

Investment Section



ARLINGTON COUNTY EMPLOYEES' RETIREMENT SYSTEM

Investment Section

Investment Presentation Basis and Policy

The report and commentary on investment performance and activity was prepared by the System's staff.

Return data for the System was calculated by the custodian, Northern Trust, using time-weighted return methodology that was verified by the System's consultant, Ashford Consulting Group (ACG). Valuations are based on published national securities exchange prices, when available. Real estate and private equity investments are reported at appraised value which approximates fair value. Valuations are reconciled between the investment managers and the custodian bank. For all functions other than return data, ACG is an advisory consultant.

The primary objective in the investment of public funds is adequate funding of employee retirement benefits at a reasonable and affordable cost. To ensure the long term health of the System, an appropriate balance must be struck between risks taken and returns sought. The System's adopted investment policy seeks to control downside risk exposure while maximizing the potential for long term asset value appreciation.

Specific investment objectives include:

- Earn an average real rate of return that meets or exceeds the assumed actuarial real rate of return, currently 3.75%, over rolling 5-year periods.
- Manage portfolio risk to limit potential downside fluctuations in the total asset value while providing the opportunity to capture a significant portion of upside opportunity.
- Realize as high a rate of total return as possible consistent with the above.

To achieve these objectives, the following investment policies are employed:

- Maintain a broadly diversified portfolio to minimize the risk of overexposure to any one market sector or investment style. Specific guidelines include:
 - A minimum 20% allocation to fixed income investments
 - A 15% cap on illiquid investment strategies restricting new commitments that would drive the Fund's total exposure to illiquid strategies above this ceiling
 - A maximum 15% exposure to derivative based strategies
- Evaluate and closely monitor, with the investment consultant, investment manager performance against specific objectives, both absolute and in relation to other managers investing with similar investment objectives and styles.
- Monitor Fund risk exposure, modify target risk as warranted and rebalance the Fund as necessary.

The Fund's policy benchmark is:

	As of 10/1/07	
Equities	<i>Russell 3000</i>	40.0%
	<i>MSCI ACWI ex-US</i>	17.5%
Fixed Income	<i>Barclays Universal</i>	39.0%
	<i>Barclays TIPS</i>	1.5%
Cash	<i>90 Day T-Bills</i>	2.0%
		100.0%

Investment Section

Investment Performance Summary

(All returns for periods greater than one year are annualized)

Return data for the System is presented based on a time-weighted rate of return methodology as calculated by the custodian, Northern Trust.

	10 Years	5 Years	3 Years	Fiscal Year Ended June 30				
				2013	2014	2015	2016	2017
Investment Performance								
Total Fund⁽¹⁾ (Benchmark)	5.8%	9.3%	5.0%	13.9%	18.4%	2.2%	0.3%	12.9%
<i>Domestic Equities (Russell 3000)</i>	5.8%	12.0%	6.0%	21.1%	22.2%	2.5%	0.7%	15.5%
<i>Global Equities (MSCI AC World)</i>		14.0%	7.9%	15.2%	31.6%	6.1%	-2.8%	26.8%
<i>International Equities (MSCI AC World ex-US)</i>	3.8%	8.7%	3.4%	15.7%	18.7%	-2.3%	-8.6%	23.6%
<i>Fixed Income (Fixed Income)</i>	5.4%	3.7%	2.4%	4.2%	7.3%	0.5%	4.1%	2.6%
Benchmark Performance								
Total Fund⁽²⁾	5.3%	8.2%	5.0%	10.7%	15.8%	2.6%	1.5%	11.1%
<i>Russell 3000</i>	7.3%	14.6%	9.1%	21.5%	25.2%	7.3%	2.1%	18.5%
<i>MSCI AC World</i>		10.5%	4.8%	16.6%	23.0%	0.7%	-3.7%	18.8%
<i>MSCI AC World ex-US</i>	1.1%	7.2%	0.8%	13.6%	21.8%	-5.3%	-10.2%	20.5%
<i>Fixed Income⁽³⁾</i>	4.7%	2.6%	2.7%	0.1%	5.2%	1.5%	5.8%	0.9%
CPI + 3.5% Annualized	5.2%	4.9%	4.5%	5.3%	5.6%	3.6%	4.5%	5.4%
Actuarial Assumed Rate of Return				7.5%	7.25%	7.25%	7.25%	6.75%

⁽¹⁾ Includes cash and alternative investment performance though returns for these asset classes are not listed separately

⁽²⁾ 40% RU 3000, 17.5% MSCI AC World ex-US, 39% BC Universal, 1.5% BC TIPS & 2% 90 Day T-Bill

Prior to 10/1/07, 43% RU 3000, 14% EAFE, 38% BC Aggregate & 5% 90 Day T-Bill

⁽³⁾ Weights fixed income benchmark components to 100%

Investment Performance and Activity

Overview

The financial markets performed above expectations during fiscal year 2017, setting the stage for the System to outperform its primary investment objective for the year, while longer term results exceed or equal the Fund's objectives. Fiscal year 2017 started out with global equities rallying mostly due to continued accommodative monetary policies, more stable economic data and better than expected earnings reports. Performance was strong across regions, with international markets outperforming US equities. The Federal Reserve left rates unchanged in September while acknowledging improvement in the economy. US equity markets posted positive results in the fourth quarter as investors digested the election implications. The Federal Reserve opted to raise interest rates following its mid-December policy meeting. Global equities rallied at the beginning of 2017 due to an upswing in global economic data and signs of corporate earnings growth with international and emerging markets providing the highest returns. As anticipated, the Federal Reserve again raised rates following its mid-March policy meeting. Global equity markets were broadly positive in the second quarter supported by signs of strengthening global economic growth, better than expected corporate earnings and reduced political uncertainty in Europe. As was widely anticipated, the Federal Reserve continued on its path towards monetary policy normalization and raised its target rate in mid-June.

For the fiscal year ended June 30, 2017 the System gross return of 12.9% (net return of 12.7%) compared to a benchmark return of 11.1%. This performance is above the 12.4% median return of the TUCS Public Plan Universe, placing the System in the 33rd percentile (2nd Quartile) of public plans for the year. On a 3, 5 and 10-year basis, the System's performance exceeds or equals the benchmark net of fees and ranked in the 63rd, 42nd and 32nd percentiles, respectively.

The System's 1.8% outperformance relative to the overall policy benchmark for the fiscal year was primarily attributable to net active equity manager outperformance and an underweight allocation to fixed income. The table below summarizes key drivers of the System's benchmark relative performance.

	Policy Benchmark	Sector Allocation	Style Selection	Active Management	Total Fund
Investment Performance	11.1%	1.2%	-0.8%	1.4%	12.9%
Value Added or Lost					
<i>Fixed Income</i>		0.7%	0.6%	0.0%	
<i>US Equity</i>		0.7%	-1.4%	1.1%	
<i>International Equity</i>		-0.4%	0.0%	0.3%	
<i>Other/Unallocated</i>		0.2%	0.0%	0.0%	

Source: Ashford Consulting Group

Investment Section

As of June 30, 2017, the System was in compliance with its investment policy guidelines as follows:

- Fixed income investments and cash equivalents totaled 33.8% of assets.
- The market value of illiquid investments, including limited partnerships, plus remaining funding commitments, totaled 7.6% of assets.
- Derivative strategies were not in use.

Investment Activity and Details

From an investment perspective, the Board took action at several points during the year to manage the portfolio's risk/return profile in light of developments in the capital markets. Investment activity details by asset class are described more fully below.

Equity

As of June 30, 2017, the System had \$1,365.4 million, or 62.9% of the fund, in publicly traded equity investments invested in seven actively managed mandates, three focused on domestic equities, one on international equities, and three on global equities. There were two index funds. Actively managed separate accounts totaled \$810.4 million with the remaining \$555.0 million held in pooled investment vehicles.

Activity during the year included actively managing equity risk exposure. Specifically, in the first quarter of FY 17, the Board terminated two active domestic equity managers, a natural resources mutual fund and trimmed an active global equity manager allocating the funds into equity and fixed income index funds. In the fourth quarter of FY 17, the Board terminated an active domestic equity manager and allocating the funds to an active large cap core manager. The Board also trimmed an equity index fund moving the funds to fixed income funds.

For the fiscal year ended June 30, 2017 the domestic equity allocation posted a 15.6% return, the international equity allocation posted a 23.7% return, and the global equity mandates returned 27.8%. The total equity allocation return was 18.7% for the year compared to a blended equity benchmark of 19.2%.

Fixed Income

As of June 30, 2017, the System held \$733.3 million, or 33.8% of the fund, in fixed income securities and cash.

Activity during the year included the Board terminating a fixed income bond manager with the proceeds going to equity and fixed income index funds. Currently, the System utilizes the Vanguard Short Term Federal Fund or the Vanguard S&P 500 Index Fund as a source of operating funds for the year, withdrawing \$35.5 million for these purposes.

For the fiscal year ended June 30, 2017, the fixed income investments posted a 2.6% return, in aggregate. This compares to a blended fixed income benchmark return of 0.9% for the same time period.

Alternative Investments

The alternative investment category includes real estate and private equity. The market value of these alternative investments, including limited partnerships, plus remaining funding commitments, totaled 7.6% of assets.

The System met its funding obligations to alternative investment managers during the year. At June 30, 2017, 63% of the System's total \$253.0 million in commitments were funded.

The following table summarizes the alternative investments as of June 30, 2017:

(millions)	Total		Remaining
	Commitment	Funded	Commitment
Liquid Realty Partners	\$ 25.0	\$ 23.6	\$ 1.4
JFL Equity Investors IV	15.0	5.7	9.3
Franklin Park Venture 2015	15.0	5.5	9.5
Franklin Park Venture 2017	15.0	0.0	15.0
BVIP Fund VIII	15.0	11.0	4.0
BVIP Fund IX	15.0	0.0	15.0
Bison Fund V	15.0	0.0	15.0
Arsenal Real Estate	25.0	25.0	0.0
Altaris Health Partners III	15.0	9.0	6.0
Altaris Health Partners IV	15.0	0.0	15.0
Abbott ACE IV	50.0	48.3	1.7
Abbott ACE V	8.0	7.6	0.4
Abbott ACE VI	25.0	22.9	2.1
Total	\$ 253.0	\$ 158.6	\$ 94.4

The System's remaining commitments to these alternative investments total \$1.4 million for real estate and \$93.0 million for private equity. The System made \$13.8 million in contributions and received \$16.2 million in distributions for a net cash flow of \$2.4 million for the fiscal year. The System has sufficient liquid assets to meet the funding commitments.

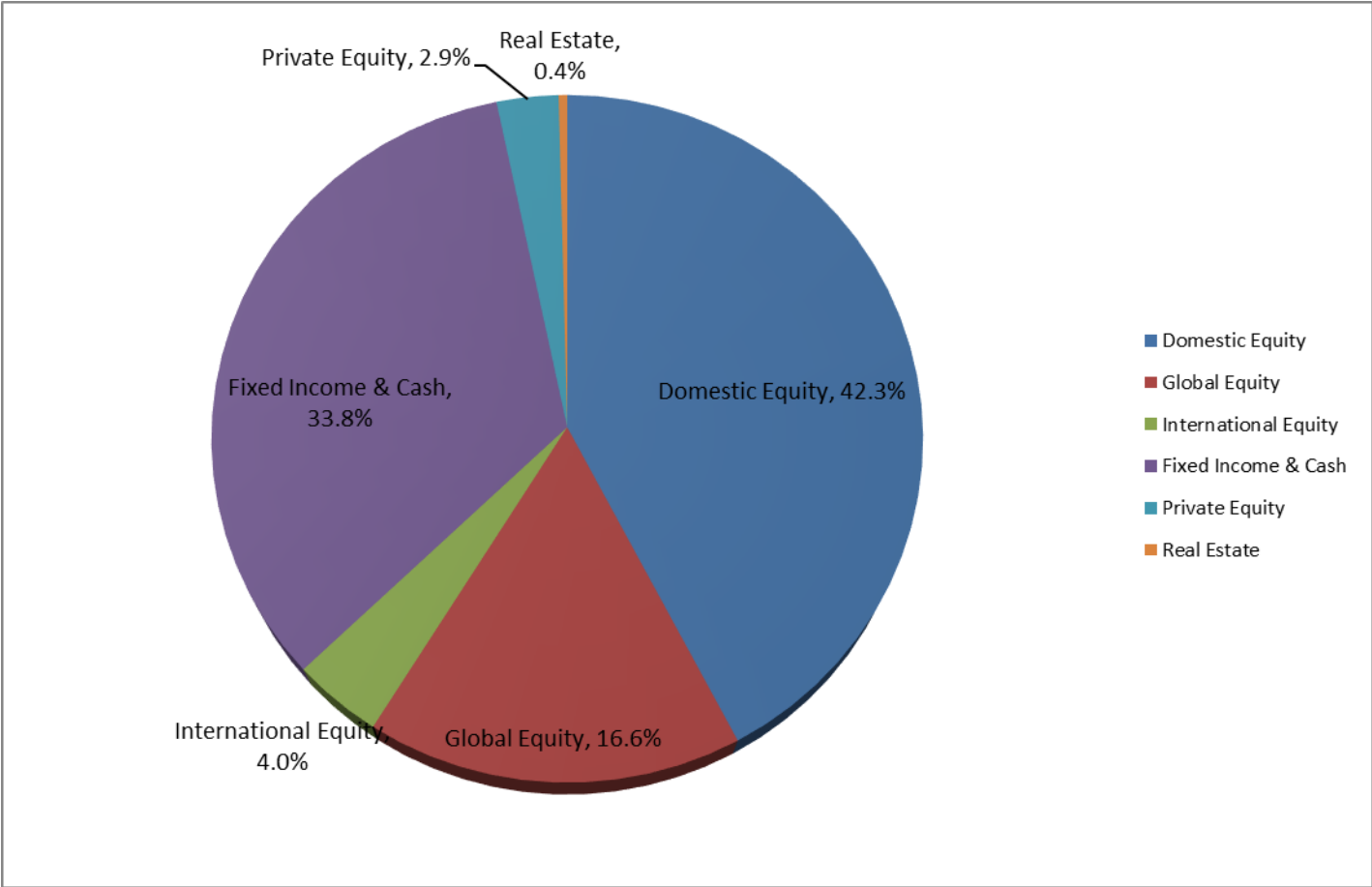
These alternative investments combined for a 10.8% return for the fiscal year.

Investment Section

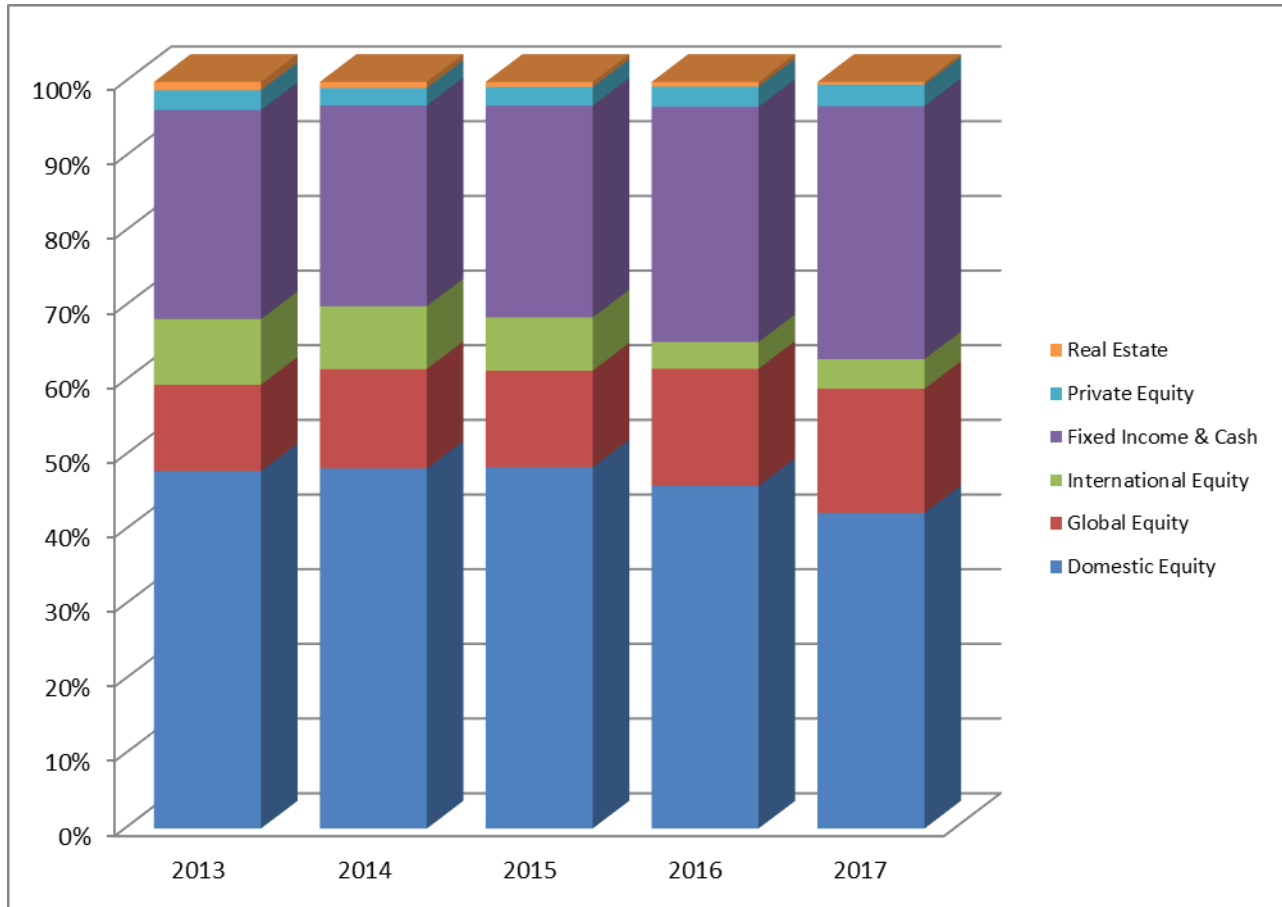
Arlington County Employees' Retirement System Asset Allocation (As of June 30, 2017)

In an effort to achieve the System's stated investment objectives, funds are invested in a diverse set of asset classes, each with its own risk and return characteristics. The accompanying chart illustrates the portfolio's asset allocation as of June 30, 2017. The chart and table on page 44 show the trends in asset allocation over the past five years.

Note that investments in pooled vehicles are reflected in their respective asset classes and are different than the categories shown on pages 26 through 29 in the *Financial Section*. Further, fund balance data in the *Financial Section* includes operating accruals not reflected in this allocation data. Finally, residual cash held by investment managers is reflected in the total for each asset class.



**Arlington County Employees' Retirement System
Five Year Asset Allocation Comparison**



	Fiscal Years Ended June 30				
(millions)	2013	2014	2015	2016	2017
Domestic Equity	\$811.4	\$953.7	\$964.2	\$900.0	\$918.2
Global Equity	\$196.2	\$263.7	\$258.1	\$308.1	\$360.9
International Equity	\$149.1	\$166.2	\$141.9	\$70.3	\$86.3
Fixed Income & Cash	\$475.0	\$532.2	\$565.5	\$617.8	\$736.1
Private Equity	\$44.5	\$46.2	\$49.5	\$53.1	\$62.7
Real Estate	\$19.2	\$16.0	\$13.8	\$12.5	\$7.7
	\$1,695.4	\$1,978.0	\$1,993.0	\$1,961.8	\$2,171.9
Domestic Equity	47.9%	48.3%	48.3%	45.9%	42.3%
Global Equity	11.6%	13.4%	13.0%	15.7%	16.6%
International Equity	8.8%	8.4%	7.1%	3.6%	4.0%
Fixed Income & Cash	28.1%	26.8%	28.4%	31.5%	33.8%
Private Equity	2.6%	2.3%	2.5%	2.7%	2.9%
Real Estate	1.1%	0.8%	0.7%	0.6%	0.4%
	100.0%	100.0%	100.0%	100.0%	100.0%

Notes:

Fiduciary Net Position data in the Financial Section includes operating accruals not included in this allocation data. Residual cash held by investment managers is included in the total for each asset class.

Investment Section

Arlington County Employees' Retirement System Investment Managers and Assignments (As of June 30, 2017)

Manager	Assignment	Fiscal Year Retained
Domestic Equities		
AJO	Large Cap Core	2017
Harvest Advisors	MLP	2015
Northern Trust	Russell 1000 Value Index	2015
The Vanguard Group	Large Cap Core	2009
The Vanguard Group	Large Cap Dividend	2011
International and Global Equities		
Baillie Gifford	Global Large Cap	2007
Kiltearn	Global Value	2014
Sanderson Asset Management	International Value	2011
T. Rowe Price	Global Large Cap	2010
Alternatives		
Abbott Capital	Private Equities	2001
Altaris Health Partners	Private Equities	2014
Arsenal Real Estate	Opportunistic Real Estate	2006
Bison Capital	Private Equities	2017
BV Investment Partners	Private Equities	2015
Franklin Park	Venture Private Equity	2015
JFL Equity Partners	Private Equities	2016
Liquid Realty Partners	Secondary Real Estate	2004
Fixed Income and Cash		
Loomis Sayles	Global Fixed Income	1989
Northern Trust	Cash Equivalents	2014
Northern Trust	Core Bonds	2014
T. Rowe Price	Bank Loans	2011
The Vanguard Group	Short Term Bonds	2010

Arlington County Employees' Retirement System
LARGEST ASSETS DIRECTLY HELD⁽¹⁾ (excludes investments in pooled vehicles)

Equities	Shares	Market Value (\$)	% of Fund
ENERGY TRANSFER	784,271	15,139,187	0.70%
AMAZON COM INC	13,320	12,893,760	0.59%
ALIBABA	82,063	11,562,677	0.53%
TENCENT HLDGS LIMITED	275,600	9,856,916	0.45%
FACEBOOK	64,138	9,683,555	0.45%
TESLA	25,840	9,344,002	0.43%
ALPHABET INC	10,115	9,213,655	0.42%
ENTERPRISE PRODUCTS	328,322	8,890,960	0.41%
ILLUMINA INC	33,699	5,847,450	0.27%
MPLX LP	135,077	4,509,234	0.21%
WILLIAMS PARTNERS	111,043	4,453,935	0.21%
BAIDU	23,309	4,169,048	0.19%
CTRIP	74,776	4,027,435	0.19%
INTUITIVE SURGICAL	4,279	4,002,448	0.18%
BUCKEYE PARTNERS	61,556	3,935,275	0.18%
HDFC	44,550	3,874,513	0.18%
INDITEX	95,455	3,659,161	0.17%
AIA	487,800	3,564,871	0.16%
KERING	10,237	3,481,727	0.16%
PLAINS ALL AMERICAN	127,476	3,401,335	0.16%
MERCK	50,424	3,231,674	0.15%
SALESFORCE	37,232	3,224,291	0.15%
WORKDAY	32,987	3,199,739	0.15%
NVIDIA CORP	21,237	3,070,021	0.14%
SM INVESTMENT CORP	185,624	2,953,945	0.14%
Equities Total		151,190,814	6.96%
Fixed Income	Face Value (\$)	Market Value (\$)	% of Fund
UNITED STATES TREASURY	38,180,000	38,038,757	1.75%
CANADA	11,520,000	8,739,171	0.40%
PULTE HOMES INC	5,090,000	5,163,075	0.24%
ALBERTSONS INC	5,300,000	5,138,888	0.24%
MEX BONOS	752,000	4,556,966	0.21%
NEW SOUTH WALES	5,445,000	4,279,841	0.20%
USW CORP	3,505,000	3,334,517	0.15%
NEW ZEALAND	4,455,000	3,326,847	0.15%
ROYAL BANK OF CANADA	3,230,000	3,216,059	0.15%
APPLE	3,210,000	3,175,704	0.15%
SOCIETE GENERALE	2,805,000	3,144,699	0.14%
GENERAL MOTORS	3,185,000	3,124,797	0.14%
WEYERHAEUSER CO	2,085,000	2,724,045	0.13%
CHESAPEAKE ENERGY	2,575,000	2,411,363	0.11%
TENET HEALTHCARE	2,420,000	2,386,075	0.11%
MORGAN STANLEY	2,570,000	2,329,812	0.11%
SANTANDER	2,000,000	2,143,756	0.10%
CNETURY LINK	2,165,000	2,013,450	0.09%
BRAZIL	5,905,000	1,891,600	0.09%
ENLINK MIDSTREAM	1,890,000	1,866,400	0.09%
DELL	1,805,000	1,827,563	0.08%
TOBACCO SETTLEMENT	2,000,000	1,741,640	0.08%
SPRINT	1,535,000	1,706,260	0.08%
XL CAPITAL	1,420,000	1,696,937	0.08%
AMERICAN AIRLINES	1,509,236	1,571,417	0.07%
Fixed Income Total		\$ 111,549,639	5.14%

⁽¹⁾ The System maintains a complete list of portfolio holdings.

Investment Section

Arlington County Employees' Retirement System Schedule of Broker Commissions

Broker selection is the responsibility of individual investment managers. Transaction and commission costs are monitored by System staff and the investment consultant.

The System participates in a commission recapture program with Frank Russell Company. This program allows the System to recapture a portion of the commissions paid to broker/dealers by investment managers who participate in the program. All trades are placed subject to the requirement for best execution. Earnings credited to commission recapture income for the fiscal year ended June 30, 2017, were \$103. T. Rowe Price participated in the program during the year.

Commissions paid on all trades totaled \$319,724 and the average commission rate paid was 0.7 cents per share. The following is a list of brokers who received commissions of \$10,000 or more during fiscal 2017. A complete schedule of all commissions paid is available from the Retirement Office.

Broker	Number of Shares	Total Commission	Commission Per Share (\$ per share)
Merrill Lynch	5,533,944	86,515	0.016
Themis	3,595,648	44,946	0.013
Morgan Stanley	1,940,142	16,464	0.008
UBS	1,207,914	13,299	0.011
Deutsche	4,368,770	12,319	0.003
Citibank	1,317,409	11,443	0.009
JP Morgan	887,094	10,445	0.012