



NDTFFR Board Meeting **REVISED** AGENDA

Thursday, September 27, 2018 - 1:00 pm
NDRIO Conference Room
3442 East Century Avenue, Bismarck, ND

1. **Call to Order and Approval of Agenda** – Pres. Lech (Board Action)
 2. **Approval of Minutes of July 26 and July 27, 2018 Board Meetings** – Pres. Lech (Board Action) 5 min.
 3. **Executive Session - Attorney Consultation and Approval of Order and Salary Determination, Benefit Appeal #2018-1A**
Nici Meyer, AGO and Anders Odegaard, AGO (Board Action) 30 min.
*Executive Session required to discuss confidential member information and for attorney consultation pursuant to NDCC 15-39.1-30, NDCC 44-04-19.1 and 44-04-19.2.
 4. **Board Education: ND Education Demographics** – Adam Tescher, DPI (Information) - 30 min.
 5. **Board Education: ND Educator Shortages** – Mari Riehl, ESPB (Information) – 15 min.
- BREAK
6. **TFFR Legislative Report** – Fay Kopp (Board Action) – 10 min.
 7. **Annual TFFR Investment Report** – Dave Hunter (Board Action) 30 min.
 8. **Annual TFFR Expense Report** – Connie Flanagan (Board Action) 15 min.
 9. **Annual Information Technology Report** – Rich Nagel (Board Action) 15 min.
 10. **Annual SIB Customer Satisfaction Survey** – Pres. Lech (Board Action) 10 min.
 11. **Consent Agenda – QDRO application** (Board Action) 5 min.
*Executive Session possible if Board discusses confidential information pursuant to NDCC 15-39.1-30.
 12. **Other Business**
 13. **Adjournment**

Next Board Meeting: October 25, 2018

Any person who requires an auxiliary aid or service should contact the Deputy Executive Director of the Retirement and Investment Office at 701-328-9885 at least three (3) days before the scheduled meeting.

**NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
JULY 26, 2018, BOARD MEETING**

BOARD MEMBERS PRESENT: Rob Lech, President
Mike Burton, Vice President
Kirsten Baesler, State Supt. DPI
Toni Gumeringer, Trustee
Cody Mickelson, Trustee
Mel Olson, Trustee
Kelly Schmidt, State Treasurer

STAFF PRESENT: David Hunter, ED/CIO
Fay Kopp, Deputy ED/CRO
Missy Kopp, Retirement Assistant
Sara Sauter, Audit Services Supvr
Shelly Schumacher, Retirement Program Mgr

OTHERS PRESENT: Nici Meyer, Attorney General's Office
Anders Odegaard, Attorney General's Office

CALL TO ORDER:

Mr. Rob Lech, Vice President of the Teachers' Fund for Retirement (TFFR) Board of Trustees, called the meeting to order at 1:00 p.m. on Thursday, July 26, 2018, at the Retirement and Investment Office, Bismarck, ND.

THE FOLLOWING MEMBERS WERE PRESENT REPRESENTING A QUORUM: MR. BURTON, MR. MICKELSON, MRS. GUMERINGER, MR. LECH, MR. OLSON, TREASURER SCHMIDT.

AGENDA:

The Board considered the agenda for the July 26, 2018 meeting. One additional disability application was added to the Consent Agenda.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MR. OLSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE AGENDA WITH THE CHANGE.

AYES: TREASURER SCHMIDT, MR. BURTON, MR. MICKELSON, MRS. GUMERINGER, MR. OLSON AND MR. LECH

NAYS: NONE

MOTION CARRIED.

ABSENT: SUPT. BAESLER

MINUTES:

The Board considered the minutes of the April 26, 2018, meeting and the June 14, 2018, special meeting.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MRS. GUMERINGER AND CARRIED BY A VOICE VOTE TO ACCEPT THE APRIL 26, 2018, AND JUNE 14, 2018, MINUTES AS DISTRIBUTED.

AYES: MR. MICKELSON, MR. OLSON, TREASURER SCHMIDT, MR. BURTON, MRS. GUMERINGER, AND MR. LECH

NAYS: NONE

MOTION CARRIED.

ABSENT: SUPT. BAESLER

TRUSTEE APPOINTMENTS:

Mrs. Kopp informed the Board that Governor Burgum made two appointments:

Mr. Mel Olson has been reappointed for a 5-year term through June 30, 2023. Mr. Olson represents retired members.

Mr. Cody Mickelson has been appointed as an active member representative. He will complete the unexpired term of Mr. Mike Gessner through June 30, 2021.

ELECTION OF 2018-19 OFFICERS

Vice President Lech opened the floor for nominations for officers of the TFFR Board.

TREASURER SCHMIDT NOMINATED MR. LECH FOR PRESIDENT. THERE WERE NO FURTHER NOMINATIONS.

AYES: TREASURER SCHMIDT, MRS. GUMERINGER, MR. OLSON, MR. BURTON, AND MR. MICKELSON

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

TREASURER SCHMIDT NOMINATED MR. BURTON FOR VICE PRESIDENT. THERE WERE NO FURTHER NOMINATIONS.

AYES: MRS. GUMERINGER, MR. MICKELSON, MR. OLSON, TREASURER SCHMIDT AND PRESIDENT LECH

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

President Lech opened the floor for nominations for representatives to the SIB Board and SIB Audit Committee.

TREASURER SCHMIDT NOMINATED MRS. GUMERINGER AS A TFFR REPRESENTATIVE TO THE SIB BOARD. THERE WERE NO FURTHER NOMINATIONS.

AYES: MR. OLSON, MR. MICKELSON, TREASURER SCHMIDT, MR. BURTON, AND PRESIDENT LECH.

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

MR. OLSON NOMINATED PRESIDENT LECH TO SERVE ON THE SIB AUDIT COMMITTEE. THERE WERE NO FURTHER NOMINATIONS.

AYES: MR. BURTON, MRS. GUMERINGER, MR OLSON, TREASURER SCHMIDT AND MR. MICKELSON.

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

TREASURER SCHMIDT NOMINATED MR. BURTON TO SERVE AS THE TFFR ALTERNATE TO THE SIB BOARD. THERE WERE NO FURTHER NOMINATIONS.

AYES: MR. OLSON, MRS. GUMERINGER, MR. MICKELSON, TREASURER SCHMIDT AND PRESIDENT LECH.

NAYS: NONE

MOTION CARRIED

ABSENT: SUPT. BAESLER

BENEFIT APPEAL - EXECUTIVE SESSION - ATTORNEY CONSULTATION:

President Lech stated that the Board would need to enter into Executive Session for attorney consultation to discuss TFFR Benefit Appeal # 2018 - 1A. The purpose of the executive session is for attorney consultation pursuant to NDCC section 44-04-19.1.

IT WAS MOVED BY TREASURER SCHMIDT AND SECONDED BY MRS. GUMERINGER AND CARRIED BY A ROLL CALL VOTE TO ENTER INTO EXECUTIVE SESSION FOR ATTORNEY CONSULTATION.

AYES: MRS. GUMERINGER, MR. MICKELSON, TREASURER SCHMIDT, MR. BURTON, MR. OLSON AND PRESIDENT LECH.

NAYS: NONE

MOTION CARRIED.

ABSENT: SUPT. BAESLER

The open session of the meeting ended at 1:10 P.M. Members of the public were asked to leave the room.

EXECUTIVE SESSION

Executive session began at 1:11 p.m.

Those in attendance at the executive session were Board members: Mr. Lech, Mr. Burton, Mrs. Gumeringer, Mr. Olson, Mr. Mickelson, Superintendent

Baesler (arrived to the meeting at 1:11 p.m.) and Treasurer Schmidt; RIO staff: Ms. Fay Kopp, Mr. Hunter, Ms. Schumacher, Ms. Missy Kopp, and Ms. Sauter; and from the Attorney General's Office: Ms. Meyer and Mr. Odegaard.

The executive session ended at 1:34 p.m.

OPEN SESSION

The meeting resumed in open session at 1:35 p.m.

TFFR LEGISLATIVE UPDATE:

The Legislative Employee Benefits Programs Committee (EBPC) has had two meetings in the past two months and has scheduled their fall meeting. They received bill drafts related to TFFR and PERS retirement and insurance plans.

There are two bill drafts which impact the TFFR retirement program. Bill Draft #126, which was submitted by the TFFR Board, makes technical corrections required by IRS favorable determination letter. Bill Draft #20, which was submitted by Rep. Streyle, changes the powers and duties of the EBPC. Legislators and legislative committees would no longer be required to submit proposed bills or amendments to this committee for review to ensure an actuarial study is done. The executive and judicial branch entities would need to continue doing so.

These two bill drafts have been sent to Segal for actuarial review. The Board will discuss the bill drafts in more detail once we receive their comments.

TFFR QUARTERLY INVESTMENT UPDATE:

Mr. Hunter presented the quarterly TFFR investment update for the period ending March 31, 2018. For the 5 years ended March 31, 2018, TFFR's total fund net return was 8.3%. TFFR investments have averaged over \$2 billion during the last 5-years and Excess Return has averaged over 0.50% per annum. Based on these conservative values, TFFR's use of active management has enhanced Net Investment Returns by \$50 million for the 5 years ended March 31, 2018. This Excess Return has been achieved while adhering to prescribed Risk limits. Board discussion followed.

RIO BUDGET UPDATE

Mr. Hunter presented the 2017-19 budget request which was submitted to OMB. The submitted budget followed Governor Burgum's guidelines asking for a 10% reduction in ongoing expenditures.

RIO management believes the agency has operated in a fiscally conservative manner for many years, while maintaining favorable client satisfaction survey scores despite a 38% increase in TFFR membership and 80% increase in assets under management since 2013.

Along with the base budget submission of \$4.8 million which includes a 10% cut in agency expenses, there were also three optional budget requests: to reinstate the 10% cuts, to replace or upgrade TFFR's pension administration system, and to add a new Investment Risk Officer position.

Mrs. Kopp provided additional information to the Board on the proposed TFFR Pension Administration System Modernization Project. The current system has been in operation for 13 years. The functionality and technical architecture of this client-server technology is at the end of its product release life cycle. RIO believes it is time to move toward a more technologically advanced, more secure web based system which would provide significant improvements in functionality for TFFR members, employers, and staff.

RIO staff has studied the potential risks, benefits and costs of upgrading or replacing the current application to improve and streamline TFFR pension administration processes, reporting capabilities, communications and services to members and employers. The potential cost for the IT project is approximately \$9.1 million which includes external vendor costs related to software licensure, implementation, maintenance and support; external consulting costs including procurement assistance, project management, business process improvement and reengineering; internal consulting for ITD project management, oversight, and other project costs and contingencies. If the Legislature approves the budget for this project, all related expenses will come directly from the TFFR trust fund. The selection of the vendor and associated project costs to either upgrade or replace the current software will be determined through the request for proposal process.

Board discussion followed.

AUDIT SERVICES UPDATE:

Ms. Sauter reviewed the Audit Division's activities for the period of July 1, 2017-June 30, 2018. Audit coverage was based on the work plan approved by the SIB Audit Committee. The audit activities undertaken were consistent with the Audit Services charter and goals, and the goals of the Retirement and Investment Office (RIO). Audit effort was directed towards the needs of RIO and the concerns of management and the SIB Audit Committee. Due to staff turnover, all goals were not met. Completed audits include 11 TFFR employer audits, annual benefit payments audit, quarterly file maintenance audits, annual salary verification project, and various agency administrative audits and surveys.

BOARD EDUCATION: FIDUCIARY DUTIES AND ETHICS:

Mr. Odegaard, Attorney General's office, presented board education on the fiduciary duties of TFFR board members which are set forth in the North Dakota Century Code (NDCC)15-39.1-05.1. Fiduciary duties include loyalty, impartiality, independence, prudence, administration, skill, delegation, exclusive benefit rule, and prudent investor rule. Mr. Odegaard also discussed application of fiduciary duties related to administration of the plan, maintaining the confidentiality of member records, monitoring and suggesting improvements to the plan, conflicts of interest, code of conduct, breach of fiduciary duties, and board member liability. Board discussion followed.

ANNUAL TFFR PROGRAM REVIEW:

President Lech commented on the annual TFFR Program Review process. Mrs. Kopp reviewed the following - board responsibilities, 2017-18 TFFR Board accomplishments and program monitoring summary, 2018-19 board calendar and education plan, and the TFFR Code of Conduct. Mrs. Kopp also reviewed the mission statement and goals and encouraged board members to consider whether they still accurately represent the Board. Mrs. Kopp commented on other board policies that may need to be reviewed by the board in the upcoming year. Board discussion followed.

IT WAS MOVED BY SUPT. BAESLER AND SECONDED BY MR. OLSON AND CARRIED BY A VOICE VOTE TO ACCEPT THE ANNUAL TFFR PROGRAM REVIEW.

AYES: SUPT. BAESLER, MR. BURTON, MRS. GUMERINGER, MR. OLSON, TREASURER SCHMIDT, MR. MICKELSON AND PRESIDENT LECH.

NAYS: NONE

MOTION CARRIED

TFFR CUSTOMER SATISFACTION REPORTS:

Mrs. Kopp reviewed responses to the TFFR Customer Satisfaction Surveys received from ND Council of Educational Leaders, ND Retired Teacher Association, ND School Board Association, and ND Association of School Business Managers as well as member and employer responses from the Outreach Programs for 2017-18.

Mrs. Kopp and the Board thanked RIO personnel for their excellent efforts and positive results.

IT WAS MOVED BY MR. OLSON AND SECONDED BY MRS. GUMERINGER AND CARRIED BY A VOICE VOTE TO ACCEPT THE TFFR CUSTOMER SATISFACTION REPORTS FOR THE PERIOD OF JULY 1, 2017 - JUNE 30, 2018.

AYES: TREASURER SCHMIDT, MR. OLSON, MR. BURTON, MR. MICKELSON, MRS. GUMERINGER, SUPT. BAESLER AND PRESIDENT LECH.

NAYS: NONE

MOTION CARRIED

SIB CUSTOMER SATISFACTION REPORTS:

President Lech outlined the process which will be used to collect TFFR Board input on the SIB customer satisfaction survey. The purpose of the survey is to determine how well the SIB, through the staff of RIO, is meeting the expectations of its clients. Ms. Sauter, Supervisor of Audit Services, will be sending an electronic satisfaction survey to President Lech to distribute to the board members. The compiled responses will be reviewed at the September 2018 meeting and sent to the SIB upon approval.

CONSENT AGENDA:

IT WAS MOVED BY MR. BURTON AND SECONDED BY MRS. GUMERINGER AND CARRIED BY A ROLL CALL VOTE TO APPROVE THE CONSENT AGENDA WHICH CONSISTED OF THREE DISABILITY APPLICATIONS (2018-3D, 2018-4D, 2018-5D).

AYES: MR. BURTON, SUPT. BAESLER, MR. MICKELSON, MRS. GUMERINGER, MR. OLSON, TREASURER SCHMIDT AND PRESIDENT LECH

NAYS: NONE

MOTION CARRIED.

ADJOURNMENT:

With no further business to come before the Board, President Lech adjourned the meeting at 3:56 p.m.

Respectfully Submitted:

Mr. Rob Lech, President
Teachers' Fund for Retirement Board

Missy Kopp
Reporting Secretary

**NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
MINUTES OF THE
JULY 27, 2018 SPECIAL BOARD MEETING**

BOARD MEMBERS PRESENT: Rob Lech, President
Mike Burton, Vice President
Toni Gumeringer, Trustee
Mel Olson, Trustee
Kelly Schmidt, State Treasurer

ABSENT: Kirsten Baesler, State Superintendent
Cody Mickelson, Trustee

OTHERS: Fay Kopp
See State Investment Board minutes
for attendance list.

A quorum of the TFFR Board of Trustees attended the State Investment Board (SIB) meeting on July 27, 2018 at 8:30 a.m. at the National Energy Center of Excellence, Bismarck State College, in Bismarck, North Dakota. The purpose of attending the SIB meeting was to listen to the following investment educational presentations:

Overview of Investment Performance Benchmarks - Mr. Paul Erlendson and Mr. Alex Browning, Callan Associates

Investment Market Update - Mr. Bill Priest and Mr. Jeff Ulness, Epoch Investment Partners

No TFFR Board business was conducted.

Respectfully Submitted:

Mr. Rob Lech, President
Teachers' Fund for Retirement Board

Fay Kopp
Chief Retirement Officer

No enclosure for agenda item #3

ND Teachers' Fund for Retirement Board Meeting

September 27, 2018

Presentation by Adam Tescher –Director
School Finance and Organization
Department of Public Instruction

ND K-12 Education Demographics

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DEPARTMENT OF PUBLIC INSTRUCTION
Kirsten Baesler, State Superintendent
600 East Boulevard Avenue Dept. 201
Bismarck, North Dakota 58505-0440

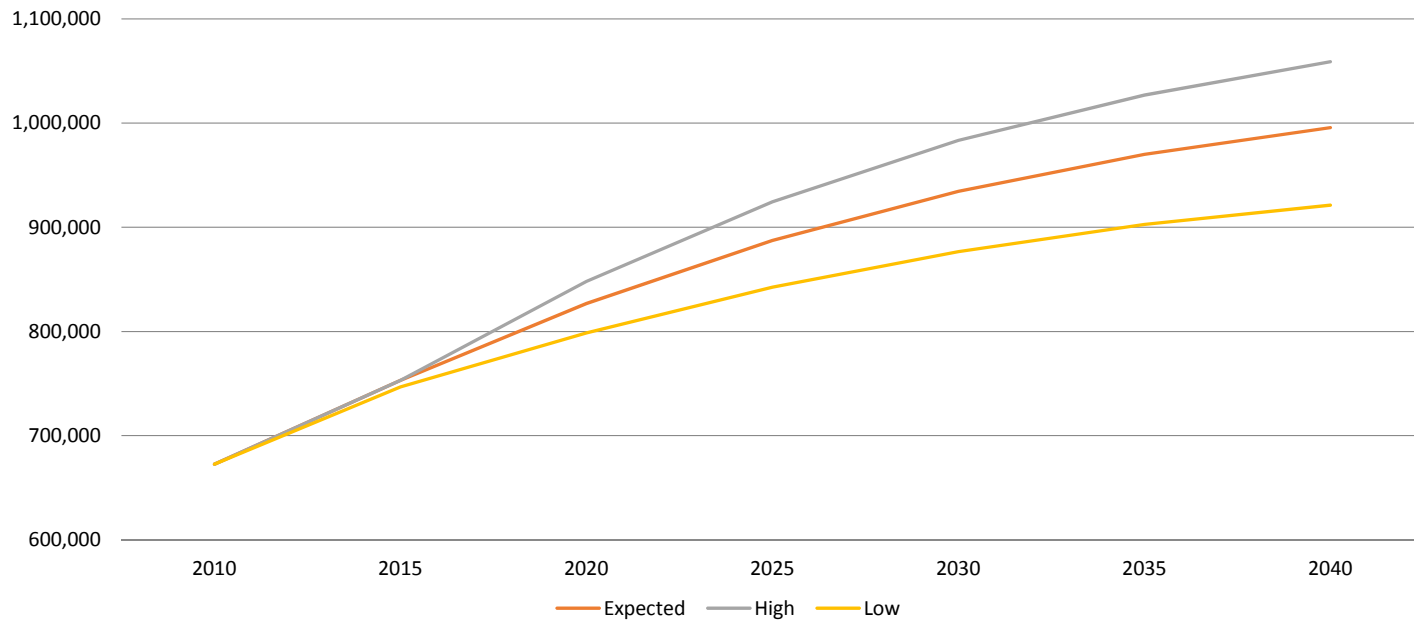
ND K-12 2017-18 Statistics

	Public Districts	Non-Public	State Institutions (est)	BIE	Sp Ed Units	Vo Ed Centers	Total
LEAs	178	45	4	5	32	12	276
Schools	373	56	4	6	0	0	439
K-12 Enrollment	108,945	6,539	37	1,578	0	0	117,099
Licensed Staff	10,537	722	77	209	410	114	12,069
Non-licensed Staff	6,788	340	74	179	240	43	7,664
Graduates	6,726	345	5	38	0	0	7,114

ND Population Historical Overview

1870	2,405
1880	36,909
1890	190,983
1900	319,146
1910	577,056
1920	646,872
1930	680,845
1940	641,935
1950	619,636
1960	632,446
1970	617,761
1980	652,717
1990	638,800
2000	642,200
2010	672,591
2015 est.	756,000

North Dakota Range of Population Growth 2010 - 2040

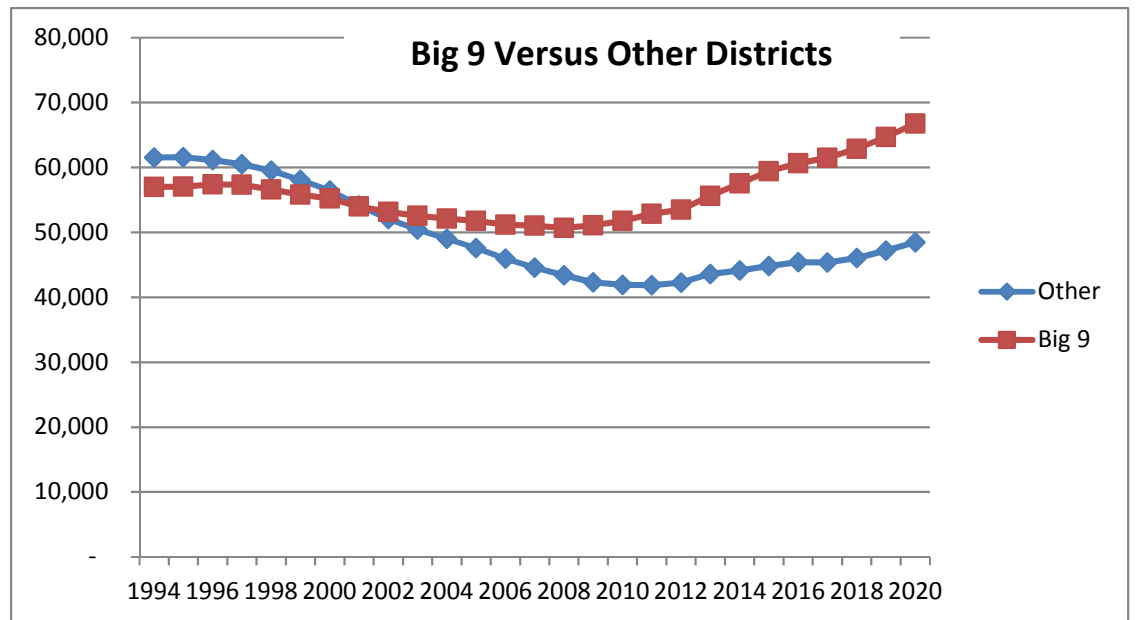
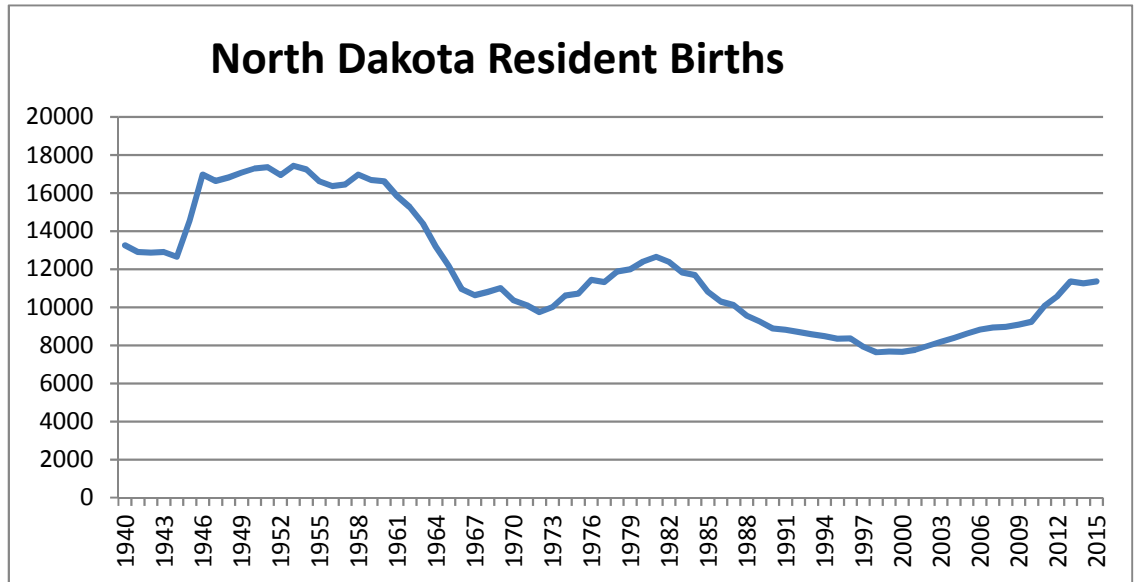


North Dakota Resident Births

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	10 year average
ADAMS	22	17	29	19	20	30	27	19	23	27	23
BARNES	100	111	112	112	113	117	130	102	112	109	112
BENSON	149	147	122	131	143	162	137	160	153	183	149
BILLINGS	9 NR		7 NR		7	10	19	16	18	18	13
BOTTINEAU	65	64	64	62	75	60	73	83	67	63	68
BOWMAN	38	39	37	38	37	45	44	48	43	41	41
BURKE	15	20	20	21	25	36	32	42	44	40	30
BURLEIGH	1055	1024	1069	1086	1134	1211	1224	1371	1367	1347	1,189
CASS	2055	2096	2170	2156	2239	2363	2463	2569	2561	2629	2,330
CAVALIER	29	27	34	37	49	31	45	48	41	62	40
DICKEY	68	78	68	54	26	62	68	62	75	62	62
DIVIDE	18	9	19	18	26	23	33	32	32	22	23
DUNN	33	32	32	41	41	48	62	71	70	68	50
EDDY	27	21	23	24	19	27	28	26	31	35	26
EMMONS	34	24	22	33	20	25	29	29	28	35	28
FOSTER	39	27	32	28	25	38	39	39	31	42	34
GOLDEN VALLEY	11	22	17	19	19	23	20	23	27	22	20
GRAND FORKS	956	994	908	978	904	965	959	1062	1056	1009	979
GRANT	11	20	21	22	23	22	33	25	25	31	23
GRIGGS	26	15	25	23	19	17	23	16	23	17	20
HETTINGER	15	20	21	27	30	25	41	29	31	42	28
KIDDER	28	21	24	32	21	29	31	29	24	34	27
LAMOURE	53	35	28	38	23	48	46	50	46	43	41
LOGAN	17	18	17	18	16	22	18	24	20	23	19
McHENRY	57	55	55	63	58	83	63	76	65	72	65
McINTOSH	27	25	24	33	14	25	30	30	22	22	25
McKENZIE	60	80	91	53	109	114	176	228	228	245	138
McLEAN	67	76	82	101	102	128	99	134	112	119	102
MERCER	66	74	107	99	92	99	102	116	89	111	96
MORTON	367	364	390	362	401	431	424	457	503	517	422
MOUNTRAIL	108	127	113	128	143	160	142	159	173	181	143
NELSON	19	22	28	32	33	29	33	32	29	28	29
OLIVER	24	18	18	16	20	18	26	21	27	21	21
PEMBINA	84	65	81	73	78	74	70	93	77	85	78
PIERCE	43	53	41	37	43	51	58	45	50	36	46
RAMSEY	139	162	141	167	172	141	143	180	152	150	155
RANSOM	70	70	54	61	61	73	53	69	66	55	63
RENVILLE	13	25	34	32	32	29	33	37	28	38	30
RICHLAND	206	203	184	191	95	183	190	189	186	207	183
ROLETTE	289	319	299	311	297	292	313	302	272	274	297
SARGENT	44	49	31	38	23	38	42	44	45	40	39
SHERIDAN	11	7	9	12	7	11	18	10	11	16	11
SIOUX	103	97	98	87	98	107	80	117	95	89	97
SLOPE	9	6	16	11	7	8	12	6	8	9	9
STARK	290	289	306	301	339	398	484	543	546	549	405
STEELE	13	24	12	19	19	25	17	19	30	28	21
STUTSMAN	236	219	222	232	216	227	255	235	233	221	230
TOWNER	16	19	18	14	19	32	30	29	17	26	22
TRAILL	100	98	91	91	103	89	100	94	93	108	97
WALSH	139	146	132	122	114	144	149	149	150	152	140
WARD	1003	1039	1028	998	1070	1109	1210	1266	1270	1192	1,119
WELLS	36	30	43	29	43	44	35	42	37	57	40
WILLIAMS	306	284	305	353	372	471	580	655	703	712	474
Total	8818	8931	8974	9083	9234	10072	10591	11352	11265	11364	9968
	202	113	43	109	151	838	519	761	-87	99	

North Dakota Public K-12 Enrollment

School Year	Other	Big 9	Grand Total
1994	61,515	56,997	118,512
1995	61,604	57,045	118,649
1996	61,158	57,407	118,565
1997	60,484	57,332	117,816
1998	59,504	56,599	116,103
1999	58,111	55,818	113,929
2000	56,460	55,245	111,705
2001	54,120	53,974	108,094
2002	52,082	53,135	105,217
2003	50,444	52,569	103,013
2004	49,000	52,137	101,137
2005	47,568	51,756	99,324
2006	45,958	51,162	97,120
2007	44,560	51,040	95,600
2008	43,379	50,678	94,057
2009	42,306	51,100	93,406
2010	41,914	51,801	93,715
2011	41,878	52,851	94,729
2012	42,274	53,504	95,778
2013	43,590	55,602	99,192
2014	44,116	57,540	101,656
2015	44,839	59,439	104,278
2016	45,423	60,647	106,070
2017	45,373	61,490	106,863
2018	46,057	62,888	108,945
2019	47,195	64,695	111,890
2020	48,495	66,752	115,247



Big 9 - Fargo, Bismarck, Grand Forks, West Fargo, Minot, Mandan, Dickinson, Williston, Jamestown (enr. over 2,000).

Prepared by School Finance, 1/2018

2019 and 2020 projected using 3 year cohort survival routine

2018 finalized November 2017

ND Public K-12 Enrollment Cohorts
Unduplicated Fall Enrollment Count

	School Year											---> projected	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Kindergarten	6,729	7,214	7,470	7,445	8,236	8,575	8,822	9,033	8,925	8,814	9,271	10,359	11,023
Grade 1	6,827	6,744	7,147	7,478	7,517	8,366	8,605	8,901	9,051	8,720	8,736	9,130	10,194
Grade 2	6,511	6,748	6,725	7,195	7,487	7,707	8,401	8,642	8,871	8,840	8,709	8,642	9,041
Grade 3	6,787	6,541	6,839	6,914	7,225	7,723	7,853	8,417	8,663	8,760	8,871	8,674	8,610
Grade 4	6,931	6,812	6,547	6,972	7,025	7,379	7,817	7,989	8,433	8,666	8,774	8,887	8,694
Grade 5	6,983	6,962	6,904	6,675	7,023	7,291	7,531	7,953	7,984	8,452	8,739	8,825	8,944
Grade 6	7,036	7,074	7,089	7,140	6,884	7,338	7,462	7,809	8,096	8,121	8,563	8,857	8,954
Grade 7	7,289	7,218	7,249	7,367	7,320	7,254	7,585	7,661	7,948	8,196	8,291	8,718	9,014
Grade 8	7,467	7,360	7,301	7,297	7,421	7,496	7,335	7,638	7,694	7,924	8,220	8,301	8,727
Grade 9	8,045	7,670	7,572	7,578	7,462	7,796	7,776	7,672	7,931	7,983	8,174	8,529	8,598
Grade 10	8,002	7,855	7,683	7,682	7,517	7,515	7,707	7,678	7,607	7,769	7,728	7,976	8,315
Grade 11	7,802	7,620	7,563	7,415	7,354	7,414	7,414	7,458	7,434	7,258	7,533	7,453	7,676
Grade 12	7,643	7,588	7,626	7,563	7,308	7,338	7,348	7,427	7,433	7,339	7,336	7,539	7,457
Total	94,052	93,406	93,715	94,721	95,779	99,192	101,656	104,278	106,070	106,842	108,945	111,890	115,247
Change	(1,548)	(646)	309	1,006	1,058	3,413	2,464	2,622	1,792	772	2,103	2,945	3,357

Public School Districts Enrollment by County, Past 12 Years																			
County Number	County Name	Enrollment Totals by School Year (matches Educational Directory)												One Year		Frontier	Oil Prod	Big 10	
		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Students				Percent
53	Williams	3,079	3,009	3,015	3,081	3,165	3,430	3,695	4,106	4,627	4,913	5,287	5,447	5,792	345	6.0%		x	x
08	Burleigh	10,761	10,872	10,873	10,918	10,936	11,102	11,264	11,675	11,926	12,244	12,575	12,936	12,960	24	0.2%			x
09	Cass	18,851	18,991	19,066	19,403	19,751	19,974	20,434	21,295	21,912	22,562	23,090	23,542	24,402	860	3.5%			x
18	Grand Forks	9,183	8,996	8,797	8,500	8,458	8,415	8,342	8,506	8,587	8,720	8,818	8,908	9,068	160	1.8%			x
30	Morton	4,131	4,073	3,987	3,989	4,028	4,134	4,102	4,223	4,391	4,398	4,522	4,530	4,593	63	1.4%			x
40	Rolette	2,855	2,790	2,727	2,715	2,775	2,802	2,780	2,904	2,877	2,881	2,923	2,928	2,938	10	0.3%			x
51	Ward	8,713	8,607	8,398	8,435	8,673	9,090	8,992	9,428	9,708	10,119	10,155	10,110	10,092	(18)	-0.2%	x		x
39	Richland	2,570	2,487	2,423	2,337	2,260	2,282	2,287	2,250	2,251	2,234	2,228	2,217	2,195	(22)	-1.0%			x
47	Stutsman	2,831	2,724	2,645	2,617	2,607	2,555	2,575	2,558	2,548	2,591	2,613	2,592	2,581	(11)	-0.4%			x
45	Stark	3,318	3,295	3,199	3,160	3,228	3,272	3,404	3,562	3,897	4,209	4,265	4,208	4,498	290	6.4%		x	x
14	Eddy	468	421	385	353	322	341	320	340	319	312	296	315	293	(22)	-7.5%	x		
52	Wells	664	638	589	566	546	568	542	548	544	543	531	560	563	3	0.5%	x		
20	Griggs	462	415	407	392	377	375	365	370	368	376	385	413	410	(3)	-0.7%	x		
48	Towner	353	322	297	301	281	271	265	261	272	269	273	286	271	(15)	-5.5%	x		
22	Kidder	435	408	397	400	400	402	375	370	368	353	350	366	358	(8)	-2.2%	x		
31	Mountrail	1,347	1,327	1,380	1,370	1,433	1,491	1,564	1,616	1,591	1,787	1,817	1,873	1,965	92	4.7%	x	x	
43	Sioux	436	399	360	350	384	397	413	421	424	438	469	478	469	(9)	-1.9%	x		
02	Barnes	1,608	1,557	1,521	1,512	1,523	1,540	1,506	1,492	1,471	1,475	1,424	1,441	1,416	(25)	-1.8%			
32	Nelson	524	490	494	462	468	443	449	443	455	439	414	419	429	10	2.3%	x		
36	Ramsey	1,985	1,922	1,861	1,800	1,832	1,791	1,743	1,759	1,764	1,748	1,772	1,790	1,768	(22)	-1.2%			
10	Cavalier	580	555	521	479	458	437	442	428	435	438	472	476	475	(1)	-0.2%	x		
26	McIntosh	457	430	391	374	381	390	379	377	384	374	359	361	354	(7)	-2.0%	x		
29	Mercer	1,459	1,403	1,342	1,333	1,251	1,254	1,241	1,276	1,312	1,282	1,289	1,294	1,278	(16)	-1.3%		x	
05	Bottineau	902	857	816	852	785	765	761	795	820	861	844	847	859	12	1.4%	x	x	
27	McKenzie	865	810	813	814	839	927	1,038	1,275	1,476	1,783	1,875	1,881	2,069	188	9.1%	x	x	
34	Pembina	1,413	1,333	1,328	1,247	1,224	1,309	1,260	1,231	1,195	1,147	1,130	1,132	1,140	8	0.7%			
12	Divide	265	237	233	228	232	226	280	340	354	356	340	340	368	28	7.6%	x	x	
44	Slope	13	16	16	15	21	19	15	16	23	22	21	21	17	(4)	-23.5%	x	x	
25	McHenry	1,006	962	904	875	862	853	857	909	954	953	969	969	978	9	0.9%	x	x	
23	LaMoure	671	658	647	613	625	630	631	650	653	643	644	641	649	8	1.2%	x		
41	Sargent	804	799	759	740	708	671	664	649	638	615	608	605	606	1	0.2%	x		
03	Benson	959	972	974	973	959	970	1,022	1,022	1,052	1,024	980	972	947	(25)	-2.6%	x		
49	Traill	1,507	1,454	1,437	1,396	1,331	1,311	1,274	1,329	1,315	1,329	1,302	1,293	1,356	63	4.6%			
50	Walsh	1,903	1,847	1,801	1,754	1,699	1,524	1,528	1,575	1,544	1,558	1,578	1,561	1,536	(25)	-1.6%			
01	Adams	336	312	282	279	283	258	248	280	277	266	268	267	275	8	2.9%	x	x	
24	Logan	335	346	327	328	331	340	343	355	345	342	341	337	345	8	2.3%	x		
38	Renville	623	577	578	575	572	577	604	596	601	607	630	615	574	(41)	-7.1%	x	x	

Public School Districts Enrollment by County, Past 12 Years																			
County Number	County Name	Enrollment Totals by School Year (matches Educational Directory)													One Year		Frontier	Oil Prod	Big 10
		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Students	Percent			
28	McLean	1,518	1,497	1,454	1,436	1,433	1,410	1,484	1,582	1,546	1,600	1,623	1,569	1,613	44	2.7%	x	x	
16	Foster	647	616	583	573	529	518	539	543	520	517	502	498	(4)	-0.8%	x			
35	Pierce	594	574	625	610	613	612	603	583	573	604	613	595	629	34	5.4%	x		
06	Bowman	590	605	587	559	551	525	548	595	612	593	604	585	596	11	1.8%	x	x	
37	Ransom	989	990	994	972	947	920	945	929	955	963	952	918	918	-	0.0%			
11	Dickey	880	885	853	837	813	844	822	826	815	814	842	809	829	20	2.4%	x		
07	Burke	263	273	243	242	239	252	269	319	331	363	378	364	359	(5)	-1.4%	x	x	
21	Hettinger	418	411	386	360	373	379	409	421	424	451	468	451	473	22	4.7%	x	x	
19	Grant	317	304	286	255	247	243	238	237	221	212	225	226	223	(3)	-1.3%	x		
15	Emmons	659	628	618	621	588	571	548	544	548	528	535	505	503	(2)	-0.4%	x		
13	Dunn	473	447	429	438	437	434	452	476	516	527	534	504	560	56	10.0%	x	x	
42	Sheridan	138	143	132	137	123	106	100	106	103	104	115	108	113	5	4.4%	x		
04	Billings	50	48	46	42	44	38	55	67	76	73	80	75	68	(7)	-10.3%	x	x	
33	Oliver	265	255	237	208	196	196	210	200	227	208	224	210	221	11	5.0%	x		
17	Golden Valley	341	322	309	302	314	303	319	313	320	321	335	314	311	(3)	-1.0%	x	x	
46	Steele	306	291	285	278	260	242	233	221	191	186	168	157	144	(13)	-9.0%	x		
Total		97,120	95,600	94,057	93,406	93,715	94,729	95,778	99,192	101,656	104,278	106,070	106,863	108,945	2,082	1.9%	36	19	10

														One Year Change		Change from 2009-10	
														Students	Percent	Students	Percent
Non Frontier Counties	77,156	76,350	75,414	75,169	75,688	76,705	77,372	80,098	82,280	84,373	85,923	86,847	88,531	1,684	1.9%	12,843	17.0%
¹ Frontier Counties	19,964	19,250	18,643	18,237	18,027	18,024	18,406	19,094	19,376	19,905	20,147	20,016	20,414	398	1.9%	2,387	13.2%

¹Counties with less than seven persons per square mile (U.S. Census Bureau 2010).

														One Year Change		Change from 2009-10	
														Students	Percent	Students	Percent
² Oil Producing Counties	25,579	25,015	24,430	24,396	24,735	25,503	26,235	27,972	29,465	31,086	31,782	31,734	32,745	1,011	3.1%	8,010	32.4%
Non-Oil Producing Coun	71,541	70,585	69,627	69,010	68,980	69,226	69,543	71,220	72,191	73,192	74,288	75,129	76,200	1,071	1.4%	7,220	10.5%

²Members of ND Association of Oil & Gas Producing Counties.

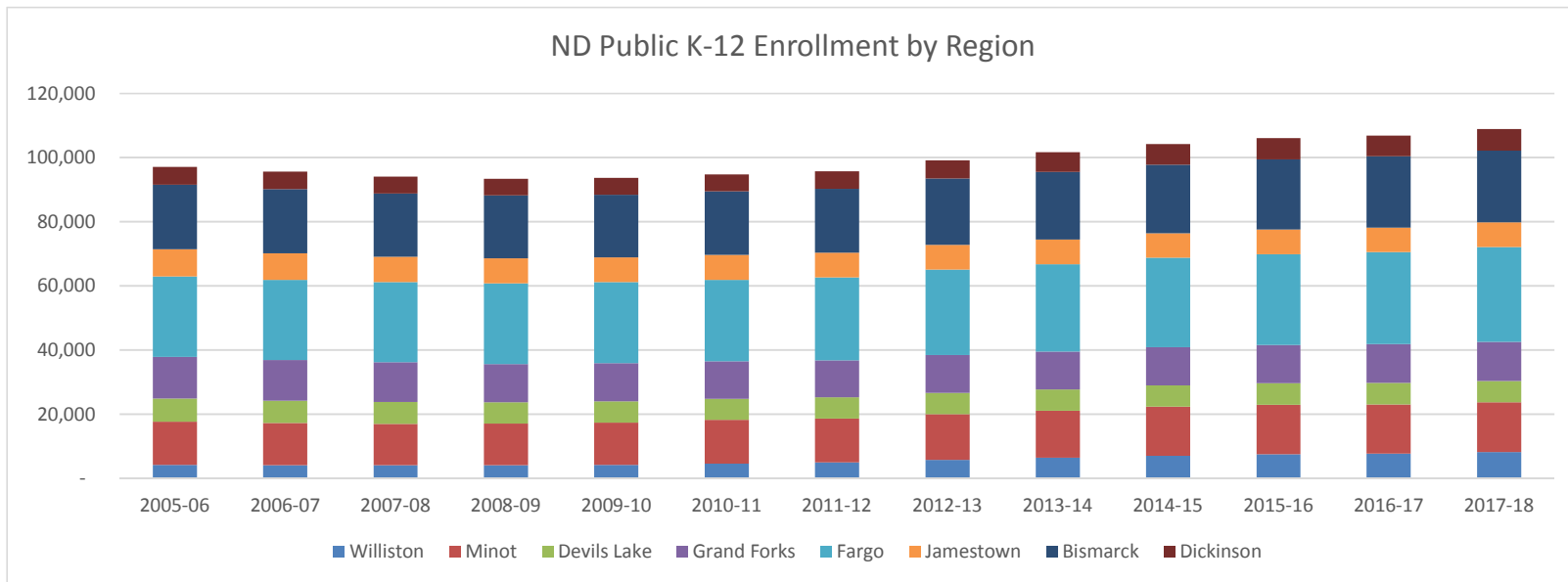
														One Year Change		Change from 2009-10	
														Students	Percent	Students	Percent
³ Largest 10 Counties	66,292	65,844	65,130	65,155	65,881	67,056	67,875	70,507	72,724	74,871	76,476	77,418	79,119	1,701	2.1%	13,238	20.1%
All Other Counties	30,828	29,756	28,927	28,251	27,834	27,673	27,903	28,685	28,932	29,407	29,594	29,445	29,826	381	1.3%	1,992	7.2%

³Counties containing school districts with enrollment exceeding 2,000 students.

ND Public K-12 Enrollment by Region
State planning regions



Region Number	Region Name	Enrollment Totals by School Year (matches Educational Directory)													One Year Change		Change from 2009-10	
		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Students	Percent	Students	Percent
1	Williston	4,209	4,056	4,061	4,123	4,236	4,583	5,013	5,721	6,457	7,052	7,502	7,668	8,229	561	6.8%	3,993	94.3%
2	Minot	13,448	13,177	12,944	12,959	13,177	13,640	13,650	14,246	14,578	15,294	15,406	15,373	15,456	83	0.5%	2,279	17.3%
3	Devils Lake	7,200	6,982	6,765	6,621	6,627	6,612	6,572	6,714	6,719	6,672	6,716	6,767	6,692	(75)	-1.1%	65	1.0%
4	Grand Forks	13,023	12,666	12,420	11,963	11,849	11,691	11,579	11,755	11,781	11,864	11,940	12,020	12,173	153	1.3%	324	2.7%
5	Fargo	25,027	25,012	24,964	25,126	25,257	25,400	25,837	26,673	27,262	27,889	28,348	28,732	29,621	889	3.0%	4,364	17.3%
6	Jamestown	8,555	8,269	7,963	7,812	7,732	7,760	7,702	7,719	7,648	7,678	7,656	7,656	7,645	(11)	-0.1%	(87)	-1.1%
7	Bismarck	20,119	19,982	19,686	19,647	19,586	19,815	19,975	20,634	21,066	21,367	21,927	22,222	22,331	109	0.5%	2,745	14.0%
8	Dickinson	5,539	5,456	5,254	5,155	5,251	5,228	5,450	5,730	6,145	6,462	6,575	6,425	6,798	373	5.5%	1,547	29.5%
Total		97,120	95,600	94,057	93,406	93,715	94,729	95,778	99,192	101,656	104,278	106,070	106,863	108,945	2,082	1.9%	15,230	16.3%
Change			(1,520)	(1,543)	(651)	309	1,014	1,049	3,414	2,464	2,622	1,792	793	2,082				

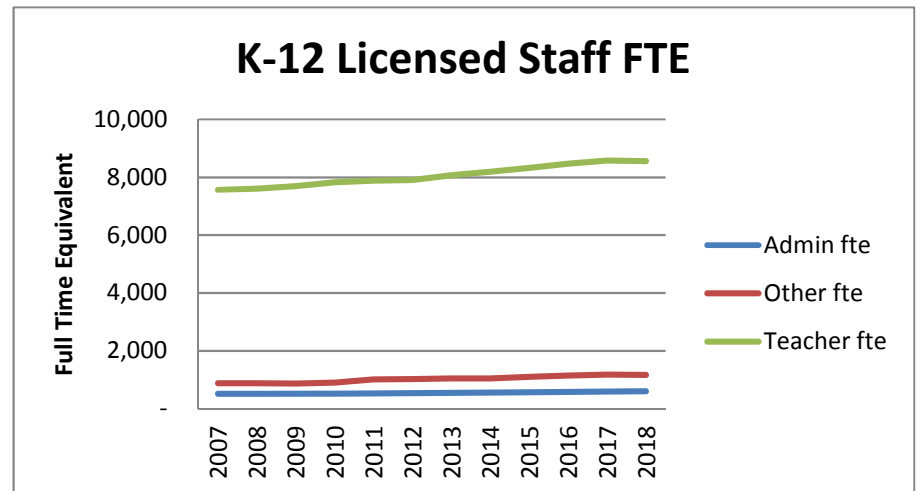
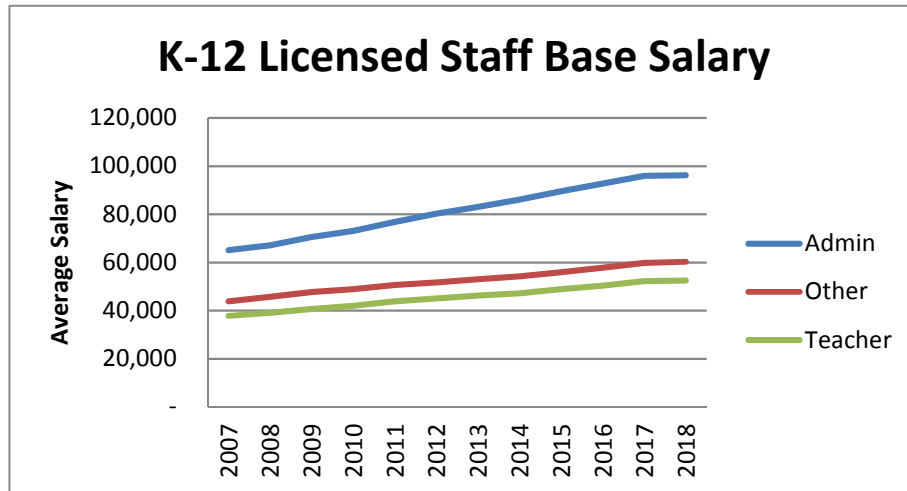


ND Teacher Base Salary and FTE History

School Year	Licensed FTE			Average Salary			Enr/FTE	
	Admin fte	Other fte	Teacher fte	Admin	Other	Teacher	K-12 Enr	Ratio
2007	516	882	7,568	65,118	43,887	37,840	95,600	10.7
2008	511	875	7,609	67,120	45,725	39,137	94,057	10.5
2009	517	866	7,697	70,608	47,794	40,750	93,406	10.3
2010	521	902	7,829	73,156	48,923	41,977	93,715	10.1
2011	528	1,006	7,881	76,885	50,635	43,852	94,729	10.1
2012	535	1,017	7,911	80,268	51,711	45,072	95,778	10.1
2013	533	1,045	8,076	83,074	53,124	46,275	99,192	10.3
2014	552	1,039	8,192	86,115	54,245	47,231	101,656	10.4
2015	565	1,100	8,330	89,534	56,004	48,893	104,278	10.4
2016	577	1,145	8,474	92,826	57,842	50,455	106,070	10.4
2017	587	1,176	8,580	96,008	59,898	52,235	106,863	10.3
2018	597	1,168	8,563	96,193	60,305	52,534	108,945	10.5

Licensed personnel (FTE)

- Teachers include classroom teachers, MR special education, SLD and ED, physical education, music, art, career and technology, Title I and any other type of teacher.
- Other licensed staff includes assistant directors, coordinators, counselors or counselor designates, county superintendents and assistant or deputy county superintendents, directors, instructional programmers, library media specialist, pupil personnel, school psychologist, speech pathologist and supervisors.
- Administrators include principals and assistant principals, superintendents and assistant or deputy superintendents.



DIGEST of EDUCATION STATISTICS

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Table 211.60. Estimated average annual salary of teachers in public elementary and secondary schools, by state: Selected years, 1969-70 through 2016-17

State	Current dollars							Constant 2016-17 dollars ¹							Percent change, 1999-2000 to 2016-17
	1969-70	1979-80	1989-90	1999-2000	2009-10	2015-16	2016-17	1969-70	1979-80	1989-90	1999-2000	2009-10	2015-16	2016-17	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
United States	\$8,626	\$15,970	\$31,367	\$41,807	\$55,202	\$58,353	\$58,950	\$55,411	\$49,917	\$59,944	\$59,924	\$61,804	\$59,426	\$58,950	-1.6
Alabama	6,818	13,060	24,828	36,689	47,571	48,518	48,868	43,797	40,821	47,448	52,588	53,260	49,410	48,868	-7.1
Alaska	10,560	27,210	43,153	46,462	59,672	67,443	68,138	67,834	85,050	82,468	66,597	66,809	68,684	68,138	2.3
Arizona	8,711	15,054	29,402	36,902	46,952	47,218	47,403	55,957	47,054	56,189	52,894	52,567	48,087	47,403	-10.4
Arkansas	6,307	12,299	22,352	33,386	46,700	48,218	48,616	40,514	38,443	42,716	47,854	52,285	49,105	48,616	1.6
California	10,315	18,020	37,998	47,680	68,203	77,179	78,711	66,261	56,325	72,616	68,342	76,360	78,599	78,711	15.2
Colorado	7,761	16,205	30,758	38,163	49,202	46,155	46,506	49,854	50,652	58,780	54,701	55,086	47,004	46,506	-15.0
Connecticut	9,262	16,229	40,461	51,780	64,350	72,013	72,561	59,496	50,727	77,323	74,219	72,046	73,338	72,561	-2.2
Delaware	9,015	16,148	33,377	44,435	57,080	59,960	60,214	57,910	50,473	63,785	63,691	63,907	61,063	60,214	-5.5
District of Columbia	10,285	22,190	38,402	47,076	64,548	75,810	76,131	66,068	69,359	73,388	67,477	72,268	77,205	76,131	12.8
Florida	8,412	14,149	28,803	36,722	46,708	49,199	49,407	54,036	44,225	55,044	52,636	52,294	50,104	49,407	-6.1
Georgia	7,276	13,853	28,006	41,023	53,112	54,190	54,602	46,739	43,300	53,521	58,801	59,464	55,187	54,602	-7.1
Hawaii	9,453	19,920	32,047	40,578	55,063	57,431	57,674	60,723	62,264	61,244	58,163	61,648	58,487	57,674	-0.8
Idaho	6,890	13,611	23,861	35,547	46,283	46,122	47,504	44,259	42,544	45,600	50,952	51,818	46,970	47,504	-6.8
Illinois	9,569	17,601	32,794	46,486	62,077	61,342	61,602	61,469	55,015	62,671	66,631	69,501	62,470	61,602	-7.5
Indiana	8,833	15,599	30,902	41,850	49,986	50,715	50,554	56,741	48,757	59,055	59,986	55,964	51,648	50,554	-15.7
Iowa	8,355	15,203	26,747	35,678	49,626	54,416	55,443	53,670	47,520	51,115	51,139	55,561	55,417	55,443	8.4
Kansas	7,612	13,690	28,744	34,981	46,657	47,755	47,984	48,897	42,791	54,931	50,140	52,237	48,633	47,984	-4.3
Kentucky	6,953	14,520	26,292	36,380	49,543	52,134	52,339	44,664	45,385	50,245	52,146	55,468	53,093	52,339	0.4
Louisiana	7,028	13,760	24,300	33,109	48,903	49,745	50,000	45,146	43,009	46,439	47,457	54,752	50,660	50,000	5.4
Maine	7,572	13,071	26,881	35,561	46,106	50,498	51,077	48,640	40,856	51,371	50,972	51,620	51,427	51,077	0.2
Maryland	9,383	17,558	36,319	44,048	63,971	66,456	66,961	60,274	54,881	69,408	63,137	71,622	67,678	66,961	6.1
Massachusetts	8,764	17,253	34,712	46,580	69,273	76,981	77,804	56,297	53,927	66,336	66,766	77,558	78,397	77,804	16.5
Michigan	9,826	19,663	37,072	49,044	57,958	62,028	62,200	63,119	61,460	70,847	70,298	64,890	63,169	62,200	-11.5
Minnesota	8,658	15,912	32,190	39,802	52,431	56,913	57,346	55,617	49,736	61,517	57,051	58,702	57,360	57,346	0.5
Mississippi	5,798	11,850	24,292	31,857	45,644	42,744	42,925	37,245	37,039	46,423	45,662	51,103	43,960	42,925	-6.0
Missouri	7,799	13,682	27,094	35,656	45,317	47,957	48,293	50,099	42,766	51,778	51,108	50,737	48,839	48,293	-5.5
Montana	7,606	14,537	25,081	32,121	45,759	51,034	51,422	48,859	45,438	47,931	46,041	51,232	51,973	51,422	11.7
Nebraska	7,375	13,516	25,522	33,237	46,227	51,386	52,338	47,375	42,247	48,774	47,641	51,756	52,331	52,338	9.9
Nevada	9,215	16,295	30,590	39,390	51,524	56,943	57,376	59,195	50,933	58,459	56,460	57,686	57,990	57,376	1.6
New Hampshire	7,771	13,017	28,986	37,734	51,443	56,616	57,253	49,919	40,687	55,394	54,086	57,595	57,657	57,253	5.9
New Jersey	9,130	17,161	35,676	52,015	65,130	69,330	69,623	58,649	53,640	68,179	74,556	72,919	70,605	69,623	-6.6
New Mexico	7,796	14,887	24,756	32,554	46,258	47,163	47,500	50,079	46,532	47,310	46,662	51,790	48,031	47,500	1.8
New York	10,336	19,812	38,925	51,020	71,633	79,152	79,637	66,396	61,926	74,388	73,130	80,200	80,608	79,637	8.9
North Carolina	7,494	14,117	27,883	39,404	46,850	49,941	49,837	48,139	44,125	53,286	56,480	52,453	48,823	49,837	-11.8
North Dakota	6,696	13,263	23,016	29,863	42,964	50,472	51,618	43,013	41,456	43,985	42,804	48,102	51,400	51,618	20.6
Ohio	8,300	15,269	31,218	41,436	55,958	56,441	57,000	53,317	47,726	59,659	59,393	62,650	57,479	57,000	-4.0
Oklahoma	6,882	13,107	23,070	31,298	47,691	45,276	45,245	44,208	40,968	44,088	44,861	53,395	46,109	45,245	0.9
Oregon	8,818	16,266	30,840	42,336	55,224	60,359	61,631	56,644	50,842	58,937	60,683	61,829	61,469	61,631	1.6
Pennsylvania	8,858	16,515	33,338	48,321	59,156	65,151	65,863	56,901	51,621	63,711	69,261	66,231	66,349	65,863	-4.9
Rhode Island	8,776	18,002	36,057	47,041	59,686	66,197	66,477	56,375	56,269	68,907	67,427	66,824	67,415	66,477	-1.4
South Carolina	6,927	13,063	27,217	36,081	47,508	48,769	48,598	44,497	40,831	52,013	51,717	53,190	49,666	48,598	-6.0
South Dakota	6,403	12,348	21,300	29,071	38,837	42,025	42,668	41,131	38,596	40,705	41,669	43,482	42,798	42,668	2.4
Tennessee	7,050	13,972	27,052	36,328	46,290	48,217	48,456	45,287	43,672	51,698	52,071	51,826	49,104	48,456	-6.9
Texas	7,255	14,132	27,496	37,567	48,261	51,890	52,575	46,604	44,172	52,546	53,847	54,033	52,845	52,575	-2.4
Utah	7,644	14,909	23,686	34,946	45,885	46,887	47,244	49,103	46,601	45,265	50,090	51,373	47,749	47,244	-5.7
Vermont	7,968	12,484	29,012	37,758	49,084	58,901	60,187	51,184	39,021	55,443	54,121	54,954	59,984	60,187	11.2
Virginia	8,070	14,060	30,938	38,744	50,015	50,834	51,049	51,839	43,947	59,124	55,534	55,997	51,769	51,049	-8.1
Washington	9,225	18,820	30,457	41,043	53,003	53,738	54,147	59,259	58,825	58,205	58,829	59,342	54,727	54,147	-8.0
West Virginia	7,650	13,710	22,842	35,009	45,959	45,622	45,701	49,141	42,853	43,652	50,180	51,456	46,461	45,701	-8.9
Wisconsin	8,963	16,006	31,921	41,153	51,264	54,115	54,998	57,576	50,030	61,003	58,987	57,395	55,110	54,998	-6.8
Wyoming	8,232	16,012	28,141	34,127	55,861	58,140	58,650	52,880	50,048	53,779	48,916	62,542	59,209	58,650	19.9

¹ Constant dollars based on the Consumer Price Index (CPI), prepared by the Bureau of Labor Statistics, U.S. Department of Labor, adjusted to a school-year basis. The CPI does not account for differences in inflation rates from state to state.

NOTE: Some data have been revised from previously published figures. Standard errors are not available for these estimates, which are based on state reports.

SOURCE: National Education Association, *Estimates of School Statistics*, selected years, 1969-70 through 2016-17. (This table was prepared August 2017.)



Mari Riehl, Assistant Director

Educator Shortages Update 2018

HISTORICAL ND SHORTAGE AREAS

2006-2015

All areas except Elementary Education and Physical Education

2015-16

- All areas

2018-19

- All areas except Physical Education

USES OF SHORTAGE DESIGNATION

- Districts use to fill unfilled positions using Alternative Access License
- Retirees return to work and continue receiving benefits
- Teacher candidate loan forgiveness and additional time to complete testing requirements

ALTERNATIVE ACCESS LICENSE

- Must have a bachelor's degree (or equivalent of) in content to be taught
- Letter from school administrator indicating shortages of applicants who were regularly prepared, explain the application process, and the number of applicants
- Allows those with a non-education bachelor's degree to teach while they go back to complete education courses/degree
- Colleges determine what course work is needed

ALTERNATIVE ACCESS LICENSES

- 2015-16 = 142
- 2016-17 = 145
- 2017-18 = 163
- 2018 = 123 to date
 - 26 of these are a part of the UND resident teacher program for Special Education.
 - Special education accounts for the highest area of alternately licensed teachers
 - Elementary, English, Science

*Dates are fiscal years

INITIAL IN STATE EDUCATOR LICENSES

- 2015-16 = 563
- 2016-17 = 552
- 2017-18 = 564
- 2018 = 118 to date

*Dates are fiscal years

OUT OF STATE RECIPROCAL LICENSES

- 2015-16 = 141
- 2016-17 = 102
- 2017-18 = 85
- 2018 = 40 to date

*Dates are fiscal years

OTHER STATE EDUCATOR LICENSES (OSEL)

HOLDS A VALID TEACHING LICENSE IN ANOTHER STATE

- 2015-16 = 451
- 2016-17 = 340
- 2017-18 = 322
- 2018 = 124 to date

*Dates are fiscal years

WHAT THE NUMBERS TELL US

- We are experiencing shortages similar to the rest of the nation
- We have not experienced significant change in licensure over the past year

WHAT HAS ESPB DONE TO TRY TO HELP

- **PRAXIS ENDORSEMENT:** A licensed teacher can take a Praxis test to teach a new content area.
- **SB 1098**

SB 1098

- Elementary Education is now 1-8, rather than just 1-6
- Secondary Education is now 5-12, rather than 7-12 in the content areas
- Teachers may teach in their minor areas

SUBSTITUTE TEACHERS

- 2015-16 = 1421
 - 2016-17 = 1730
 - 2017-18 = 2085
 - 2018 = 276 to date
 - *Dates are fiscal years
-
- Substitute licenses are now good for 2 years and don't require an administrator's request letter.
 - Requirement remains at 48 semester hours of college education

LOOKING AHEAD

- We are in a similar position to the rest of the nation
- We need to encourage more young people to go into education
- Special Education is the area of greatest need, however nearly all areas are in need

MEMORANDUM

TO: TFFR Board
FROM: Fay Kopp
DATE: September 20, 2018
SUBJ: TFFR Legislative Update

The [Legislative Employee Benefits Programs Committee](#) (LEBPC) will be meeting on [October 25-26, 2018](#) to receive the 2018 TFFR and PERS actuarial valuation reports. The Committee will also review actuarial and technical comments, and take public comment on legislative proposals related to retirement and health programs.

Here are the two bill drafts which impact the TFFR retirement program.

- **[Bill Draft #126](#) – submitted by TFFR Board**
Makes technical corrections required by IRS favorable determination letter.

See September 4, 2018 Segal technical comments.
- **[Bill Draft #20](#) – Submitted by Rep. Streyle**
Changes the powers and duties of the Legislative Employee Benefits Programs Committee. Legislators and legislative committees would no longer be required to submit proposed bills or amendments to this committee for review to ensure an actuarial study is done, although executive and judicial branch entities would need to continue doing so.

See September 4, 2018 Segal technical comments.

The Board should consider taking a position on this bill due to its potential negative impact on the financial health of TFFR. Since no actuarial study would be required if this bill were passed, legislators or legislative committees might not identify the potential range and impact of the risk associated with bills or amendments. This could have significant actuarial cost impact on TFFR, or affect the benefits payable from the retirement system.

BOARD ACTION REQUESTED.



101 North Wacker Drive Suite 500 Chicago, IL 60606-1724
T 312.984.8500 www.segalco.com

September 4, 2018

Via E-mail

Ms. Fay Kopp
NDRIO Deputy Executive Director / NDTFFR Chief Retirement Officer
ND Retirement & Investment Office | ND Teachers' Fund for Retirement
3442 East Century Avenue | P.O. Box 7100
Bismarck, ND 58507-7100

Re: **Technical Comments on Draft Bill 20**

Dear Fay:

As requested, we reviewed draft Bill 20 (Bill No. 19.0020.01000), which proposes administrative changes relating to the powers and duties of the Legislative Employee Benefits Programs Committee. The following presents our analysis of such proposed changes found in draft Bill 20.

Summary: The proposed legislation updates North Dakota Century Code §54-35-02.4 such that legislators or legislative committees would no longer be required to submit a draft measure or proposed bills or amendments, affecting a public employees retirement program, public employees health insurance program, or public employee retiree insurance program, for review to ensure an actuarial study is done. However, the judicial and executive branch agency may not introduce a legislative measure unless the legislative measure is accompanied by a report.

Actuarial Cost Analysis: This bill, in and of itself, would have no actuarial cost impact on the TFFR.

Technical Comments: Our comments on the bill are as follows:

General Comments

While the bill itself does not have an actuarial cost impact, this bill could lead to a scenario that has a significant impact on the financial health of the TFFR and other North Dakota retirement systems.

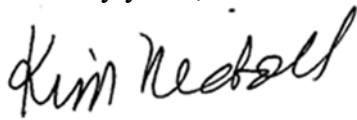
Since no actuarial study would be required if this bill were passed, legislators or legislative committees might not identify the potential range and impact of the risks associated with amendments introduced by them. As a result, this could have significant actuarial cost impact on the TFFR, or affect the benefits payable from the retirement system. A seemingly innocuous draft bill may, in fact, have material or even significant cost or administrative implications. If not properly evaluated within the context of an actuarial analysis, proposed legislation could adversely impact TFFR.

In addition, an actuarial study would help to identify risks associated with the retirement system's future financial condition, and if those risks are anticipated to be significant, assess those risks. As part of a risk assessment, an actuarial study may include scenario testing, sensitivity testing, stress testing, and/or stochastic modeling. A more detailed actuarial study could help legislators or legislative committees to develop a better understanding of the risks associated to changes introduced by draft legislation.

The information contained in this letter is provided within our role as the plan's actuary and benefits consultant and is not intended to provide tax or legal advice. We recommend that you address all issues described herein with your legal counsel.

Please contact us if you have any questions or comments.

Sincerely yours,



Kim M. Nicholl, FSA, EA, FCA
Senior Vice President & Actuary

cc: Matthew Strom



101 North Wacker Drive Suite 500 Chicago, IL 60606-1724
T 312.984.8500 F 312.984.8590 www.segalco.com

September 4, 2018

Via E-mail

Ms. Fay Kopp
NDRIO Deputy Executive Director / NDTFFR Chief Retirement Officer
ND Retirement & Investment Office | ND Teachers' Fund for Retirement
3442 East Century Avenue | P.O. Box 7100
Bismarck, ND 58505-7100

Re: **Technical Comments on Draft Bill 126 (IRS compliance changes)**

Dear Fay:

As requested, we reviewed draft Bill 126 (Bill No. 19.0126.01000), which proposes technical changes to the North Dakota Teachers' Fund for Retirement (TFFR) that are required to be made under the terms of the Fund's determination letter from the Internal Revenue Service (IRS) on the tax-qualified status of the plan. The following presents our analysis of such proposed changes found in draft Bill 126.

Summary: The proposed legislation adds new paragraph 2 to North Dakota Century Code §15-39.1-34, which describes the detailed rules for direct rollovers under Internal Revenue Code sections 401(a)(31) and 402. The language in this paragraph 2 was approved by the IRS as satisfying qualification rules for governmental pension plans under these sections of the Internal Revenue Code. The IRS provided the TFFR a favorable determination letter on the tax-qualified status of the plan, which is contingent upon adopting the approved language.

Actuarial Cost Analysis: This bill would have no actuarial cost impact on the TFFR.

Technical Comments: Our comments on the bill are as follows:

General Comments

The bill generally clarifies existing statutory provisions to more accurately reflect actual operations of the TFFR. The provisions of this bill do not appear to directly or significantly impact the benefits payable from the TFFR.

Compliance Issues

The bill amends North Dakota Century Code §15-39.1-34 by adding paragraph 2 to describe the direct rollover rules under the plan in a manner that complies with Internal Revenue Code section 401(a)(31). Since the IRS approved the language in paragraph 2 for this purpose, the bill does not present any compliance issues.

Administrative Issues

The language of the bill accurately reflects the actual operations of the rollover rules under the plan and helps the plan maintain compliance with applicable federal requirements for tax-qualified pension plans.

The information contained in this letter is provided within our role as the plan's actuary and benefits consultant and is not intended to provide tax or legal advice. We recommend that you address all issues described herein with your legal counsel.

Please contact us if you have any questions or comments.

Sincerely yours,



Kim Nicholl, FSA, EA, FCA
Senior Vice President and Consulting Actuary



Melanie Walker, JD
Senior Vice President

cc: Matthew Strom

TFFR Investment Update

For the Periods Ended June 30, 2018

September 19, 2018

Note: This document contains unaudited data which is deemed to be materially accurate, but is unaudited and subject to change.

Dave Hunter, Executive Director/CIO
Darren Schulz, Deputy Chief Investment Officer
Connie Flanagan, Fiscal and Investment Operations Manager
ND Retirement & Investment Office (RIO)
State Investment Board (SIB)

TFFR Investment Ends – June 30, 2018

SIB clients should receive investment returns consistent with their written investment policies and market variables. This “End” is evaluated based on comparison of each client’s (a) actual net investment return, (b) standard deviation and (c) risk adjusted excess return, to the client’s policy benchmark over 5 years.

TFFR earned \$211 million of net income in fiscal 2018 (and nearly \$850 million in fiscal 2014 to 2018).

	1 Yr Ended 6/30/2018	3 Yrs Ended 6/30/2018	5 Yrs Ended 6/30/2018	Risk 5 Yrs Ended 6/30/2018	Risk Adj Excess Return 5 Yrs 6/30/2018
Total Fund Return - Net	9.11%	7.30%	8.31%	4.81%	0.26%
Policy Benchmark Return	7.89%	6.61%	7.45%	4.45%	
Excess Return	1.21%	0.69%	0.85%	108%	

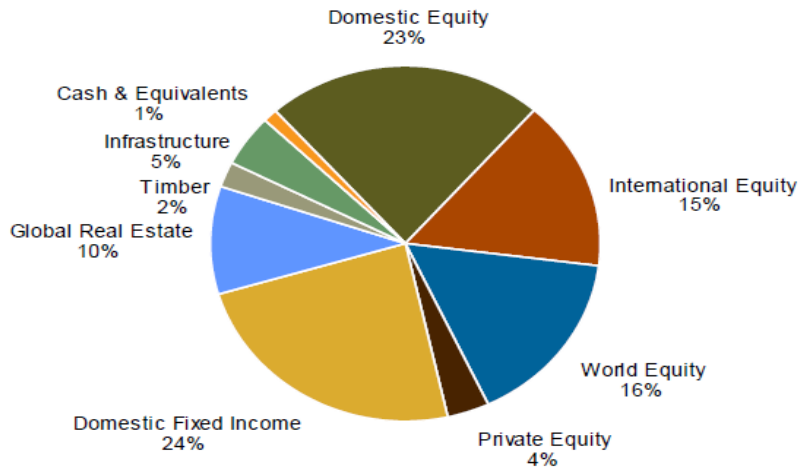
Key Point: TFFR investments have averaged nearly **\$2.2 billion** during the last 5-years and Excess Return has averaged over **0.50%** per annum. Based on these values, **TFFR’s use of active management has enhanced Net Investment Returns by \$55 million for the 5-years ended June 30, 2018** (or $\$2.2 \text{ billion} \times 0.50\% = \$11 \text{ million} \times 5 \text{ years} = \55 million). This Excess Return has been achieved while adhering to prescribed **Risk** limits (e.g. **108%** versus a policy limit of 115%).

Current Policy Benchmark: 58% Equity (31% U.S., 21% Non-U.S., 6% Private); **23% Fixed Income** (16% U.S., 7% High Yield); **18% Real Assets** (10% Real Estate; 5.7% Infrastructure; 2.3% Timber); and **1% Cash**.

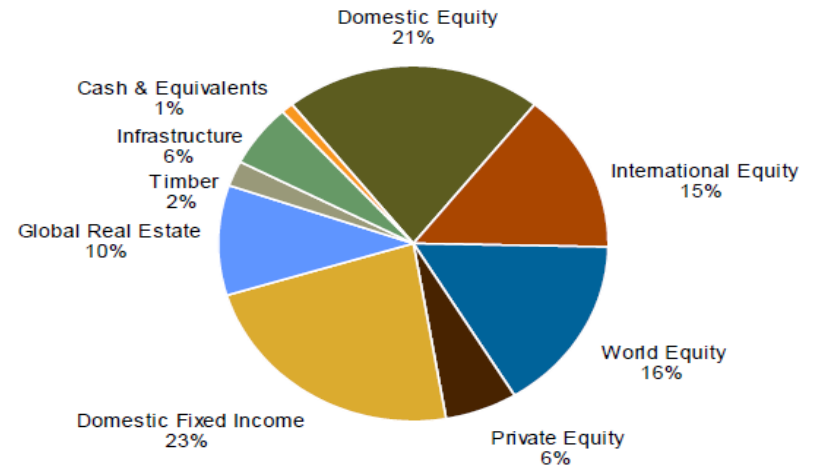
TFFR Allocation

As of June 30, 2018

Actual Asset Allocation



Target Asset Allocation




Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	573,580	23.1%	21.4%	1.7%	41,611
International Equity	384,397	15.5%	14.6%	0.9%	21,465
World Equity	397,489	16.0%	16.0%	(0.0%)	(245)
Private Equity	88,155	3.5%	6.0%	(2.5%)	(60,996)
Domestic Fixed Income	594,069	23.9%	23.0%	0.9%	22,327
Global Real Estate	244,345	9.8%	10.0%	(0.2%)	(4,239)
Timber	58,232	2.3%	2.3%	0.0%	1,058
Infrastructure	116,890	4.7%	5.7%	(1.0%)	(24,803)
Cash & Equivalents	28,679	1.2%	1.0%	0.2%	3,821
Total	2,485,835	100.0%	100.0%		

TFFR's Actual Asset Allocations are within 2.5% of Target noting that the Private Equity Underweight of 2.5% is offset by Overweight allocations to Domestic Equity of 1.7% and International Equity of 0.9%.

Asset Class Performance

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

Best



Worst

Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years
Russell:2000 Index 7.8%	Russell:2000 Index 17.6%	S&P:500 11.9%	S&P:500 13.4%	Russell:2000 Index 10.6%	MSCI:EM Gross 8.9%
S&P:500 3.4%	S&P:500 14.4%	Russell:2000 Index 11.0%	Russell:2000 Index 12.5%	S&P:500 10.2%	Russell:2000 Index 8.0%
3 Month T-Bill 0.5%	MSCI:EM Gross 8.6%	MSCI:EM Gross 6.0%	MSCI:EAFE 6.4%	Blmbg:Aggregate 3.7%	S&P:500 6.5%
Blmbg:Commodity Price Idx (0.1%)	MSCI:EAFE 6.8%	MSCI:EAFE 4.9%	MSCI:EM Gross 5.4%	MSCI:EAFE 2.8%	Blmbg:Aggregate 4.7%
Blmbg:Aggregate (0.2%)	Blmbg:Commodity Price Idx 5.8%	Blmbg:Aggregate 1.7%	Blmbg:Aggregate 2.3%	MSCI:EM Gross 2.6%	MSCI:EAFE 4.3%
MSCI:EAFE (1.2%)	3 Month T-Bill 1.4%	3 Month T-Bill 0.7%	3 Month T-Bill 0.4%	3 Month T-Bill 0.4%	3 Month T-Bill 2.0%
MSCI:EM Gross (7.9%)	Blmbg:Aggregate (0.4%)	Blmbg:Commodity Price Idx (5.2%)	Blmbg:Commodity Price Idx (6.8%)	Blmbg:Commodity Price Idx (9.3%)	Blmbg:Commodity Price Idx (0.5%)

U.S. Small Caps (Russell 2000) and U.S. Large Cap (S&P 500) returned over 17% and 14%, respectively, followed by Emerging Market Equities (MSCI EM) at 8.6% and International Equity (MSCI EAFE) at 6.8%, while U.S. Fixed Income (Blmbg. Aggregate) declined 0.4% in Fiscal 2018.

Executive Summary for periods ended June 30, 2018

Investment Performance Update –

- **TFFR earned a net investment return of 9.1% in fiscal 2018 versus a policy benchmark of less than 8%.** The financial markets remained resilient last year noting that TFFR U.S. Equity portfolio earned 16.4% in fiscal 2018 (versus 15.3% for the benchmark) and TFFR International Equity strategies were up 10.1% last year (versus a 7.3% benchmark). Private Equity returns continued to underperform, but more recent investments have showed marked improvement versus pre-2013 investments. TFFR fixed income returns also exceeded expectations with Investment Grade posting a 1.60% gain (versus **-0.40%** for the benchmark) while High Yield earned 5.2% in fiscal 2018 (versus a 2.6% benchmark). Real Assets results were mixed with Real Estate and Infrastructure earning 7.7 and 7.4% last year, respectively, (both slightly above benchmarks), while **Timber declined 2.5%** (versus a +3.6% benchmark).
- **Asset allocation is the primary driver of returns noting that TFFR target allocation is 58% Equity, 23% Fixed Income, 18% Real Assets and 1% Cash. TFFR earned a net return of 8.3% for the 5-years ended June 30, 2018, which exceeded the performance benchmark of 7.5% (and long-term actuarial assumption of 7.75%).** During the last 5-years, TFFR earned nearly **\$850 million** of net investment income including **\$795 million** (or 94%) from asset allocation decisions and **\$55 million** (or 6%) from the prudent use of active management.
- TFFR investment returns were ranked in the **26th** percentile for the 5-years ended June 30, 2018 (and 2017), based on Callan's Public Fund Sponsor Database (on an unadjusted risk basis).

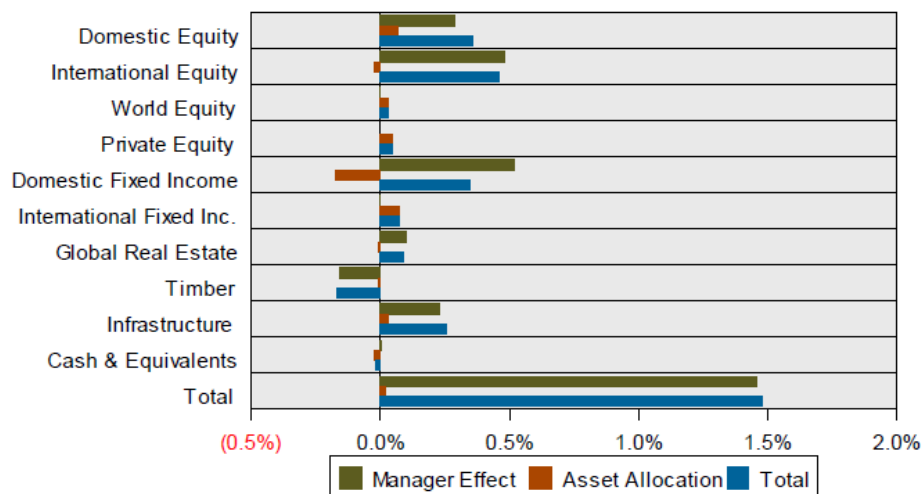
Changes in Asset Class Portfolio Structures and Tactical Approaches –

- During the last year, the SIB approved structural changes to eliminate agency MBS and international debt strategies. These changes are expected to improve risk adjusted returns within the Pension Trust largely due to the elimination of international fixed income with low expected returns and high expected volatility. **In order to implement these changes, TFFR's asset allocation within Fixed Income was revised to reduce Investment Grade to 16% (from 19%) while increasing Non-Investment Grade to 7% (from 4%). The total allocation to Fixed Income will remain constant at 23%.**

TFFR Performance and Attribution

As of June 30, 2018

One Year Relative Attribution Effects



Returns for 1 Year Ended 06/30/2018

Return Type	Return (%)
Gross	9.37%
Net of fees	9.11%
Target	7.89%
Net added	1.22%

One Year Relative Attribution Effects

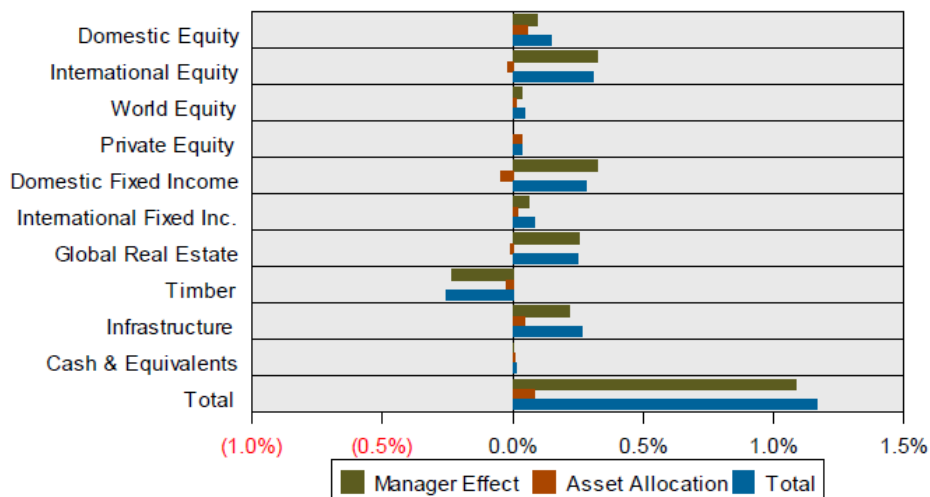
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	23%	21%	16.60%	15.27%	0.29%	0.07%	0.36%
International Equity	16%	15%	10.31%	7.32%	0.48%	(0.02%)	0.46%
World Equity	17%	16%	10.94%	11.09%	(0.00%)	0.03%	0.03%
Private Equity	3%	6%	5.27%	5.27%	0.00%	0.05%	0.05%
Domestic Fixed Income	20%	19%	2.80%	0.32%	0.52%	(0.17%)	0.35%
International Fixed Inc.	3%	3%	(16.88%)	(16.82%)	(0.00%)	0.07%	0.07%
Global Real Estate	10%	10%	8.22%	7.19%	0.10%	(0.01%)	0.09%
Timber	2%	2%	(2.52%)	3.57%	(0.16%)	(0.01%)	(0.17%)
Infrastructure	5%	6%	7.87%	3.09%	0.23%	0.03%	0.26%
Cash & Equivalents	1%	1%	1.47%	1.36%	0.00%	(0.02%)	(0.02%)

Total **9.37% = 7.89% + 1.46% + 0.02%** **1.48%**

TFFR Performance and Attribution

As of June 30, 2018

Five Year Annualized Relative Attribution Effects



Returns for 5 Year Ended 06/30/2018

Return Type	Return (%)
Gross	8.62%
Net of fees	8.31%
Target	7.45%
Net added	0.86%

Five Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	23%	21%	13.68%	13.23%	0.09%	0.06%	0.15%
International Equity	15%	15%	8.26%	6.16%	0.33%	(0.02%)	0.31%
World Equity	16%	16%	10.11%	9.94%	0.03%	0.01%	0.04%
Private Equity	4%	5%	1.35%	1.35%	0.00%	0.04%	0.04%
Domestic Fixed Income	18%	18%	4.81%	3.07%	0.33%	(0.05%)	0.28%
International Fixed Inc.	5%	5%	(2.25%)	(3.30%)	0.06%	0.02%	0.08%
Global Real Estate	10%	10%	12.43%	9.77%	0.25%	(0.01%)	0.25%
Timber	4%	4%	(0.35%)	6.00%	(0.23%)	(0.02%)	(0.25%)
Infrastructure	4%	5%	6.34%	1.37%	0.22%	0.05%	0.26%
Cash & Equivalents	1%	1%	0.52%	0.42%	0.00%	0.01%	0.01%

Total **8.62% = 7.45% + 1.08% + 0.08%** **1.17%**

Comparison of Major Asset Class Returns vs. Benchmark

Global Equities earned 12.38% for the 1-year ended June 30, 2018, which was 1.25% above the benchmark, while the 5-year return of 10.05 surpassed the benchmark of 9.38% by 0.67%.

Global Fixed Income earned 3.58% last year and 4.14% the last 5-years due to strong returns in U.S. Fixed Income including high yield & private credit offset by weaker returns in International Debt and Long Term Treasuries due to rising rates.

Global Real Assets earned 6.06% last year and 7.94% the last 5-years with Real Estate and Infrastructure surpassing benchmarks while Timber trailed its benchmark by over 6%.

Every major asset class outperformed their respective benchmarks for the 1 and 5-years ended June 30, 2018, with strong returns in all asset classes other than Private Equity and Timber.

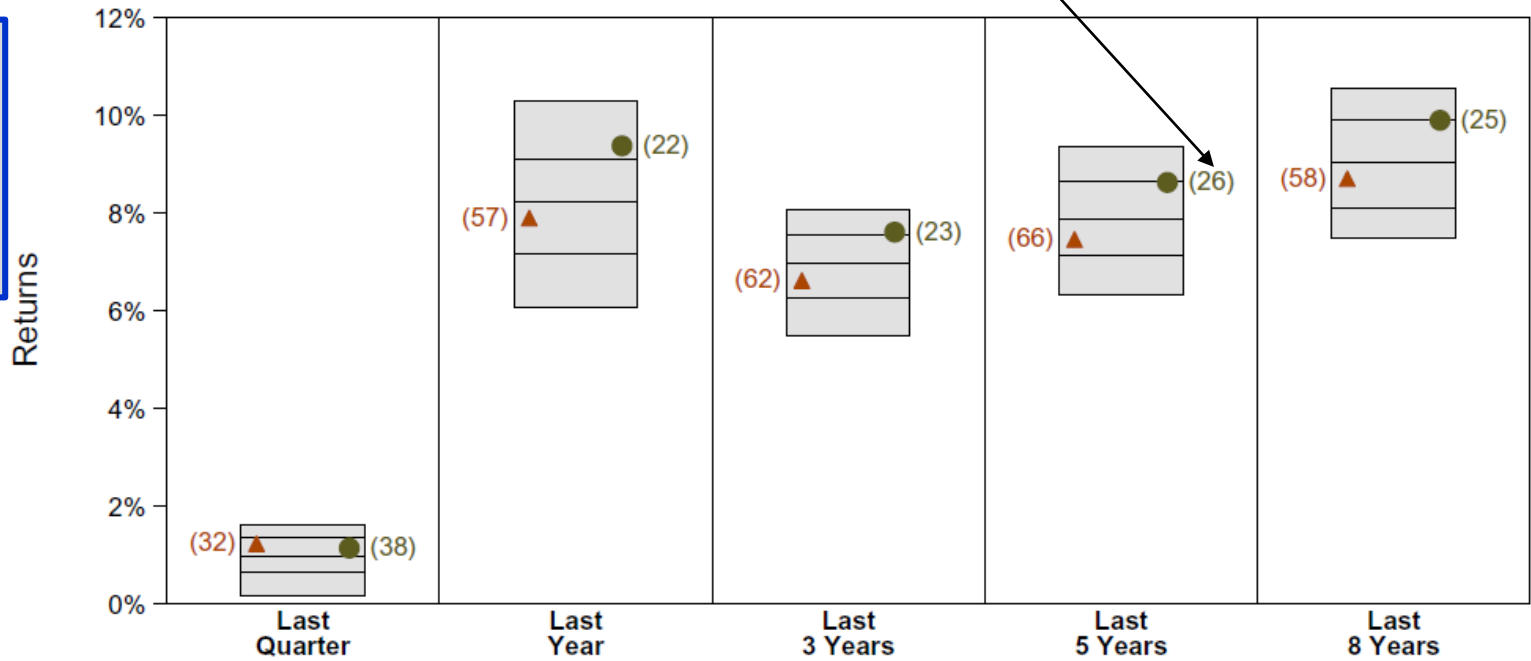
TFFR Asset Allocation	Target Allocation	1-year	5-years
Global Equity	58%		
- Actual		12.38%	10.05%
- Benchmark		11.13%	9.38%
		1.25%	0.67%
Global Fixed Income	23%		
- Actual		3.58%	4.14%
- Benchmark		2.00%	2.79%
		1.58%	1.35%
Global Real Assets	18%		
- Actual		6.06%	7.94%
- Benchmark		5.42%	6.75%
		0.64%	1.19%
Cash Equivalents	1%		
- Actual		1.47%	0.52%
- Benchmark		1.36%	0.42%
		0.11%	0.10%
TFFR - Total Fund	100%		
- Actual		9.11%	8.31%
- Benchmark		7.89%	7.45%
		1.22%	0.86%

TFFR's "gross" returns were ranked in the 26th percentile for the 5-years ended June 30, 2018, based on Callan's "Public Fund Sponsor Database".

Callan Public Fund Sponsor Database

Unadjusted Ranking

Note: TFFR's asset allocation adjusted ranking was in the 3rd percentile for the 5-years ended June 30, 2018.



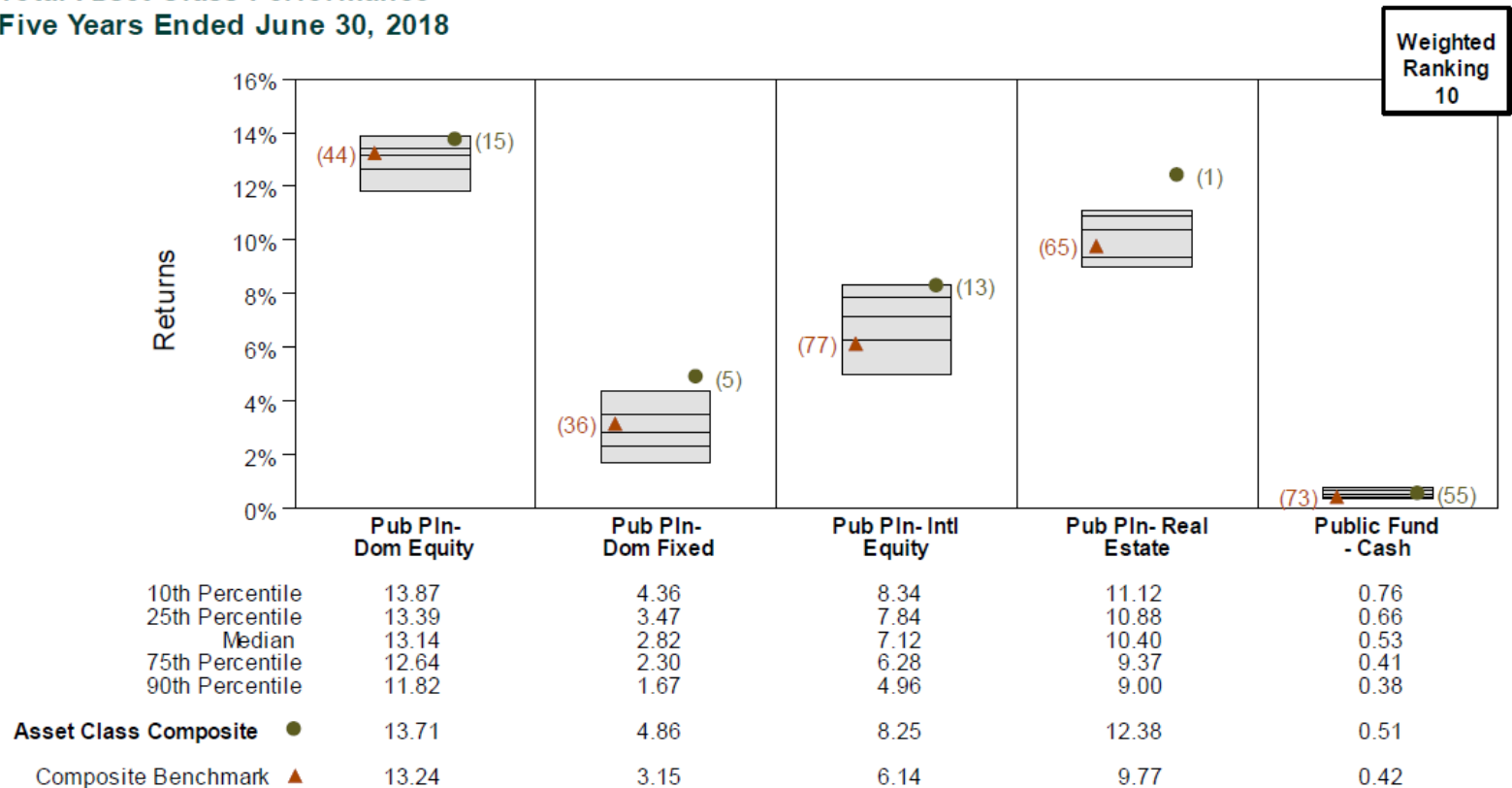
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 8 Years
10th Percentile	1.60	10.31	8.07	9.34	10.55
25th Percentile	1.34	9.09	7.54	8.66	9.92
Median	0.95	8.23	6.96	7.87	9.05
75th Percentile	0.64	7.15	6.24	7.14	8.08
90th Percentile	0.13	6.06	5.49	6.32	7.48
Total Fund ●	1.12	9.37	7.61	8.62	9.90
Policy Target ▲	1.21	7.89	6.61	7.45	8.70

* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% Blmbg Aggregate, 16.0% MSCI World, 11.8% MSCI World ex US, 10.0% NCREIF Total Index, 7.0% Blmbg HY 2% Iss Cap, 6.0% NDSIB TFFR - Private Equity, 5.7% CPI-W, 4.8% Russell 2000 Index, 2.8% MSCI EM, 2.3% NCREIF Timberland Index and 1.0% 3-month Treasury Bill.

Asset Class Composite Results

Consolidated Pension Trust Asset Class Results vs. Other Public Pension Funds

Total Asset Class Performance
Five Years Ended June 30, 2018



- All asset classes led their respective benchmarks over the last five years.
- Domestic equity and fixed income, international equity and real estate are all in the top quartile over the last five years.

TFFR Activity from June 30, 2017 to June 30, 2018

		\$ millions
Net Investment Position - June 30. 2017		\$ 2,360 a
Benefit Payments	\$ (208)	
Contributions	\$ 169	
Net Pension Payments over Contributions	<u> </u>	\$ (39) b
Investment Earnings	\$ 224	
Investment Expenses	\$ (13)	
Net Investment Earnings	<u> </u>	\$ 211 c
Administrative Expenses		<u> </u> \$ (2) d
Net Investment Position - June 30. 2018		<u><u> </u></u> \$2,530 e
Change in Net Investment Position	(e - a)	<u><u> </u></u> \$170 f

Net Investment Position improved by \$170 million (f) as Pension Benefit Payments exceeded Pension Contributions by \$39 million (b), while Net Investment Earnings were \$211 million (c) after investment expenses (of approximately \$12 million).

ND Teachers' Fund for Retirement Schedule of Investment Expenses

	FY 2018				FY 2017			
	Average Market Value	Fees in \$	Fees as % of Average MV	Contribution to Total Fees	Average Market Value	Fees in \$	Fees as % of Average MV	Contribution to Total Fees
Investment managers' fees:								
Global equity managers	408,901,458	1,380,401	0.34%	0.06%	368,541,670	1,426,842	0.39%	0.06%
Domestic large cap equity managers	427,574,723	(368,098)	-0.09%	-0.01%	388,663,320	551,198	0.14%	0.02%
Domestic small cap equity managers	129,193,929	586,340	0.45%	0.02%	117,362,483	455,668	0.39%	0.02%
Developed international equity managers	306,343,352	954,958	0.31%	0.04%	269,890,875	852,764	0.32%	0.04%
Emerging markets equity managers	84,989,807	697,608	0.82%	0.03%	77,503,580	633,942	0.82%	0.03%
Investment grade domestic fixed income managers	364,622,117	1,593,550	0.44%	0.06%	282,438,107	2,017,975	0.71%	0.09%
Below investment grade fixed income managers *	148,364,649	1,940,692	1.31%	0.08%	101,467,769	1,383,336	1.36%	0.06%
Developed international fixed income managers	78,070,923	270,428	0.35%	0.01%	118,359,898	423,318	0.36%	0.02%
Real estate managers	238,450,646	2,660,865	1.12%	0.11%	229,402,622	2,541,836	1.11%	0.11%
Timber managers	59,876,758	395,760	0.66%	0.02%	65,007,185	437,057	0.67%	0.02%
Infrastructure managers *	114,181,019	1,316,541	1.15%	0.05%	100,536,799	803,006	0.80%	0.04%
Private equity managers *	82,765,742	1,531,098	1.85%	0.06%	72,608,878	1,225,954	1.69%	0.06%
Cash & equivalents managers	29,499,369	36,561	0.12%	0.00%	19,216,771	20,203	0.11%	0.00%
Total investment management fees	2,472,834,494	12,996,703	0.53%		2,210,999,957	12,773,099	0.58%	
Custodian fees		233,938	0.01%	0.01%		213,844	0.01%	0.01%
Investment consultant fees		150,251	0.01%	0.01%		124,539	0.01%	0.01%
Total investment expenses		13,380,892	0.54%			13,111,481	0.59%	

* Includes some estimates for June quarter carried interest/incentive fees not yet reported.

9.11%	Actual Investment Performance (Net of Fees)	12.92%
7.89%	Policy Benchmark	11.63%
1.22%	Outperformance/(Underperformance)	1.29%

Note: All amounts are deemed to be materially accurate, but are unaudited and subject to change.

Global Equity, Fixed Income and Real Asset Valuations

Asset Class Allocation

	June 30, 2018			March 31, 2018		
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
GLOBAL EQUITY	\$1,443,620,672	58.07%	\$3,965,541	\$15,952,046	\$1,423,703,085	57.72%
Domestic Equity	\$573,579,810	23.07%	\$(226,214)	\$26,825,797	\$546,980,228	22.18%
Large Cap	437,393,843	17.60%	(113,522)	17,447,020	420,060,346	17.03%
Small Cap	136,185,967	5.48%	(112,692)	9,378,777	126,919,882	5.15%
International Equity	\$384,397,282	15.46%	\$(168,399)	\$(10,100,180)	\$394,665,861	16.00%
Developed Intl Equity	304,430,088	12.25%	(168,399)	(2,403,498)	307,001,985	12.45%
Emerging Markets	79,967,194	3.22%	0	(7,696,682)	87,663,876	3.55%
World Equity	\$397,488,966	15.99%	\$(344,284)	\$(472,736)	\$398,305,986	16.15%
Private Equity	\$88,154,614	3.55%	\$4,704,438	\$(300,835)	\$83,751,011	3.40%
GLOBAL FIXED INCOME	\$594,069,158	23.90%	\$(2,295,099)	\$3,306,472	\$593,057,785	24.05%
Fixed Income Comp	\$594,069,158	23.90%	\$(2,294,946)	\$3,306,469	\$593,057,636	24.05%
Investment Grade Fixed	424,553,981	17.08%	(146,489)	338,672	424,361,798	17.21%
Below Inv. Grade Fixed Income	169,515,177	6.82%	(2,148,458)	2,967,796	168,695,838	6.84%
International Fixed Income	\$0	0.00%	\$(153)	\$4	\$149	0.00%
GLOBAL REAL ASSETS	\$419,466,355	16.87%	\$(5,437,654)	\$7,965,337	\$416,938,672	16.90%
Real Estate	244,344,606	9.83%	(4,815,814)	6,886,001	242,274,419	9.82%
Timber	58,231,736	2.34%	(514,589)	(524,020)	59,270,344	2.40%
Infrastructure	116,890,013	4.70%	(107,251)	1,603,355	115,393,909	4.68%
Cash & Equivalents	\$28,679,119	1.15%	\$(4,234,456)	\$185,195	\$32,728,380	1.33%
Securities Lending Income	\$0	0.00%	\$(60,734)	\$60,734	-	-
Total Fund	\$2,485,835,304	100.0%	\$(8,062,402)	\$27,469,785	\$2,466,427,922	100.0%

TFFR Net Returns for Periods Ended June 30, 2018

TFFR earned 9.1% for the fiscal year ended June 30, 2018, beating the Policy Target Benchmark Return of 7.9%.

TFFR's U.S. Equities were the top performer with a 16.4% return in FY 2018 followed by Global and International Equities at 12.3% and 10.1%, respectively in fiscal 2018.

	June-18			FY 2018	FY 2017	3 FYE 6/30/18	5 FYE 6/30/18
	Market Value	Allocation Actual	Policy	Net	Net	Net	Net
TOTAL FUND	2,485,835,306	100.0%	100.0%	9.11%	12.92%	7.30%	8.31%
POLICY TARGET BENCHMARK				7.89%	11.63%	6.61%	7.45%
TOTAL RELATIVE RETURN				1.21%	1.29%	0.69%	0.85%
GLOBAL EQUITIES	1,443,620,674	58.1%	58.0%	12.37%	18.81%	8.65%	10.05%
Benchmark				11.13%	18.58%	8.24%	9.46%
Epoch Global Choice (1)	179,600,865	7.2%	7.0%	14.02%	16.96%	7.62%	9.56%
LSV Global Value Equity	217,888,101	8.8%	9.0%	7.78%	23.29%	6.99%	9.51%
Total Global Equities	397,488,966	16.0%	16.0%	10.53%	20.57%	7.31%	9.49%
MSCI World				11.09%	18.20%	8.48%	9.94%
Domestic - broad	573,579,812	23.1%	21.5%	16.41%	17.07%	11.56%	13.47%
Benchmark				15.27%	19.56%	11.55%	13.23%
Large Cap Domestic							
LA Capital Large Cap Growth	174,016,353	7.0%	6.6%	19.87%	15.66%	13.32%	15.50%
Russell 1000 Growth				22.51%	20.42%	14.98%	16.36%
LA Capital 60% Large Cap/40% Large Cap Active	91,016,857	3.7%	3.3%	12.49%	15.44%	11.21%	13.07%
Russell 1000				14.54%	18.03%	11.64%	13.37%
NTAM - Quant Enhanced S&P 500	86,361,222	3.5%	3.3%	14.66%	16.51%	10.78%	12.63%
Clifton Group Enhanced S&P 500	85,999,413	3.5%	3.3%	13.24%	17.72%	11.72%	13.30%
S&P 500				14.38%	17.90%	11.93%	13.42%
Total Large Cap Domestic	437,393,845	17.6%	16.6%	15.98%	16.20%	12.10%	13.98%
Russell 1000 (2)				14.54%	18.03%	11.64%	13.37%
Small Cap Domestic							
Atlanta Capital Small Cap Equity Fund	68,900,423	2.8%	2.4%	18.02%	14.98%	N/A	N/A
Clifton Group Enhanced Russell 2000	67,285,544	2.7%	2.4%	17.03%	24.44%	11.10%	12.80%
Total Small Cap Domestic	136,185,967	5.5%	4.8%	17.69%	20.08%	9.52%	11.52%
Russell 2000				17.57%	24.60%	10.96%	12.46%
International - broad	384,397,282	15.5%	14.5%	10.12%	21.17%	7.11%	8.04%
Benchmark				7.30%	20.33%	4.98%	6.16%
Developed International							
NTAM - MSCI World ex-US Index	144,913,490	5.8%	5.9%	7.46%	19.92%	5.24%	N/A
MSCI World Ex US				7.04%	19.49%	4.86%	
William Blair International Leaders	81,319,007	3.3%	3.5%	15.43%	19.77%	N/A	N/A
MSCI ACWI ex-US IMI (Net)				7.75%	20.43%		
DFA Intl. Small Cap Value Portfolio (4)	39,168,718	1.6%	1.2%	5.40%	28.80%	7.19%	10.09%
Wellington International Small Cap Opportunities	39,028,873	1.6%	1.2%	15.57%	19.62%	11.79%	12.29%
S&P/Citigroup BMI EPAC < \$2BN				10.47%	20.89%	8.87%	10.53%
Total Developed International	304,430,088	12.2%	11.8%	10.30%	21.05%	7.12%	8.39%
MSCI World Ex US (3)				7.04%	19.49%	4.74%	6.34%
Emerging Markets							
Axiom Emerging Markets Equity Fund (4)	58,368,345	2.3%	2.1%	10.83%	22.29%	6.72%	N/A
DFA Emerging Markets Small Cap Portfolio (4)	21,598,849	0.9%	0.7%	5.47%	19.53%	5.96%	6.26%
Total Emerging Markets	79,967,194	3.2%	2.8%	9.46%	21.55%	6.49%	6.06%
MSCI Emerging Markets				8.20%	23.75%	5.60%	5.01%

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

**Private Equity
returns are
disappointing in
recent years
although post-2012
investments with
Adams Street
Partners (in their
2016, 2016 and 2017
Global Funds) have
been encouraging
and the BlackRock
PEP program should
start to generate
more consistently
positive returns
within the next two
years, if not in Fiscal
2019.**

	June-18			FY 2018	FY 2017	3 FYE 6/30/18	5 FYE 6/30/18
	Market Value	Actual	Policy	Net	Net	Net	Net
Private Equity							
Adams Street-Brinson 1998 Partnership Fund	58,100	0.0%		0.45%	-0.16%	1.46%	1.12%
Adams Street-Brinson 1999 Partnership Fund	58,371	0.0%		0.12%	-0.25%	3.81%	1.53%
Adams Street-Brinson 2000 Partnership Fund	274,997	0.0%		7.82%	3.00%	2.95%	1.05%
Adams Street-Brinson 2001 Partnership Fund	390,353	0.0%		6.04%	7.59%	0.85%	4.09%
Adams Street-Brinson 2002 Partnership Fund	69,316	0.0%		-0.30%	19.56%	9.26%	4.60%
Adams Street-Brinson 2003 Partnership Fund	88,124	0.0%		14.74%	11.44%	7.61%	13.20%
Total Adams Street-Brinson Partnership Funds	939,261	0.0%		30.43%	7.49%	11.18%	8.19%
Adams Street-Brinson 1999 Non-US Partnership	32,876	0.0%		2.53%	1.60%	5.72%	1.60%
Adams Street-Brinson 2000 Non-US Partnership	204,683	0.0%		10.80%	13.07%	4.97%	2.95%
Adams Street-Brinson 2001 Non-US Partnership	79,912	0.0%		6.80%	-4.37%	8.00%	14.30%
Adams Street-Brinson 2002 Non-US Partnership	42,513	0.0%		5.99%	-5.01%	9.13%	4.93%
Adams Street-Brinson 2003 Non-US Partnership	96,407	0.0%		5.41%	26.53%	16.34%	12.83%
Adams Street-Brinson 2004 Non-US Partnership	117,125	0.0%		10.08%	9.42%	3.38%	7.36%
Total Adams Street-Brinson Non-US Partnership	573,516	0.0%		44.28%	5.22%	18.87%	13.19%
Adams Street 2008 Non-US Partnership Fd	3,501,869	0.1%		16.98%	15.67%	14.81%	14.14%
Adams Street-Brinson BVCF IV	1,564,060	0.1%		-1.85%	7.91%	1.37%	11.83%
Adams Street Direct Co-investment Fund	508,491	0.0%		-12.18%	-4.11%	-3.10%	5.58%
Adams Street 2010 - Direct Fund	440,834	0.0%		18.57%	12.03%	12.60%	15.26%
Adams Street 2010 - Non-US Emerging Mkts	773,505	0.0%		21.66%	10.13%	13.97%	13.38%
Adams Street 2010 - Non-US Developed Mkts	1,484,603	0.1%		18.95%	21.63%	16.62%	11.94%
Adams Street 2010 - Partnership Fund	3,053,599	0.1%		17.71%	15.12%	12.89%	14.78%
Total Adams Street 2010 Funds	5,752,540	0.2%		93.27%	15.79%	34.12%	25.89%
Adams Street 2015 Global Fund	6,666,422	0.3%		17.58%	51.76%	N/A	N/A
Adams Street 2016 Global Fund	4,001,493	0.2%		13.58%	N/A	N/A	N/A
Adams Street 2017 Global Fund	3,529,304	0.1%	N/A	N/A	N/A	N/A	N/A
Blackrock PEP	13,786,419	0.6%		1.53%	N/A	N/A	N/A
Matlin Patterson - Global Opportunities II	562,573	0.0%		5.59%	-28.84%	-6.94%	-3.76%
Matlin Patterson - Global Opportunities III	7,110,891	0.3%		8.51%	6.84%	3.03%	2.20%
InvestAmerica - Lewis and Clark Fund	1,172,112	0.0%		51.46%	22.02%	-3.37%	-13.13%
InvestAmerica - L&C II	2,767,461	0.1%		0.90%	10.83%	N/A	-1.95%
Corsair III	3,810,630	0.2%		-34.35%	6.83%	-1.99%	-2.96%
Corsair IV	13,038,825	0.5%		26.61%	22.98%	14.98%	17.93%
Capital International - Fund V	509,924	0.0%		-48.22%	-49.48%	-42.03%	-28.50%
Capital International - Fund VI	12,770,391	0.5%		5.98%	9.55%	5.47%	-2.84%
EIG (formerly TCW)	3,054,394	0.1%		18.70%	12.11%	-24.45%	-20.74%
Quantum - Energy Partners	1,390,939	0.1%		-50.52%	68.38%	-13.61%	-7.37%
Total Private Equity (4)	88,154,614	3.5%	6.0%	5.27%	11.12%	2.77%	1.33%

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

**Global Fixed Income
earned 3.58% in
fiscal 2018,
exceeding the 2.00%
benchmark. Strong
returns in Private
Credit strategies with
PIMCO and
Declaration more
than offset
disappointing
returns with Loomis
Sayles in public high
yield and long-term
U.S. Treasuries
during the last fiscal
year.**

	June-18			FY 2018	FY 2017	3 FYE 6/30/18	5 FYE 6/30/18
	Allocation			Net	Net	Net	Net
	Market Value	Actual	Policy				
GLOBAL FIXED INCOME	594,069,158	23.9%	23.0%	3.58%	4.68%	4.25%	4.14%
<i>Benchmark</i>				2.00%	0.94%	3.07%	2.79%
Domestic Fixed Income	594,069,158	23.9%	23.0%	2.64%	6.02%	4.07%	4.60%
<i>Benchmark</i>				0.32%	2.62%	2.57%	3.07%
Investment Grade Fixed Income							
PIMCO Distressed Senior Credit Opportunities II (C)	51,303,574	2.1%	2.1%	10.02%	17.08%	10.37%	9.45%
Prudential Core Fixed Income	137,214,955	5.5%	5.2%	N/A	N/A	N/A	N/A
Bloomberg Aggregate				-0.40%	-0.31%	1.72%	2.27%
State Street Long U.S. Treasury Index NL Fund	51,244,196	2.1%	1.6%	-0.15%	-7.27%	3.35%	4.50%
Bloomberg Long Treasuries				-0.12%	-7.22%	3.40%	4.55%
PIMCO Unconstrained Bond Fund	134,146,214	5.4%	5.2%	1.48%	9.22%	3.16%	N/A
3m LIBOR				1.75%	0.98%	1.07%	
Declaration Total Return Bond Fund (4)	50,645,042	2.0%	1.9%	3.33%	4.99%	3.63%	4.24%
3m LIBOR				1.75%	0.98%	1.07%	0.74%
JP Morgan Mortgage Backed Securities	-	0.0%	0.0%	N/A	0.61%	N/A	N/A
PIMCO Agency MBS	-	0.0%	0.0%	N/A	0.19%	N/A	N/A
Bloomberg Mortgage Backed Securities Index					-0.06%		
Total Investment Grade Fixed Income	424,553,981	17.1%	16.0%	1.60%	3.65%	3.41%	3.85%
Bloomberg Aggregate				-0.40%	-0.31%	1.72%	2.27%
Below Investment Grade Fixed Income							
Ares ND Credit Strategies	29,781,296	1.2%	1.2%	N/A	N/A	N/A	N/A
Cerberus ND Private Credit Fund	28,535,982	1.1%	1.1%	N/A	N/A	N/A	N/A
S&P LSTA Leveraged Loan B Index							
Loomis Sayles High Yield	91,578,520	3.7%	3.9%	2.66%	12.91%	4.78%	5.51%
PIMCO BRAVO II (4)	19,377,957	0.8%	0.8%	6.00%	13.38%	8.75%	N/A
GS Mezzanine Partners 2006 Offshore, L.P. (4)	56,567	0.0%	0.0%	13.17%	59.81%	23.04%	24.06%
GS Mezzanine Partners V Offshore, L.P. (4)	184,855	0.0%	0.0%	16.70%	-13.28%	-1.34%	3.87%
Bloomberg High Yield 2% Issuer Constrained Index							
Total Below Investment Grade Fixed Income	169,515,177	6.8%	7.0%	5.24%	12.86%	6.00%	6.56%
Bloomberg High Yield 2% Issuer Constrained Index				2.62%	12.69%	5.54%	5.52%
International Fixed Income	-	0.0%	0.0%	N/A	0.79%	N/A	N/A
Developed Investment Grade Int'l FI							
UBS Global (ex-US) Bond Strategy	-	0.0%	0.0%	N/A	-4.00%	N/A	N/A
Bloomberg Global Aggregate ex-US					-3.80%		
Brandywine Global Opportunistic Fixed Income	-	0.0%	0.0%	N/A	4.38%	N/A	N/A
Bloomberg Global Aggregate (ex-US)					-2.18%		
Total Developed Investment Grade Int'l FI	-	0.0%	0.0%	N/A	0.79%	N/A	N/A
Bloomberg Global Aggregate ex-US					-3.80%		

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

Global Real Assets earned over 6% in Fiscal 2018 with Real Estate and Infrastructure earning 7.7% and 7.3%, respectively, while Timber valuations declined 2.5% last year. Global Real Assets have generate above benchmark returns of nearly 8% for the 5-years ended June 30, 2018, largely due to 10% target allocation to Real Estate with JPMorgan and Invesco.

	June-18		FY 2018	FY 2017	3 FYE 6/30/18	5 FYE 6/30/18	
	Market Value	Allocation Actual	Policy	Net	Net	Net	Net
GLOBAL REAL ASSETS	419,466,355	16.9%	18.0%	6.07%	5.78%	6.56%	7.94%
Benchmark				5.42%	4.82%	5.50%	6.75%
Global Real Estate							
Invesco Core Real Estate - U.S.A., L.P.	126,559,175			7.91%	8.16%	8.88%	10.58%
INVESCO Real Estate Fund II (4)	77,585			-1.24%	22.72%	8.93%	9.47%
Invesco Real Estate Fund III, LP (4)	7,960,902			0.30%	11.58%	8.54%	12.42%
Invesco U.S. Value-Add Fund IV, L.P. (4)	18,861,077			11.65%	8.07%	8.09%	N/A
Invesco Asia Real Estate Fund I, L.P. (4)	101,074			-13.25%	982.41%	174.96%	94.50%
Invesco Asia Real Estate Fund III, L.P. (4)	1,234,424			83.23%	21.25%	N/A	N/A
JP Morgan Strategic & Special Situation Property	86,895,912			7.81%	7.08%	8.60%	10.67%
JP Morgan Alternative Property Fund	132,132			8.18%	6.73%	5.88%	-3.78%
JP Morgan European Opportunistic Property Fund	2,219,613			-46.30%	-0.51%	-12.72%	5.30%
JP Morgan Greater China Property Fund (4)	302,713			134.93%	37.81%	55.54%	49.60%
Total Global Real Estate	244,344,606	9.8%	10.0%	7.70%	9.12%	9.38%	11.88%
NCREIF TOTAL INDEX				7.19%	6.97%	8.25%	9.77%
Timber							
TIR Teredo Timber, LLC	13,629,758	0.5%		-3.98%	-7.02%	-0.82%	3.75%
TIR Springbank, LLC	44,601,978	1.8%		-2.07%	-10.13%	-3.23%	-2.30%
Total Timber (4)	58,231,736	2.3%	2.3%	-2.52%	-9.44%	-2.70%	-0.35%
NCREIF Timberland Index				3.56%	3.35%	3.43%	6.00%
Infrastructure							
Rohatyn Group Asian Infrastructure & Related Re	9,206,109	0.4%		-8.86%	35.48%	3.71%	2.42%
JP Morgan Infrastructure Investments Fund (IIF)	84,015,766	3.4%		9.89%	6.33%	6.69%	5.78%
ISQ Global Infrastructure Fund II	1,521,326	0.1%	N/A	N/A	N/A	N/A	N/A
Grosvenor Customized Infrastructure Strategies, L	15,215,417	0.6%		7.10%	8.70%	8.07%	8.47%
Grosvenor Customized Infrastructure Strategies II	6,931,395	0.3%		7.98%	3.28%	5.77%	N/A
Total Infrastructure	116,890,013	4.7%	5.7%	7.37%	9.21%	6.45%	5.75%
CPI				3.09%	1.50%	1.74%	1.37%
Cash Equivalents							
Northern Trust Collective STIF	23,362,496			1.44%	0.75%	0.83%	0.52%
Bank of ND	5,316,623			1.42%	N/A	N/A	N/A
Total Cash Equivalents	28,679,119	1.2%	1.0%	1.47%	0.74%	0.83%	0.52%
90 Day T-Bill				1.36%	0.49%	0.68%	0.42%

TEACHERS' FUND FOR RETIREMENT
A Division of ND Retirement and Investment Office
Statement of Net Position
As of 6/30/2018

	As of <u>6-30-18</u>	As of <u>6-30-17</u>
ASSETS:		
INVESTMENTS (AT FAIR VALUE)		
DOMESTIC EQUITIES	\$ 572,804,764	\$ 520,416,310
GLOBAL/INTERNATIONAL EQUITIES	780,173,145	755,154,802
DOMESTIC FIXED INCOME	589,368,951	401,444,012
INTERNATIONAL FIXED INCOME	-	120,483,860
REAL ASSETS	416,937,112	407,547,460
PRIVATE EQUITY	88,154,554	76,976,255
INVESTED CASH (NOTE 1)	<u>28,631,157</u>	<u>27,243,767</u>
TOTAL INVESTMENTS	2,476,069,683	2,309,266,466
RECEIVABLES		
DIVIDEND/INTEREST RECEIVABLE	9,765,629	8,947,870
CONTRIBUTIONS RECEIVABLE	26,548,463	26,326,188
MISCELLANEOUS RECEIVABLE	<u>8,301</u>	<u>7,434</u>
TOTAL RECEIVABLES	36,322,393	35,281,492
OTHER ASSETS		
INVESTED SECURITIES LENDING COLLATERAL (NOTE 2)	7,413,200	12,839,759
OPERATING CASH (NOTE 3)	20,486,449	19,073,513
FIXED ASSETS (NET OF ACCUM DEPR)	<u>6,749</u>	<u>8,549</u>
TOTAL ASSETS	<u>2,540,298,474</u>	<u>2,376,469,779</u>
DEFERRED OUTFLOWS OF RESOURCES		
DEFERRED OUTFLOWS RELATED TO PENSIONS	<u>813,903</u>	<u>384,391</u>
LIABILITIES:		
SECURITIES LENDING COLLATERAL (NOTE 2)	7,413,200	12,839,759
ACCOUNTS PAYABLE	138,447	198,351
ACCRUED EXPENSES	2,395,362	1,685,809
INVESTMENT EXPENSES PAYABLE	<u>459,438</u>	<u>1,583,834</u>
TOTAL LIABILITIES	<u>10,406,447</u>	<u>16,307,753</u>
DEFERRED INFLOWS OF RESOURCES		
DEFERRED INFLOWS RELATED TO PENSIONS	<u>48,519</u>	<u>55,342</u>
NET POSITION:		
HELD IN TRUST	<u>2,530,657,411</u>	<u>2,360,491,075</u>
TOTAL NET POSITION	<u>\$ 2,530,657,411</u>	<u>\$ 2,360,491,075</u>

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

9/7/2018

TEACHERS' FUND FOR RETIREMENT
A Division of ND Retirement and Investment Office
Statement of Changes in Net Position
For the Month Ended 6/30/2018

	Month Ended <u>6-30-18</u>	Year-to-Date
ADDITIONS:		
INVESTMENT INCOME		
GAIN ON SALE OF INVESTMENTS	\$ 18,922,143	\$ 279,460,579
LOSS ON SALE OF INVESTMENTS	15,810,685	170,476,184
NET GAINS (LOSSES) INVESTMENTS	3,111,458	108,984,395
NET APPREC (DEPREC) MARKET VALUE	<u>(13,463,103)</u>	<u>53,041,974</u>
NET CHANGE IN FAIR VALUE OF INVESTMENTS	(10,351,645)	162,026,369
INTEREST, DIVIDEND & OTHER INVESTMENT INCOME	5,853,510	54,486,768
	<u>(4,498,135)</u>	<u>216,513,137</u>
LESS INVESTMENT EXPENSES	(606,214)	5,352,945
NET INCOME FROM INVESTING ACTIVITIES	(3,891,921)	211,160,192
SECURITIES LENDING INCOME	40,703	231,448
SECURITIES LENDING EXPENSES	8,139	46,271
NET SECURITIES LENDING INCOME	<u>32,564</u>	<u>185,177</u>
NET INVESTMENT INCOME	27,575,000	211,345,369
PURCHASE OF UNITS (\$1/UNIT) (NOTE 4)	27,575,000	323,110,000
MEMBER & EMPLOYER CONTRIBUTIONS (NOTE 6)	49,072,130	166,553,326
PURCHASED SERVICE CREDIT (NOTE 7)	134,815	2,181,106
PENALTY & INTEREST (NOTE 8)	<u>33,797</u>	<u>194,028</u>
TOTAL ADDITIONS	72,956,385	703,383,829
DEDUCTIONS:		
BENEFITS PAID PARTICIPANTS (NOTE 9)	17,095,604	201,648,202
PARTIAL LUMP SUM BENEFITS PAID	199,947	768,829
REFUNDS TO MEMBER (NOTE 10)	<u>336,336</u>	<u>5,561,668</u>
TOTAL BENEFITS PAID	17,631,887	207,978,699
ADMINISTRATIVE EXPENSES	555,564	2,128,794
REDEMPTION OF UNITS (\$1/UNIT) (NOTE 5)	<u>27,575,000</u>	<u>323,110,000</u>
TOTAL DEDUCTIONS	45,762,451	533,217,493
CHANGE IN NET POSITION	27,193,934	170,166,336
NET POSITION:		
BEGINNING OF PERIOD	<u>2,503,463,477</u>	<u>2,360,491,075</u>
END OF PERIOD	<u>\$ 2,530,657,411</u>	<u>\$ 2,530,657,411</u>

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

9/7/2018



TFFR Investment Policy Statement

Annual Review

TFFR Investment Policy Statement Review – Sep.27, 2018

I. PLAN CHARACTERISTICS AND FUND CONSTRAINTS.

The North Dakota Teachers' Fund for Retirement (TFFR) is a pension benefit plan that was established in 1913 to provide retirement income to all public school and certain state teachers and administrators in the state of North Dakota. The plan is administered by a seven member Board of Trustees comprised of five active and retired members of the fund appointed by the Governor of North Dakota and two elected officials - the State Treasurer and the State Superintendent of Public Instruction.

The plan is a multi-employer defined benefit public pension plan that provides retirement, disability, and death benefits in accordance with Chapter 15-39.1 of the North Dakota Century Code (NDCC). Monthly retirement benefits are based on the formula: Number of Years of service X 2.0% X Final Average Salary. Adjustments to the basic formula are made depending on the retirement option selected.

Funding is provided by monthly employee and employer contributions scheduled to increase as follows:

	<u>7/1/11</u>	<u>7/1/12</u>	<u>7/1/14</u>
Employee	7.75%	9.75%	11.75%
Employer	8.75%	10.75%	12.75%

Employee and employer contributions will be reduced to 7.75% each when TFFR reaches 100% funded level on an actuarial value basis.

The TFFR Board has an actuarial valuation performed annually and an Experience Study and Asset Liability Study performed every five years. The actuarial assumed rate of return on assets was reduced to **7.75% from 8.0% as of July 1, 2015**. Key plan and financial statistics are recorded in the most recent valuation report on file at the North Dakota Retirement and Investment office (RIO).

2. FUND GOALS

The Plan benefits are financed through both statutory employer and employee contributions and the investment earnings on assets held in the Fund. The TFFR Board 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 Board acknowledges the material impact that funding the pension plan has on the State/School District's financial performance. These goals affect the Fund's investment strategies and of ten 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 Board places a 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 state/local projects.

TFFR Investment Policy Statement Review - Sep. 27, 2018

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

The TFFR Board 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 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 Board 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 State/School Districts ability to continue to provide pension benefits to plan participants. Thus, the Board 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 Board 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 Board believes that such an approach, prudently implemented, best serves the long-run interests of the State/School District and, therefore, of plan participants.

5. INVESTMENT OBJECTIVES

The Board'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.

TFFR Investment Policy Statement Review – Sep.27, 2018

6. POLICY ASSET MIX

Benefit payments are projected to occur over a long period of time. This allows TFFR 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 Board 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 Board approves the appropriate policy asset mix for the Fund.

Asset Class	Policy Target (%)
Global Equity	58%
Public Equity	52%
Private Equity	6%
Global Fixed Income	23%
Investment Grade	16%
Non-Investment Grade	7%
Global Real Assets	18%
Real Estate	10%
Other	8%
Cash	1%

Note: Last year, TFFR approved RIO's recommendation to reduce Investment Grade Debt to 16% (from 19%) and increase Non-Investment Grade to 7% (from 4%) while eliminating International Debt (of 6%) to improve expected risk adjusted returns (by eliminating low yielding Non-U.S. debt with high volatility).

TFFR Investment Policy Statement Review – Sep.27, 2018

An allocation to Global Alternatives of up to 10% is authorized but shall not increase the expected volatility of the portfolio as measured in Section 5; and if utilized, all other targets will be adjusted pro-rata. The Board does not endorse tactical asset allocation, therefore, it is anticipated the portfolio be managed as close to the policy target as is prudent and practicable while minimizing rebalancing costs. Rebalancing of the Fund to this target will be done in accordance with the SIB's rebalancing policy.

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. Derivative 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 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 task.
- 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 Board's policy favors investments which will have a positive impact on the economy of North Dakota.

TFFR Investment Policy Statement Review – Sep.27, 2018

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 broker relationships. 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 TFFR Board 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 board.
- 2) A list of investments at market value, compared to previous reporting period, of each fund managed by each advisory service.
- 3) Earnings, percentage earned, and change in market value of each fund's investments.
- 4) Comparison of the performance of each fund managed by each advisory service to other funds under the board'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.

TFFR Board Adopted: May 25, 1995.

Amended: November 30, 1995; August 21, 1997; July 15, 1999; July 27, 2000; September 18, 2003; July 14, 2005; September 21, 2006; September 20, 2007; October 27, 2011; September 26, 2013; January 21, 2016; September 21, 2017, **January 25, 2018**

Approved by SIB: November 18, 2011, February 26, 2016, September 22, 2017, **January 26, 2018**

ND Teachers' Fund For Retirement

ND State Investment Board

Date: _____

Date: _____

Higher Expected Risk-Adjusted Returns

PENSION TRUST - Fixed Income Only				
Fixed Income Restructuring to Improve Returns and Reduce Risk				
CURRENT	Target	Projected	Projected	
Pension Trust	<u>Allocation</u>	<u>Return</u>	<u>Risk</u>	
U.S. Investment Grade (IG)	13.3%	3.0%	3.8%	
U.S. High Yield Debt (HY)	4.6%	4.8%	10.4%	
International Debt	5.4%	1.4%	9.2%	
Fixed Income	<u>23.3%</u> (1)	3.0% (1)	6.3% (3)	
				\$5,299
PROPOSED	Target	Projected	Projected	Pension \$
Pension Trust	<u>Allocation</u>	<u>Return</u>	<u>Risk</u>	<u>\$5.3 billion</u>
U.S. Investment Grade (IG)	16.3%	3.0%	3.8%	\$864
Diversified Credit (DC)	7.0%	4.8%	10.4%	\$371
International Debt (a)	0.0%	1.4%	9.2%	\$0
Fixed Income	<u>23.3%</u> (2)	3.5% (2)	5.7% (4)	<u>\$1,235</u>
RIO's Fixed Income Recommendation:				
If International Debt (a) is eliminated while U.S. Investment Grade and Diversified Credit are increased by 3% and 2.4%, respectively, Projected Return would increase from 3.0% (1) to 3.5% (2), while Projected Risk would decline from 6.3% (3) to 5.7% (4).				
Key Point: RIO's Recommendation Increases Projected Returns 0.5% and Decreases Projected Risk 0.6% of "Fixed Income" in the Pension Trust.				

2018 Capital Market Projections – Return and Risk

Summary of Callan’s Long-Term Capital Market Projections (2018 – 2027)

Asset Class	Index	PROJECTED RETURN			PROJECTED RISK		
		1-Year Arithmetic	10-Year Geometric*	Real	Standard Deviation	Sharpe Ratio	Projected Yield
Equities							
Broad Domestic Equity	Russell 3000	8.30%	6.85%	4.60%	18.25%	0.332	2.00%
Large Cap	S&P 500	8.05%	6.75%	4.50%	17.40%	0.333	2.10%
Small/Mid Cap	Russell 2500	9.30%	7.00%	4.75%	22.60%	0.312	1.55%
Global ex-U.S. Equity	MSCI ACWI ex USA	8.95%	7.00%	4.75%	21.00%	0.319	3.10%
International Equity	MSCI World ex USA	8.45%	6.75%	4.50%	19.70%	0.315	3.25%
Emerging Markets Equity	MSCI Emerging Markets	10.50%	7.00%	4.75%	27.45%	0.301	2.65%
Fixed Income							
Short Duration	Barclays G/C 1-3	2.60%	2.60%	0.35%	2.10%	0.167	2.85%
Domestic Fixed	Barclays Aggregate	3.05%	3.00%	0.75%	3.75%	0.213	3.50%
Long Duration	Barclays Long G/C	3.50%	3.00%	0.95%	10.95%	0.116	4.45%
TIPS	Barclays TIPS	3.10%	3.00%	0.75%	5.25%	0.162	3.35%
High Yield	Barclays High Yield	5.20%	4.75%	2.50%	10.35%	0.285	7.75%
Non-U.S. Fixed	Barclays Global Aggregate ex US	1.80%	1.40%	-0.85%	9.20%	-0.049	2.50%
Emerging Market Debt	EMBI Global Diversified	4.85%	4.50%	2.25%	9.60%	0.271	5.75%
Other							
Real Estate	Callan Real Estate	6.90%	5.75%	3.50%	16.35%	0.284	4.75%
Private Equity	TR Post Venture Cap	12.45%	7.35%	5.10%	32.90%	0.310	0.00%
Hedge Funds	Callan Hedge FOF Database	5.35%	5.05%	2.80%	9.15%	0.339	2.25%
Commodities	Bloomberg Commodity	4.25%	2.65%	0.40%	18.30%	0.109	2.25%
Cash Equivalents	90-Day T-Bill	2.25%	2.25%	0.00%	0.90%	0.000	2.25%
Inflation	CPI-U		2.25%		1.50%		

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



Economic & Capital Markets Update

U.S. Economy – Annual GDP Growth Rates



SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF ECONOMIC ANALYSIS

US GDP Growth Rates:

The US economy expanded at an annual growth rate of 2.9% in the 2nd quarter of 2018 increasing from 2.6% for the 1st quarter of 2018 and up from 2.1% in the 2nd quarter of 2017. The United States is the world's largest economy. Yet, in the last two decades, like in the case of many other developed nations, U.S. growth rates have generally been declining. GDP annual growth rates in the U.S. averaged 3.2% from 1948 until 2017, reaching an all-time high of 13.4% in the 4th quarter of 1950 and a record low of -3.9% in the 2nd quarter of 2009.

Last updated in July of 2018.

Global GDP Growth Rate - History & Forecast

GDP Growth Rates (% change)

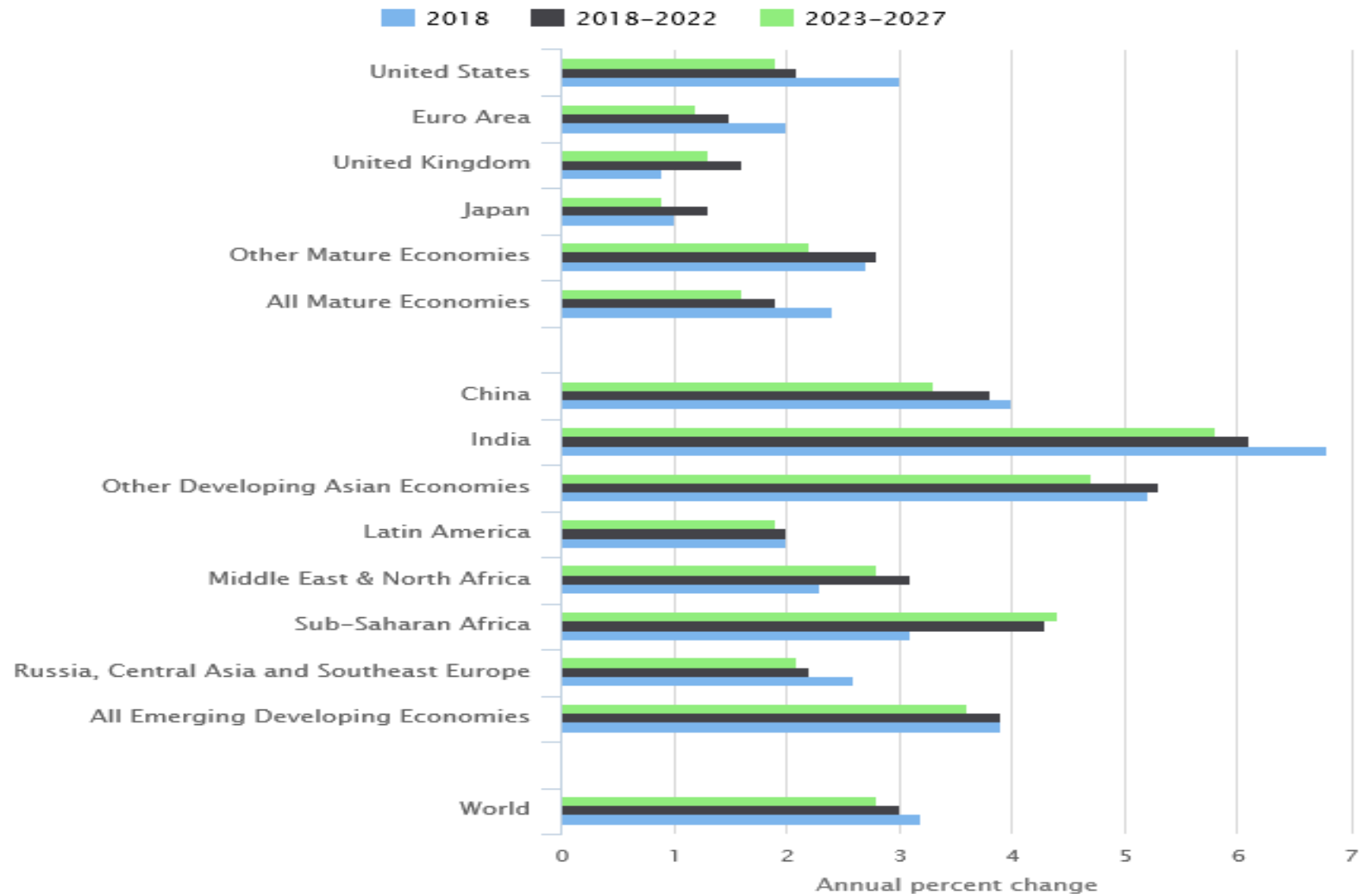
	Actual 2012-2016	Actual 2017	Forecast 2018	Projected 2018-2022	Trend 2023-2027
United States	2.3	2.4	3.0	2.1	1.9
Europe	1.1	2.5	2.0	1.5	1.2
<i>of which: Euro Area</i>	0.7	2.5	2.0	1.5	1.2
<i>of which: United Kingdom</i>	2.2	1.8	0.9	1.6	1.3
Japan	1.4	1.7	1.0	1.3	0.9
Other Mature Economies	2.5	3.0	2.7	2.8	2.2
All Mature Economies	1.8	2.4	2.4	1.9	1.6
China	5.3	4.2	4.0	3.8	3.3
India	6.8	6.3	6.8	6.1	5.8
Other Developing Asian Economies	4.9	5.3	5.2	5.3	4.7
Latin America	0.9	0.9	2.0	2.0	1.9
<i>of which: Brazil</i>	-0.4	1.0	1.8	1.2	1.3
<i>of which: Mexico</i>	2.7	2.3	2.2	3.5	2.6
Middle East & North Africa	3.1	2.6	2.3	3.1	2.8
Sub-Saharan Africa	3.6	2.4	3.1	4.3	4.4
Russia, Central Asia, S.E. Europe	2.7	3.8	2.6	2.2	2.1
<i>of which: Russia</i>	7.0	1.5	1.7	0.4	0.5
<i>of which: Turkey</i>	5.5	7.4	3.5	4.7	4.2
All Emerging Markets	4.2	3.9	3.9	3.9	3.6
World	3.0	3.2	3.2	3.0	2.8

- ▶ Global GDP Growth Rates have increased from:
 - ▶ **3%** in 2012-to-2016 to
 - ▶ **3.2%** in 2017 and 2018, but expected
 - ▶ to decline back to **3%** in 2019 to 2022.
- ▶ Global GDP Growth in the Emerging Markets is expected to trend downward over the next decade largely due to China's growth rate slowing from:
 - ▶ 5.3% in 2012-to-2016 down to
 - ▶ **4%** in 2018 and **sub-4%** thereafter.

Key Take-Away: World GDP growth rates continue to show meaningfully positive trends albeit at slower rates.

Growth of Gross Domestic Product, 2018–2027

Download Chart



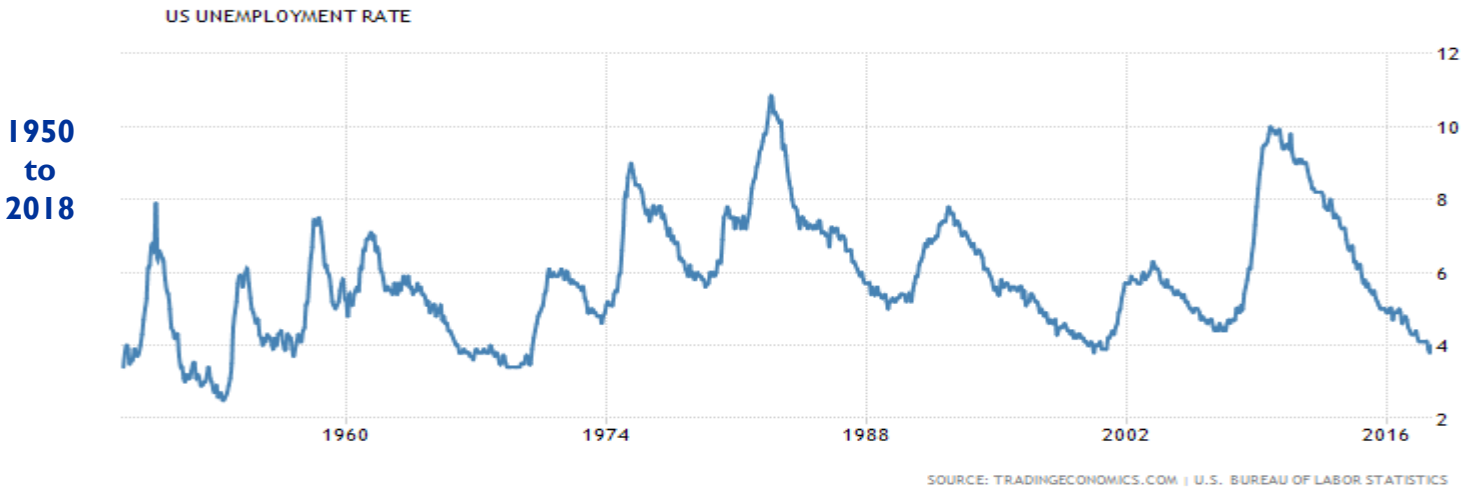
Notes: For more details regarding deviations from officially reported GDP growth rates, as well as a list of countries included in each region, please refer to the methodology tab.

Source: The Conference Board Global Economic Outlook 2018, May 2018 update.

U.S. Unemployment Rates



The US unemployment rate fell to 3.9% in July of 2018 matching market expectations (versus 4.0% in June). The jobless rate touched an 18-year low of 3.8% in May (the lowest since April 2000).



In July, the number of unemployed persons declined by 284,000 to 6.3 million (versus 7 million slightly over a year ago).

U.S. Equity Market

Periods Ending June 30, 2018

- U.S. equities (S&P 500: +3.4%) rose on a strong earnings season and positive economic data.
 - Energy was the best-performing sector (+13.5%) as oil prices trended higher after U.S. withdrew from the Iran nuclear deal.
- Small cap (+7.8%) outperformed large cap (+3.6%) on trade war fears. Large cap companies derive big portion of revenues from foreign markets (S&P 500 aggregate is ~40%).
- With small cap being the exception, growth (+5.8%) continued to outperform Value (+1.2%) due to strong results in Tech (+7.1%) and Consumer Discretionary (+8.2%).
- Concentration of returns within broad indexes remains a concern. Excluding FAANG stock performance, S&P 500 performance was negative.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
Large Cap Equity						
Russell 1000 Growth	5.76	22.51	14.98	16.36	11.83	10.30
Russell 1000 Value	1.18	6.77	8.26	10.34	8.49	8.63
Mid Cap Equity						
Russell Midcap Growth	3.16	18.52	10.73	13.37	10.45	11.07
Russell Midcap Value	2.41	7.60	8.80	11.27	10.06	11.04
Small Cap Equity						
Russell 2000 Growth	7.23	21.86	10.60	13.65	11.24	10.95
Russell 2000 Value	8.30	13.10	11.22	11.18	9.88	9.93

Non-U.S. Equity Market

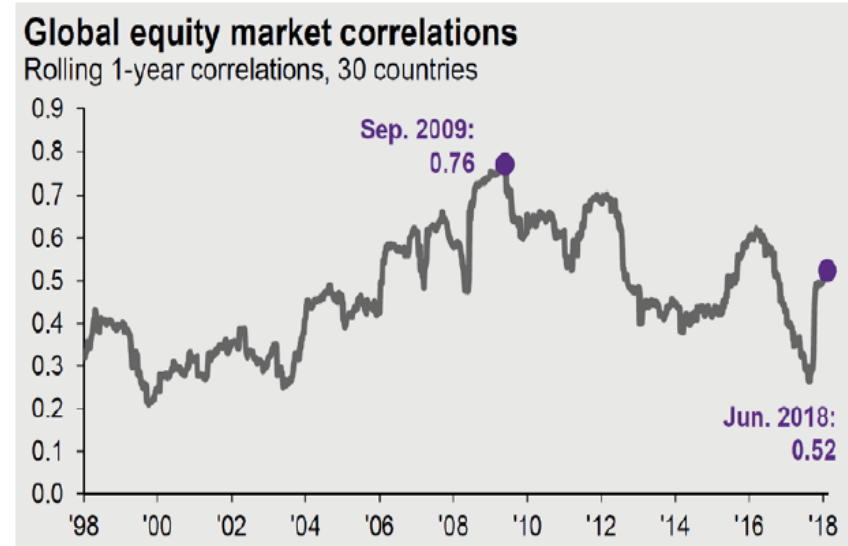
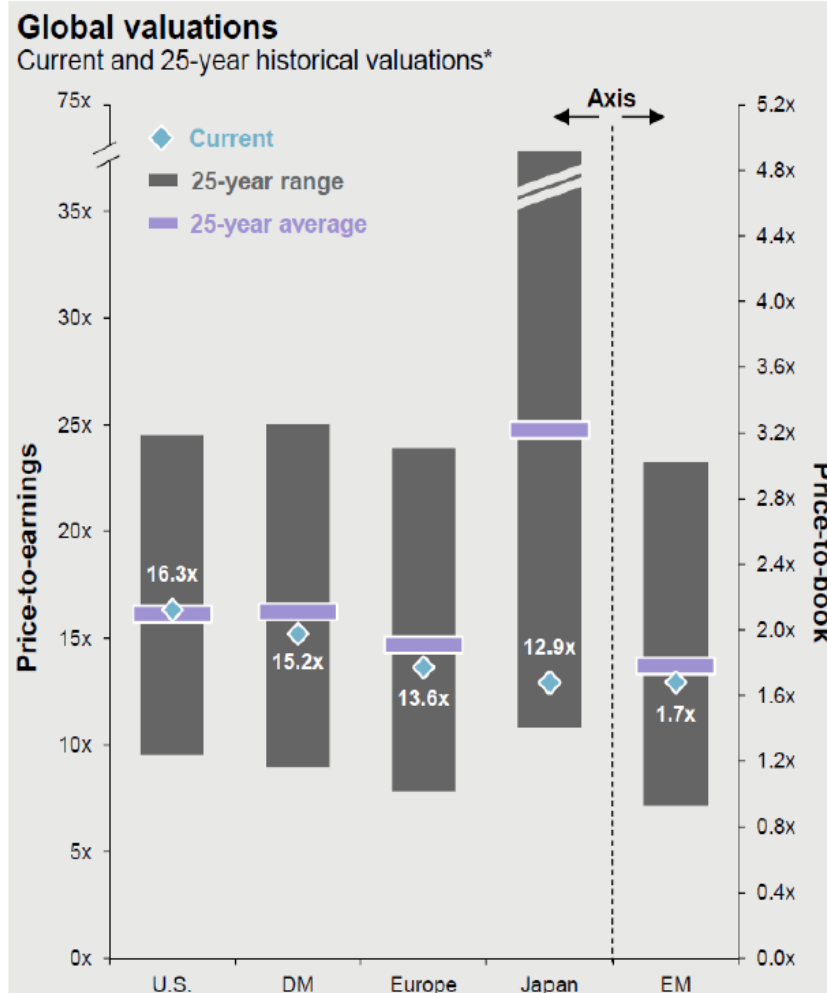
Periods Ending June 30, 2018

- Non-U.S. markets ended in the red as trade war talk moved into action. Although initial tariffs levied by the U.S. were targeted, retaliatory actions and supply chain disruptions broadened their effects.
 - Growth outpaced value – although no factor category showed significant strength.
 - Cyclical sectors were hurt later in the quarter as the prospect of slower growth led to reduced expectations.
 - The U.S. dollar was up, hurting non-U.S. returns. The euro and British pound were hit especially hard with the rise of populism and Brexit turmoil.
- Emerging markets sold off significantly led by China and Latin America.
 - Fears of increasing debt burdens and trade war effects impacted China.
 - Brazil affected by slower growth, and falling sentiment hit energy and financial hard.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 15 Years
Non-U.S. Equity						
MSCI ACWI ex USA	-2.61	7.28	5.07	5.99	2.54	7.74
MSCI ACWI ex USA Growth	-1.42	9.90	6.56	7.18	3.01	7.91
MSCI ACWI ex USA Value	-3.84	4.64	3.51	4.75	2.03	7.50
MSCI EAFE	-1.24	6.84	4.90	6.44	2.84	7.26
MSCI EAFE (local)	3.47	6.12	5.18	8.93	4.98	7.01
Regional Equity						
MSCI Europe	-1.27	5.28	4.22	6.21	2.36	7.07
MSCI Japan	-2.84	10.51	6.25	7.37	3.54	6.62
MSCI Pacific ex Japan	1.77	8.68	6.57	6.04	4.64	10.42
Emerging/Frontier Markets						
MSCI Emerging Markets	-7.96	8.20	5.60	5.01	2.26	10.70
MSCI Emerging Markets (loc)	-3.51	10.47	7.48	8.45	5.23	11.57
Non-U.S. Small Cap Equity						
MSCI EAFE Small Cap	-1.57	12.45	10.09	11.32	6.81	10.69
MSCI Em Mkts Small Cap	-8.60	5.64	2.55	4.32	4.44	11.30

Global Equities

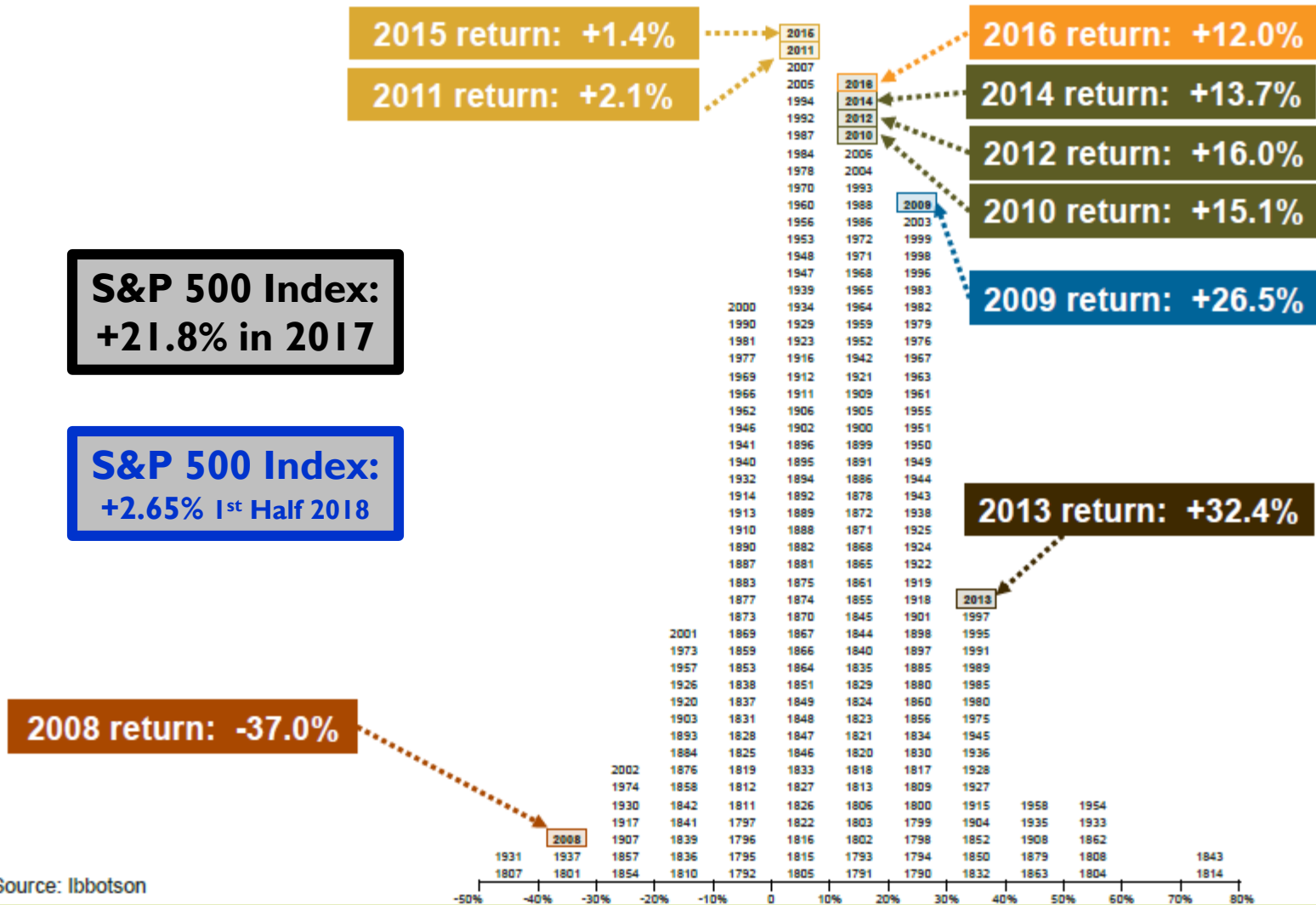
Potential diversification benefit to a domestic equity portfolio



- International equities outperformed U.S. markets in 2017, but have lagged year to date.
- Correlations between global equity markets is currently 0.52 versus recent peak in 2009 of 0.76.

Stock Market Returns by Calendar Year

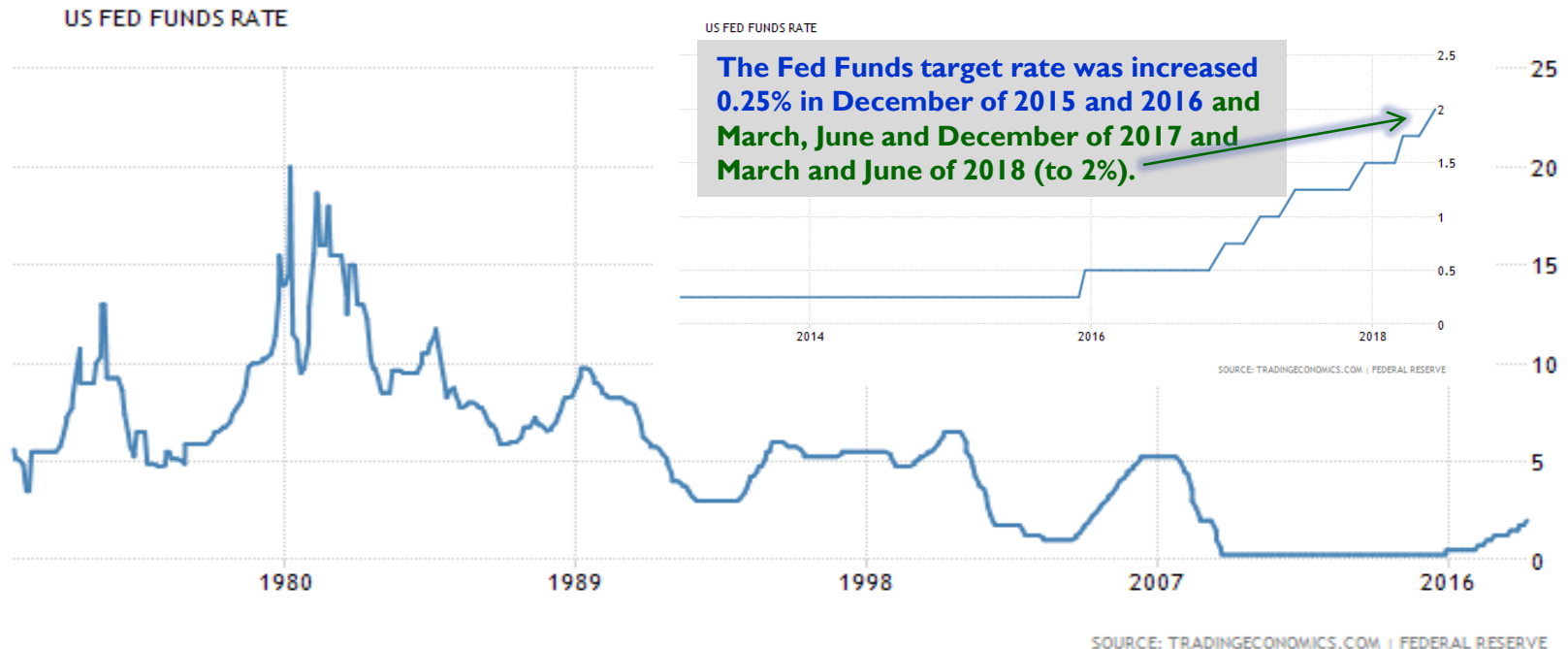
2016 Performance in Perspective: History of the U.S. Stock Market (228 Years of Returns)



Source: Ibbotson

U.S. Fed Funds Rate (1971 to 2018)


Background: The **federal funds rate** is the interest rate at which banks lend reserve balances to other banks overnight (on an uncollateralized basis). Banks with surplus balances lend to those in need of larger balances. Reserve balances are held at the Federal Reserve to maintain the banks' reserve requirements. **Changes in the federal funds rate trigger a chain of events that affect other short-term interest rates**, foreign exchange rates, long-term interest rates, the amount of money and credit, and, ultimately, a range of economic variables, including employment, output, and prices of goods and services. The Federal Reserve uses "monetary policy" to influence the availability and cost of money and credit to help promote national economic goals.

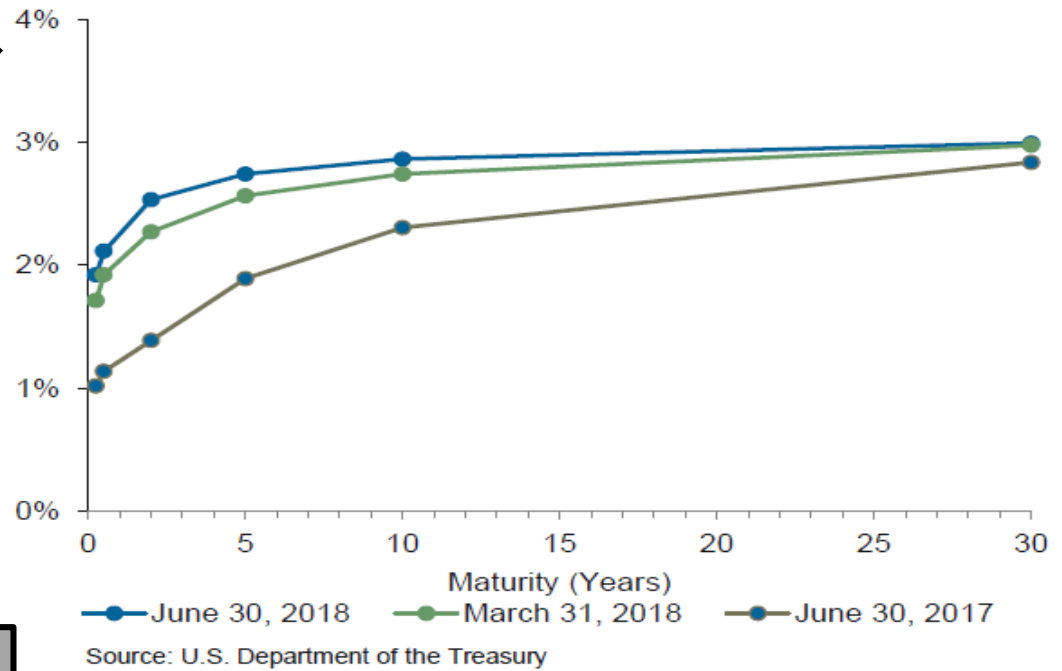


The Federal Reserve has raised the target range for federal funds five (5) times in the past 18 months including three rate hikes in 2017 and two rate hikes in the first of 2018. Interest Rates in the United States averaged 5.79 percent from 1971 until 2017, reaching an all time high of 20 percent in March of 1980 and a record low of 0.25 percent in December of 2008.

Yield Curve Changes

U.S. Treasury Yield Curves

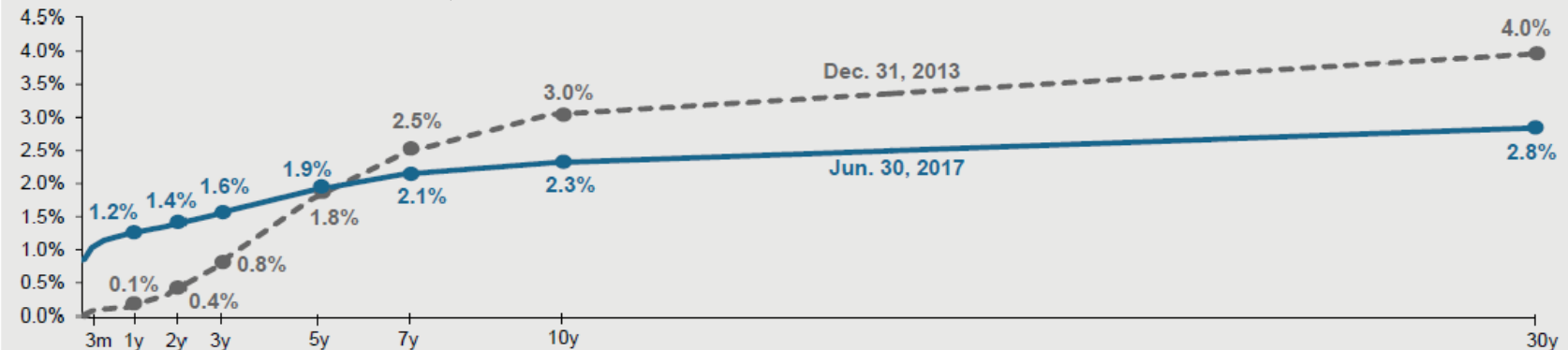
Periods Ending June 30, 2018 



UST Yield Curve 12/31/13 vs 6/30/17:

Yield curve

U.S. Treasury yield curve



Appendix of Supporting Materials

TFFR Update as of June 30, 2018

Callan's Quarterly Reports of investment performance are available on the following web address:
<http://www.nd.gov/rio/SIB/Publications/Callan%20Quarterly%20reports/Invest%20Quarterly.htm>

Board members can review monthly manager level performance using the following web address:
http://www.nd.gov/rio/rio_ref/

The SIB has no investment managers on our Watch List as of June 30, 2018, and there are no material legal or legislative proceedings affecting the SIB, although RIO has submitted three optional packages for budget approval. Option 1 – Reinstate 10%; Option 2 – TFFR Pension Modernization; Option 3 – New Investment Risk Officer (+1 FTE).

RIO Budget Background

On April 18, 2018, Governor Burgum released budget guidelines for 2019-2021. The Governor is requesting all agencies (including special fund agencies) to adopt the following guidelines:

- 1) Agencies with an appropriation less than \$5 million should submit a base budget with a 5% reduction in ongoing expenditures;
- 2) Agencies with an appropriation of \$5 million or more should submit a base budget with a 10% reduction in ongoing expenditures; and
- 3) Agencies with 20 or more FTE should submit a base budget with a 5% FTE reduction.

RIO currently has 19 authorized FTE and our appropriation for 2017-19 is \$5.3 million. Given that RIO's budget is over \$5 million, we were requested to submit a base budget which included a 10% reduction which translates into less FTE in the summary table below. The FTE reduction is assumed due to RIO's budget largely consisting of salaries and benefits (for \$4.4 million or 83%) while operating expenses and contingencies have already been reduced to historically low levels. As evidence, RIO's operating expenses declined by 13% over the past 20 years (to less than \$863,000 in 2017-19) due to our agency consistently being very cost conscious. RIO's contingency line has also been subject to extreme budget pressures and was reduced by over 36% in the last biennium (to \$52,000).

	2017-19 Base Appropriation	Requested 10% Budget Cut	Governor's Base Budget
Salaries and Wages	\$ 4,425,570	\$ (572,066)	\$ 3,853,504
Operating Expenses	\$ 862,484	\$ 38,061	\$ 900,545
Contingencies	\$ 52,000	\$ -	\$ 52,000
Total Special Funds	\$ 5,340,054	\$ (534,005)	\$ 4,806,049
Full-time Equivalent	19.00	-3.00	16.00

RIO management believes our agency has operated in a fiscally conservative manner for many years, while maintaining favorable client satisfaction survey scores (for both TFFR and SIB) despite a 38% increase in TFFR membership (from 15,781 in 1998 to 21,853 in 2017) and 80% increase in assets under management (AUM) since 2013. During the last 20-years, RIO's FTE has only grown by 1 person including two new investment professionals in the last 6-years (which coincided with an 90+% increase in AUM between 2013 and 2018). RIO's overall performance has generally been strong as evidenced by solid client survey scores while investment performance has generally met or exceeded expectations in recent years including above benchmark returns, favorable peer rankings, and a keen focus on optimizing risk adjusted returns. SIB clients have benefitted from an excellent return on their investment over the last 5-years as evidenced by a 2-for-1 return on investment fees which conservatively translates into over \$300 million of incremental client investment income since 2014.

RIO Budget Submission – Agency Overview

	A	B	C	D	E	F
	2017-19 Approved Budget	2019-21 Base Budget Request	Option 1 - Reinstate 10% Cuts	Option 2 - TFFR Pension System	Option 3 - Investment Risk Officer	2019-21 Total Budget Request
SALARIES & BENEFITS	4,425,570	3,861,563	550,194	50,000	294,996	4,756,753
OPERATING	862,484	862,484	-	2,789,000	14,450	3,665,934
CONTINGENCY	52,000	82,000	-	-	-	82,000
CAPITAL ASSETS	-	-	-	6,300,000	-	6,300,000
TOTAL	5,340,054	4,806,047	550,194	9,139,000	309,446	14,804,687
% Change		-10.0%	10.3%	171.1%	5.8%	177.2%

Column A: RIO's **2017-19 Approved Budget** was for **\$5.3 million** (including 19 FTE).

Column B: RIO's **Base Budget** submission of **\$4.8 million** reflects a 10% cut in agency expenses as OMB requested.

Column C: **Option 1** - Given RIO's desire to maintain high quality service levels while noting that SIB investments and TFFR's client population are at all-time highs, RIO respectfully seeks to reinstate the 10% OMB budget cut request .

Column D: **Option 2** – Given TFFR's pension administration system is 13-years old and our desire to adopt recent IT system advances, efficiencies and cybersecurity protection levels, we respectfully made a 1-time request for **\$9.1 million**.

Column E: **Option 3** – RIO also requests **\$309,446** to enhance our investment risk management team, controls and processes by adding a new investment risk officer position to further improve our overall risk management environment.

Column F: RIO's **Total Budget Request for 2019-21** including three (3) optional packages exceeds **\$14.8 million**.

RIO Budget Submission – July 20, 2018

TFFR and SIB Component Overview

	2017-19 Approved Budget			2019-21 Base Budget Request			Optional Package #1 Reinstate 10% Cuts		
	TFFR	SIB	RIO	TFFR	SIB	RIO	TFFR	SIB	RIO
SALARIES & BENEFITS	2,325,812	2,099,758	4,425,570	1,956,054	1,905,509	3,861,563	357,628	192,566	550,194
OPERATING	680,124	182,360	862,484	689,424	173,060	862,484	-	-	-
CONTINGENCY	26,000	26,000	52,000	41,000	41,000	82,000	-	-	-
CAPITAL ASSETS	-	-	-	-	-	-	-	-	-
TOTAL	3,031,936	2,308,118	5,340,054	2,686,478	2,119,569	4,806,047	357,628	192,566	550,194
% Change				-11.4%	-8.2%	-10.0%	11.8%	8.3%	10.3%

	Optional Package #2 TFFR Pension Administration			Optional Package #3 Additional FTE - Investment			2019-21 Total Budget Request		
	TFFR	SIB	RIO	TFFR	SIB	RIO	TFFR	SIB	RIO
SALARIES & BENEFITS	50,000	-	50,000	-	294,996	294,996	2,363,682	2,393,071	4,756,753
OPERATING	2,789,000	-	2,789,000	-	14,450	14,450	3,478,424	187,510	3,665,934
CONTINGENCY	-	-	-	-	-	-	41,000	41,000	82,000
CAPITAL ASSETS	6,300,000	-	6,300,000	-	-	-	6,300,000	-	6,300,000
TOTAL	9,139,000	-	9,139,000	-	309,446	309,446	12,183,106	2,621,581	14,804,687
% Change	301.4%	0.0%	171.1%	0.0%	13.4%	5.8%	301.8%	13.6%	177.2%

ANNUAL TFFR EXPENSE REPORT SEPTEMBER 27, 2018

Connie Flanagan
Fiscal and Investment Operations Manager

**RETIREMENT AND INVESTMENT OFFICE
EXPENDITURE SUMMARY REPORT
FISCAL YEAR ENDED JUNE 30, 2018**

	TFFR		SIB		Total RIO	
	Expenses	% of Total	Actual Expenses	% of Total	Actual Expenses	% of Total
<u>CONTINUING APPROPRIATIONS</u>						
INVESTMENT EXPENDITURES	\$ 13,380,893	6.0%	\$ 42,293,975	96.2%	\$ 55,674,868	20.8%
MEMBER CLAIMS						
ANNUITY PAYMENTS	202,417,031		-		202,417,031	
REFUND PAYMENTS	5,561,668		-		5,561,668	
TOTAL MEMBER CLAIMS	207,978,699	93.1%	-	0.0%	207,978,699	77.8%
OTHER CONTINUING APPROPRIATIONS	581,091	0.3%	759,583	1.7%	1,340,674	0.5%
TOTAL CONTINUING APPROPRIATIONS	221,940,683	99.3%	43,053,557	97.9%	264,994,241	99.1%
<u>APPROPRIATED EXPENDITURES</u>						
SALARIES AND BENEFITS	1,105,264	0.5%	1,043,091	2.4%	2,148,355	0.8%
OPERATING EXPENSES	223,172	0.1%	86,193	0.2%	309,365	0.1%
SIB EXPENSES ALLOCATED TO TFFR	219,267		(219,267)		-	
TOTAL APPROPRIATED EXPENDITURES	1,547,703	0.7%	910,017	2.1%	2,457,720	0.9%
TOTAL EXPENDITURES	\$ 223,488,386		\$ 43,963,575		\$ 267,451,961	

**RETIREMENT AND INVESTMENT OFFICE
2017-2019 BIENNIUM APPROPRIATION STATUS REPORT
AS OF JUNE 30, 2018**

	2017-2019 BUDGET	ADJUSTED APPROPRIATION	BIENNIUM TO DATE ACTUAL	EXPENDITURES		
				BUDGET AVAILABLE	% BUDGET AVAILABLE	% OF BIENNIUM REMAINING
SALARIES AND BENEFITS	\$ 4,425,570	\$ 4,425,570	\$ 2,148,355	\$ 2,277,215	51.46%	50.00%
OPERATING EXPENDITURES	862,484	862,484	309,365	553,119	64.13%	50.00%
CONTINGENCY	52,000	52,000	0	52,000	100.00%	50.00%
TOTAL	<u>\$ 5,340,054</u>	<u>\$ 5,340,054</u>	<u>\$ 2,457,720</u>	<u>2,882,334</u>	<u>53.98%</u>	<u>50.00%</u>

**RETIREMENT AND INVESTMENT OFFICE
SCHEDULE OF CONSULTING EXPENSES
FOR THE YEARS ENDED JUNE 30, 2018 and 2017**

	Pension Trust		Investment Trust	
	2018	2017	2018	2017
Actuary fees:				
Cavanaugh MacDonald Consulting	\$ -	\$ 38,632	\$ -	\$ -
Segal Company	71,499	91,742	-	-
Total Actuary Fees	<u>71,499</u>	<u>130,374</u>	<u>-</u>	<u>-</u>
Auditing/Accounting fees:				
CliftonLarsonAllen LLP	82,527	108,987	29,073	28,213
Total Auditing Fees	<u>82,527</u>	<u>108,987</u>	<u>29,073</u>	<u>28,213</u>
Disability consulting fees:				
Sanford Health	425	300	-	-
Legal fees:				
K&L Gates LLP	16,541	3,152	21,646	4,171
Kasowitz, Benson, Torres & Friedma	197	1,357	309	1,777
Jackson Walker LLP	3,105	-	9,316	-
ND Attorney General	23,805	20,323	20,681	23,520
Total legal fees:	<u>43,648</u>	<u>24,832</u>	<u>51,952</u>	<u>29,468</u>
Total consultant expenses	<u>\$198,099</u>	<u>\$264,493</u>	<u>\$ 81,025</u>	<u>\$ 57,681</u>

RETIREMENT AND INVESTMENT OFFICE BUDGET REQUEST FOR 2019-2021 BIENNIUM

	2017-2019 Biennium Approved Budget			2019-2021 Biennium Requested Base Budget			Change from 2017-19 Approved Budget						2019-2021 Biennium Requested Optional Packages**			2019-2021 Biennium Total Budget Request		
	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total	TFFR	SIB	RIO Total
SALARIES & WAGES	1,637,129	1,591,806	3,228,935	1,269,300	1,396,146	2,665,446	(367,829)	-22.5%	(195,660)	-12.3%	(563,489)	-17.5%	357,628	413,366	770,994	1,626,928	1,809,512	3,436,440
BENEFITS	688,683	507,952	1,196,635	686,754	509,363	1,196,117	(1,929)	-0.3%	1,411	0.3%	(518)	0.0%	50,000	74,196	124,196	736,754	583,559	1,320,313
TOTAL SALARIES & BENEFITS	2,325,812	2,099,758	4,425,570	1,956,054	1,905,509	3,861,563	(369,758)	-15.9%	(194,249)	-9.3%	(564,007)	-12.7%	407,628	487,562	895,190	2,363,682	2,393,071	4,756,753
IT - DATA PROCESSING	151,852	30,456	182,308	129,370	30,831	160,201	(22,482)	-14.8%	375	1.2%	(22,107)	-12.1%	775,000	2,740	777,740	904,370	33,571	937,941
IT - COMMUNICATIONS	12,600	6,480	19,080	12,000	6,600	18,600	(600)	-4.8%	120	1.9%	(480)	-2.5%	-	360	360	12,000	6,960	18,960
TRAVEL	47,232	26,718	73,949	82,675	16,395	99,070	35,444	75.0%	(10,323)	-38.6%	25,121	34.0%	4,000	4,000	4,000	82,675	20,395	103,070
SUPPLIES - IT SOFTWARE	699	401	1,100	444	256	700	(255)	-36.5%	(145)	-36.2%	(400)	-36.4%	-	-	-	444	256	700
POSTAGE	77,147	5,240	82,387	57,757	5,435	63,192	(19,390)	-25.1%	195	3.7%	(19,195)	-23.3%	200	200	200	57,757	5,635	63,392
IT CONTRACT SERVICES	156,468	2,826	159,294	157,112	4,158	161,270	644	0.4%	1,332	47.1%	1,976	1.2%	-	-	-	157,112	4,158	161,270
LEASE/RENT - BLDG./LAND	110,237	62,905	173,142	114,724	64,506	179,230	4,487	4.1%	1,601	2.5%	6,088	3.5%	-	-	-	114,724	64,506	179,230
PROFESSIONAL DEVELOPMENT	22,769	8,632	31,400	39,543	5,272	44,815	16,775	73.7%	(3,360)	-38.9%	13,415	42.7%	1,500	1,500	1,500	39,543	6,772	46,315
OPERATING FEES & SERVICES	29,646	18,143	47,789	29,324	17,955	47,279	(322)	-1.1%	(188)	-1.0%	(510)	-1.1%	500	500	500	29,324	18,455	47,779
REPAIRS	476	274	750	635	365	1,000	159	33.4%	91	33.2%	250	33.3%	-	-	-	635	365	1,000
PROFESSIONAL SERVICES	24,520	9,070	33,590	22,504	9,106	31,610	(2,016)	-8.2%	36	0.4%	(1,980)	-5.9%	2,014,000	2,014,000	2,014,000	2,036,504	9,106	2,045,610
INSURANCE	853	491	1,344	1,299	748	2,047	446	52.3%	257	52.3%	703	52.3%	-	-	-	1,299	748	2,047
OFFICE SUPPLIES	3,943	2,267	6,210	3,378	1,942	5,320	(565)	-14.3%	(325)	-14.3%	(890)	-14.3%	150	150	150	3,378	2,092	5,470
PRINTING	35,315	4,759	40,074	32,030	5,320	37,350	(3,285)	-9.3%	561	11.8%	(2,724)	-6.8%	-	-	-	32,030	5,320	37,350
PROFESSIONAL SUPPLIES	875	875	1,750	850	850	1,700	(25)	-2.9%	(25)	-2.9%	(50)	-2.9%	-	-	-	850	850	1,700
MISCELLANEOUS SUPPLIES	2,585	1,485	4,070	2,603	1,497	4,100	18	0.7%	12	0.8%	30	0.7%	-	-	-	2,603	1,497	4,100
IT EQUIPMENT < \$5000	363	368	731	3,176	1,824	5,000	2,813	774.9%	1,456	395.7%	4,269	584.0%	2,500	2,500	2,500	3,176	4,324	7,500
OTHER EQUIPMENT < \$5000	1,474	847	2,321	-	-	-	(1,474)	-100.0%	(847)	-100.0%	(2,321)	-100.0%	-	-	-	-	-	-
OFFICE EQUIP & FURNITURE < \$5000	1,071	124	1,195	-	-	-	(1,071)	-100.0%	(124)	-100.0%	(1,195)	-100.0%	2,500	2,500	2,500	-	2,500	2,500
TOTAL OPERATING	680,124	182,360	862,484	689,424	173,060	862,484	9,300	1.4%	(9,300)	-5.1%	0	0.0%	2,789,000	14,450	2,803,450	3,478,424	187,510	3,665,934
CONTINGENCY	26,000	26,000	52,000	41,000	41,000	82,000	15,000	57.7%	15,000	57.7%	30,000	57.7%	-	-	-	41,000	41,000	82,000
CAPITAL ASSETS	-	-	-	-	-	-	-	0.0%	-	0.0%	-	0.0%	6,300,000	-	6,300,000	6,300,000	-	6,300,000
TOTAL BUDGET	3,031,936	2,308,118	5,340,054	2,686,478	2,119,569	4,806,047	(345,458)	-11.4%	(188,549)	-8.2%	(534,007)	-10.0%	9,496,628	502,012	9,998,640	12,183,106	2,621,581	14,804,687
																302%	14%	177%

**** Optional Package Requests:**

#1 - Reinstate the 10% reduction to the Base Budget: \$550,194 for 3 FTEs in salary line (no specific positions were identified in the cuts)

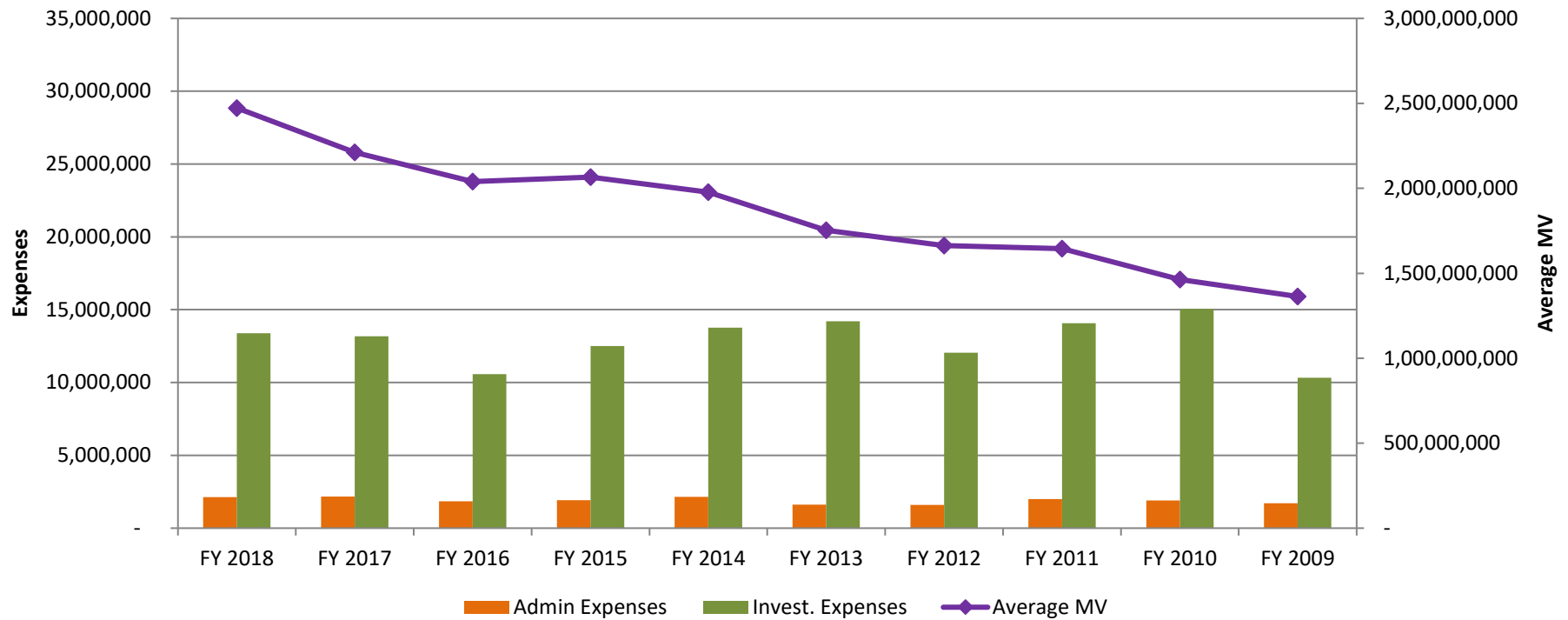
#2 - TFFR Pension Administration System Modernization Project (one-time cost): \$9,139,000 to upgrade or replace existing 13 year old CPAS system to a more advanced, more secure web based system which would provide significant improvements in functionality for TFFR members, employers and staff.

#3 - Additional Investment Position: \$309,446 for Senior Investment Risk Officer to assist in developing and monitoring a more robust investment management oversight and reporting function within the SIB investment program.

Board Travel Budget Assumptions: Due to reallocations within the operating line, additional dollars have been earmarked for travel in the next biennium. Each board member will be allotted at least two trips for the biennium and it is anticipated additional trips may be authorized based on budget availability, particularly for new board members.

In-State Reimbursement Rates: Lodging rate is 90% of Federal GSA rate for ND (increasing from \$93 to \$94 effective October 1, 2018) so rate is \$83.70 (\$84.60 starting October 1), plus tax (some higher exceptions in oil counties). Mileage is linked to Federal GSA rate which is currently \$0.545 per mile. In-state meal rates: Breakfast: \$7.00; Lunch: \$10.50; Dinner: \$17.50

TFFR Investment and Administrative Expenses



MEMORANDUM

TO: TFFR Board
FROM: Richard Nagel
DATE: September 14, 2018
SUBJ: Annual Technology Report

1. Member Online Portal

The Member Online Portal went live on January 31, 2018. As of September 14th, about 1,600 members have successfully logged in (1,300 actives and 300 retirees). RIO continues to communicate with the members to assist with any issues or questions they may have. RIO staff continues to strategize and market the application to encourage members to sign in.

2. Pension Administration Software (PAS)

TFFR's current pension administration software (PAS) replaced the outdated mainframe system in 2005, and has been in operation for 13 years. The functionality and technical architecture of this client-server technology is at the end of its product release lifecycle.

RIO believes it is time to move towards a more technologically advanced, more secure web based system which would provide significant improvements in functionality for TFFR members, employers, and staff. During the past year, RIO has studied the potential risks, benefits, and costs of upgrading or replacing the current application to improve and streamline TFFR pension administration processes, reporting capabilities, communications and services to members and employers.

3. IT Security

Security is always a main priority for RIO and ITD. The IT Supervisor has been working with the Audit Supervisor to review current policies and procedures to ensure a high level of security. The Audit Supervisor is also working on an internal risk assessment (all divisions) for RIO to help determine any areas of improvement or modifications to improve overall risk and security.

4. Hardware/Software Upgrades

IT recently upgraded all user workstations to Windows 10 (64-bit) with Microsoft Office 2016 and Skype for Business. IT has also incorporated laptops for users that are mobile to allow them to work more efficiently and have all the tools they need.

Future IT Initiatives:

1. Records retention and purge (CPAS database and FileNet).
2. Configure layout for new website, add data, and publish to production for public viewing.
3. Create and utilize data analytics for member and employer data reconciliation (replace manual processes).
4. Potential upgrade/replacement of Pension Administration Software. This would allow for greater functionality, enhancements and additional security for all RIO staff, TFFR Members, and TFFR Employers

COMPLETE

Collector: Email Invitation 2 (Email)
Started: Monday, September 10, 2018 9:52:46 AM
Last Modified: Monday, September 10, 2018 10:11:24 AM
Time Spent: 00:18:37
First Name: Rob
Last Name: Lech
Email: robert.lech@k12.nd.us
IP Address: 165.234.180.9

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Q1 Please help us measure our performance and identify areas for improvement by rating the service you received during fiscal year 2018 (July 1, 2017 - June 30, 2018). Please check the response which best reflects your experience.

Availability/Responsiveness to Requests (via calls and/or emails)	Excellent
Clarity and Effectiveness of Communications, Reports, and Presentations	Excellent
Frequency of Communications/Reporting	Excellent
Knowledge of Investments	Excellent
Overall value of services provided	Excellent

Q2 How can the State Investment Board (SIB) and/or Retirement and Investment Office (RIO) staff better meet your expectations and improve the services currently being offered?

The SIB should continue to prioritize board education and extend those opportunities to members of the TFFR board. This process is invaluable for new and veteran board members in building capacity for both TFFR and SIB board members, understanding roles and responsibilities, and ultimately for being strong fiduciaries of the TFFR funds.

I appreciate the clarity in which reports are provided. They reporting highlights important areas, but also provides enough information to take a deeper dive. The SIB staff is consistently willing to provide greater clarification, if necessary, to ensure that all members of the board feel comfortable with the information presented.

Would like to see continued work on better, faster, and more economical ways of communicating with active and retired members of the TFFR community.

Commend the staff for their continued excellent service in the face of the severe budget constraints by the State of North Dakota.

Staff is always receptive when calling or visiting the office. Communications and reports are clear and often accompanied by visuals that promote understanding. I appreciate that the staff is very knowledgeable and is impart that knowledge in an understandable manner. I have heard time and time again from colleagues that their experience in dealing with office staff was excellent.

Continue to communicate frequently and clearly and keep lines of communication open with our representatives on the board so they can communicate with other members of this board.

Is the TFFR Board, through the RIO staff, providing TFFR members and employers with quality service? Please help the TFFR Board measure their performance and identify areas for improvement by completing this annual survey.

	Excellent	Above Average	Average	Poor	N/A
Staff courtesy and professionalism	X				
Staff responsiveness	X				
Staff accessibility	X				
Staff knowledge of TFFR program	X				
Clarity and effectiveness of information	X				
Ease of obtaining information or services - phone, website, newsletters, publications	X				
Member outreach services - presentations, conferences, benefits counseling and retirement education	X				
Employer outreach services - presentations, conferences, meetings	X				
Legislative proposals, presentations	X				
Overall quality of service	X				

How can the TFFR Board and/or RIO staff improve their service to TFFR members and employers?

Comments _____

Signature:  _____
 Organization: North Dakota United

Date August 8, 2018

THANK YOU for helping us to improve service to TFFR members and employers.

ND Retirement and Investment Office, P.O. Box 7100, Bismarck, ND 58507-7100
Phone: 701-328-9885 or 800-952-2970 - FAX: 701-328-9897 - Email: fkopp@nd.gov

Confidential member information sent
to Board through a secure link.



NDTFFR Board Reading September 2018

- Center for State & Local Government Excellence: [How Do Fees Affect Plans' Ability to Beat Their Benchmarks?](#) August 2018
- National Institute on Retirement Security: [Retirement in America: Out of Reach for Working Americans?](#) September 2018
- Social Security Administration: [Summary of Provisions That Would Change The Social Security Program](#) September 2018