,585
RECEIVABLES		
DIVIDEND/INTEREST RECEIVABLE	23,155,064	21,357,528
MISCELLANEOUS RECEIVABLE	5,840	14,495
TOTAL RECEIVABLES	23,160,904	21,372,023
OTHER ASSETS		
INVESTED SECURITIES LENDING COLLATERAL (NOTE 2)	25,627,173	24,284,177
OPERATING CASH	162,350	208,349
TOTAL ASSETS	5,911,911,230	5,601,826,134
DEFERRED OUTFLOWS OF RESOURCES		
DEFERRED OUTFLOWS RELATED TO PENSIONS	244,618	271,634
LIABILITIES:		
SECURITIES LENDING COLLATERAL (NOTE 2)	25,627,173	24,284,177
ACCOUNTS PAYABLE	15,050	71,703
ACCRUED EXPENSES	470,495	497,792
INVESTMENT EXPENSE PAYABLE	1,150,895	1,150,895
TOTAL LIABILITIES	27,263,613	26,004,567
DEFERRED INFLOWS OF RESOURCES		
DEFERRED INFLOWS RELATED TO PENSIONS	9,183	9,183
NET POSITION:		
HELD IN TRUST	5,884,883,052	5,576,084,018
TOTAL NET POSITION	\$ 5,884,883,052	\$ 5,576,084,018

	Month Ended 9-30-18	Year-to-Date
ADDITIONS:		
INVESTMENT INCOME		
GAIN ON SALE OF INVESTMENTS	\$ 53,377,218	\$ 161,741,886
LOSS ON SALE OF INVESTMENTS	52,373,438	123,736,320
NET GAINS (LOSSES) INVESTMENTS	1,003,780	38,005,566
NET APPREC (DEPREC) MARKET VALUE	(28,471,285)	57,529,586
NET CHANGE IN FAIR VALUE OF INVESTMENTS	(27,467,505)	95,535,152
INTEREST, DIVIDEND & OTHER INVESTMENT INCOME	12,496,702	27,819,296
	(14,970,803)	123,354,448
LESS INVESTMENT EXPENSES	-	2,200,473
NET INCOME FROM INVESTING ACTIVITIES	(14,970,803)	121,153,975
SECURITIES LENDING INCOME	48,020	197,384
SECURITIES LENDING EXPENSES	9,594	39,444
NET SECURITIES LENDING INCOME	38,426	157,940
NET INVESTMENT INCOME	(14,932,377)	121,311,915

EARNINGS AVAILABLE

Section 26 of Article X of the Constitution of North Dakota dictates that earnings of the Legacy Fund accruing after June 30, 2017, shall be transferred to the general fund at the end of each biennium. Earnings accrued prior to June 30, 2017, become part of the principal of the fund.

NDCC 21-10-12 defines "earnings" for the purposes of Section 26, Article X as "net income in accordance with generally accepted accounting principles, excluding any unrealized gains or losses."

As of the date of these financial statements, the principal balance of the Legacy Fund is \$ 5,094,951,361

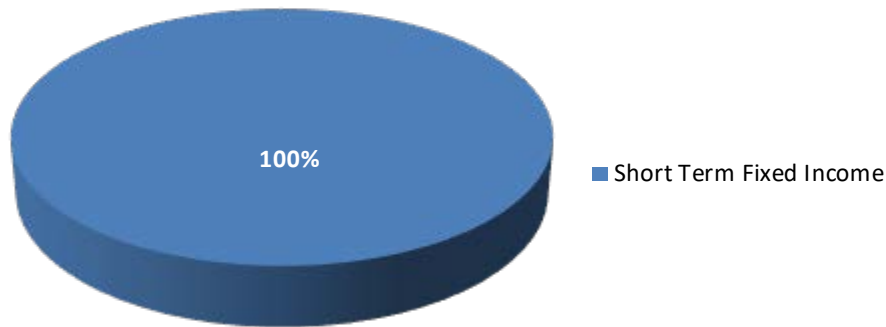
As of the date of these financial statements, earnings of the Legacy Fund eligible for transfer to General Fund at the end of the biennium is \$ 306,513,586

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

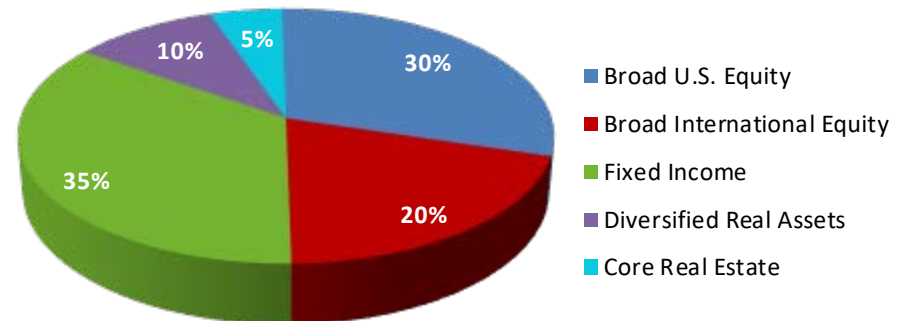
11/5/2018

Legacy Fund Strategic Asset Allocation

Actual Allocation
8/1/2013



Policy Allocation
January 31, 2015 to Current



Note: Amounts are preliminary, unaudited and subject to change.

Legacy Fund – Actual Performance vs Policy Benchmark

Net Returns Exceed Policy Benchmark – Periods Ended 9/30/18

	Quarter Ended 9/30/2018	1 Yr Ended 9/30/2018	3 Yrs Ended 9/30/2018	5 Yrs Ended 9/30/2018	Risk 5 Yrs Ended 9/30/2018	Risk Adj Excess Return 5 Yrs Ended 9/30/2018
Total Fund Return - Net	2.16%	6.04%	9.19%	6.31%	4.11%	0.52%
Policy Benchmark Return	2.19%	5.51%	8.00%	5.28%	3.75%	
Excess Return	-0.02%	0.53%	1.19%	1.03%	OK	

1. For the 1-Year Ended 9/30/2018, the Legacy Fund earned a **Net Return of 6.04%** exceeding the Policy Benchmark of 5.51% and creating **Excess Return of 0.53%**. Actual net returns exceed the Policy Benchmark by **\$25 million** for the 1-year ended 9/30/2018 (e.g. \$5 billion x 0.50% = \$25 million).
2. For the 5-Years Ended 9/30/2018, the Fund earned a **Net Return of 6.31%** exceeding the Policy Benchmark (of 5.28%) and creating **Excess Return of 1.03%**. Actual returns exceed Policy by **\$150 million** for the 5 years ended 9/30/2018 (e.g. \$3 billion x 1.0% = \$30 million x 5 years = \$150 million).
3. The above benchmark returns were achieved while adhering to approved risk levels.

The Policy Benchmark is 50% Equity, 35% Bonds and 15% Real Assets (including Real Estate and Infrastructure).

LEGACY FUND

1-Year Return Sep. 30, 2018	Benchmark	Asset Allocation	Benchmark Return	Allocation x Return
<i>Asset Class</i>		<i>a</i>	<i>b</i>	<i>a x b</i>
Equity	<i>MSCI World Index</i>	50%	11.24%	5.6%
Fixed Income	<i>Bloomberg Aggregate</i>	35%	-1.22%	-0.4%
Diversified Real	<i>Global TIPS / NCREIF</i>	15%	2.10%	0.3%
Policy Benchmark Return (1-year)				5.51%

1. The MSCI World Index was up 11.24% for 1-year ended 9/30/18.

2. The Bloomberg Aggregate Index was down 1.22% for the 1-year ended 9/30/18.

3. Global TIPS were down 1.26% for the 1-year ended 9/30/18.

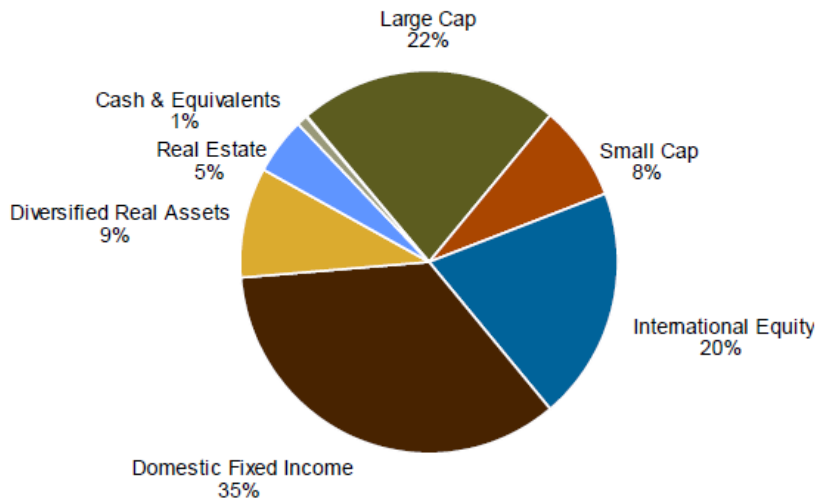
4. NCREIF Total Index was up 7.16% for the 1-year ended 9/30/18.

NCREIF = National Council of Real Estate Investment Fiduciaries

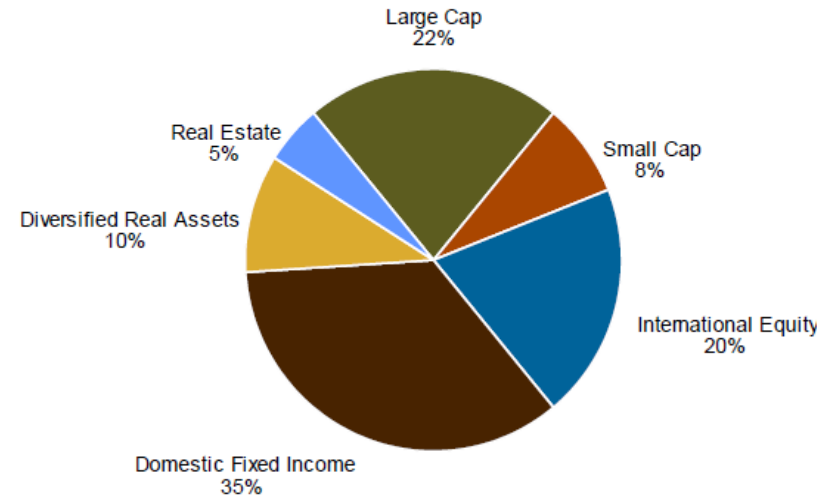
Legacy Fund

Actual Allocations are within 1% of Target as of Sep. 30, 2018

Actual Asset Allocation



Target Asset Allocation



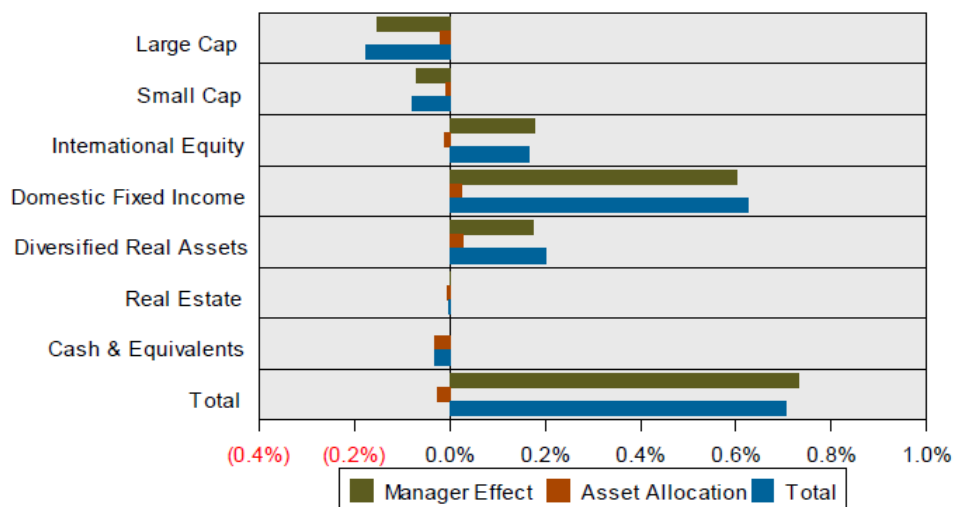
Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Large Cap	1,315,453	22.3%	22.0%	0.3%	20,507
Small Cap	474,473	8.1%	8.0%	0.1%	3,584
International Equity	1,160,993	19.7%	20.0%	(0.3%)	(16,230)
Domestic Fixed Income	2,050,114	34.8%	35.0%	(0.2%)	(10,026)
Diversified Real Assets	549,288	9.3%	10.0%	(0.7%)	(39,324)
Real Estate	283,299	4.8%	5.0%	(0.2%)	(11,007)
Cash & Equivalents	52,496	0.9%	0.0%	0.9%	52,496
Total	5,886,116	100.0%	100.0%		

Callan notes that "Allocations are well within target ranges. The Legacy Fund's rebalancing benefits from significant monthly cash inflows which allow RIO to tightly control exposures to liquid asset classes."

Legacy Performance and Attribution

As of September 30, 2018

One Year Relative Attribution Effects



Returns for 1 Year Ended 09/30/2018

Return Type	Return (%)
Gross	6.24%
Net of fees	6.04%
Target	5.53%
Net added	0.51%

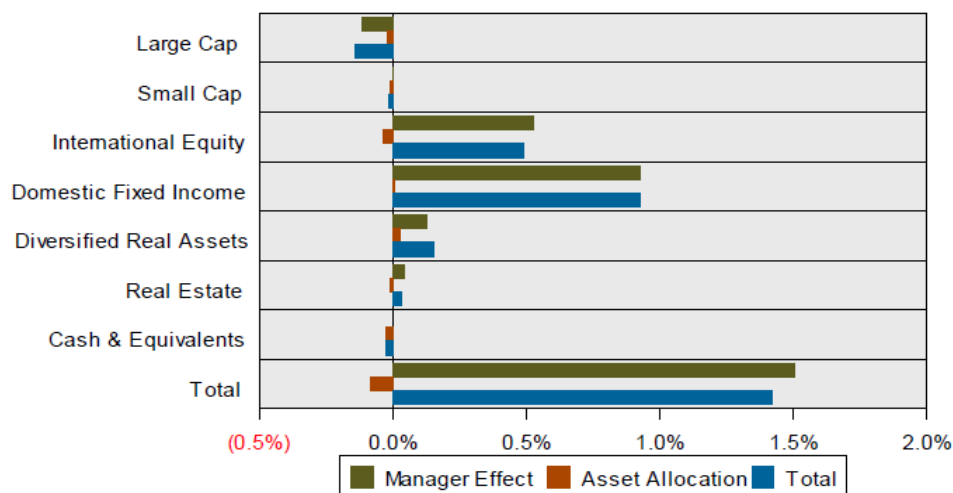
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	16.98%	17.76%	(0.15%)	(0.02%)	(0.17%)
Small Cap	8%	8%	14.29%	15.24%	(0.07%)	(0.01%)	(0.08%)
International Equity	20%	20%	3.50%	2.67%	0.18%	(0.01%)	0.17%
Domestic Fixed Income	34%	35%	0.45%	(1.22%)	0.60%	0.02%	0.63%
Diversified Real Assets	10%	10%	2.42%	0.66%	0.17%	0.03%	0.20%
Real Estate	5%	5%	7.12%	7.16%	0.00%	(0.00%)	(0.00%)
Cash & Equivalents	1%	0%	1.42%	1.42%	0.00%	(0.03%)	(0.03%)
Total			6.24%	5.53%	+ 0.73%	+ (0.03%)	0.70%

Legacy Performance and Attribution

As of September 30, 2018

Three Year Annualized Relative Attribution Effects



Returns for 3 Year Ended 09/30/2018

Return Type	Return (%)
Gross	9.42%
Net of fees	9.19%
Target	8.00%
Net added	1.19%

Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Large Cap	22%	22%	16.51%	17.07%	(0.12%)	(0.02%)	(0.14%)
Small Cap	8%	8%	17.17%	17.12%	(0.00%)	(0.01%)	(0.01%)
International Equity	20%	20%	11.72%	9.05%	0.52%	(0.04%)	0.49%
Domestic Fixed Income	35%	35%	3.88%	1.31%	0.92%	0.00%	0.93%
Diversified Real Assets	10%	10%	3.48%	2.21%	0.13%	0.03%	0.15%
Real Estate	6%	5%	8.47%	7.75%	0.04%	(0.01%)	0.03%
Cash & Equivalents	1%	0%	0.74%	0.74%	0.00%	(0.03%)	(0.03%)
Total			9.42%	8.00%	+ 1.50%	+ (0.08%)	1.42%

Legacy Fund Schedule of Investment Expenses

	FY 2018			FY 2017		
	Average Market Value	Fees in \$	Fees in %	Average Market Value	Fees in \$	Fees in %
Investment managers' fees:						
Domestic large cap equity managers	1,157,153,749	817,082	0.07%	965,570,487	1,922,415	0.20%
Domestic small cap equity managers	424,498,126	709,704	0.17%	364,557,307	630,814	0.17%
International equity managers	1,051,633,065	4,308,926	0.41%	859,092,053	3,553,654	0.41%
Domestic fixed income managers	1,829,238,525	5,809,170	0.32%	1,481,415,976	4,987,591	0.34%
Diversified real assets managers	513,215,642	2,704,986	0.53%	406,004,165	1,368,397	0.34%
Real estate managers	273,421,343	1,490,324	0.55%	255,143,146	1,514,247	0.59%
Cash & equivalents managers	42,188,081	69,690	0.17%	12,637,988	9,758	0.08%
Total investment managers' fees	2 5,291,348,530	15,909,882	0.30%	4,344,421,122	13,986,877	0.32%
Custodian fees		430,805	0.01%		355,376	0.01%
Investment consultant fees		294,600	0.01%		222,477	0.01%
Total investment expenses	1	16,635,287	0.31%	14,564,731	0.34%	
Total Performance Fees Paid (included in total above)		190,922	0.00%	2,167,158	0.05%	
Actual Investment Performance (Net of Fees)			7.57%		12.03%	
Policy Benchmark			6.51%		9.91%	
		Outperformance	3 1.06%	Outperformance	2.12%	

- Investment fees and expenses declined to **0.31%** in fiscal 2018 from **0.34%** in fiscal 2017 largely due to a sharp decline in performance fees (as **Outperformance** declined to **1.06%** in FY 2018 versus **2.12%** in FY 2018).
- The use of active management paid significant returns for the Legacy Fund in Fiscal 2018 as we paid **1** \$16.6 million in fees to outperform our stated benchmarks by **3 1%** or \$50 million (**2** \$5 billion x **3 1%** = \$50 million).

ND Legacy Fund

Summary of Deposits, Earnings and Net Position

As of September 30, 2018

	Deposits	Total Net Earnings	Net Increase/ (Decrease)	Ending Net Position	Earnings as defined in NDCC 21-10-12
FY2012	396,585,658	2,300,225	398,885,883	398,885,883	2,571,475
FY2013	791,126,479	4,216,026	795,342,505	1,194,228,388	15,949,089
FY2014	907,214,971	113,153,662	1,020,368,633	2,214,597,021	50,033,655
FY2015	1,011,343,040	99,895,650	1,111,238,690	3,325,835,711	95,143,905
FY2016	434,853,950	45,851,680	480,705,630	3,806,541,341	65,326,673
FY2017	399,501,134	479,595,256	879,096,390	4,685,637,731	207,814,875
Totals	<u>3,940,625,232</u>	<u>745,012,499</u>	<u>4,685,637,731</u>	<u>4,685,637,731</u>	<u>436,839,672</u>
					<i>Transferrable Earnings</i>
FY2018	529,870,755	360,575,532	890,446,287	5,576,084,018	242,859,840
<i>FY2019 *</i>	<i>187,615,702</i>	<i>121,183,332</i>	<i>308,799,034</i>	<i>5,884,883,052</i>	<i>63,653,746</i>
		481,758,864			306,513,586
Life-to-date Totals	4,658,111,689	1,226,771,363	5,884,883,052	5,884,883,052	743,353,258

* FY2019 amounts are preliminary and unaudited.

All earnings prior through 6/30/17 became part of principal.

The Legacy Fund approached \$5.9 billion at Sep. 30, 2018. Net Investment Income exceeded \$1.2 billion since inception including \$481 million in Fiscal 2018-19. Earnings as defined by NDCC 21-10-12 approximated \$306 million for the 15 months ended September 30, 2018.



NORTH DAKOTA LEGACY FUND INVESTMENT POLICY STATEMENT

The Legacy Fund investment policy statement was reviewed and approved by the Advisory Board and SIB on May 24-25, 2018 for accuracy and completeness.

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.

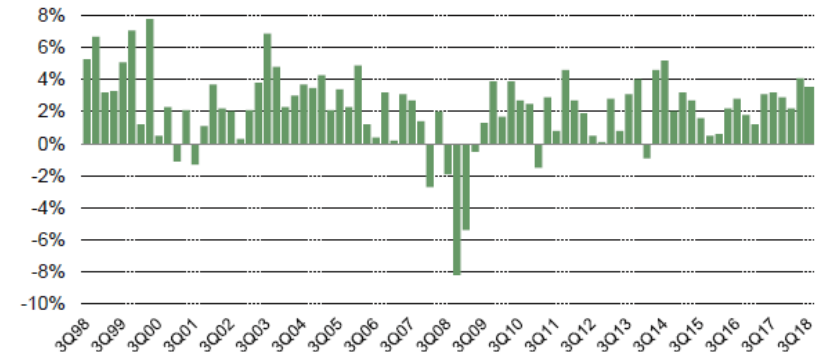


U.S. Economy

September 30, 2018

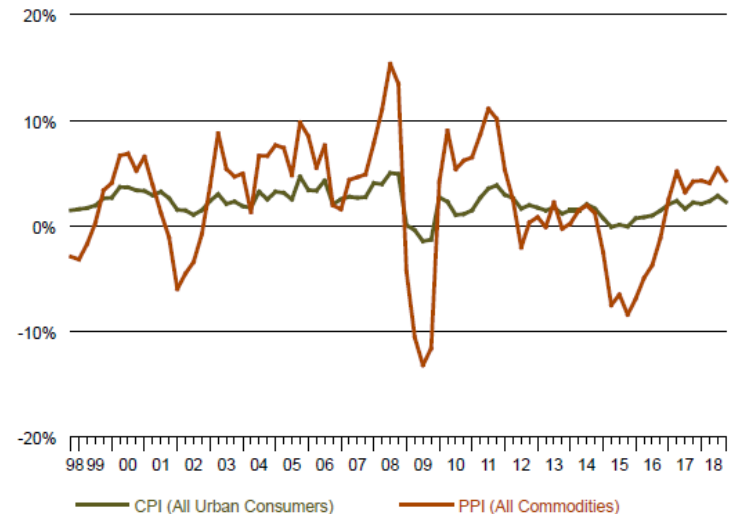
- The initial estimate of third quarter GDP growth came in at 3.5% (annualized)
 - Down from 4.2% in the second quarter
 - Consumer spending up 4.0% (annualized); up from a strong 3.8% in Q2
- Labor market strong
 - Unemployment reached 3.7% in September; lowest since 1969
 - About 185,000 nonfarm payrolls were added per month during the third quarter
- Inflation remained well-behaved
 - Headline CPI was 2.3% in September (y/y); Core CPI was 2.2% (y/y)
 - Core PCE in line with Fed's 2% target
- The Fed raised rates as expected
 - A 25 bp hike in September brought the target range to 2.00% –2.25%; “accommodative” dropped from language
 - At its November 8th meeting, the Federal Open Market Committee (FOMC) voted unanimously to hold short-term interest rates steady noting that business investment “moderated from its rapid pace earlier this year.”
 - The Fed meets again in December. Consensus expects one more rate hike this year and three in 2019

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

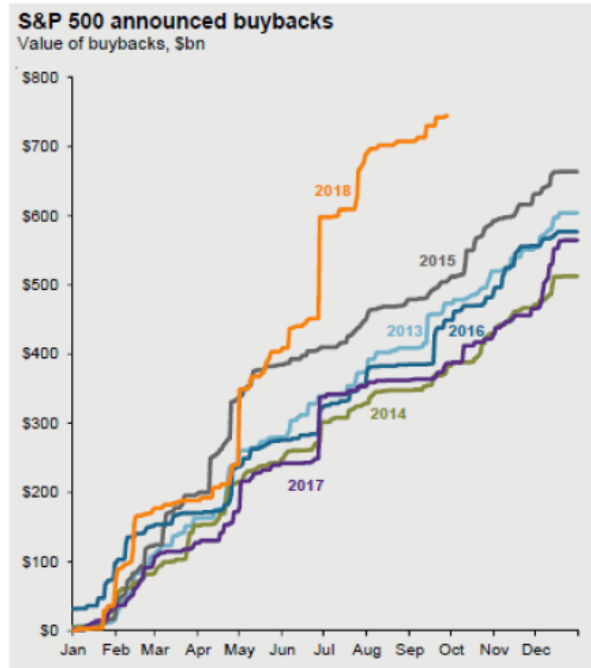
Inflation Year-Over-Year



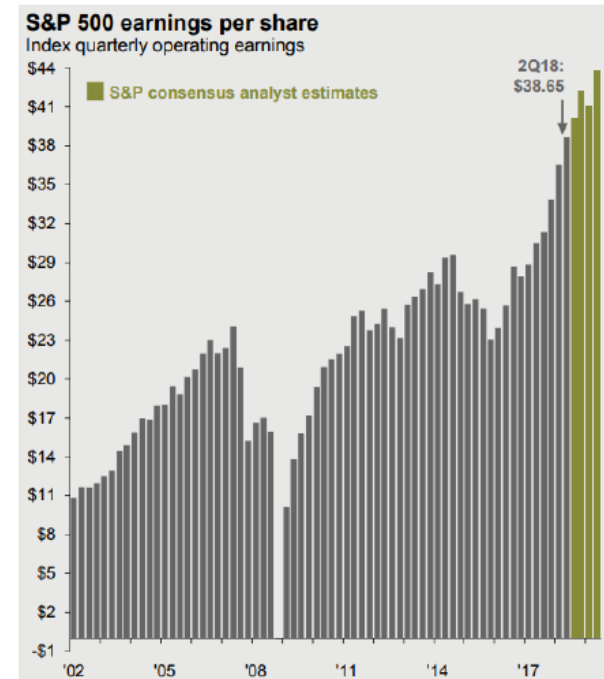
Source: Bureau of Labor Statistics

S&P 500 Earnings

September 30, 2018



Source: JP Morgan Guide to the Markets. As of September 30, 2018



Source: JP Morgan Guide to the Markets. As of September 30, 2018


- For Q3 2018 (with 74% of the companies in the S&P 500 reporting actual results for the quarter), 78% of S&P 500 companies have reported a positive EPS surprise and 61% have reported a positive sales surprise.
- For Q3 2018, the blended earnings growth rate for the S&P 500 is 24.9%. If 24.9% is the actual growth rate for the quarter, it will mark the second highest earnings growth since Q3 2010.
 - Nine sectors are reporting double-digit earnings growth, led by the Energy, Financials, Communication Services, and Materials sectors.
- Buybacks and tax cuts fueling EPS growth in 2018.

Source: FACTSET; Earnings Insight as of November 2, 2018

Asset Class Performance

Periodic Table of Investment Returns for Periods Ended September 30, 2018

Best



Worst

Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
S&P:500 7.7%	Russell:2000 Index 11.5%	S&P:500 17.9%	S&P:500 17.3%	S&P:500 13.9%	S&P:500 12.0%
Russell:2000 Index 3.6%	S&P:500 10.6%	Russell:2000 Index 15.2%	Russell:2000 Index 17.1%	Russell:2000 Index 11.1%	Russell:2000 Index 11.1%
MSCI:EAFE 1.4%	3 Month T-Bill 1.3%	MSCI:EAFE 2.7%	MSCI:EM Gross 12.8%	MSCI:EAFE 4.4%	MSCI:EM Gross 5.8%
3 Month T-Bill 0.5%	MSCI:EAFE (1.4%)	3 Month T-Bill 1.6%	MSCI:EAFE 9.2%	MSCI:EM Gross 4.0%	MSCI:EAFE 5.4%
Blmbg:Aggregate 0.0%	Blmbg:Aggregate (1.6%)	Blmbg:Commodity Price Idx 0.9%	Blmbg:Aggregate 1.3%	Blmbg:Aggregate 2.2%	Blmbg:Aggregate 3.8%
MSCI:EM Gross (0.9%)	Blmbg:Commodity Price Idx (3.4%)	MSCI:EM Gross (0.4%)	3 Month T-Bill 0.8%	3 Month T-Bill 0.5%	3 Month T-Bill 0.3%
Blmbg:Commodity Price Idx (2.5%)	MSCI:EM Gross (7.4%)	Blmbg:Aggregate (1.2%)	Blmbg:Commodity Price Idx (1.0%)	Blmbg:Commodity Price Idx (7.7%)	Blmbg:Commodity Price Idx (6.6%)

SIB Member & RIO Website Update – Sep. 30, 2018

The State Investment Board includes 11 members including Lt. Governor Brent Sanford as Chairman, Rob Lech (TFFR) as Vice Chairman, Chief Deputy Attorney General Troy Seibel (PERS) as Parliamentarian, Treasurer Kelly Schmidt (who is the longest serving board member), Insurance Commissioner Jon Godfread, Cindy Ternes (as WSI designee), Land Commissioner Jodi Smith, Toni Gummeringer (TFFR), Mel Olson (TFFR), Yvonne Smith (PERS) and Adam Miller (PERS).

RIO Website

Investment performance for all SIB clients, including manager level returns and balances, are generally posted to RIO's website within 30 days of month-end. In addition, the following website links provide additional information relating to SIB governance, meeting materials and our audit committee.

SIB Governance Manual - accessed by clicking on "SIB Governance Manual" under the "SIB / Board" section
<http://www.nd.gov/rio/SIB/Board/GovernanceManual/default.htm>

SIB Meeting Materials - accessed by clicking on "Meeting Materials" under the "SIB / Board" section
<http://www.nd.gov/rio/SIB/Board/SIB%20Meeting%20Materials/default.htm>

SIB Audit Committee Charter and Meeting Materials - accessed by clicking on "SIB Audit Charter" or "Meeting Materials" under the "SIB Audit" section <http://www.nd.gov/rio/SIB%20Audit/Board/default.htm>

State Investment Board – Client Assets Under Management

Fund Name	Market Values as of 9/30/18 ⁽¹⁾	Market Values as of 6/30/18 ⁽²⁾	Market Values as of 9/30/17 ⁽¹⁾
Pension Trust Fund			
Public Employees Retirement System (PERS)	3,087,115,472	3,024,222,995	2,882,780,029
Teachers' Fund for Retirement (TFFR)	2,526,452,653	2,485,835,306	2,387,906,588
City of Bismarck Employees Pension	100,990,920	99,177,507	95,026,968
City of Grand Forks Employees Pension	67,199,301	63,633,206	64,381,330
City of Bismarck Police Pension	40,888,393	40,106,249	39,465,200
Grand Forks Park District	7,013,895	6,772,657	6,374,760
Subtotal Pension Trust Fund	5,829,660,634	5,719,747,919	5,475,934,876
Insurance Trust Fund			
Workforce Safety & Insurance (WSI)	1,933,569,800	1,923,117,660	1,923,540,134
Budget Stabilization Fund	114,023,036	113,603,777	38,450,912
City of Fargo FargoDome Permanent Fund	45,665,193	44,629,288	43,138,744
PERS Group Insurance Account	29,257,455	31,610,707	35,409,719
State Fire and Tornado Fund	23,646,363	23,066,784	22,024,834
Petroleum Tank Release Compensation Fund	6,200,882	6,167,272	6,453,583
ND Association of Counties (NDACo) Fund	6,031,900	5,910,661	5,108,131
State Risk Management Fund	4,663,817	4,956,217	5,418,039
State Risk Management Workers Comp Fund	3,699,994	5,356,549	5,187,082
State Bonding Fund	3,429,976	3,411,215	3,406,523
ND Board of Medicine	2,279,087	2,251,119	2,215,578
Insurance Regulatory Trust Fund	1,101,023	5,637,791	1,209,577
Bismarck Deferred Sick Leave Account	742,505	730,026	717,066
Lewis & Clark Interpretive Center Endowment Fund	716,108		
Cultural Endowment Fund	462,684	448,825	443,012
Subtotal Insurance Trust Fund	2,175,489,823	2,170,897,891	2,092,722,934
Legacy Trust Fund			
Legacy Fund	5,886,115,867	5,577,319,109	4,960,721,538
PERS Retiree Insurance Credit Fund	130,443,712	126,605,207	120,668,531
Job Service of North Dakota Pension	96,681,300	95,690,469	97,583,404
ND Tobacco Prevention and Control Trust Fund	48,864,750	54,365,162	57,850,830
Total Assets Under SIB Management	14,167,256,086	13,744,625,757	12,805,482,113

- ▶ **SIB client investments approached \$14.2 billion as of September 30, 2018**, with the Pension Trust exceeding \$5.8 billion, Insurance Trust approaching \$2.2 billion and Legacy approaching \$5.9 billion.
- ▶ **The Pension Trust posted a net return of 7.7% in the last year.** During the last 5-years, the Pension Trust generated a net annualized return of 7.8%, exceeding the performance benchmark of 7.0%.
- ▶ **The Insurance Trust generated a net return of 4.1% in the last year.** During the last 5-years, the Insurance Trust posted a net annualized return of 5.2%, exceeding the performance benchmark of 3.9%.
- ▶ **Legacy Fund generated a net return of 6.0% last year, exceeding its policy benchmark.** During the last 5-years, Legacy Fund earned a net annualized return of 6.3%, exceeding the performance benchmark of 5.4%.
- ▶ **RIO conservatively estimates the SIB use of active management enhanced client returns by \$300 million for the 5-years ended September 30, 2018** (e.g. \$10 billion x 0.60% = \$60 million x 5 years = \$300 million).
- ▶ **If SIB managers outperform their benchmark by 0.01% (or 1 basis point), after all fees & expenses, client returns improve by \$1.4 million per year** (e.g. \$14 billion x 0.01% = \$1.4 million).
- ▶ **RIO's internal costs for administering our external investments is less than 1 basis point or 0.01% per year.**

⁽¹⁾ Market values are unaudited and subject to change.

⁽²⁾ 6/30/18 market values as stated in the Comprehensive Annual Financial Report.

Return on Investment Fees and Expenses

Investment Goals for SIB Client Fees and Expenses:

1. The SIB and RIO attempt to keep total fees and expenses at or below 50 bps (0.50%) per annum.
2. We also attempt to generate $\geq 0.50\%$ of excess return over our stated performance benchmarks (after deducting all investment fees and expenses).
3. If we are successful in attaining both of the above goals, we are effectively earning a minimum 2-for-1 return on our investment fee and expense dollars (which is consistent with our fundamental investment belief that the prudent use of active management is beneficial to our clients).

Key Point: For the 5-years ended Sep. 30, 2018, the vast majority of SIB clients earned $\geq 0.50\%$ of excess return (slides 4-to-9), while fees & expenses averaged $\leq 0.50\%$ since 2014 (see below).

<u>All State Investment Board Clients</u>	<u>Investment Fees and Expenses</u>	<u>Average "Assets Under Management"</u>	<u>% of AUM</u>
Fiscal Year Ended June 30, 2013	\$45 million	\$6.9 billion	0.65%
Fiscal Year Ended June 30, 2014	\$44 million	\$8.6 billion	0.51%
Fiscal Year Ended June 30, 2015	\$48 million	\$10.1 billion	0.48%
Fiscal Year Ended June 30, 2016	\$46 million	\$10.9 billion	0.42%
Fiscal Year Ended June 30, 2017	\$54.5 million	\$11.8 billion	0.46%
Fiscal Year Ended June 30, 2018	\$56 million	\$13.4 billion	0.42%

Key Take-Away: Based on \$10 billion of AUM, a 0.23% decline in fees between fiscal 2013 and 2018 translates into \$23 million of annual fee savings.

A basis point (or "bp") is equal to one one-hundredth of one percent (or 0.01%) such that 100 basis points ("bps") is equivalent to 1%.

RIO Due Diligence Travel Expense Update

Fiscal Year Ended 6/30	Total Expenses	Average AUM during year	Cost as % of AUM
2012	19,161	6,071,721,996	0.00032%
2013	8,148	6,905,312,561	0.00012%
2014	20,034	8,632,237,726	0.00023%
2015	19,134	7,011,550,394	0.00027%
2016	24,997	10,896,823,143	0.00023%
2017	20,589	11,782,432,860	0.00017%
2018	26,661	13,388,707,450	0.00020%

RIO attempts to be fiscally prudent when traveling to conduct onsite due diligence noting that our Supervisor of Administrative Services consistently obtains reasonable fares for air travel and lodging. Our Investment Accountant, who previously worked in the State's Auditor Office, also reviews all submitted expenses for strict adherence to published State guidelines. RIO's investment staff frequently attempt to combine due diligence trips whenever possible in a prudent and cost effective manner. As example, RIO conducted onsite due diligence for the current Invesco Real Estate opportunity under consideration when completing onsite due diligence with another existing investment manager earlier this year.

RIO's due diligence travel expenses have generally ranged from \$19,000 to \$27,000 per year since 2012 (with one exception in fiscal 2013 due to the former CIO resigning in May of 2012). Costs as a % of average assets under management (AUM) have not exceeded 0.00032% per year noting the SIB and RIO must conduct a prudent and reasonable level of due diligence when exercising their fiduciary oversight responsibility (noting average SIB client AUM increased from \$6.1 billion in 2012 to \$13.4 billion in 2018).

NDCC Chapter 21-10 State Investment Board

21-10-01. State investment board - Membership - Term - Compensation – Advisory council.

The North Dakota state investment board consists of the governor, the state treasurer, the commissioner of university and school lands, the director of workforce safety and insurance, the insurance commissioner, three members of the teachers' fund for retirement board or the board's designees who need not be members of the fund as selected by that board, two of the elected members of the public employees retirement system board as selected by that board, and one member of the public employees retirement system board as selected by that board. The director of workforce safety and insurance may appoint a designee, subject to approval by the workforce safety and insurance board of directors, to attend the meetings, participate, and vote when the director is unable to attend. The teachers' fund for retirement board may appoint an alternate designee with full voting privileges to attend meetings of the state investment board when a selected member is unable to attend. The public employees retirement system board may appoint an alternate designee with full voting privileges from the public employees retirement system board to attend meetings of the state investment board when a selected member is unable to attend. The members of the state investment board, except elected and appointed officials and the director of workforce safety and insurance or the director's designee, are entitled to receive as compensation one hundred forty-eight dollars per day and necessary mileage and travel expenses as provided in sections 44-08-04 and 54-06-09 for attending meetings of the state investment board.

The state investment board may establish an advisory council composed of individuals who are experienced and knowledgeable in the field of investments. The state investment board shall determine the responsibilities of the advisory council. Members of the advisory council are entitled to receive the same compensation as provided the members of the advisory board of the Bank of North Dakota and necessary mileage and travel expenses as provided in sections 44-08-04 and 54-06-09.

21-10-02. Board - Powers and duties.

The board is charged with the investment of the funds enumerated in section 21-10-06. It shall approve general types of securities for investment by these funds and set policies and procedures regulating securities transactions on behalf of the various funds. Representatives of the funds enumerated in section 21-10-06 may make recommendations to the board in regard to investments. The board or its designated agents must be custodian of securities purchased on behalf of funds under the management of the board. The board may appoint an investment director or advisory service, or both, who must be experienced in, and hold considerable knowledge of, the field of investments. The investment director or advisory service shall serve at the pleasure of the board. The investment director or advisory service may be an individual, corporation, limited liability company, partnership, or any legal entity which meets the qualifications established herein. The board may authorize the investment director to lend securities held by the funds. These securities must be collateralized as directed by the board. The board may create investment fund pools in which the funds identified in section 21-10-06 may invest.

NDCC Chapter 21-10 State Investment Board

21-10-02.1. Board - Policies on investment goals and objectives and asset allocation.

1. The governing body of each fund enumerated in section 21-10-06 shall establish policies on investment goals and objectives and asset allocation for each respective fund. The policies must provide for:
 - a. The definition and assignment of duties and responsibilities to advisory services and persons employed by the board.
 - b. Rate of return objectives, including liquidity requirements and acceptable levels of risk.
 - c. Long-range asset allocation goals.
 - d. Guidelines for the selection and redemption of investments.
 - e. Investment diversification, investment quality, qualification of advisory services, and amounts to be invested by advisory services.
 - f. The type of reports and procedures to be used in evaluating performance.
2. The asset allocation and any subsequent allocation changes for each fund must be approved by the governing body of that fund and the state investment board. The governing body of each fund shall use the staff and consultants of the retirement and investment office in developing asset allocation and investment policies.

21-10-11. Legacy and budget stabilization fund advisory board.

The legacy and budget stabilization fund advisory board is created to develop recommendations for the investment of funds in the legacy fund and the budget stabilization fund to present to the state investment board. The goal of investment for the legacy fund is principal preservation while maximizing total return. The board consists of two members of the senate appointed by the senate majority leader, two members of the house of representatives appointed by the house majority leader, the director of the office of management and budget or designee, the president of the Bank of North Dakota or designee, and the tax commissioner or designee. The board shall select a chairman and must meet at the call of the chairman. The board shall report at least semiannually to the budget section. Legislative members are entitled to receive compensation and expense reimbursement as provided under section 54-03-20 and reimbursement for mileage as provided by law for state officers. The legislative council shall pay the compensation and expense reimbursement for the legislative members. The legislative council shall provide staff services to the legacy and budget stabilization fund advisory board. The staff and consultants of the state retirement and investment office shall advise the board in developing asset allocation and investment policies.

21-10-12. Legacy fund - Earnings defined.

For the purposes of section 26 of article X of the Constitution of North Dakota, the term "earnings" means net income in accordance with generally accepted accounting principles, excluding any unrealized gains or losses.

Legacy Fund Earnings Update November 8, 2018

Overview:

RIO was requested to provide a revised Legacy Fund earnings estimate for the remaining 2017-19 and upcoming 2019-21 biennia. RIO relied on oil and gas tax estimates provided by OMB and expected investment earnings over the next three years. Estimates are based on the anticipated average balance of the Legacy Fund during the forecast period acknowledging that commodity prices are volatile in addition to the impact of this price volatility on oil and gas production and related tax collections.

Background:

The North Dakota State Investment Board (SIB) and Legacy Fund Advisory Board completed an asset liability study in May of 2018 which confirmed the current target asset allocation of 50% equity, 35% fixed income and 15% diversified real assets. Given that our current investment policy includes a 50% target allocation to public equities which are inherently subject to significant return volatility including the potential for negative investment returns over any defined time period, RIO notes it is reasonable to expect the Legacy Fund to lose money during certain periods when the equity markets are experiencing losses, credit markets are experiencing elevated defaults and/or when liquidity in the private markets is challenged. Despite these investment concerns (which are present in most any return seeking portfolio), RIO is confident the Legacy Fund will meet or exceed its targeted investment return of 6% over the long term. In order to be prudent and diligent and in light of our significant fiduciary responsibility, the SIB and RIO work with expert consultants and professional investment management firms to confirm the reasonableness of our future capital market assumptions which serve as the foundation for long-term return expectations.

RIO notes the original earnings estimate of \$200 million for the 2017-19 biennium was based on a 2% average “earnings” rate and anticipated Legacy Fund average balance of approximately \$5 billion ($\$5 \text{ billion} \times 2\% = \$100 \text{ million per year or } \$200 \text{ million per biennium}$). *The 2% average “earnings” rate was originally based on the midpoint of the RV Kuhn consultant forecast including a 6% Base Case and -2% Worst Case, noting the Worst Case was raised by 1% (from -3%) based on the expected strength of the capital markets during the prescribed time period.* **RIO notes that NDCC 21-10-12 defines “earnings” as “net income in accordance with generally accepted accounting principles, excluding any unrealized gains or losses.” This definition of “earnings” is materially different than net investment return which includes both unrealized and realized gains and losses.** For comparison, the Legacy Fund generated over \$1.2 billion of net investment earnings since inception (as of September 30, 2018) whereas “earnings” as defined in accordance with NDCC 21-10-12 exceeded \$700 million during this same time period.

Legacy Fund “Transferrable Earnings” Estimate:

On August 8, 2018, RIO raised the “transferrable earnings” estimate for the Legacy Fund from \$300 million to \$350 million based on the expected strength and resiliency of the capital markets over the next year. **However, in light of recently increasing downward price volatility in the capital markets, RIO is reducing its’ current “transferrable earnings” estimate back to \$300 million for the 2017-19 biennium while holding its’ “transferrable earnings” estimate at \$300 million for the 2019-21 biennium.** The reduction in the 2017-19 estimate reflects the 7% equity market correction experienced in October, while noting the Legacy Fund generated over \$120 million of *net investment income* in the 3rd quarter. The **\$300 million estimate for the 2017-19 biennium** also closely approximates actual “transferrable earnings” of **\$306 million** for the 15 months ended Sep. 30, 2018 (see table below). RIO does not deem it to be prudent to extrapolate the actual “transferrable earnings” rate through Sep. 30, 2018, for the entire biennium given recent market events (and noting the extrapolated value is \$490 million or \$306 million divided by 15 months and times 24 months). RIO notes U.S. equities experienced a 7% market correction in October after posting a 7% gain for the 3rd calendar quarter of 2018 (while international equities were down 8% in October after posting a 1% gain in the 3rd quarter).

The \$300 million “transferrable earnings” estimate for the 2019-21 biennia is based on OMB’s latest forecasted oil and gas tax deposits causing average Legacy Fund investments to approximate \$7.5 billion in the 2019-21 biennia while continuing to use our 2% average “earnings” rate (\$7.5 billion x 2% “earnings” rate = \$150 million x 2 years = \$300 million).

	Fiscal Year Ended June 30, 2018	Fiscal Year To Date Sept. 30, 2018	July 1, 2017 to Sept. 30, 2018
Interest, Divident & Other Income	\$ 117,456,240	\$ 27,819,296	\$ 145,275,536
Investment Expenses	\$ (10,018,870)	\$ (2,200,473)	\$ (12,219,343)
Administrative Expenses	\$ (834,828)	\$ (128,583)	\$ (963,411)
Net Interest, Divident & Other Income	\$ 106,602,542	\$ 25,490,240	\$ 132,092,782
Net Realized Gains and Losses on Investments	\$ 135,608,963	\$ 38,005,566	\$ 173,614,529
Net Securities Lending Income	\$ 648,335	\$ 157,940	\$ 806,275
NDCC 21-10-12 Earnings	\$ 242,859,840	\$ 63,653,746	\$ 306,513,586
Net Unrealized Gains and Losses	\$ 117,715,692	\$ 57,529,586	\$ 175,245,278
Net Investment Income after Administrative Expenses	\$ 360,575,532	\$ 121,183,332	\$ 481,758,864
Net Investment Income before Administrative Expenses	\$ 361,410,360	\$ 121,311,915	\$ 482,722,275

Appendix

Review of Legacy Fund “Transferrable Earnings” definition:

Although there is a reasonable belief that the long-term “transferrable earnings” rate will trend upwards towards 3% to 4% in the next decade, it is important to acknowledge that “realized earnings” will likely be negative in some future 2-year time frame.

Given the risk of a moderate market correction in the foreseeable future, RIO notes the definition of “transferrable earnings” could be revised to exclude both realized and unrealized gains and losses to minimize volatility and the potential adverse impact on our State’s budgeting process. **If “transferrable earnings” were revised to only include “net investment income without any realized or unrealized gains or losses”, the impact of a market correction would be significantly reduced.**

Example:

RIO notes that “net investment income without realized and unrealized gains or losses” approximated \$132 million for the 15 months ended September 30, 2018 (see table on prior page). Based on this current earnings rate, net investment income without realized and unrealized gains or losses is forecasted to exceed \$200 million for 2017-19. In contrast, “transferrable earnings as currently defined under NDCC 21-10-12 approximated \$306 million for the 15 months ended September 30, 2018.