

# **Nevada Public Employees'**

# **ANALYSIS OF INVESTMENT PERFORMANCE**

**Deferred Compensation Plan** 

September 30, 2018

Francis Picarelli Senior Vice President

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#### ANALYSIS OF INVESTMENT PERFORMANCE

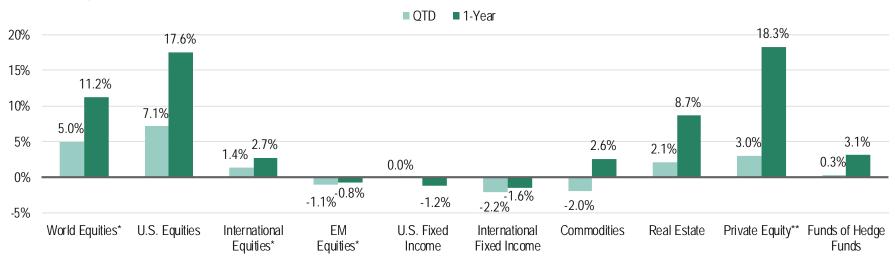
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**Financial Market Conditions** 

### Q3 2018 In Review

### **Summary of Investment Returns**



### **Quarterly Synopsis**

- World equity markets rose in Q3. Solid economic and earnings data outweighed global policy uncertainty among investors.
- U.S. equity gained during the quarter. A healthy economy and robust earnings led stocks to rise despite global trade concerns.
- International equity was boosted by stronger economic news and the European Central Bank's statement that it would not hike interest rates until at least the summer of 2019.
- Emerging market equity declined again in Q3 amid U.S. dollar strength, slowing growth in China and nervousness about the collapse of the Turkish lira.
- U.S. fixed income was flat for the quarter. Short-term interest rates rose again in Q3, though longer-term yields increased as well.
- Non-U.S. fixed income declined in Q3 as Italian bonds slid.
- Hedge funds were slightly positive in the quarter. Multi-strategy and macro funds were among the best YTD performers.



<sup>\*</sup> Net of Dividends

<sup>\*\*</sup> Performance as of Q1 2018 because Q2 2018 and Q3 2018 performance data is not yet available. Sources: Investment Metrics, Thomson One, FactSet

# **Q3 2018 Index Returns**

Asset Class	Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World Equity	MSCI World <sup>1</sup>	4.98	5.43	11.24	13.54	9.28	8.56
U.S. Equity	Russell 3000	7.12	10.57	17.58	17.07	13.46	12.01
Non-U.S. Equity	MSCI EAFE <sup>1</sup>	1.35	-1.43	2.74	9.23	4.42	5.38
Emerging Market Equity	MSCI EM <sup>1</sup>	-1.09	-7.68	-0.81	12.36	3.61	5.40
U.S. Fixed Income	Bloomberg Barclays U.S. Aggregate	0.02	-1.60	-1.22	1.31	2.16	3.77
Non-U.S. Fixed Income	FTSE <sup>2</sup> Non-U.S. WGBI (Unhedged)	-2.19	-3.09	-1.57	2.39	-0.23	1.99
Commodities	Bloomberg Commodity Index	-2.02	-2.03	2.59	-0.11	-7.18	-6.24
Private Real Estate	NFI-ODCE	2.09	6.48	8.68	8.80	10.72	5.58
Private Equity	Thomson Reuters Private Equity <sup>3</sup>	3.03	3.03	18.32	12.43	13.96	9.51
Hedge Funds	HFRI Fund of Funds Composite	0.27	0.99	3.08	3.29	3.18	2.55

<sup>&</sup>lt;sup>1</sup> Net of Dividends

Sources: Investment Metrics, Thomson One, FactSet

FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

3 Performance as of Q1 2018 because Q2 2018 and Q3 2018 performance data is not yet available.

# Q3 2018 In Review: U.S. Economy

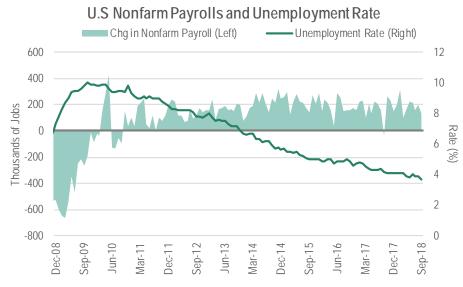
#### **GDP Growth**

- Real GDP grew at a rate of 3.5% in Q3 2018. Real GDP growth for Q2 was revised upward from 4.1% to 4.2%.
- GDP growth in Q3 came from personal consumption expenditures (PCE), state and local government spending, federal government spending and nonresidential fixed investment.
- These contributions were offset by reductions in exports and residential fixed investment. Imports increased in Q3.



#### **Employment Picture**

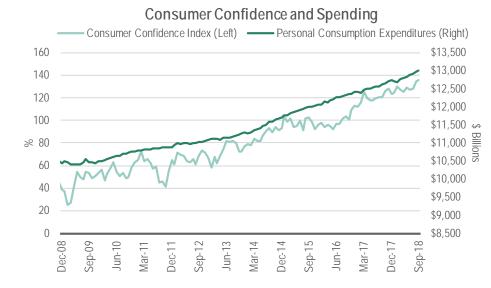
- The unemployment rate fell to 3.7% in September. Nonfarm payrolls rose by 569,000 over the quarter.
- Employment grew across almost all sectors, led by gains in professional and business services, health care, transportation, construction, mining, and manufacturing. Employment in hospitality and leisure fell.



# Q3 2018 In Review: U.S. Economy

### **Consumer Confidence and Spending**

- Sentiment rose in Q3, as the Conference Board's Consumer Confidence Index increased from 126.4 at the end of June to 135.3 at the end of September.
- Personal consumption expenditures increased during the quarter.
- Consumer confidence improved as trade worries eased somewhat and the U.S. economic backdrop remained solid.



#### **Retail Sales**

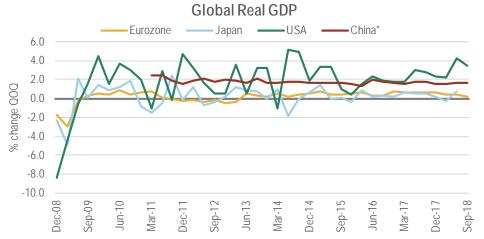
- Retail sales slowed in August\*, but ended the month up 6.1% from one year ago.
- The deceleration was largely due to fewer motor vehicle and clothing purchases.
- July retail sales data was revised upward, keeping expectations in place for strong results overall for Q3.



# Q3 2018 In Review: Global Economy

#### World GDP Growth

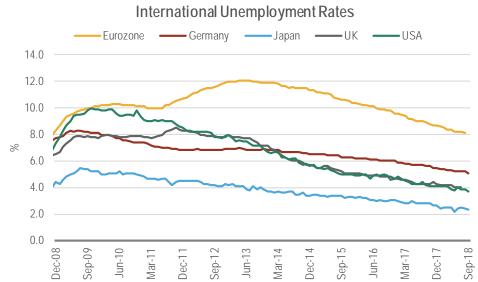
- Eurozone GDP growth slowed in Q3 to its weakest rate in four years amid worries about Italy's budget crisis and a strong USD. The Eurozone's annual growth rate fell to 1.7% in Q3.
- China's GDP growth declined by 0.2% quarter over quarter (QoQ) to 1.6%. The country's annual growth rate fell to 6.5%.
- Japan's GDP rose 0.74% QoQ in Q2\*\*. The Japanese economy's annual growth rate is 1%.



Note that the figures in the graph above represent the percent change in real GDP from the previous quarter, not the annual growth rate of these economies.

### **Global Employment Picture**

- Eurozone unemployment fell to 8.1% in August 2018\*\*, the region's lowest-recorded rate since November 2008. The Eurozone's recent economic strength has led to this reduction in unemployment, although economic momentum has slowed there this year.
- Japan's unemployment rate ticked down to 2.3% in September. While a bit higher than its earlier historic low of 2.2%, unemployment remained quite modest in Japan.



Source this page: FactSet

<sup>\*</sup>Quarter over quarter data calculations began in 2011.

<sup>\*\*</sup>Most recent data av ailable.

# Q3 2018 In Review: Global Equity Overview

Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	7.71	10.56	17.91	17.31	13.95	11.97
MSCI Europe, Australasia and Far East (EAFE)*	1.35	-1.43	2.74	9.23	4.42	5.38
MSCI Emerging Markets (EM)*	-1.09	-7.68	-0.81	12.36	3.61	5.40

All data in the table are percentages.

#### **Global Equity Performance and Valuations**

- U.S. equities outperformed international and emerging equity markets in Q3. Positive earnings momentum and supportive economic data in the U.S. helped to lift domestic equities despite uncertainty about global trade disputes. U.S. dollar strength was a headwind to international and emerging market equities.
- Over the 3-, 5-, and 10-year periods, U.S., non-U.S. developed, and emerging market equities are all in positive territory.
- The current P/E multiple for U.S. large cap is above median and its 10-year average, indicating it may be overvalued. U.S. small cap appears to be slightly overvalued compared to its median and longterm average multiple, while mid cap seems to be near fair value.
- The current MSCI EAFE P/E multiple is below its median and slightly above its 10-year average. As such, international equities appear to be close to fairly valued according to this measure.
- The MSCI EM P/E multiple at the end of Q3 was just north of its median and exactly at its 10-year average; therefore, emerging market equities look as if they are close to fair value by this measure.

#### **Price to Earnings** - Median o Current orward Price to Earnings (x) 30.0 27.2 24.1 25.0 20.6 19.9 20.0 \_\_\_\_ 14.4 15.0 10.0 12.6 11.1 10.3 9.4 8.3 5.0 0.0 S&P 500 S&P 400 S&P 600 MSCI EAFE MSCI EM High 199 27.2 24.1 20.6 14.4 10.3 11.1 12.6 9.4 8.3 Low Median 15.0 16.2 16.6 13.9 11.0 17.5 13.6 Current 16.8 16.3 11.2

17.0

Data range is from 12/31/99-9/30/18. P/E ratios are forward 12 months.

15.8

14.5

10-Year Av.

13.1

11.2

<sup>\*</sup> Net of dividends

# Q3 2018 In Review: U.S. Equity

U.S. Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	7.71	10.56	17.91	17.31	13.95	11.97
Russell 1000	7.42	10.49	17.76	17.07	13.67	12.09
Russell 1000 Growth	9.17	17.09	26.30	20.55	16.58	14.31
Russell 1000 Value	5.70	3.92	9.45	13.55	10.72	9.79
Russell 2000	3.58	11.51	15.24	17.12	11.07	11.11
Russell 2000 Growth	5.52	15.76	21.06	17.98	12.14	12.65
Russell 2000 Value	1.60	7.14	9.33	16.12	9.91	9.52
Russell 3000	7.12	10.57	17.58	17.07	13.46	12.01

All data in the tables are percentages.

#### **Performance**

- Strong corporate earnings and positive U.S. economic data continued to benefit U.S. equities in Q3.
- Large cap stocks outpaced small cap stocks during the quarter, a reversal from Q1 and Q2.
- Growth continued to outperform value over the short and long term.
- All sectors of the S&P 500 Index were positive in Q3, but Healthcare posted the strongest return. Energy and Materials' returns were muted due to uncertainty surrounding tariffs imposed by China.

S&P 500 Sector Returns	QTD	1-Year
Consumer Discretionary	8.07	32.00
Consumer Staples	5.45	2.02
Energy	0.40	12.95
Financials	4.21	8.14
Healthcare	14.38	17.76
Industrials	9.84	10.54
Information Technology	8.71	30.99
Materials	0.21	3.39
Telecommunications Services*	9.47	2.71
Utilities	2.12	1.85

<sup>\*</sup>At the end of September 2018, the Telecommunications Sector sector was renamed Communications Services and was expanded to include some companies from the Consumer Discretionary and Information Technology sectors. 8 Sources this page: Investment Metrics, FactSet

# Q3 2018 In Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	1.31	-1.50	2.67	9.32	4.24	5.18
EAFE	1.35	-1.43	2.74	9.23	4.42	5.38
EAFE Local Currency	2.36	1.38	5.09	9.38	7.87	6.70
Europe	0.80	-2.46	-0.30	7.71	3.70	4.85
Europe ex U.K.	1.77	-2.38	-1.49	8.33	4.33	4.76
U.K.	-1.66	-2.69	2.87	6.19	2.23	4.92
Pacific ex Japan	-0.55	-2.56	4.27	12.73	3.86	7.66
Japan	3.68	1.58	10.20	12.13	6.76	5.96

All data in the tables are percentages and net of dividends.

#### **Performance**

- International equity markets had a restrained third quarter, which was characterized by political uncertainty and trade issues.
- The U.K. equity market suffered as the outcome of Brexit remains cloudy. European financial stocks were subdued following a challenging Italian budget announcement and concerns over potential spillover of issues in emerging markets. Japan was the strongest major region, with exporters benefiting from a weaker yen.
- In a continuation of the trend we saw in Q2, many major currencies, including the euro, British pound, and Japanese yen, weakened against the U.S. dollar, which was a drag on USD-denominated returns.
- Sector returns were mixed in Q3. Healthcare posted a strong return, and Telecom also performed well. The Energy and Industrials sectors delivered returns in line with long-term averages. All other sectors were flat or negative, but the traditionally defensive Utilities sector fared the worst, as rising oil prices continued to drag on corporate profit margins.

MSCI EAFE Sector Returns	QTD	1-Year
Consumer Discretionary	-0.70	0.77
Consumer Staples	-0.55	-0.30
Energy	2.21	18.79
Financials	0.12	-8.05
Healthcare	5.20	4.31
Industrials	2.07	1.42
Information Technology	0.06	4.95
Materials	-0.52	2.55
Telecommunications Services	3.22	-7.71
Utilities	-1.40	-3.22

# Q3 2018 In Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	-1.09	-7.68	-0.81	12.36	3.61	5.40
EM Local Currency	-0.04	-2.86	2.65	12.18	7.26	7.72
Asia	-1.83	-6.79	1.00	13.50	6.74	8.23
EMEA	-1.63	-12.48	-2.22	6.26	-2.34	1.14
Latin America	4.77	-6.91	-9.09	13.67	-2.27	0.66

All data in the tables are percentages and net of dividends.

#### **Performance**

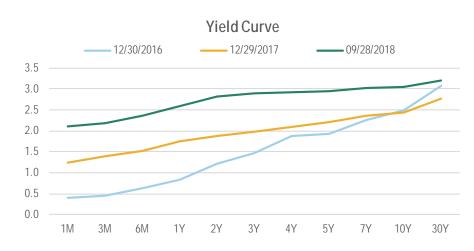
- Emerging market equities were volatile in Q3 and ultimately declined in the quarter.
- The EM Index gained in July, but fell in August and September, as Turkey and Argentina's economic and currency crises emerged and global tensions persisted, such as the ongoing trade disputes between the U.S. and China.
- Latin America was a bright spot for emerging markets, as Brazil and Mexico posted strong returns in Q3.
- U.S. dollar strength continued to be a headwind to returns. Though they
  were both negative, the EM local currency index finished the quarter
  1.05% ahead of the USD-based index.
- Sector returns were mixed in Q3. Energy posted the strongest gain and Consumer Discretionary registered the steepest loss.

MSCI EM Sector Returns	QTD	1-Year
Consumer Discretionary	-10.46	-14.91
Consumer Staples	-2.78	-2.09
Energy	14.30	26.35
Financials	1.31	-0.34
Healthcare	-7.15	10.01
Industrials	3.13	-4.54
Information Technology	-4.58	-0.96
Materials	4.07	7.71
Telecommunications Services	1.62	-8.97
Utilities	-1.90	-5.81

# Q3 2018 In Review: Fixed Income Overview

#### **Yield Curve**

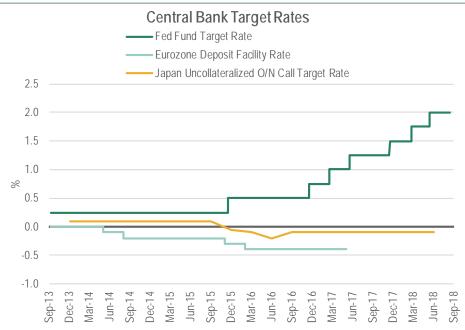
- Treasury yields rose across all maturities in Q3 as the Fed continued to tighten monetary policy.
- Global demand accentuated the yield curve's flattening trajectory, with long-term Treasury yields failing to rise at the same pace as short-term yields.
- The 30-year Treasury ended the quarter yielding 3.20%, 21 basis points (bps) higher than it was at the end of Q2, while the 2-year Treasury ended the quarter at 2.81%, which was 29 bps higher than the prior quarter.



### **Monetary Policies/Global Interest Rates**

- Central bank deposit rates remained negative in the Eurozone and Japan.
- The U.S. is the exception—the Federal Reserve (Fed) raised rates again in September, the third hike of 2018.
- The Fed indicated that a fourth rate hike is likely this year.

Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	5.72% (1971-2018)	1.28% (1999-2018)
Max	20.0% (Mar. 1980)	3.75% (Oct. 2000)
Min	0.25% (Dec. 2008)	-0.40% (Mar. 2016)



Source this page: FactSet

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### Q3 2018 In Review: U.S. Fixed Income

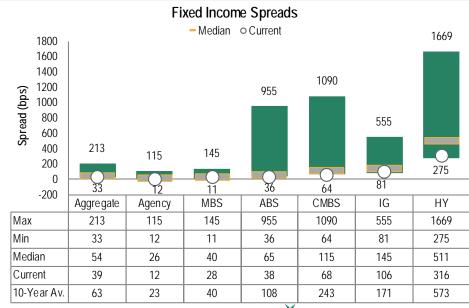
U.S. Fixed Income Indices*	QTD	YTD	1-Year	3-Year	5-Year	10-Year
U.S. Aggregate	0.02	-1.60	-1.22	1.31	2.16	3.77
Government/Credit	0.06	-1.85	-1.37	1.45	2.23	3.95
Government	-0.57	-1.62	-1.57	0.26	1.34	2.66
Investment Grade Corporate	0.97	-2.33	-1.19	3.12	3.54	6.35
Investment Grade CMBS	0.55	-0.63	-0.24	1.66	2.41	5.64
U.S. Corporate High Yield	2.40	2.57	3.05	8.15	5.54	9.46
FTSE** 3-Month T-Bill	0.50	1.29	1.57	0.80	0.49	0.32
Hueler Stable Value	0.56	1.63	2.15	1.94	1.85	2.29

<sup>\*</sup> Bloomberg Barclays Indices, unless otherwise noted.

All data in the table are percentages.

### **Performance and Spreads**

- The U.S. Aggregate Index was modestly positive in Q3.
   Performance was driven by the Investment Grade Corporate sector, where spreads fell 17 bps.
- High yield generated a 2.40% return in Q3 as interest rates rose while credit fundamentals remained strong.
- Domestic fixed income spreads are low by historical measures. Absent from current market conditions are some of the themes that would signal the end of a credit cycle (e.g., aggressive central bank rate hikes, economic deterioration, and rapidly rising debt levels), so the environment for credit remains positive despite elevated valuations.



<sup>\*\*</sup> Formerly Citigroup. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and will all be rebranded to FTSE by July 31, 2018. FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

### Q3 2018 In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Barclays Global Aggregate	-0.92	-2.36	-1.31	1.98	0.75	2.89
Bloomberg Barclays Global Aggregate (Hgd)	-0.05	0.02	0.83	2.36	3.13	4.07
FTSE Non-U.S. WGBI*	-2.19	-3.09	-1.57	2.39	-0.23	1.99
FTSE Non-U.S. WGBI (Hgd)	-0.55	1.17	2.29	2.97	3.98	4.08
JPM EMBI Global Diversified**	2.30	-3.04	-1.92	6.04	5.38	7.55
JPM GBI-EM Global Diversified***	-1.83	-8.15	-7.40	5.17	-1.68	2.70

All data in the table are percentages.

#### **Global Performance and Yields**

- Currency depreciation negatively impacted both developed and emerging market economies in Q3.
- In developed markets, the euro, British pound, and Japanese yen all depreciated relative to the U.S. dollar. In emerging markets, steep currency depreciation occurred in Turkey, South Africa and Argentina.
- The European Central Bank announced it will likely end its quantitative easing program in December and it will taper down asset purchases from €30 billion to €15 billion per month in Q4. The BOJ made a few changes to policy to make its stimulus program more flexible, causing the 10-year Japanese government bond to break 10 bps for the first time in over 2 years.

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<sup>\*</sup> Formerly Citigroup. The FTSE Non-U.S. World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment grade sovereign bonds excluding the U.S.

<sup>\*\*</sup> The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

<sup>\*\*\*</sup> The JP Morgan Government Bond Index – Emerging Markets (GBI-EM) Global Diversified index measures government bonds in local currencies.

# Q3 2018 In Review: Absolute Return Strategies

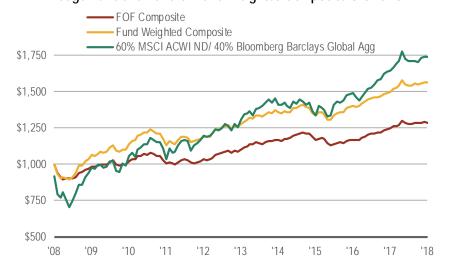
HFRI Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Fund of Funds Composite	0.27	0.99	3.08	3.29	3.18	2.55
Fund Weighted Composite	0.55	1.37	3.98	5.34	4.11	4.56
Event Driven	0.78	2.79	4.76	6.79	4.35	5.58
Equity Hedge	0.48	1.66	5.07	7.31	5.09	5.16
Macro	-0.03	-1.82	0.54	0.41	1.48	1.64
Emerging Markets	-3.19	-6.78	-3.19	6.75	3.05	3.69
Relative Value	1.31	2.99	4.09	5.16	4.36	6.01

All data in the table are percentages. Returns for periods greater than one year are annualized.

#### **Hedge Fund Performance**

- The HFRI Fund Weighted Composite gained 0.6%. Strong performance from Technology and Event-Driven strategies was somewhat offset by the volatility associated with trade and tariffs towards the end of Q3.
- Relative Value led all major hedge fund strategies during the quarter. Yield alternatives gained in areas such as MLPs and REITS due to their floating rate dividends and low-duration nature.
- Emerging Markets' performance was negative in Q3. Currency declines and fears of a spillover from the crisis in Turkey, as well underperformance by Asian stocks due to ongoing U.S.-China trade uncertainties, contributed to the losses.
- The Fund Weighted and Fund of Funds Composite indices gained during Q3 but underperformed the 60/40 Balanced MSCI ACWI\*/Bloomberg Barclays Global Aggregate index, which increased 2.3% during the quarter.

#### HFR Hedge Fund and Fund of Fund Weighted Composite Growth of



# Q3 2018 In Review: Private Equity

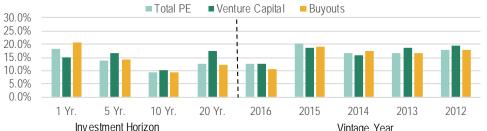
#### **Performance**

- The total return for private equity funds, comprising performance across all regions and strategies, was 3.0% in Q1 2018\* and 18.3% over the 1-year period ending Q1.
- The 3-, 5- and 20-year returns for private equity funds were 12.4%, 14.0% and 12.6%, respectively, at the end of Q1. The 10-year return of 9.5% was lower than other time periods due to the impact of the Global Financial Crisis.
- All funds from recent vintage years are performing in line with our longer-term expectations for private equity.

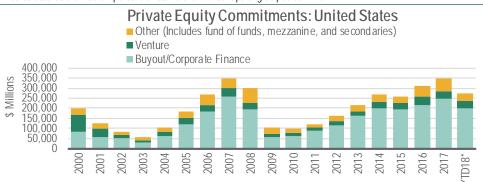
### Fundraising

- U.S. private equity funds raised approximately \$275.5 billion across 864 funds through September 17, 2018\*.
- With continued strong fundraising levels, the amount of private equity dry powder globally has exceeded \$1 trillion.
- Increasing competition for high quality assets has driven up purchase price multiples causing private equity funds to be more selective when putting capital to work. This is one explanation for the record growth in dry powder.

# Private Equity Performance by Investment Horizon and Vintage Year: All Regions



Investment Horizon Vintage Year "Vintage year" refers to the first year that capital was committed in a particular fund. Vintage-year performance is calculated as the median percentile returns of all funds reporting as pooled IRRs.



#### **Exit Activity**

- There were 1,066 private equity-backed exit deals completed during the first three quarters of 2018, on par with the same period last year. Aggregate deal value, however, increased significantly to \$43.9 billion from \$25.6 billion over the same period in 2017, largely due to a few major IPOs and M&A deals in China and the United States.
- The largest IPO in this quarter, Chinese tech company Meituan-Dianping, made a strong stock market debut in September raising \$4.2 billion from investors. The newly issued shares were priced near the top of its target range.

#### Private Equity Exit: All Regions Number of Deals 500,000 3,000 400,000 \$ Millions Number of Deals 2,000 300,000 200,000 100,000 2010 2011 2012 2013 2014

\*\*Segal Marco Advisors

\*The most recent data available. \*\*Dry powder is capital raised that hasn't yet been invested. Sources this page: Thomson Reuters, *Private Equity Analyst*, Preqin

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### Q3 2018 In Review: Real Estate

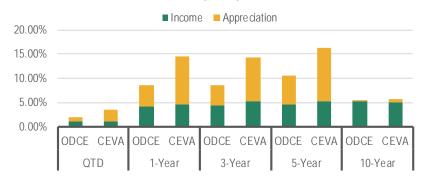
#### **Real Estate Performance**

- Comparing the most recent performance of core real estate, as measured by the NFI-ODCE index (Q3 2018), and value add real estate, as measured by the CEVA index (Q2 2018), the CEVA outperformed the ODCE by 149 bps. Most of the CEVA's outperformance came from the appreciation component of the return.
- Income for both ODCE and CEVA remains in lock step, with both experiencing minimal decreases QoQ. Appreciation's contribution to returns increased by 100 bps for CEVA with only a 5 bps increase in the ODCE.
- The CEVA Index continued to outperform the ODCE over the QTD, 1, 3, 5, and 10-year rolling periods, on a gross basis. However, over the same trailing periods, the CEVA has a much wider gross/net return spread relative to the ODCE, with a median spread of 2.83%.
- On an equal-weighted basis for Q3 2018, the CEVA gross/net returns are 2.55%/2.06% relative to the ODCE's 2.09%/1.88%.

#### Real Estate Capitalization Rates vs. Treasuries

- Prime assets have seen strong capital flow, which has kept investment values generally stable. However, there are concerns that values may have peaked or are even poised to decline after significant appreciation and due to higher interest rates. Lower quality assets are at the greatest risk of price declines.
- Prevailing cap rates\* have been buoyed by historically wide spreads versus financing costs and persistent demand for real estate.
- Further compounding the cap rate spread issue, there is a record level of capital available to invest in real estate.

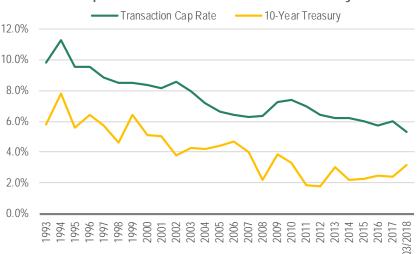
# NCREIF Fund Index (NFI) Open-End Diversified Core (ODCE) and Closed End Value-Add (CEVA) Real Estate Performance



The NFI-ODCE (Open-end Diversified Core Equity) is defined by NCREIF as a fund-level cap-weighted, gross of fee, time-weighted returnindex with an inception date of December 31, 1977.

The NFI-CEVA Index, which is a quarter lagged in performance reporting, is defined by NCREIF as a capitalization-weighted, gross of fees, time-weighted return index. Funds included in the index must be closed-end with a value-add strategy operated for U.S. institutional investors and must comply with NCREIF's data collection and reporting standards.

#### Capitalization Rates & 10-Year U.S. Treasury



\*A cap rate is the potential rate of return on a real estate investment. Assuming no change in net operating income, real estate valuations rise when cap rates fall. Comparing cap rates to the 10-year U.S. Treasury provides investors with an estimated spread for expected returns from real estate (higher risk) vs. fixed rate bond (lower risk) investments. Sources this page: NCREIF, Bloomberg

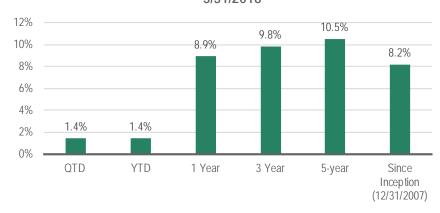


### Q3 2018 In Review: Infrastructure

#### Infrastructure Performance

- Private infrastructure gained 1.4% in Q1 2018\*. The 1-year return is in line with private infrastructure's annual return expectations.
- The 1-, 3-, and 5-year results exceeded the since-inception return, indicating the asset class has recovered well from the global financial crisis. Private infrastructure started off 2018 with returns below expectations, partly because the number of deals dropped from a historic high of 942 in Q4 2017 to 695 in Q1 2018.
- Public infrastructure rose 0.70% in Q3 2018, as per the FTSE Global Infrastructure 50/50 Index. The Communications and Utilities sectors gained, while Transportation and Energy declined.

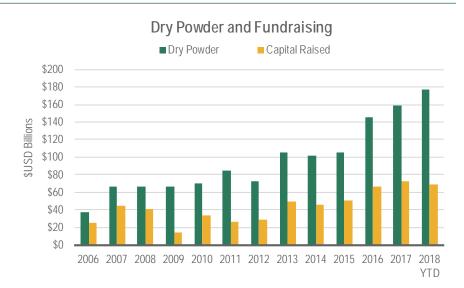
# Preqin Infrastructure Annualized Return as of 3/31/2018\*



According to Preqin, the Preqin Infrastructure Index captures the average returns earned by investors in their infrastructure portfolios, based on the actual amount of money invested. The Preqin Infrastructure index is calculated on a quarterly basis using data from Preqin's Infrastructure Online services.

#### **Dry Powder and Fundraising**

- Infrastructure fundraising in Q3 2018 soared to a record high of \$37.9 billion. The previous record was \$31.6 billion in Q1 2017.
   The average fund size on a quarterly basis also hit a high of \$1.9 billion in Q3 2018 relative to the average quarterly fund size of \$832.1 million.
- Dry powder\*\* increased slightly in Q3 amid strong fundraising globally. Funds raised \$37.9 billion during the quarter and dry powder increased by \$2 billion.
- The average deal size increased from \$334.9 million in 2017 to \$395.8 million in 2018, which helped managers deploy more capital and keep dry powder growth in check. Despite this, dry powder still stands at \$177 billion YTD.





<sup>\*</sup>The most recent data available.

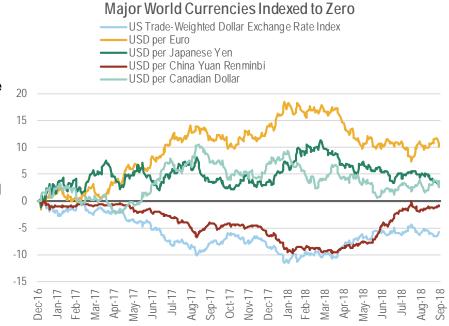
<sup>\*\*</sup>Dry powder is capital raised that hasn't yet been invested.
Sources this page: Pregin

### Q3 2018 In Review: Commodities and Currencies

BCOMIndices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Commodity Index (BCOM)	-2.02	-2.03	2.59	-0.11	-7.18	-6.24
Energy	4.39	17.63	28.13	0.39	-12.72	-16.06
Agriculture	-5.45	-10.92	-12.71	-7.50	-10.03	-4.54
Industrial Metals	-6.88	-11.82	-2.36	7.87	-1.35	-2.75
Precious Metals	-6.00	-10.66	-8.83	1.02	-4.16	2.25
Livestock	2.88	-2.38	0.85	-1.83	-2.70	-4.48

### **Commodity and Currency Highlights**

- The Bloomberg Commodity Index fell during Q3 with mixed performance across the underlying sectors.
- The Energy sector was the top performer. The price of crude oil and petroleum products increased, while inventories dropped due to OPEC's decision not to increase production and the first round of U.S. sanctions on Iran took effect.
- Industrial Metals fell as a result of global trade disputes. The
  prospects of higher tariffs and weakening demand from China
  contributed to declines in nickel, lead, zinc and copper. Precious
  Metals lost ground due to a strong U.S. economy and the Federal
  Reserve raising short-term interest rates, as higher interest rates
  lessen the appeal of holding gold and silver.
- The U.S. dollar continued to strengthen in Q3, though not at the pace it did during Q2.
- The euro stabilized in Q3 as trade tensions between the U.S. and Eurozone eased.

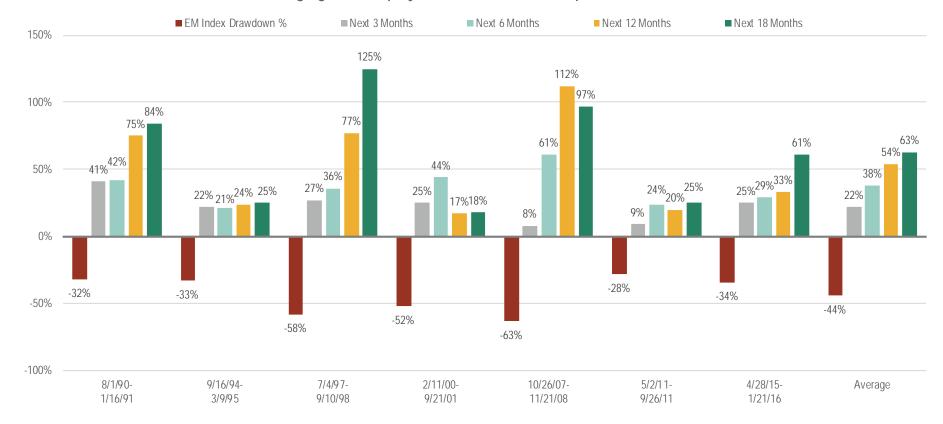


# **Q3 2018 In Review: Noteworthy Developments**

#### **Emerging Market Equity - Rebounds After Drawdowns**

- Emerging market equity returns have been extremely volatile over the last 30 years, but most major declines have been followed by recoveries that have often been nearly as robust as the declines were precipitous.
- The message with EME, therefore, is clear patience seems to be rewarded over time, but investors with sensitivity to extremes should be aware of that requirement.

#### Emerging Market Equity Bear Markets and Subsequent Performance



# **Q3 2018 In Review: Noteworthy Developments**

#### Revised Life Expectancy's Impact on Plans

- A Bloomberg study measured the health care efficiency of almost 200 economies, using average lifespan, determining medical costs both as a percentage of income and in absolute dollars.
- Americans' life expectancy declined for the second year in a row. Per the CDC, deaths from drug overdoses, chronic liver disease, suicide, Alzheimer's and blood infections have all gone up, resulting in a shortened average life span.
- Impact on pension plans: Lower life expectancy results in higher mortality tables, which reduces pension liabilities.
- The Society of Actuaries (SOA) annually updates the mortality improvement scale for pension plans. For 2017 and 2018 (which reflects age-adjusted U.S. population mortality rates for 2014-15 and 2015-16, respectively), the mortality rates suggest that life expectancies declined slightly each year. Declines two years in a row are rare the last time life expectancy fell two years in a row, was 1962-63:
  - The 2017 study suggests the new rates could reduce a pension plan's obligations by 0.7% to 1.0% (using a 4% discount rate).
  - The 2018 study suggests the new rates could reduce a pension plan's obligations by 0.3% to 0.5% (using a 4% discount rate).

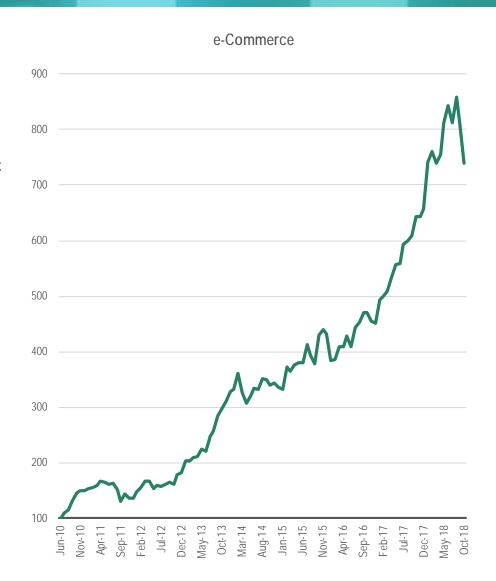
#### Bloomberg Health Care Efficiency

Rank	Rank 1 Year Ago	Change	Economy	Efficiency Score	Life Expectancy	Relative Cost %	Absolute Cost\$
1	1	-	Hong Kong	87.3	84.3	5.7	2,222
2	2	-	Singapore	85.6	82.7	4.3	2,280
3	3	-	Spain	69.3	82.8	9.2	2,354
4	6	+2	Italy	67.6	82.5	9.0	2,700
5	4	-1	South Korea	67.4	82.0	7.4	2,013
6	7	+1	Israel	67.0	82.1	7.4	2,756
7	5	-2	Japan	64.3	83.8	10.9	3,733
8	10	2	Australia	62.0	82.4	9.4	4,934
54	50	-4	U.S.	29.6	78.7	16.8	9,536

# **Q3 2018 In Review: Noteworthy Developments**

#### Is e-Commerce in Bubble Territory?

- The Dow Jones Internet Commerce Index, which measures the 15 biggest and most actively traded e-commerce stocks (chart at right), is up more than 8x since June 2010 and may now be in bubble territory.
- Increased central bank liquidity, i.e. easier access to credit, could be creating an environment for an asset price bubble. Also, the free cash flow yield of the Internet Commerce Index is lower than that of the tech sector in the late 90s (dot-com bubble), making e-Commerce valuations appear frothy in comparison.
- On the other hand, the digital era has fostered business models that lower marginal costs. Many digital technologies are scalable, in that they can be replicated at low or no cost, which is beneficial for the company and, ultimately, the consumer. Improved and less expensive AI capabilities could translate into more product sales, higher subscription premiums or better-focused advertising for internet companies.
- As outlined above, there are points and counterpoints to the question of whether e-Commerce is in a valuation bubble.
   But it seems likely that investors will see changes to the top players in e-Commerce as technology continues to evolve and digital disruptions keep occurring.



#### **Annual Asset Class Performance**

As of September 30, 2018 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 **YTD** 2015 2016 2017 31.47 34.54 35.93 39.78 5.24 79.02 29.09 13.56 18.64 43.30 30.38 5.67 31.74 37.75 17.09 **Best** 25.95 14.02 32.59 11.81 1.80 58.21 28.47 8.68 18.53 38.82 13.45 2.52 21.31 30.21 15.76 26.86 18.05 13.24 22.25 12.11 11.63 -2.3537.21 26.85 8.46 34.52 1.23 17.34 25.62 11.51 23.48 34.47 24.50 7.84 20.70 10.74 11.63 -10.9117.90 33.48 13.05 0.92 17.13 22.17 10.49 7.05 22.25 7.05 -20.30 19.20 4.98 17.78 33.11 5.97 12.05 7.14 18.33 32.46 0.65 21.69 16.49 6.27 18.37 6.97 -26.16 28.61 16.71 2.64 17.51 32.53 5.60 0.55 11.60 3.92 14.65 2.57 11.32 14.31 5.66 15.46 6.28 -28.92 28.43 16.10 1.50 16.42 23.29 5.53 0.03 13.66 13.35 11.75 5.26 5.77 -33.79 15.51 0.39 16.35 7.90 4.89 -0.39 2.30 28.19 10.19 9.32 4.71 11.86 4.74 15.81 4.22 11.40 -36.85 27.17 15.12 0.06 7.44 -1.38 8.60 7.84 1.98 1.87 7.50 11.14 4.55 9.86 -37.6024.67 13.16 -2.4415.26 2.47 3.64 -1.44 7.08 1.29 4.15 1.81 12.06 14.59 -3.83 8.46 9.07 -37.98 20.58 -2.910.06 3.40 6.36 5.07 -0.84 2.45 8.20 3.01 8.99 -0.17 -38.44 19.69 8.21 -4.18 8.18 -2.02 -4.41 4.68 4.09 -0.98 6.30 2.84 4.76 -1.57 -38.54 11.41 6.54 -5.50 6.98 -2.270.02 -4.47 2.65 3.54 -1.60 4.34 2.74 4.34 -9.78 -43.06 5.93 6.31 4.21 -6.58 -1.82 -7.47 -11.731.51 3.01 -3.46Worst 2.43 1.24 0.49 -16.81 -53.18 0.16 0.10 -18.170.09 -8.61 -4.48 -14.60 0.27 0.84 -7.39Russell **MSCI JPM** HFRI RV: Russell Russell Russell Blmbg. Russell Russell **MSCI MSCI** Blmbg. FTSE 3 1000 1000 2000 **Emerging** Barc. U.S. **EMBI** Multi-2000 Barclays U.S. REIT 1000 Barc. U.S. Month T-2000 **EAFE** Strategy Markets Value Growth Value Growth Agg. Corp: Global **TIPS** Index Index Bill Index Index Index Index Index Index Index High Yield (USD) Index

# Administrative Review

### **Executive Summary as of September 30, 2018**

### **Deferred Compensation Total Assets**

> Plan assets in the 457 Plan totaled to **\$833.7 million** as of September 30, 2018. This represented an increase of **\$22.2 million**, during the third quarter of 2018.

0	Total	\$873,356,226
0	FICA Alternative Plans	\$39,703,674
0	Political Sub-Divisions	\$188,724,741
0	NSHE	\$64,404,528
0	State 457	\$580,523,283

- > As of September 30, 2018, the Plan's Total Number of Loans Outstanding is **513.** The Plan's Outstanding Loan Balance is **\$3,779,481.77.**
- > The largest amount of Plan assets, are invested in the Stable Value Funds representing \$315.8 million, or 37.9%, in the Voya Fixed Account. The next largest fund allocations among the Plan are: 11.5% in the Vanguard Institutional Index Fund; 7.8% in the T. Rowe Price Growth Stock Fund I; 6.9% in the Hartford Mid Cap HLS Fund; and, 4.6% in the Vanguard Target Date 2035 Fund.
- > Target date funds' assets totaled \$158.2 million and accounted for approximately 19.0% of Total Plan assets.
- > As of September 30, 2018, the projected total annual funding requirements is \$806,247 based on 8 basis points fee on the variable assets (\$412,063) per the VOYA contract and the Plan administration budget of \$394,184. The fee model revenue is projected at \$814,483 derived from the 8 basis points from the VOYA contract and the \$30 per participant charge. The projected revenue includes only the participant account with balances over \$1,000. At September 30, 2018, the projected revenue would be over the funding requirement by \$8,236.

### T. Rowe Price Growth Stock Fund

- > The T. Rower Price Growth Fund underperformed the Russell 1000 Growth Index in the third quarter (4.89% vs. 9.17%) peer ranking 96.
- > The underperformance was driven by underweight positions in the information Technology and Consumer Staples sectors.
- > Stock selection in Consumer Discretionary and Consumer Staples also contributed to the underperformance.
- > An underweight position in the Energy sector was a slight offset to the underperformance for the quarter.

### **Oppenheimer Main Street Mid Cap**

- > The Oppenheimer Main Street Mid Cap Fund underperformed the Russell Mid-Cap Index in the third quarter (3.35% vs. 5.00%) peer ranking 66.
- > During the quarter, the underperformance during the quarter was mainly driven by stock selection within the Information
- > Technology, Consumer Discretionary, and Energy sectors.
- > The primary contributors to positive relative performance during the third quarter included Spirit Airlines, First Data, and WellCare.
- > The primary negative contributors to relative performance included Noble Energy, Visteon, and Eastman Chemical.

### Goldman Sachs Small/Mid Cap Growth

- > The Goldman Sachs Small/Mid Cap Growth underperformed the Russell 2500 Growth Index over the third quarter (7.12% vs. 7.17%) and has underperformed the index over the 1-year period (20.53% vs. 23.13%).
- > Stock selection in the Health Care and Financials sectors detracted from relative returns.
- > At an individual stock level, , InterActiveCorp and John Bean Technologies Corp. were the two contributors to relative returns, while Summit Materials, Inc. and Marvell Technology Group Ltd we the largest detractors to performance.

### Franklin Mutual Global Discovery

- > The Franklin Mutual Global Discovery Fund underperformed the MSCI AC World Index (net) over the third quarter (3.48% vs. 4.28%) and had a peer ranking of 62. The fund also underperformed the MSCI World Value index for the quarter (3.48% vs 4.05%). Year-to-date the fund is outperforming the MSCI World Value index (1.82% vs 0.53%).
- > During the quarter, the fund's largest detractors from absolute performance included General Electric Company, Societe Renesas Electronics Corporation and General Motors Company.
- > The three leading contributors were Eli Lilly and Company, Medtronic plc and Merck & Co., Inc.

### **Dodge & Cox International Stock**

- > The Dodge & Cox International Stock Fund outperformed the MSCI AC World Index (net) in the third quarter (0.81% vs. 0.71%) and had a peer ranking of 40. The fund also underperformed the MSCI EAFE (Net) index for the quarter (0.81 vs 1.35%). The fund has underperformed both indexes over the rolling 3- and 5-year periods as well.
- > The key detractors from performance during the quarter were the results from the funds emerging markets holdings in general and the Financial sector holding across Europe and the UK.
- > Strong stock selection the Information Technology sector add to performance as well as stock selection in the Financials sector in the emerging markets.

### Nevada Public Employees' Deferred Compensation Plan Current Investment Structure

Voya

STYLE

	•	Value	Blend	Growth
	Large	MFS Value Fund	Vanguard Institutional Index (passive)	T. Rowe Price Growth Stock
ATION	Medium	Vanguard Mid-Cap Value Index	Hartford Mid Cap HLS	
CAPITALIZATION	SMID		Vanguard Extended Market Index (passive) Oppenheimer Main Street Mid Cap	Goldman Sachs Small/Mid Cap Growth

Fixed Income/Stable Value	International Equity	Target Date/Lifecycle Funds
Voya Fixed Account	Vanguard Developed Markets Index (passive)	Vanguard Target Retirement Income I
		Vanguard Target Retirement 2015 I
		Vanguard Target Retirement 2020 I
		Vanguard Target Retirement 2025 I
		Vanguard Target Retirement 2030 I
		Vanguard Target Retirement 2035 I
Fixed Income/Bond	International Eq (w/ Emerging Markets exposure)	Vanguard Target Retirement 2040 I
Vanguard Total Bond Market Index	Dodge & Cox International Stock	Vanguard Target Retirement 2045 I
		Vanguard Target Retirement 2050 I
		Vanguard Target Retirement 2055 I
		Vanguard Target Retirement 2060 I
	Global Equity	Vanguard Target Retirement 2065 I
	Franklin Mutual Global Discovery A	
		Self Directed Brokerage
		TD Ameritrade SDBA

### State of Nevada Deferred Compensation Plan Line-Up

Plan Review - Investment Options Array

Tier I - A:	sset Allocation	1					
	e/Lifecycle Funds	1					
Vanguard Targe	t Retirement Income I						
Vanguard Targ							
Vanguard Targ							
Vanguard Targ	Vanguard Target Retirement 2025 I						
Vanguard Targ	get Retirement 2030 I						
	get Retirement 2035 I						
	get Retirement 2040 I						
	get Retirement 2045 I						
Vanguard Targ	get Retirement 2050 I						
Vanguard Targ	get Retirement 2055 I						
Vanguard Targ	get Retirement 2060 I						
Vanguard Targ	get Retirement 2065 I						
Tier II- Passive Core (index options)	Tier II - Active Core						
Tier in Tussive core (mack options)	Stable Value						
	Voya Fixed Account						
Core Fixed Income	Voya i incu recount						
Vanguard Total Bond Market Index							
varigual a Total Bolla Warket Mack							
	Large Cap Value						
	MFS Value Fund						
	IVIF3 Value Fullu						
Large Can Bland							
Large Cap Blend							
Vanguard Institutional Index	Lawre Con Crowth						
	Large Cap Growth						
	T.Rowe Price Growth Stock						
Add Con Blood	said Con Diond						
Mid Cap Blend	Mid Cap Blend						
Vanguard Mid Cap Value Index	Hartford Mid Cap HLS						
CAMP Care Plant I Com II Contil Co.	CAMP Con Plant (C. H.C. St. L.C.)						
SMID Cap Blend (Small & Mid Cap)	SMID Cap Blend (Small & Mid Cap)						
Vanguard Extended Market Index I	Oppenheimer Main Street Mid Cap						
	SMID Cap Growth						
	Goldman Sachs Small/Mid Cap Growth						
International Equity	International Equity (w/Emerging Markets)						
Vanguard Developed Markets Index Adm	Dodge & Cox International Stock						
Tion	II- Specialty						
lier II	n-specialty	•					
		Aggressive					
·	<u>bal Equity</u>	SSi					
Franklin M	utual Discovery Z	Į į					
·	cted Brokerage	ğ					
TD A	Ameritrade	Αξ					

### State of Nevada Deferred Compensation Plan Line-Up

Plan Review - Investment Options Array

	Tier I: Asset Allocation	Tier II (A): Passive Core (index options)	Tier II(B): Active Core	Tier III: (Specialty
CONSERVATIVE			Stable Value	
			Voya Fixed Account	
		Core Fixed Income		
		Vanguard Total Bond Market Index		
	Target Date/Lifecycle Funds			
	Vanguard Target Retirement Funds			
			<u>Large Cap Value</u>	
			MFS Value Fund	
		Large Cap Blend		
		Vanguard Institutional Index		
			<u>Large Cap Growth</u> T.Rowe Price Growth Stock	
			1.Rowe Price Growth Stock	
		Mid Cap Blend	Mid Cap Blend	
		Vanguard Mid Cap Value Index	Hartford Mid Cap HLS	
		SMID Cap Blend (Small & Mid Cap)	SMID Cap Blend (Small & Mid Cap)	
		Vanguard Extended Market Index I	Oppenheimer Main Street Mid Cap	
			SMID Cap Growth	
		International Equity	Goldman Sachs Small/Mid Cap Growth International Equity (w/Emerging Market)	Global Equity
		Vanguard Developed Markets Index I	Dodge & Cox International Stock	Franklin Mutual Discovery A
		,	<b>3</b>	Self-Directed Brokerage
<b>AGGRESSIVE</b>				TD Ameritrade

### **Current Watch List as of September 30, 2018**

<u>Fund</u>	Date Put on <u>Watchlist</u>	Date Removed <u>from Watchlist</u>	Current Reccomendations
Oppenheimer Main Street Mid Cap	December 31, 2016	Remain	5-year performance under benchmark and peer
Goldman Sachs Small/Mid Cap Growth	December 31, 2016	Remain	5-year performance under benchmark and peer
Franklin Mutual Global Discovery	June 30, 2017	Remain	5-year performance under benchmark and peer recommend either mapping to current funds or conduct search in 2019
Vanguard Developed Markets Index Instl	June 30, 2018	Remain	5-year performance under benchmark and peer by -36 bps Spliced Dev ex US Index
Dodge & Cox International Stock	June 30, 2018	Remain	5-year performance under benchmark and peer Fund Search Conducted
Vanguard Target Retirement 2020 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -23 bps
Vanguard Target Retirement 2025 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -24 bps
Vanguard Target Retirement 2030 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -24 bps
Vanguard Target Retirement 2035 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -24 bps
Vanguard Target Retirement 2040 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -30 bps
Vanguard Target Retirement 2045 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -26 bps
Vanguard Target Retirement 2050 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer by -27 bps
Vanguard Target Retirement 2055 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer -31 bps
Vanguard Target Retirement 2060 Instl	March 31, 2018	Remain	5-year performance under benchmark and peer -30 bps

#### Watch list criteria:

- Fund to out perform benchmak AND peer group for the 5-year period
   Index Fund underperform benchmark by more than 20bps

### Historical Watch List as of September 30, 2018

<u>Fund</u>	Date Put on Watch List	Date Removed from Watchlist	Prior Action				
Vanguard Developed Markets Index	June 30, 2017	March 31, 2018	Removed from watchlist				
Parnassus Equity Income	December 31, 2016	Dec. 21, 2017	This Fund was terminated and mapped over to the T. Rowe Price Growth Stock Fund				
American Fund Growth Fund R3	June 30, 2017	Dec. 21, 2017	This Fund was terminated and mapped over to the T. Rowe Price Growth Stock Fund				
Fidelity Contrafund	December 31, 2016	Dec. 21, 2017	This Fund was terminated and mapped over to the T. Rowe Price Growth Stock Fund				
Allianz NFJ Dividend Value (ING)	September 30, 2015	September 30, 2016	This Fund was terminated and mapped over to the MFS Value Fund				
Dodge & Cox International	June 30, 2016	December 31, 2016	Removed from watchlist				
Franklin Mutual Global Discovery (ING)	September 30, 2015	June 30, 2016	Removed from Watchlist				
American Funds Growth Fund of America (ING)	February 1, 2011	June 30, 2016	Removed from Watchlist				
Keeley Small Cap Value Fund (ING)	November 1, 2010	December 31, 2014	This Fund has been removed from the Plan as a result of the vendor consolidation to Voya.				
Hartford Small Company Fund HLS (Mass Mutual)	December 31, 2012	September 30, 2014	Removed from Watch List due to outperformance of the benchmark and median of the peer universe over the 5-year period, as well as outperformance of the median over the 3-year period.				
Victory Diversified Stock Fund (Mass Mutual)	March 31, 2013	December 31, 2014	This Fund has been removed from the Plan as a result of the vendor consolidation to Voya.				
Oppenheimer Main St Small & Mid Cap Fund (Mass Mutual)	March 31, 2013	September 30, 2014	Removed from Watch List due to strong recent and long term performance.				
American Funds Capital World Growth & Income (ING)	September 30, 2013	December 31, 2014	This Fund has been removed from the Plan as a result of the vendor consolidation to Voya.				
Lord Abbett Value Opportunities Fund (MM & ING)	December 31, 2013	December 31, 2014	This Fund has been removed from the Plan as a result of the vendor consolidation to Voya.				
Columbia Acorn Fund (ING)	December 31, 2013	December 31, 2014	This Fund has been removed from the Plan as a result of the vendor consolidation to Voya.				
Hartford MidCap HLS (Mass Mutual)	February 1, 2011	September 30, 2014	Removed from Watchlist.				
Lazard US Mid Cap Equity Fund (ING)	May 1, 2008	March 31, 2013	Fund terminated at the 6/30/2012 review period. Assets were mapped to the Hartford Mid Cap HLS Fund.				
Munder Mid Cap Core Growth Fund (Mass Mutual)	November 1, 2010	September 30, 2014	This fund will be removed from the Plan as a result of the vendor consolidation to Voya.				
Mutual Global Discovery(Mass Mutual)	February 1, 2010	September 30, 2014	Removed from Watchlist.				
Hartford General Account	March 1, 2012	September 30, 2014	This Fund has been removed from the Plan as a result of the vendor consolidation to Voya.				

#### Fee Level Model Analysis for Total Plan As of September 30, 2018

			Plan Assets	Mutual Fund	utual Fund Total Expense	Revenue Sharing	Revenue	Net Mutual Fund Total Expense	Fu	et Mutual und Total Expense	Fee level for all variable		sset Fee		
Fund Name	Ticker	Asset Class	09/30/2018	Expense Ratio	Ratio \$	to Participants	Sharing \$	Ratio		Ratio \$	Participants	A	level	Tot	tal Cost
Voya Fixed Account	n/a	Stable Value	\$ 315,814,895	0.00%	\$ -	0.00%	\$ -	0.00%	\$	-	0.00%	\$	-	\$	-
Vanguard Total Bond Market Index I	VBTIX	Core Fixed Income	\$ 17,588,977	0.04%	\$ 7,036	0.00%	\$ -	0.04%	\$	7,036	0.08%	\$	14,071	\$	21,107
Vanguard Institutional Index I	VINIX	Large Cap Core (passive)	\$ 95,535,895	0.04%	\$ 38,214	0.00%	\$ -	0.04%	\$	38,214	0.08%	\$	76,429	\$	114,643
MFS Value Fund R4	MEIJX	Large Cap Value	\$ 18,083,712	0.59%	\$ 106,694	0.15%	\$ 27,126	0.44%	\$	79,568	0.08%	\$	14,467	\$	94,035
T Rowe Price Growth Stock Fund I	PRUFX	Large Cap Growth	\$ 65,008,861	0.52%	\$ 338,046	0.00%	\$ -	0.52%	\$	338,046	0.08%	\$	52,007	\$	390,053
Hartford Mid Cap HLS IA	HIMCX	Mid Cap Blend	\$ 57,243,078	0.70%	\$ 400,702	0.05%	\$ 28,622	0.65%	\$	372,080	0.08%	\$	45,794	\$	417,874
Vanguard Mid-Cap Value	VMVAX	Mid Cap Value	\$ 2,079,072	0.07%	\$ 1,455	0.00%	\$ -	0.07%	\$	1,455	0.08%	\$	1,663	\$	3,119
Oppenheimer Main Street Mid Cap Fund	OPMYX	SMID Blend	\$ 26,358,496	0.86%	\$ 226,683	0.25%	\$ 65,896	0.61%	\$	160,787	0.08%	\$	21,087	\$	181,874
Vanguard Extended Market Idx I	VIEIX	SMID Blend	\$ 25,228,639	0.06%	\$ 15,137	0.00%	\$ -	0.06%	\$	15,137	0.08%	\$	20,183	\$	35,320
Goldman Sachs Small/Mid Cap Growth	GSMAX	SMID Growth	\$ 14,777,194	1.27%	\$ 187,670	0.55%	\$ 81,275	0.72%	\$	106,396	0.08%	\$	11,822	\$	118,218
Vanguard Developed Markets Index Instl	VTMNX	International Equity	\$ 16,698,749	0.06%	\$ 10,019	0.00%	\$ -	0.06%	\$	10,019	0.08%	\$	13,359	\$	23,378
Dodge & Cox International Stock	DODFX	International Equity w/EM	\$ 6,034,481	0.63%	\$ 38,017	0.10%	\$ 6,034	0.53%	\$	31,983	0.08%	\$	4,828	\$	36,810
Franklin Mutual Global Discovery Fund	TEDIX	Global Equity	\$ 12,228,768	1.21%	\$ 147,968	0.55%	\$ 67,258	0.66%	\$	80,710	0.08%	\$	9,783	\$	90,493
Vanguard Institutional Target Retirement Income Instl	VITRX	Lifecycle	\$ 17,102,135	0.09%	\$ 15,392	0.00%	\$ -	0.09%	\$	15,392	0.08%	\$	13,682	\$	29,074
Vanguard Institutional Target Retirement 2015 Instl	VITVX	Lifecycle	\$ 31,546,302	0.09%	\$ 28,392	0.00%	\$ -	0.09%	\$	28,392	0.08%	\$	25,237	\$	53,629
Vanguard Institutional Target Retirement 2020 Instl	VITWX	Lifecycle	\$ 9,649,614	0.09%	\$ 8,685	0.00%	\$ -	0.09%	\$	8,685	0.08%	\$	7,720	\$	16,404
Vanguard Institutional Target Retirement 2025 Instl	VRIVX	Lifecycle	\$ 33,730,028	0.09%	\$ 30,357	0.00%	\$ -	0.09%	\$	30,357	0.08%	\$	26,984	\$	57,341
Vanguard Institutional Target Retirement 2030 Instl	VTTWX	Lifecycle	\$ 7,279,114	0.09%	\$ 6,551	0.00%	\$ -	0.09%	\$	6,551	0.08%	\$	5,823	\$	12,374
Vanguard Institutional Target Retirement 2035 Instl	VITFX	Lifecycle	\$ 38,243,251	0.09%	\$ 34,419	0.00%	\$ -	0.09%	\$	34,419	0.08%	\$	,	\$	65,014
Vanguard Institutional Target Retirement 2040 Instl	VIRSX	Lifecycle	\$ 2,778,135	0.09%	\$ 2,500	0.00%	\$ -	0.09%	\$	2,500	0.08%	\$	2,223	\$	4,723
Vanguard Institutional Target Retirement 2045 Instl	VITLX	Lifecycle	\$ 14,111,512	0.09%	\$ 12,700	0.00%	\$ -	0.09%	\$	12,700	0.08%	\$	11,289	\$	23,990
Vanguard Institutional Target Retirement 2050 Instl	VTRLX	Lifecycle	\$ 643,455	0.09%	\$ 579	0.00%	\$ -	0.09%	\$	579	0.08%	\$	515	\$	1,094
Vanguard Institutional Target Retirement 2055 Instl	VIVLX	Lifecycle	\$ 2,988,292	0.09%	\$ 2,689	0.00%	\$ -	0.09%	\$	2,689	0.08%	\$	2,391	\$	5,080
Vanguard Institutional Target Retirement 2060 Instl	VILVX	Lifecycle	\$ 77,773	0.09%	\$ 70	0.00%	\$ -	0.09%	\$	70	0.08%	\$	62	\$	132
Vanguard Institutional Target Retirement 2065 Instl	VSXFX	Lifecycle	\$ 60,567	0.09%	\$ 55	0.00%	\$ -	0.09%	\$	55	0.08%	\$	48	\$	103
TD Ameritrade SDBA	N/A	Brokerage account	\$ 2,761,556	0.00%	\$ -	0.00%	\$ -	0.00%	\$	-	0.00%	\$	-	\$	-
TOTALS		<del></del>	\$ 833,652,551		\$ 1,660,031		\$ 276,211		\$	1,383,821		\$	412,061	\$ 1	,795,881

All Funds	
Average Net Expense Ratio <sup>1</sup>	0.22%
Weighted Gross Average Variable Expense Ratio <sup>1</sup>	0.32%
Weighted Net Average Variable Expense Ratio <sup>1</sup>	0.27%
<sup>1</sup> Does not include Stable Value or TD Ameritrade	
Voya Contract Requirements: 0.08% on variable assets	\$ 412,061
Plan Administration Costs:	\$ 394,184
Total Funding Requirements	\$ 806,245
Voya Contract Requirements: 0.08% on variable assets \$30 per participant accounts (13,414)	\$ 412,061 402,420
Total Revenue	\$ 814,481

8,236

Estimated Excess Revenue Share (includes participants

less than \$1,000 account balances)

Number of participants with account balances: 13,414 \*\*

Explicit Asset Based Fee 8 basis points plus \$30/participant this illustration

Account Totals			
	Accounts	Accounts Less	
	Charged	Than \$1,000	Total Accounts
State	9,974	1,649	11,623
Pol Sub	742	127	869
NSHE	2,698	287	2,985
Total	13,414	2,063	15,477

 $<sup>^{\</sup>star\star}$  Does not include FICA participants or participants with account balanced below \$1,000 (2,063)

Plan Activity: Total All Plans July 1, 2018 through September 30, 2018

Funds	Beginning Balance July 1, 2018	Contributions	Interfund Ir Exchar		Withdrawals		Loan Repayments	Misc*	Fees*	Investment Gain/Loss (incl. Dividends)	Ending Balance September 30, 2018
Voya Fixed Account	\$ 317,335,124	\$ 2,820,384	\$	657,414	\$ (6,807,566	) \$	36,754	\$ -	\$ (216,686)	\$ 1,989,471	\$ 315,814,895
Vanguard Total Bond Market Index I	\$ 16,786,411	\$ 326,668	\$	882,846	\$ (407,645	) \$	5,121	\$ -	\$ (5,939)	\$ 1,514	\$ 17,588,977
MFS Value Fund R4	\$ 17,458,100	\$ 264,633	\$	(376,350)	\$ (256,948	\$	4,195	\$ -	\$ (5,744)	\$ 995,827	\$ 18,083,712
Vanguard Institutional Index I	\$ 88,832,820	\$ 1,468,394	\$	(141,105)	\$ (1,456,781	) \$	20,602	\$ -	\$ (28,668)	\$ 6,840,633	\$ 95,535,895
T. Rowe Price Growth Stock Fund I	\$ 61,201,946	\$ 1,000,834	\$	810,563	\$ (990,565	) \$	(7,222)	\$ -	\$ (19,644)	\$ 3,012,949	\$ 65,008,861
Hartford Mid Cap HLS IA	\$ 55,020,842	\$ 446,679	\$	(120,795)	\$ (622,039	) \$	(11,218)	\$ -	\$ (16,355)	\$ 2,545,965	\$ 57,243,078
Oppenheimer Main Street Mid Cap Fund	\$ 25,781,255	\$ 302,106	\$	(254,780)	\$ (327,730	) \$	(5,167)	\$ -	\$ (7,952)	\$ 870,764	\$ 26,358,496
Vanguard Mid-Cap Value Index Fund	\$ 1,981,815	\$ 84,455	\$	6,937	\$ (54,103	) \$	(3,359)	\$ -	\$ (1,018)	\$ 64,345	\$ 2,079,072
Vanguard Extended Market Idx I	\$ 23,377,615	\$ 701,421	\$	405,190	\$ (288,532	) \$	9,748	\$ -	\$ (7,739)	\$ 1,030,937	\$ 25,228,639
Goldman Sachs Small/Mid Cap Growth	\$ 13,616,677	\$ 189,082	\$	196,786	\$ (203,509	) \$	3,788	\$ -	\$ (4,370)	\$ 978,741	\$ 14,777,194
Vanguard Developed Markets Index Insti	\$ 16,544,502	\$ 496,967	\$	(252,643)	\$ (254,292	() \$	(12,450)	\$ -	\$ (5,600)	\$ 182,265	\$ 16,698,749
Dodge & Cox International Stock	\$ 6,225,709	\$ 134,034	\$	(287,481)	\$ (89,452	) \$	2,891	\$ -	\$ (1,895)	\$ 50,674	\$ 6,034,481
Franklin Mutual Global Discovery Fund A	\$ 12,077,961	\$ 173,857	\$	(207,395)	\$ (231,848	) \$	(4,257)	\$ -	\$ (3,736)	\$ 424,186	\$ 12,228,768
Vanguard Institutional Target Retirement Income Instl	\$ 17,085,333	\$ 168,613	\$	(84,311)	\$ (292,328	\$	12	\$ -	\$ (5,075)	\$ 229,891	\$ 17,102,135
Vanguard Institutional Target Retirement 2015 Instl	\$ 31,386,558	\$ 712,054	\$	(791,667)	\$ (316,736	) \$	(1,654)	\$ -	\$ (12,847)	\$ 570,594	\$ 31,546,302
Vanguard Institutional Target Retirement 2020 Instl	\$ 9,604,728	\$ 127,106	\$	(96,726)	\$ (214,855	) \$	2,005	\$ -	\$ (2,658)	\$ 230,015	\$ 9,649,614
Vanguard Institutional Target Retirement 2025 Insti	\$ 31,885,559	\$ 1,172,439	\$	43,776	\$ (230,878	) \$	(26,670)	\$ -	\$ (14,945)	\$ 900,748	\$ 33,730,028
Vanguard Institutional Target Retirement 2030 Instl	\$ 6,680,112	\$ 266,590	\$	177,121	\$ (51,208	) \$	(3,038)	\$ -	\$ (2,228)	\$ 211,765	\$ 7,279,114
Vanguard Institutional Target Retirement 2035 Instl	\$ 36,664,867	\$ 1,183,379	\$	(336,400)	\$ (531,772	\$	12,286	\$ -	\$ (19,452)	\$ 1,270,344	\$ 38,243,251
Vanguard Institutional Target Retirement 2040 Instl	\$ 2,425,782	\$ 148,446	\$	174,839	\$ (62,554	) \$	146	\$ -	\$ (1,036)	\$ 92,513	\$ 2,778,135
Vanguard Institutional Target Retirement 2045 Insti	\$ 13,621,480	\$ 797,346	\$	(499,368)	\$ (332,387	) \$	(11,189)	\$ -	\$ (11,424)	\$ 547,052	\$ 14,111,512
Vanguard Institutional Target Retirement 2050 Instl	\$ 493,276	\$ 94,072	\$	34,999	\$ (1,000	) \$	644	\$ -	\$ (300)	\$ 21,764	\$ 643,455
Vanguard Institutional Target Retirement 2055 Instl	\$ 2,541,491	\$ 219,458	\$	138,271	\$ (14,569	) \$	(691)	\$ -	\$ (2,128)	\$ 106,460	\$ 2,988,292
Vanguard Institutional Target Retirement 2060 Instl	\$ 51,867	\$ 24,718	\$	(1,277)	\$ -	\$	186	\$ -	\$ (41)	\$ 2,320	\$ 77,773
Vanguard Institutional Target Retirement 2065 Instl	\$ 28,392	\$ 16,209	\$	14,657	\$ -	\$	-	\$ -	\$ (30)	\$ 1,339	\$ 60,567
TD Ameritrade SDBA	\$ 2,773,981	\$ -	\$	(93,100)	\$ -	\$	-	\$ -	\$ -	\$ 80,674	\$ 2,761,556
Total	\$ 811,484,203	\$ 13,339,945	\$	0	\$ (14,039,295	) \$	11,463	\$ -	\$ (397,514)	\$ 23,253,748	\$ 833,652,551

<sup>\*</sup>Fees: \$ 189,513.75 Payment from Reimbursement Account to State

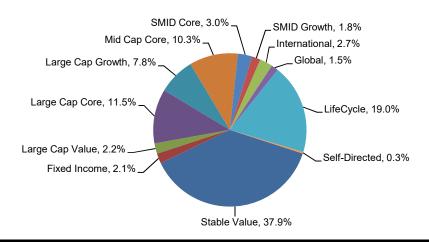
\$ 207,999.80 Loans; Admin Fees; Asset Based Fees; Morningstar Fees

\$ 397,513.55

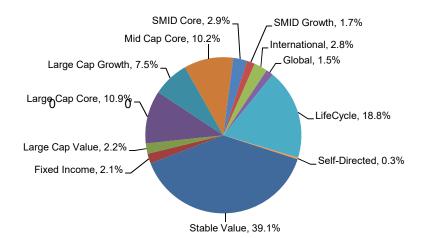
### **Asset Allocation Summary: Total All Plans**

	September 30, 2018				
Fund			Assets	% of Total Assets	
Voya Fixed Account		\$	315,814,895	37.9%	
Vanguard Total Bond Market Index I		\$	17,588,977	2.1%	
MFS Value Fund R4		\$	18,083,712	2.2%	
Vanguard Institutional Index I		\$	95,535,895	11.5%	
T. Rowe Price Growth Stock Fund I		\$	65,008,861	7.8%	
Hartford Mid Cap HLS IA		\$	57,243,078	6.9%	
Oppenheimer Main Street Mid Cap Fund		\$	26,358,496	3.2%	
Vanguard Mid-Cap Value Index Fund		\$	2,079,072	0.2%	
Vanguard Extended Market Idx I		\$	25,228,639	3.0%	
Goldman Sachs Small/Mid Cap Growth		\$	14,777,194	1.8%	
Vanguard Developed Markets Index Instl		\$	16,698,749	2.0%	
Dodge & Cox International Stock		\$	6,034,481	0.7%	
Franklin Mutual Global Discovery Fund A		\$	12,228,768	1.5%	
Vanguard Institutional Target Retirement Income Instl		\$	17,102,135	2.1%	
Vanguard Institutional Target Retirement 2015 Instl		\$	31,546,302	3.8%	
Vanguard Institutional Target Retirement 2020 Instl		\$	9,649,614	1.2%	
Vanguard Institutional Target Retirement 2025 Instl		\$	33,730,028	4.0%	
Vanguard Institutional Target Retirement 2030 Instl		\$	7,279,114	0.9%	
Vanguard Institutional Target Retirement 2035 Instl		\$	38,243,251	4.6%	
Vanguard Institutional Target Retirement 2040 Instl		\$	2,778,135	0.3%	
Vanguard Institutional Target Retirement 2045 Instl		\$	14,111,512	1.7%	
Vanguard Institutional Target Retirement 2050 Instl		\$	643,455	0.1%	
Vanguard Institutional Target Retirement 2055 Instl		\$	2,988,292	0.4%	
Vanguard Institutional Target Retirement 2060 Instl		\$	77,773	0.0%	
Vanguard Institutional Target Retirement 2065 Instl		\$	60,567	0.0%	
TD Ameritrade SDBA		\$	2,761,556	0.0%	
	Total	\$	833,652,551	99.7%	

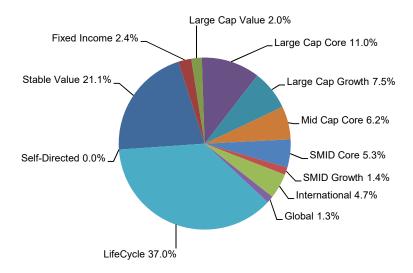
### Asset Allocation as of September 30, 2018



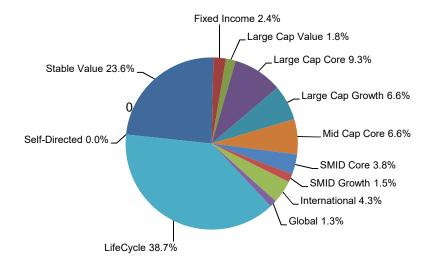
### Asset Allocation as of July 1, 2018



### Plan Contributions - 3rd Quarter 2018



### Plan Contributions - 2nd Quarter 2018



# Plan Activity: State Plan Activity July 1, 2018 through September 30, 2018

Funds	Beginning Balance July 1, 2018	C	Contributions	Interfund InterPlan Exchanges	With	ıdrawals	Loan Repayments	Misc*	Fees*	G	vestment ain/Loss . Dividends)	Se	Ending Balance eptember 30, 2018
Voya Fixed Account	\$ 233,006,645	\$	1,557,037	\$ 117,455	\$	(4,595,120)	\$ 36,754	\$ -	\$ (210,278)	\$	1,460,728	\$	231,373,222
Vanguard Total Bond Market Index I	\$ 10,102,901	\$	196,701	\$ 909,340	\$	(322,872)	\$ 5,121	\$ -	\$ (3,725)	\$	(1,245)	\$	10,886,221
MFS Value Fund R4	\$ 11,713,834	\$	167,196	\$ (391,797)	\$	(183,976)	\$ 4,195	\$ -	\$ (3,922)	\$	665,757	\$	11,971,286
Vanguard Institutional Index I	\$ 57,472,769	\$	840,385	\$ (2,628)	\$	(1,095,212)	\$ 20,602	\$ -	\$ (19,066)	\$	4,429,754	\$	61,646,605
T Rowe Price Growth Stock Fund I	\$ 40,795,841	\$	635,074	\$ 824,819	\$	(821,639)	\$ (7,222)	\$ -	\$ (13,687)	\$	2,010,856	\$	43,424,042
Hartford Mid Cap HLS IA	\$ 40,903,018	\$	304,658	\$ (21,772)	\$	(556,541)	\$ (11,218)	\$ -	\$ (12,335)	\$	1,895,270	\$	42,501,080
Oppenheimer Main Street Mid Cap Fund	\$ 15,670,009	\$	155,032	\$ (224,085)	\$	(244,394)	\$ (5,167)	\$ -	\$ (5,017)	\$	528,876	\$	15,875,254
Vanguard Mid-Cap Value Index Fund - Admiral Shares	\$ 1,413,660	\$	70,624	\$ 56,460	\$	(31,808)	\$ (3,359)	\$ -	\$ (752)	\$	46,094	\$	1,550,920
Vanguard Extended Market Idx I	\$ 13,306,747	\$	321,632	\$ 326,533	\$	(232,405)	\$ 9,748	\$ -	\$ (4,579)	\$	589,027	\$	14,316,703
Goldman Sachs Small/Mid Cap Growth	\$ 8,768,994	\$	122,113	\$ 227,089	\$	(128,324)	\$ 3,788	\$ -	\$ (2,966)	\$	633,594	\$	9,624,288
Vanguard Developed Markets Index Insti	\$ 9,888,170	\$	202,340	\$ (244,688)	\$	(162,281)	\$ (12,450)	\$ -	\$ (3,401)	\$	107,748	\$	9,775,439
Dodge & Cox International Stock	\$ 3,907,117	\$	93,259	\$ (207,812)	\$	(84,928)	\$ 2,891	\$ -	\$ (1,267)	\$	30,369	\$	3,739,630
Franklin Mutual Global Discovery Fund	\$ 7,774,771	\$	110,655	\$ (185,370)	\$	(167,629)	\$ (4,257)	\$ -	\$ (2,512)	\$	272,940	\$	7,798,598
Vanguard Institutional Target Retirement Income Insti	\$ 13,018,867	\$	75,113	\$ (29,926)	\$	(145,706)	\$ 12	\$ -	\$ (3,857)	\$	174,586	\$	13,089,089
Vanguard Institutional Target Retirement 2015 Insti	\$ 25,269,705	\$	453,648	\$ (904,709)	\$	(303,606)	\$ (1,654)	\$ -	\$ (10,531)	\$	457,737	\$	24,960,590
Vanguard Institutional Target Retirement 2020 Instl	\$ 6,722,629	\$	72,458	\$ (91,341)	\$	(206,978)	\$ 2,005	\$ -	\$ (1,910)	\$	159,663	\$	6,656,525
Vanguard Institutional Target Retirement 2025 Insti	\$ 22,180,550	\$	759,195	\$ (200,804)	\$	(194,060)	\$ (26,670)	\$ -	\$ (11,254)	\$	622,209	\$	23,129,166
Vanguard Institutional Target Retirement 2030 Insti	\$ 4,571,485	\$	208,924	\$ 178,816	\$	(47,330)	\$ (3,038)	\$ -	\$ (1,596)	\$	144,949	\$	5,052,208
Vanguard Institutional Target Retirement 2035 Instl	\$ 27,890,361	\$	672,120	\$ (251,695)	\$	(431,519)	\$ 12,286	\$ -	\$ (15,191)	\$	963,136	\$	28,839,498
Vanguard Institutional Target Retirement 2040 Insti	\$ 1,506,922	\$	95,546	\$ 176,794	\$	(32,523)	\$ 146	\$ -	\$ (711)	\$	57,341	\$	1,803,514
Vanguard Institutional Target Retirement 2045 Instl	\$ 7,868,957	\$	479,672	\$ (120,724)	\$	(270,344)	\$ (11,189)	\$ -	\$ (8,195)	\$	315,775	\$	8,253,953
Vanguard Institutional Target Retirement 2050 Instl	\$ 318,055	\$	48,537	\$ 34,949	\$	(1,000)	\$ 644	\$ -	\$ (218)	\$	14,053	\$	415,022
Vanguard Institutional Target Retirement 2055 Instl	\$ 1,739,704	\$	133,671	\$ 143,966	\$	(12,286)	\$ (691)	\$ -	\$ (1,530)	\$	73,305	\$	2,076,139
Vanguard Institutional Target Retirement 2060 Insti	\$ 37,856	\$	11,910	\$ (1,345)	\$	-	\$ 186	\$ -	\$ (28)	\$	1,630	\$	50,209
Vanguard Institutional Target Retirement 2065 Instl	\$ 17,062	\$	11,758	\$ 17,681	\$	-	\$ -	\$ -	\$ (23)	\$	881	\$	47,359
TD Ameritrade SDBA	\$ 1,749,494	\$	-	\$ (135,208)	\$	-	\$ -	\$ -	\$ -	\$	52,440	\$	1,666,726
Total	\$ 567,616,122	\$	7,799,257	\$ -	\$ (	10,272,483)	\$ 11,463	\$ -	\$ (338,550)	\$	15,707,473	\$	580,523,283

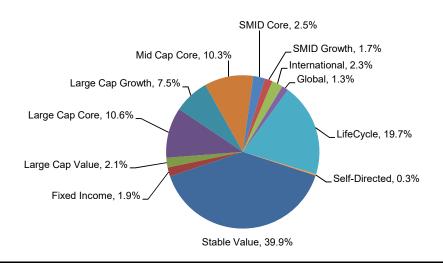
<sup>\*</sup>Fees: \$ 189,513.75 Payment from Reimbursement Account to State \$ 149,035.93 Loans; Admin Fees; Asset Based Fees; Morningstar Fees

<sup>338,549.68</sup> 

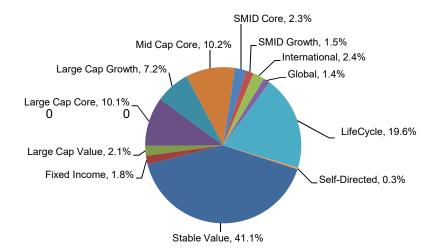
# **Asset Allocation Summary: State Plan Activity**

		September 3	30, <b>201</b> 8
Fund		Assets	% of Total Assets
Voya Fixed Account		\$ 231,373,222	39.9%
Vanguard Total Bond Market Index I		\$ 10,886,221	1.9%
MFS Value Fund R4		\$ 11,971,286	2.1%
Vanguard Institutional Index I		\$ 61,646,605	10.6%
T Rowe Price Growth Stock Fund I		\$ 43,424,042	7.5%
Hartford Mid Cap HLS IA		\$ 42,501,080	7.3%
Oppenheimer Main Street Mid Cap Fund		\$ 15,875,254	2.7%
Vanguard Extended Market ldx I		\$ 1,550,920	0.3%
Goldman Sachs Small/Mid Cap Growth		\$ 14,316,703	2.5%
Vanguard Mid-Cap value Index Fund-Admiral Shares		\$ 9,624,288	1.7%
Vanguard Developed Markets Index Instl		\$ 9,775,439	1.7%
Dodge & Cox International Stock		\$ 3,739,630	0.6%
Franklin Mutual Global Discovery Fund		\$ 7,798,598	1.3%
Vanguard Institutional Target Retirement Income Instl		\$ 13,089,089	2.3%
Vanguard Institutional Target Retirement 2015 Instl		\$ 24,960,590	4.3%
Vanguard Institutional Target Retirement 2020 Instl		\$ 6,656,525	1.1%
Vanguard Institutional Target Retirement 2025 Instl		\$ 23,129,166	4.0%
Vanguard Institutional Target Retirement 2030 Instl		\$ 5,052,208	0.9%
Vanguard Institutional Target Retirement 2035 Instl		\$ 28,839,498	5.0%
Vanguard Institutional Target Retirement 2040 Instl		\$ 1,803,514	0.3%
Vanguard Institutional Target Retirement 2045 Instl		\$ 8,253,953	1.4%
Vanguard Institutional Target Retirement 2050 Instl		\$ 415,022	0.1%
Vanguard Institutional Target Retirement 2055 Instl		\$ 2,076,139	0.4%
Vanguard Institutional Target Retirement 2060 Instl		\$ 50,209	0.0%
Vanguard Institutional Target Retirement 2065 Instl		\$ 47,359	0.0%
TD Ameritrade SDBA		\$ 1,666,726	0.3%
To	otal	\$ 580,523,283	100.0%

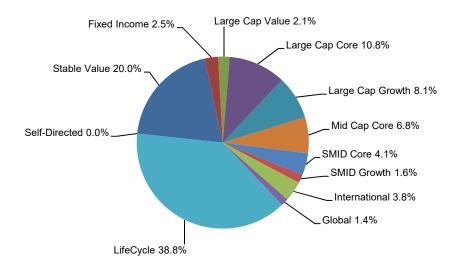
### Asset Allocation as of September 30, 2018



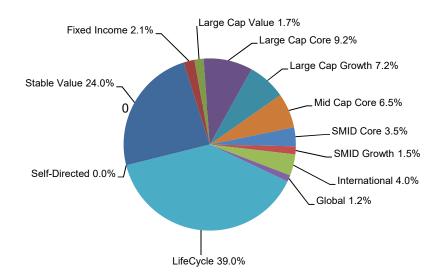
### Asset Allocation as of July 1, 2018



### Plan Contributions - 3rd Quarter 2018



### Plan Contributions - 2nd Quarter 2018



Plan Activity: Nevada System of Higher Education July 1, 2018 through September 30, 2018

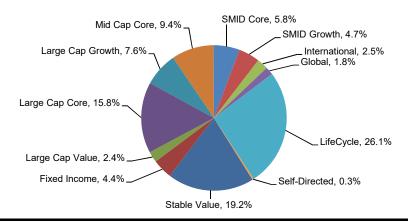
Funds	Beginning Balance July 1, 2018	Contrib	utions	Interf InterF Excha	Plan	Withdrawals		Loan Repayments	Misc	Fees*	Investment Gain/Loss (incl. Dividends)	Se	Ending Balance ptember 30, 2018
Voya Fixed Account	\$ 13,032,497	\$	358,737	\$ (	124,478)	\$ (948,939	) \$	-	\$ -	\$ (810)	\$ 78,850	\$	12,395,857
Vanguard Total Bond Market Index I	\$ 2,824,280	\$	70,899	\$	(18,664)	\$ (33,680	\$	-	\$ -	\$ (731)	\$ 1,167	\$	2,843,271
MFS Value Fund R4	\$ 1,473,957	\$	22,772	\$	1,593	\$ (29,188	\$)	-	\$ -	\$ (404)	\$ 83,861	\$	1,552,591
Vanguard Institutional Index I	\$ 9,428,054	\$	146,903	\$	1,466	\$ (152,062	\$	-	\$ -	\$ (2,540)	\$ 727,775	\$	10,149,596
T Rowe Price Growth Stock Fund I	\$ 4,613,370	\$	91,247	\$	(9,385)	\$ (51,315	\$	-	\$ -	\$ (1,327)	\$ 227,147	\$	4,869,737
Hartford Mid Cap HLS IA	\$ 3,333,376	\$	24,833	\$	2,206	\$ (8,677	) \$	-	\$ -	\$ (845)	\$ 153,793	\$	3,504,686
Oppenheimer Main Street Mid Cap Fund	\$ 2,256,177	\$	19,282	\$	1,595	\$ (30,122	\$	-	\$ -	\$ (579)	\$ 75,899	\$	2,322,253
Vanguard Mid-Cap Value Index Fund	\$ 244,665	\$	4,365	\$	5,754	\$ (21,762	\$)	-	\$ -	\$ (62)	\$ 7,521	\$	240,482
Vanguard Extended Market Idx I	\$ 3,529,421	\$	59,297	\$	13,434	\$ (34,045	\$	-	\$ -	\$ (944)	\$ 154,845	\$	3,722,008
Goldman Sachs Small/Mid Cap Growth	\$ 1,603,001	\$	23,932	\$	(11,782)	\$ -	\$	-	\$ -	\$ (444)	\$ 114,896	\$	1,729,602
Vanguard Developed Markets Index Instl	\$ 1,313,982	\$	33,480	\$	(3,848)	\$ (44,279	\$	-	\$ -	\$ (352)	\$ 14,746	\$	1,313,729
Dodge & Cox International Stock	\$ 1,575,195	\$	26,310	\$	(21,365)	\$ (1,413	\$)	-	\$ -	\$ (395)	\$ 13,752	\$	1,592,085
Franklin Mutual Global Discovery Fund	\$ 1,117,544	\$	15,902	\$	313	\$ (25,027	) \$	-	\$ -	\$ (287)	\$ 39,055	\$	1,147,499
Vanguard Institutional Target Retirement Income Insti	\$ 1,509,065	\$	74,800	\$	(2,171)	\$ (120,511	) \$	-	\$ -	\$ (552)	\$ 20,927	\$	1,481,556
Vanguard Institutional Target Retirement 2015 Insti	\$ 3,609,804	\$	178,507	\$	(11,407)	\$ (8,394	\$	-	\$ -	\$ (1,294)	\$ 67,295	\$	3,834,511
Vanguard Institutional Target Retirement 2020 Insti	\$ 1,010,382	\$	38,266	\$	12	\$ -	\$	-	\$ -	\$ (279)	\$ 25,104	\$	1,073,486
Vanguard Institutional Target Retirement 2025 Insti	\$ 4,060,865	\$	225,057	\$	287,151	\$ (2,367	) \$	-	\$ -	\$ (1,412)	\$ 119,137	\$	4,688,432
Vanguard Institutional Target Retirement 2030 Insti	\$ 404,493	\$	33,899	\$	(3,031)	\$ -	\$	-	\$ -	\$ (125)	\$ 13,500	\$	448,736
Vanguard Institutional Target Retirement 2035 Instl	\$ 3,006,603	\$	95,563	\$	40,456	\$ (20,122	\$)	-	\$ -	\$ (1,205)	\$ 105,127	\$	3,226,422
Vanguard Institutional Target Retirement 2040 Insti	\$ 310,740	\$	21,203	\$	37	\$ (28,587	) \$	-	\$ -	\$ (87)	\$ 11,675	\$	314,981
Vanguard Institutional Target Retirement 2045 Insti	\$ 1,465,073	\$	76,003	\$ (	186,288)	\$ (12,338	\$)	-	\$ -	\$ (556)	\$ 58,644	\$	1,400,538
Vanguard Institutional Target Retirement 2050 Insti	\$ 3,993	\$	4,018	\$	49	\$ -	\$	-	\$ -	\$ (2)	\$ 229	\$	8,288
Vanguard Institutional Target Retirement 2055 Instl	\$ 301,843	\$	15,854	\$	4,907	\$ -	\$	-	\$ -	\$ (100)	\$ 12,460	\$	334,964
Vanguard Institutional Target Retirement 2060 Insti	\$ 1,227	\$	3,053	\$	68	\$ -	\$	-	\$ -	\$ (1)	\$ 85	\$	4,432
Vanguard Institutional Target Retirement 2065 Instl	\$ -	\$	3,628	\$	(3,023)	\$ -	\$	-	\$ -	\$ (0)	\$ 5	\$	610
TD Ameritrade SDBA	\$ 159,477.53	\$	-	\$ 36	5,400.00	\$ -	\$	-	\$ -	\$ -	\$ 8,299.75	\$	204,177
Total	\$ 62,189,084	\$ 1,	667,810	\$	-	\$ (1,572,827	) \$	-	\$ -	\$ (15,333)	\$ 2,135,795	\$	64,404,528

<sup>\*</sup>Fees: \$ 15,333.04 Admin Fees; Asset Based Fees; Morningstar Fees \$ 15,333.04

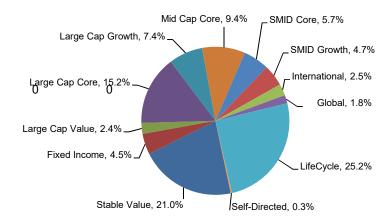
# **Asset Allocation Summary: Nevada System of Higher Education**

		September 3	30, <b>201</b> 8
Fund		Assets	% of Total Assets
Voya Fixed Account		\$ 12,395,857	19.2%
Vanguard Total Bond Market Index I		\$ 2,843,271	4.4%
MFS Value Fund R4		\$ 1,552,591	2.4%
Vanguard Institutional Index I		\$ 10,149,596	15.8%
T Rowe Price Growth Stock Fund I		\$ 4,869,737	7.6%
Hartford Mid Cap HLS IA		\$ 3,504,686	5.4%
Oppenheimer Main Street Mid Cap Fund		\$ 2,322,253	3.6%
Vanguard Mid-Cap Value Index Fund		\$ 240,482	0.4%
Vanguard Extended Market Idx I		\$ 3,722,008	5.8%
Goldman Sachs Small/Mid Cap Growth		\$ 1,729,602	2.7%
Vanguard Developed Markets Index Instl		\$ 1,313,729	2.0%
Dodge & Cox International Stock		\$ 1,592,085	2.5%
Franklin Mutual Global Discovery Fund		\$ 1,147,499	1.8%
Vanguard Institutional Target Retirement Income Instl		\$ 1,481,556	2.3%
Vanguard Institutional Target Retirement 2015 Instl		\$ 3,834,511	6.0%
Vanguard Institutional Target Retirement 2020 Instl		\$ 1,073,486	1.7%
Vanguard Institutional Target Retirement 2025 Instl		\$ 4,688,432	7.3%
Vanguard Institutional Target Retirement 2030 Instl		\$ 448,736	0.7%
Vanguard Institutional Target Retirement 2035 Instl		\$ 3,226,422	5.0%
Vanguard Institutional Target Retirement 2040 Instl		\$ 314,981	0.5%
Vanguard Institutional Target Retirement 2045 Instl		\$ 1,400,538	2.2%
Vanguard Institutional Target Retirement 2050 Instl		\$ 8,288	0.0%
Vanguard Institutional Target Retirement 2055 Instl		\$ 334,964	0.5%
Vanguard Institutional Target Retirement 2060 Instl		\$ 4,432	0.0%
Vanguard Institutional Target Retirement 2065 Instl		\$ 610	0.0%
TD Ameritrade SDBA		\$ 204,177	0.0%
To	otal	\$ 64,404,528	99.7%

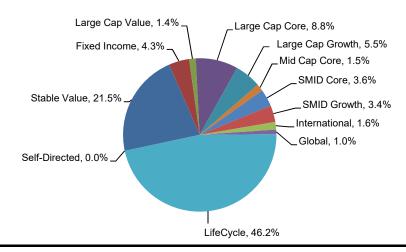
### Asset Allocation as of September 30, 2018



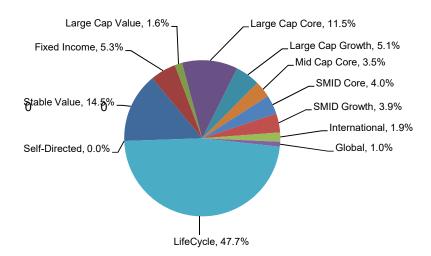
### Asset Allocation as of July 1, 2018



### Plan Contributions - 3rd Quarter 2018



### Plan Contributions - 2nd Quarter 2018



Plan Activity: Political Subdivision
July 1, 2018 through September 30, 2018

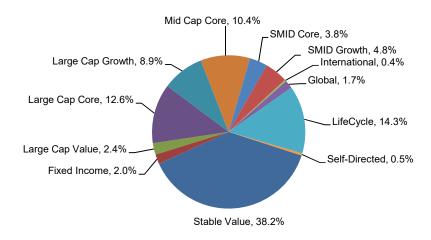
Funds	Beginning Balance July 1, 2018	Contributions	E	Interfund InterPlan Exchanges	Withdrawals	Loan Repayments	Misc.	Fees	Ga	estment in/Loss Dividends)	Se	Ending Balance otember 30, 2018
Voya Fixed Account	\$ 71,295,982	\$ 904,610	\$	664,437	\$ (1,263,507)	\$ -	\$ -	\$ (5,598)	\$	449,892	\$	72,045,816
Vanguard Total Bond Market Index I	\$ 3,859,230	\$ 59,069	\$	(7,830)	\$ (51,093)	\$ -	\$ -	\$ (1,482)	\$	1,592	\$	3,859,485
MFS Value Fund R4	\$ 4,270,309	\$ 74,665	\$	13,854	\$ (43,784)	\$ -	\$ -	\$ (1,418)	\$	246,210	\$	4,559,835
Vanguard Institutional Index I	\$ 21,931,997	\$ 481,106	\$	(139,943)	\$ (209,507)	\$ -	\$ -	\$ (7,063)	\$	1,683,104	\$	23,739,694
T Rowe Price Growth Stock Fund I	\$ 15,792,735	\$ 274,513	\$	(4,870)	\$ (117,611)	\$ -	\$ -	\$ (4,630)	\$	774,946	\$	16,715,083
Hartford Mid Cap HLS IA	\$ 10,784,447	\$ 117,188	\$	(101,229)	\$ (56,821)	\$ -	\$ -	\$ (3,175)	\$	496,901	\$	11,237,311
Oppenheimer Main Street Mid Cap Fund	\$ 7,855,068	\$ 127,792	\$	(32,290)	\$ (53,214)	\$ -	\$ -	\$ (2,356)	\$	265,989	\$	8,160,989
Vanguard Mid-Cap Value Index Fund - Admiral Shares	\$ 323,491	\$ 9,466	\$	(55,278)	\$ (533)	\$ -	\$ -	\$ (204)	\$	10,729	\$	287,671
Vanguard Extended Market Idx I	\$ 6,541,447	\$ 320,492	\$	65,223	\$ (22,083)	\$ -	\$ -	\$ (2,216)	\$	287,066	\$	7,189,928
Goldman Sachs Small/Mid Cap Growth	\$ 3,244,682	\$ 43,037	\$	(18,521)	\$ (75,185)	\$ -	\$ -	\$ (960)	\$	230,251	\$	3,423,304
Vanguard Developed Markets Index Insti	\$ 5,342,350	\$ 261,147	\$	(4,107)	\$ (47,731)	\$ -	\$ -	\$ (1,847)	\$	59,771	\$	5,609,581
Dodge & Cox International Stock	\$ 743,397	\$ 14,465	\$	(58,304)	\$ (3,112)	\$ -	\$ -	\$ (234)	\$	6,553	\$	702,766
Franklin Mutual Global Discovery Fund	\$ 3,185,645	\$ 47,301	\$	(22,337)	\$ (39,192)	\$ -	\$ -	\$ (937)	\$	112,192	\$	3,282,671
Vanguard Institutional Target Retirement Income Insti	\$ 2,557,401	\$ 18,700	\$	(52,214)	\$ (26,111)	\$ -	\$ -	\$ (665)	\$	34,378	\$	2,531,489
Vanguard Institutional Target Retirement 2015 Insti	\$ 2,507,049	\$ 79,899	\$	124,449	\$ (4,736)	\$ -	\$ -	\$ (1,023)	\$	45,562	\$	2,751,200
Vanguard Institutional Target Retirement 2020 Insti	\$ 1,871,717	\$ 16,382	\$	(5,397)	\$ (7,877)	\$ -	\$ -	\$ (469)	\$	45,248	\$	1,919,604
Vanguard Institutional Target Retirement 2025 Insti	\$ 5,644,144	\$ 188,187	\$	(42,571)	\$ (34,451)	\$ -	\$ -	\$ (2,279)	\$	159,402	\$	5,912,431
Vanguard Institutional Target Retirement 2030 Instl	\$ 1,704,134	\$ 23,767	\$	1,336	\$ (3,877)	\$ -	\$ -	\$ (507)	\$	53,317	\$	1,778,170
Vanguard Institutional Target Retirement 2035 Instl	\$ 5,767,904	\$ 415,695	\$	(125,162)	\$ (80,130)	\$ -	\$ -	\$ (3,057)	\$	202,081	\$	6,177,331
Vanguard Institutional Target Retirement 2040 Insti	\$ 608,121	\$ 31,698	\$	(1,992)	\$ (1,444)	\$ -	\$ -	\$ (239)	\$	23,497	\$	659,641
Vanguard Institutional Target Retirement 2045 Instl	\$ 4,287,451	\$ 241,671	\$	(192,357)	\$ (49,705)	\$ -	\$ -	\$ (2,673)	\$	172,634	\$	4,457,021
Vanguard Institutional Target Retirement 2050 Insti	\$ 171,228	\$ 41,517	\$	-	\$ -	\$ -	\$ -	\$ (81)	\$	7,481	\$	220,146
Vanguard Institutional Target Retirement 2055 Instl	\$ 499,943	\$ 69,934	\$	(10,602)	\$ (2,282)	\$ -	\$ -	\$ (497)	\$	20,695	\$	577,190
Vanguard Institutional Target Retirement 2060 Insti	\$ 12,784	\$ 9,755	\$	-	\$ -	\$ -	\$ -	\$ (12)	\$	605	\$	23,133
Vanguard Institutional Target Retirement 2065 Insti	\$ 11,330	\$ 823	\$	-	\$ -	\$ -	\$ -	\$ (7)	\$	452	\$	12,597
TD Ameritrade SDBA	\$ 865,009	\$ -	\$	5,708	\$ -	\$ -	\$ -	\$ -	\$	19,934	\$	890,652
Total	\$ 181,678,998	\$ 3,872,878	\$	0	\$ (2,193,985)	\$ -	\$ -	\$ (43,631)	\$	5,410,481	\$	188,724,741

<sup>\*</sup>Fees: \$ 43,630.83 Admin Fees; Asset Based Fees; Morningstar Fees \$ 43,630.83

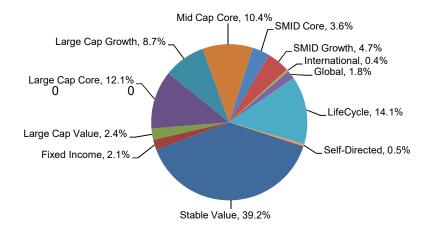
# **Asset Allocation Summary: Political Subdivision**

		September 3	30, <b>201</b> 8
Fund		Assets	% of Total Assets
Voya Fixed Account	\$	72,045,816	38.2%
Vanguard Total Bond Market Index I	\$	3,859,485	2.0%
MFS Value Fund R4	\$	4,559,835	2.4%
Vanguard Institutional Index I	\$	23,739,694	12.6%
T Rowe Price Growth Stock Fund I	\$	16,715,083	8.9%
Hartford Mid Cap HLS IA	\$	11,237,311	6.0%
Oppenheimer Main Street Mid Cap Fund	\$	8,160,989	4.3%
Vanguard Mid-Cap Value Index Fund - Admiral Shares	\$	287,671	0.2%
Vanguard Extended Market ldx I	\$	7,189,928	3.8%
Goldman Sachs Small/Mid Cap Growth	\$	3,423,304	1.8%
Vanguard Developed Markets Index Instl	\$	5,609,581	3.0%
Dodge & Cox International Stock	\$	702,766	0.4%
Franklin Mutual Global Discovery Fund	\$	3,282,671	1.7%
Vanguard Institutional Target Retirement Income Instl	\$	2,531,489	1.3%
Vanguard Institutional Target Retirement 2015 Instl	\$	2,751,200	1.5%
Vanguard Institutional Target Retirement 2020 Instl	\$	1,919,604	1.0%
Vanguard Institutional Target Retirement 2025 Instl	\$	5,912,431	3.1%
Vanguard Institutional Target Retirement 2030 Instl	\$	1,778,170	0.9%
Vanguard Institutional Target Retirement 2035 Instl	\$	6,177,331	3.3%
Vanguard Institutional Target Retirement 2040 Instl	\$	659,641	0.3%
Vanguard Institutional Target Retirement 2045 Instl	\$	4,457,021	2.4%
Vanguard Institutional Target Retirement 2050 Instl	\$	220,146	0.1%
Vanguard Institutional Target Retirement 2055 Instl	\$	577,190	0.3%
Vanguard Institutional Target Retirement 2060 Instl	\$	23,133	0.0%
Vanguard Institutional Target Retirement 2065 Instl	\$	12,597	0.0%
TD Ameritrade SDBA	\$	890,652	0.5%
	tal \$	188,724,741	100.0%

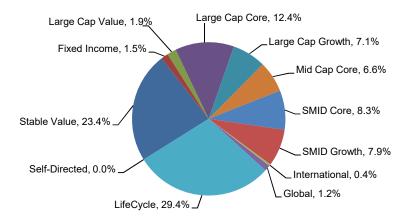
### Asset Allocation as of September 30, 2018



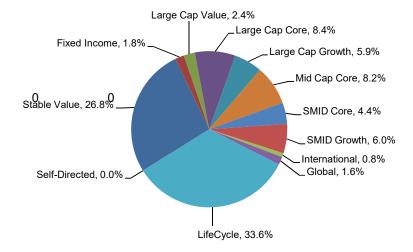
### Asset Allocation as of July 1, 2018



### Plan Contributions - 3rd Quarter 2018



### Plan Contributions - 2nd Quarter 2018



# **Summary of Loan Activity**

# As of September 30, 2018

Loans Issued*	Loans Paid in Full*	Outstanding Balance	Principal Paid*	Interest Paid*
830	196	\$3,779,482	\$134,346	\$15,760

<sup>\*</sup>Total loans since inception.

# **Summary of Roth Accounts**

	As of June	30, 2018	As of Septem	ber 30, 2018
	Number of Accounts	Total Balance	Number of Accounts	Total Balance
State	1453	\$7,302,838	1500	\$7,967,030
NSHE	144	\$1,714,905	161	\$1,917,345
Poltical Sub Divisions	152	\$932,995	166	\$1,061,033
Total	1749	\$9,950,737	1827	\$10,945,407

FICA Plan Activity	All	State	Pol. Sub- Division	NSHE
Number of Participants Actively Contributing: Number of Participants with Account Balance:	5,480	202	477	4,801
	25,936	1,199	1,751	22,986
Average Account Balance:  Opening Balance as of 7/1/2018:	\$1,396	\$1,393	\$1,235	\$1,561
	\$38,674,805	\$1,597,811	\$2,105,510	\$34,971,484
Closing Balance as of 9/30/2018:	\$39,703,674	\$1,677,564	\$2,162,641	\$35,863,468

# Number of Participants Invested by Fund: Total Plan As of September 30, 2018

Fund	# of Participants	# of One-Funders
Voya Fixed Account	5,877	2,241
Vanguard Total Bond Market Index I	1,298	29
MFS Value Fund R4	1,732	12
Vanguard Institutional Index I	4,241	126
T Rowe Price Growth Stock Fund I	3,303	116
Hartford Mid Cap HLS IA	2,933	20
Oppenheimer Main Street Mid Cap Fund	2,144	5
Vanguard Mid-Cap Value Index Fund	426	0
Vanguard Extended Market Idx I	1,753	8
Goldman Sachs Small/Mid Cap Growth	1,183	6
Vanguard Developed Markets Index Instl	2,095	5
Dodge & Cox International Stock	827	8
Franklin Mutual Global Discovery Fund	1426	5
Vanguard Institutional Target Retirement Income Instl	589	122
Vanguard Institutional Target Retirement 2015 Instl	1,355	728
Vanguard Institutional Target Retirement 2020 Instl	367	45
Vanguard Institutional Target Retirement 2025 Instl	1,784	1008
Vanguard Institutional Target Retirement 2030 Instl	462	106
Vanguard Institutional Target Retirement 2035 Instl	2,511	1610
Vanguard Institutional Target Retirement 2040 Instl	356	148
Vanguard Institutional Target Retirement 2045 Instl	1,945	1479
Vanguard Institutional Target Retirement 2050 Instl	256	169
Vanguard Institutional Target Retirement 2055 Instl	644	514
Vanguard Institutional Target Retirement 2060 Instl	90	76
Vanguard Institutional Target Retirement 2065 Instl	21	9
TD Ameritrade SDBA	86	0

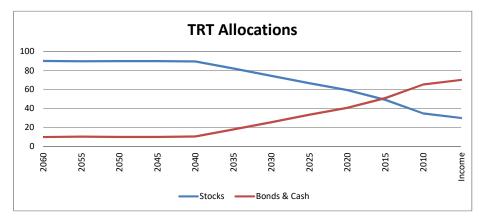
Investment Diversification as of September 30, 2018

Number of Funds	Number of Participants	Percent
One	8,595	55.92%
Two	1,491	9.70%
Three	1045	6.80%
Four	1123	7.31%
Five	1,154	7.51%
Six	858	5.58%
Seven	400	2.60%
Eight	205	1.33%
Nine	233	1.52%
Ten +	265	1.72%
TOTAL	15,369	100.00%

Average number of funds being used in the Plan: 2.60

# Vanguard Target Date Retirement Funds Estimated allocations

Fund	Total Stock Market Index Fund	Total International Stock Index Fund	Total Bond Market Index II Fund	Total Intl Bond Market Index Fund	ST Inflation- Protected Securities Fund	Stocks	Bonds & Cash
2065	54.2%	35.8%	7.0%	3.0%	0.0%	90.00%	10.00%
2060	54.0%	36.0%	7.0%	3.0%	0.0%	90.00%	10.00%
2055	54.0%	36.0%	7.1%	2.9%	0.0%	90.0%	10.0%
2050	54.0%	36.0%	7.1%	2.9%	0.0%	90.0%	10.0%
2045	54.1%	35.9%	7.1%	2.9%	0.0%	90.0%	10.0%
2040	51.2%	33.9%	10.6%	4.3%	0.0%	85.1%	14.9%
2035	46.7%	30.9%	15.8%	6.6%	0.0%	77.6%	22.4%
2030	42.3%	27.9%	21.1%	8.7%	0.0%	70.2%	29.8%
2025	37.8%	25.0%	26.2%	11.0%	0.0%	62.8%	37.2%
2020	32.4%	21.2%	28.9%	12.3%	5.2%	53.6%	46.4%
2015	24.2%	16.3%	33.1%	14.2%	12.2%	40.5%	59.5%
Income	18.0%	12.0%	37.3%	15.9%	16.8%	30.0%	70.0%



# **Voya General Fixed Account**

	US Gov/Agency	Mortgage- Backed Securities	Corporate Bonds	Asset-Backed Securities	CMBS	Cash / Equivalents	Foreign Securities	Other *	Total
Voya Fixed Account	4.00%	26.00%	38.00%	4.00%	5.00%	0.00%	19.00%	4.00%	100%
Barcays Aggregated Bond Index	42.20%	29.00%	23.10%	0.50%	2.00%	0.00%	3.10%	0.00%	100%

<sup>\*</sup>Other for Voya includes Derivatives, LPs & Policy Loans and Mortgage Loans.

Quality Ratings	Voya	BC Agg
AAA	18.00%	71.70%
AA	7.00%	4.60%
Α	27.00%	11.80%
ВВВ	41.00%	11.90%
BB and Below	7.00%	0.00%

Voya Financia	ıl Insuranc Ratings	e Company
Fitch	Α	Strong
S&P	Α	Strong
Moody's	A2	Good
A.M. Best	Α	Excellent

457 Plans Crediting Cont	Rate Per
Year 1:	3.50%
Year 2:	3.15%
Year 3:	2.75%
Year 4:	2.65%
Year 5:	2.65%

Minimum	native Plans Credit Rate ontract
2015	2.50%
2016	2.25%
2017	1.50%
2018	1.00%
2019	Prevailing

<sup>\*</sup>Effective 12/19/2014 the separate account funds were transferred to Voya General Account.

		Year			_	ASU
	1 Quarter	To Date	1 Year	3 Years	5 Years	Expense Ratio
Russell 1000 Value Index	5.70	3.92	9.45	13.55	10.72	
Excess Return	0.02	-2.01	-2.46	-0.46	0.00	
IM U.S. Large Cap Value Equity (MF) Median	5.93	4.32	10.24	13.39	10.21	
MFS Value Fund R4 Rank	57	92	91	56	33	
Russell 1000 Growth Index	9.17	17.09	26.30	20.55	16.58	
Excess Return IM U.S. Large Cap Growth Equity (MF) Median	-4.28 7.78	-1.72 17.54	-3.89 25.12	-1.10 18.77	-0.47 15.12	
T.Rowe Price Growth Stock I Rank	96	71	75	32	26	
The work has disastinated				02		
S&P 500	7.71	10.56	17.91	17.31	13.95	
Excess Return	-0.01	-0.03	-0.05	-0.04	-0.03	
IM U.S. Large Cap Core Equity (MF) Median	7.24	8.78	15.84	15.42	12.25	
Vanguard Institutional Index Rank	31	25	27	14	12	
CRSP U.S. Mid Cap Value TR Index	3.10	3.11	9.47	13.12	11.52	
Excess Return	0.00	-0.01	-0.04	-0.05	-0.05	
IM U.S. Mid Cap Value Equity (MF) Median	2.87	3.11	7.84	11.55	9.17	
Vanguard Mid-Cap Value Index Rank	35	52	36	28	4	
Russell Midcap Index	5.00	7.46	13.98	14.52	11.65	
Excess Return	-0.41	4.98	6.81	2.61	2.47	
IM U.S. Mid Cap Core Equity (MF) Median	3.82	4.99	10.70	12.56 4	9.46	
Hartford Mid Cap HLS IA Rank	37	2	2	4	3	

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	Expense Ratio
Russell 2500 Growth Index	7.17	15.78	23.13	17.96	12.88	
Excess Return	-0.05	-1.11	-2.60	-3.72	-1.67	
IM U.S. SMID Cap Growth Equity (MF) Median	7.44	20.61	26.73	18.43	12.08	
Goldman Sachs Small/Mid Cap Growth Rank	59	85	83	93	69	
Russell Midcap Index	5.00	7.46	13.98	14.52	11.65	
Excess Return	-1.65	0.00	-1.83	-2.22	-2.03	
IM U.S. Mid Cap Core Equity (MF) Median	3.82	4.99	10.70	12.56	9.46	
Oppenheimer Main Street Mid Cap Fund Rank	66	21	37	54	46	
S&P Completion Index	4.33	10.66	16.02	16.04	11.31	
Excess Return	0.04	0.13	0.10	0.14	0.12	
IM U.S. SMID Cap Core Equity (MF) Median	3.25	7.91	12.42	14.65	9.92	
Vanguard Extended Market Idx I Rank	26	31	20	27	19	
vangaara Externada Markot tax i ritarik		0.				
Spliced Developed ex US Index	1.10	-1.57	3.33	10.36	5.21	
Excess Return	-0.01	-0.02	-0.54	-0.51	-0.36	
Vanguard Developed Market Policy Index	1.35	-1.43	3.43	10.26	5.16	
Excess Return	-0.26	-0.16	-0.64	-0.41	-0.31	
IM International Equity (MF) Median	-0.27	-3.92	0.06	9.15	3.98	
Vanguard Developed Markets Index Instl Rank	24	24	24	43	36	

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	Expense Ratio
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	9.97	4.12	
Excess Return	0.10	-3.30	-7.02	-1.77	-0.38	
MSCI EAFE (Net)	1.35	-1.43	2.74	9.23	4.42	
Excess Return	-0.54	-4.96	-8.00	-1.03	-0.68	
IM International Core Equity (MF) Median	0.56	-2.87	1.30	8.58	4.10	
Dodge & Cox International Stock Rank	40	95	100	61	64	
MSCI AC World Index (Net)	4.28	3.83	9.77	13.40	8.67	
Excess Return	-0.80	-2.01	-6.93	-4.16	-2.24	
MSCI World Value (Net)	4.05	0.53	5.13	11.44	7.11	
Excess Return	-0.57	1.29	-2.29	-2.20	-0.68	
IM Global Core Equity (MF) Median	4.09	3.08	7.96	12.20	8.23	
Franklin Mutual Global Discovery Rank	62	69	94	91	87	
Hueler Stable Value	0.57	1.65	2.17	1.94	1.85	
Excess Return	0.07	0.23	0.41	0.95	0.96	

		Year	1	1	1	AS OF S
	1	То	1	3	5	Expense
	Quarter	Date	Year	Years	Years	Ratio
Vanguard Total Bond Policy Index	0.04	-1.64	-1.23	1.35	2.16	
Excess Return	-0.01	0.04	0.02	-0.06	-0.06	
IM U.S. Broad Market Core Fixed Income (MF) Median	0.10	-1.67	-1.35	1.34	2.06	
Vanguard Total Bond Market Index Rank	61	43	40	54	45	
Vanguard Target Income Composite Index	1.34	1.31	3.47	5.55	4.72	
Excess Return	0.00	-0.05	-0.13	-0.13	-0.20	
IM Mixed-Asset Target 2010 (MF) Median	1.57	1.13	3.41	6.31	4.77	
Vanguard Target Retirement Income Instl Rank	78	37	56	92	71	
Vanguard Target 2015 Composite Index	1.80	1.88	4.78	7.41	6.13	
Excess Return	-0.03	-0.06	-0.18	-0.17	-0.21	
IM Mixed-Asset Target 2015 (MF) Median	1.79	1.53	4.17	7.14	5.42	
Vanguard Target Retirement 2015 Instl Rank	53	30	27	46	27	
Vanguard Target 2020 Composite Index	2.36	2.51	6.12	8.93	7.15	
Excess Return	0.04	-0.07	-0.20	-0.20	-0.23	
IM Mixed-Asset Target 2020 (MF) Median	2.02	1.65	4.59	7.57	5.58	
Vanguard Target Retirement 2020 Instl Rank	17	15	8	11	3	
Vanguard Target 2025 Composite Index	2.76	2.96	7.08	10.00	7.80	
Excess Return	0.04	-0.03	-0.23	-0.20	-0.24	
IM Mixed-Asset Target 2025 (MF) Median	2.34	2.31	5.76	8.80	6.32	
Vanguard Target Retirement 2025 Instl Rank	19	20	12	12	5	
g - g						

		Year			_	ASC
	1 Quarter	To Date	1 Year	3 Years	5 Years	Expense Ratio
Vanguard Target 2030 Composite Index	3.10	3.41	7.97	10.96	8.37	
Excess Return	0.01	-0.08	-0.24	-0.22	-0.24	
IM Mixed-Asset Target 2030 (MF) Median	2.75	2.78	6.77	9.93	6.95	
Vanguard Target Retirement 2030 Instl Rank	18	28	22	20	10	
Vanguard Target 2035 Composite Index	3.43	3.83	8.82	11.90	8.93	
Excess Return	0.03	-0.06	-0.28	-0.24	-0.24	
IM Mixed-Asset Target 2035 (MF) Median	3.15	3.44	7.91	11.00	7.76	
Vanguard Target Retirement 2035 Instl Rank	20	36	33	29	13	
Vanguard Target 2040 Composite Index	3.77	4.23	9.67	12.84	9.44	
Excess Return	0.03	-0.04	-0.28	-0.26	-0.30	
IM Mixed-Asset Target 2040 (MF) Median	3.40	3.72	8.50	11.46	8.09	
Vanguard Target Retirement 2040 Instl Rank	14	31	26	19	10	
Venezuerd Terret 2045 Comments Index	2.00	4.40	10.15	13.22	9.65	
Vanguard Target 2045 Composite Index Excess Return	3.98 0.04	4.49 -0.04	10.15 -0.23	-0.25	-0.26	
IM Mixed-Asset Target 2045 (MF) Median	3.53	4.08	9.10	12.13	8.52	
Vanguard Target Retirement 2045 Instl Rank	14	30	24	16	11	
V 17 10050 0 7 1 1 1	2.22	4.40	10.15	40.00	0.05	
Vanguard Target 2050 Composite Index	3.98	4.49	10.15	13.22	9.65	
Excess Return	0.03	-0.04	-0.27	-0.25	-0.27	
IM Mixed-Asset Target 2050 (MF) Median Vanguard Target Retirement 2050 Instl Rank	3. <b>58</b> 19	4.08 32	9.18 29	12.10 16	8.53 10	
vanguaru Target Nethernetit 2000 ilisti Kalik	19	52	29	10	10	
Vanguard Target 2055 Composite Index	3.98	4.49	10.15	13.22	9.65	
Excess Return	0.03	-0.05	-0.31	-0.28	-0.31	
IM Mixed-Asset Target 2055 (MF) Median	3.61	4.19	9.32	12.37	8.67	
Vanguard Target Retirement 2055 Instl Rank	19	35	37	21	20	

### **Comparative Performance**

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	Expense Ratio
Vanguard Target 2060 Composite Index	3.98	4.49	10.15	13.22	9.65	
Excess Return	0.07	-0.05	-0.32	-0.28	-0.30	
IM Mixed-Asset Target 2055 (MF) Median	3.61	4.19	9.32	12.37	8.67	
Vanguard Target Retirement 2060 Instl Rank	18	35	37	22	19	
Vanguard Target 2060 Composite Index	3.98	4.49	10.15	13.22	9.65	
Excess Return	-0.04	-0.02	-0.22	N/A	N/A	
IM Mixed-Asset Target 2055 (MF) Median	3.61	4.19	9.32	12.37	8.67	
Vanguard Target Retirement 2065 Instl Rank	24	34	34	N/A	N/A	

**Large Cap Domestic Equity** 

MFS Value;R4 (MEIJX)

As of September 30, 2018

runa informatio	ווכ
Product Name :	MFS Value;R4 (MEIJX)
Fund Family:	MFS Investment Managem

MEIJX Ticker:

Peer Group: IM U.S. Large Cap Value Equity (MF)

Benchmark: Russell 1000 Value Index

Fund Inception: 04/01/2005 Portfolio Manager: Chitkara/Gorham \$3.243 Million Total Assets: Total Assets Date: 07/31/2018 0.59% Gross Expense: Net Expense: 0.59% Turnover: 14%

### Fund Characteristics As of 06/30/2018

**Total Securities** 95

Avg. Market Cap \$110,875 Million

P/E 22.51 P/B 4.24 Div. Yield 2.50% Annual EPS 15.84 5Yr EPS 7.62 3Yr EPS Growth 3.75

### Portfolio Statistics - 36 Months

	Portfolio	Benchmark	Peer Median
Standard Deviation	9.33	9.22	10.67
Beta	0.98	1.00	0.83
Sharpe Ratio	1.28	1.34	1.60
Information Ratio	-0.17	N/A	0.61
Tracking Error	2.41	0.00	7.77
Consistency	52.78	0.00	55.56
Up Market Capture	94.98	100.00	106.33
Down Market Capture	90.68	100.00	40.30
R-Squared	0.93	1.00	0.50

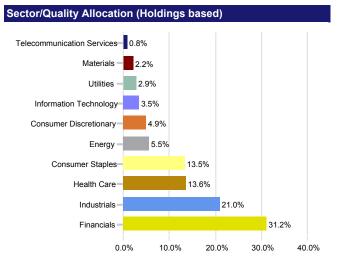
### **Fund Objective**

The Fund seeks capital appreciation and reasonable income. The Fund invests, under normal market conditions, at least 65% of its net assets in equity securities of companies which the adviser believes are undervalued in the market relative to their long term potential.

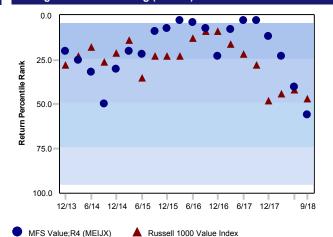
Performance Summary (net of fees)							
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years	
MFS Value;R4 (MEIJX)	5.72	1.91	6.99	13.09	10.72	10.01	
Russell 1000 Value Index	5.70	3.92	9.45	13.55	10.72	9.79	
Excess Return	0.02	-2.01	-2.46	-0.46	0.00	0.22	



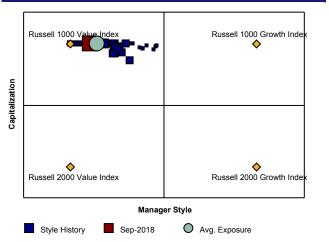




### Rolling Percentile Ranking (Return)- 36 Months



### Style Map - 12 Months





T Rowe Price Gro Stk;I (PRUFX)

As of September 30, 2018

runa information	
Product Name :	T Rowe Price Gro Stk;I (PRUFX)
Fund Family:	T. Rowe Price Associates Inc

**PRUFX** Ticker:

IM U.S. Large Cap Growth Equity (MF) Peer Group:

Benchmark: Russell 1000 Growth Index

Fund Inception: 08/28/2015 Portfolio Manager: Joseph B. Fath \$12.004 Million Total Assets: Total Assets Date: 07/31/2018 0.52% Gross Expense: Net Expense: 0.52% Turnover: 51%

### Fund Characteristics As of 06/30/2018 79

Total Occurred	7.5
Avg. Market Cap	\$271,289 Million

P/E 38.05 P/B 10.93 Div. Yield 1.50% Annual EPS 28.34 5Yr EPS 23.04 3Yr EPS Growth 19.59

Total Securities

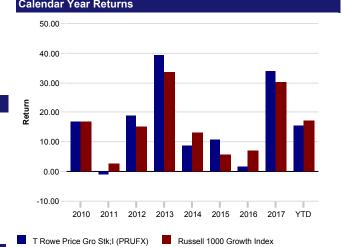
### Portfolio Statistics - 36 Months

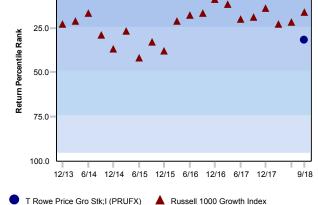
	Portfolio	Benchmark	Peer Median
Standard Deviation	11.54	10.02	10.67
Beta	1.07	1.00	1.02
Sharpe Ratio	1.54	1.85	1.60
Information Ratio	-0.18	N/A	-0.48
Tracking Error	4.31	0.00	3.40
Consistency	52.78	0.00	47.22
Up Market Capture	100.19	100.00	96.84
Down Market Capture	114.47	100.00	113.45
R-Squared	0.86	1.00	0.90

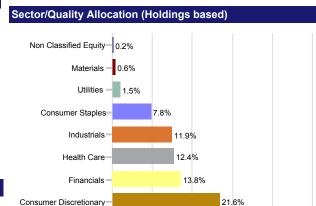
### **Fund Objective**

The Trust seeks long-term growth of capital and, secondarily, increasing dividend income by investing primarily in common stocks of well-established growth companies.

Performance Summary (net of fe	es)					
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
T Rowe Price Gro Stk;I (PRUFX)	4.89	15.37	22.41	19.45	16.22	14.79
Russell 1000 Growth Index	9.17	17.09	26.30	20.55	16.58	14.31
Excess Return	-4.28	-1.72	-3.89	-1.10	-0.36	0.48
Russell 1000 Growth Index	9.17	17.09	26.30	20.55	16.58	14.31
Excess Return	-4.28	-1.72	-3.89	-1.10	-0.36	0.48
Calendar Year Returns			<b>Rolling Percent</b>	ile Ranking (Ret	urn)- 36 Months	



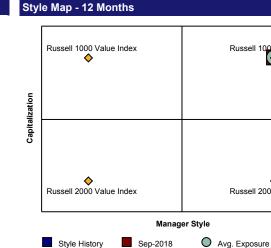


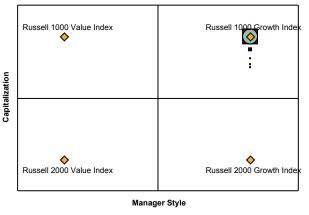


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Vanguard Instl Indx;Inst (VINIX)

As of September 30, 2018

Fund information	
Product Name :	Vanguard Instl Indx;Inst (VINIX)

Fund Family: Vanguard Group Inc

Ticker: VINIX

Peer Group: IM U.S. Large Cap Core Equity (MF)

Benchmark: S&P 500 Fund Inception: 07/31/1990 Portfolio Manager: Butler/Louie \$124.343 Million Total Assets: Total Assets Date: 07/31/2018 Gross Expense: 0.04% Net Expense: 0.04% Turnover: 5%

### Fund Characteristics As of 06/30/2018

Total Securities 512

Avg. Market Cap \$205,422 Million

P/E 27.18
P/B 6.88
Div. Yield 2.41%
Annual EPS 21.01
5Yr EPS 12.83
3Yr EPS Growth 11.17

### Portfolio Statistics - 36 Months

	Portfolio	Benchmark	Peer Median
Standard Deviation	9.06	9.05	9.11
Beta	1.00	1.00	0.98
Sharpe Ratio	1.73	1.73	1.54
Information Ratio	-3.03	N/A	-0.67
Tracking Error	0.01	0.00	2.38
Consistency	19.44	0.00	41.67
Up Market Capture	99.89	100.00	94.06
Down Market Capture	100.10	100.00	104.10
R-Squared	1.00	1.00	0.94

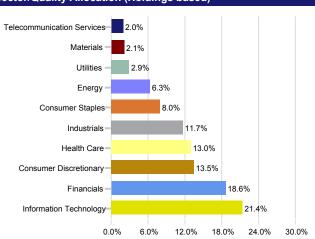
### **Fund Objective**

The Fund seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks. The Fund employs an indexing investment approach designed to track the performance of the Standard & Poors 500 Index by investing all of its assets in the stocks that make up the Index.

Performance Summary (net of fe	ees)					
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Vanguard Instl Indx;Inst (VINIX)	7.70	10.53	17.86	17.27	13.92	11.96
S&P 500	7.71	10.56	17.91	17.31	13.95	11.97
Excess Return	-0.01	-0.03	-0.05	-0.04	-0.03	-0.01

# 24.00 16.00 2010 2011 2012 2013 2014 2015 2016 2017 YTD

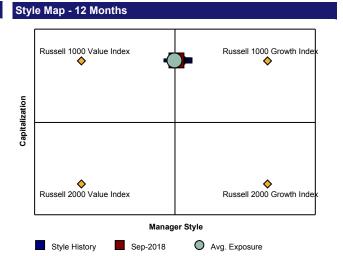




# 25.0 25.0 75.0 100.0 12/13 6/14 12/14 6/15 12/15 6/16 12/16 6/17 12/17 9/18

▲ S&P 500

Vanguard Instl Indx;Inst (VINIX)





Mid-Cap Domestic Equity

Vanguard MC Val Idx; Adm (VMVAX)

As of September 30, 2018

Fι	ınd	Infor	mation	

Product Name : Vanguard MC Val Idx;Adm (VMVAX)

Fund Family: Vanguard Group Inc

Ticker: VMVAX

Peer Group : IM U.S. Mid Cap Value Equity (MF)
Benchmark : CRSP U.S. Mid Cap Value TR Index

 Fund Inception:
 09/27/2011

 Portfolio Manager:
 Butler/Johnson

 Total Assets:
 \$8,889 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 0.07%

 Net Expense:
 0.07%

 Turnover:
 17%

### Fund Characteristics As of 06/30/2018

 Total Securities
 217

 Avg. Market Cap
 \$14,339 Million

 P/E
 23.06

 P/B
 3.26

 Div. Yield
 2 50%

P/B 3.26
Div. Yield 2.50%
Annual EPS 22.99
5Yr EPS 5.61
3Yr EPS Growth 5.44

### Portfolio Statistics - 36 Months

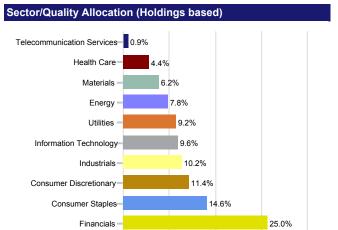
	Portfolio	Benchmark	Peer Median
Standard Deviation	9.60	9.62	10.39
Beta	1.00	1.00	1.02
Sharpe Ratio	1.25	1.25	1.04
Information Ratio	-1.16	N/A	-0.42
Tracking Error	0.04	0.00	3.62
Consistency	36.11	0.00	44.44
Up Market Capture	99.73	100.00	96.09
Down Market Capture	99.87	100.00	107.52
R-Squared	1.00	1.00	0.89

### **Fund Objective**

The Fund seeks to track the performance of a benchmark index that measures the investment return of mid-capitalization value stocks. The Fund employs an indexing investment approach designed to track the performance of the CRSP US Mid Cap Value Index by investing all of its assets in the stocks that make up the Index.

Performance Summary (net of fees)						
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Vanguard MC Val Idx;Adm (VMVAX)	3.10	3.10	9.43	13.07	11.47	N/A
CRSP U.S. Mid Cap Value TR Index	3.10	3.11	9.47	13.12	11.52	12.38
Excess Return	0.00	-0.01	-0.04	-0.05	-0.05	N/A

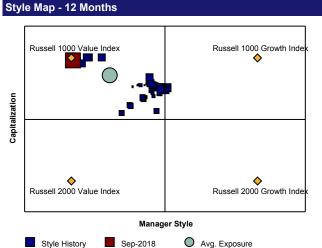
# Calendar Year Returns 50.00 40.00 30.00 10.00 -10.00 2010 2011 2012 2013 2014 2015 2016 2017 YTD Vanguard MC Val Idx;Adm (VMVAX) CRSP U.S. Mid Cap Value TR Index



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Hartfd:MidCap HLS;IA

As of September 30, 2018

Fund Information	
Product Name :	Hartfd:MidCap HLS;IA
Fund Family:	Hartford Funds Management Company LLC

Ticker:

Peer Group: IM U.S. Mid Cap Core Equity (MF)

Benchmark: Russell Midcap Index

Fund Inception: 07/14/1997
Portfolio Manager: Team Managed

Total Assets:

Total Assets Date : 06/30/2018
Gross Expense : 0.70%
Net Expense : 0.70%
Turnover : 36%

### Fund Characteristics As of 06/30/2018

Total Securities	103
Avg. Market Cap	\$9,273 Million
P/E	34.12
P/B	6.29
Div. Yield	1.27%
Annual EPS	20.33
5Yr EPS	12.20
3Yr EPS Growth	5.48

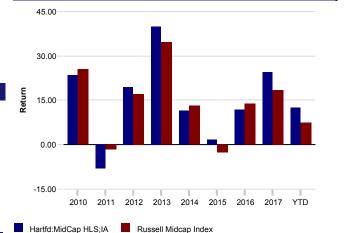
### Portfolio Statistics - 36 Months

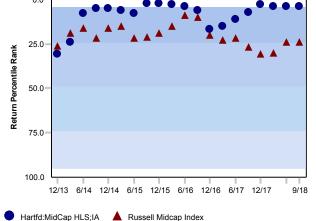
	Portfolio	Benchmark	Peer Median
Standard Deviation	10.73	9.45	10.16
Beta	1.08	1.00	1.00
Sharpe Ratio	1.46	1.41	1.15
Information Ratio	0.73	N/A	-0.52
Tracking Error	3.31	0.00	3.60
Consistency	52.78	0.00	41.67
Up Market Capture	116.10	100.00	93.38
Down Market Capture	113.67	100.00	102.13
R-Squared	0.91	1.00	0.88

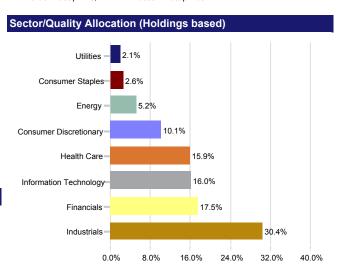
### **Fund Objective**

The Fund seeks long-term growth of capital. The Fund invests at least 80% of its assets in common stocks of mid-capitalization companies. The Fund may invest up to 20% of its total assets in securities of foreign issuers and non-dollar securities.













**SMID Domestic Equity** 

Goldman:Sm/Md Cp Gr;A (GSMAX)

As of September 30, 2018

Fund Information
------------------

Product Name : Goldman:Sm/Md Cp Gr;A (GSMAX)
Fund Family : Goldman Sachs & Co/GSAM

Ticker: GSMAX

Peer Group: IM U.S. SMID Cap Growth Equity (MF)

Benchmark: Russell 2500 Growth Index

Fund Inception: 06/30/2005

Portfolio Manager: Zimmerman/DeSantis

 Total Assets:
 \$337 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 1.30%

 Net Expense:
 1.27%

 Turnover:
 60%

### Fund Characteristics As of 06/30/2018

93 **Total Securities** Avg. Market Cap \$8,411 Million P/E 36.63 P/B 8.34 Div. Yield 1.23% Annual EPS 33.76 5Yr EPS 20.30 3Yr EPS Growth 16.61

### Portfolio Statistics - 36 Months

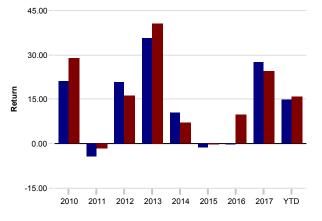
	Portfolio	Benchmark	Peer Median
Standard Deviation	11.38	11.97	12.93
Beta	0.89	1.00	1.02
Sharpe Ratio	1.17	1.39	1.35
Information Ratio	-0.76	N/A	0.13
Tracking Error	4.35	0.00	4.53
Consistency	44.44	0.00	50.00
Up Market Capture	86.90	100.00	99.81
Down Market Capture	99.37	100.00	92.66
R-Squared	0.87	1.00	0.89

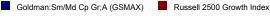
### **Fund Objective**

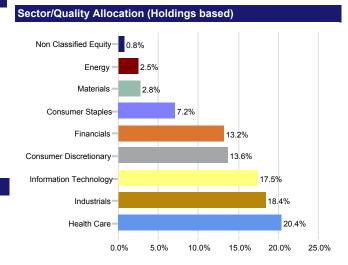
The Fund seeks long-term growth of capital. The Fund achieves this objective by investing at least 90% of its assets in equity investments with a primary focus on small and mid-capitalization companies.

Performance Summary (net of fees)							
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years	
Goldman:Sm/Md Cp Gr;A (GSMAX)	7.12	14.67	20.53	14.24	11.21	13.24	
Russell 2500 Growth Index	7.17	15.78	23.13	17.96	12.88	13.61	
Excess Return	-0.05	-1.11	-2.60	-3.72	-1.67	-0.37	

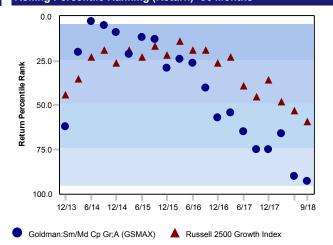
### Calendar Year Returns



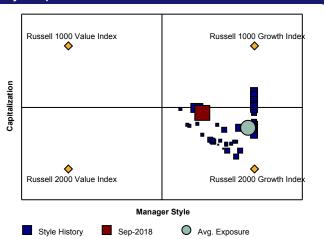




### Rolling Percentile Ranking (Return)- 36 Months



### Style Map - 12 Months





Oppenheimer Mn St MC;Y (OPMYX)

As of September 30, 2018

Fund Information				
Product Name :	Oppenheimer Mn St MC;Y (OPMYX)			

Fund Family: OppenheimerFunds Inc

Ticker: OPMYX

Peer Group: IM U.S. Mid Cap Core Equity (MF)

Benchmark: Russell Midcap Index

 Fund Inception :
 08/02/1999

 Portfolio Manager :
 Raymond Anello

 Total Assets :
 \$607 Million

 Total Assets Date :
 07/31/2018

 Gross Expense :
 0.86%

 Net Expense :
 0.86%

 Turnover :
 68%

### Fund Characteristics As of 06/30/2018

**Total Securities** 91 Avg. Market Cap \$17,432 Million P/E 26.67 P/B 5.29 Div. Yield 2.76% Annual EPS 20.82 5Yr EPS 15.86 3Yr EPS Growth 13.42

### Portfolio Statistics - 36 Months

	Portfolio	Benchmark	Peer Median
Standard Deviation	7.78	9.45	10.16
Beta	0.76	1.00	1.00
Sharpe Ratio	1.44	1.41	1.15
Information Ratio	-0.57	N/A	-0.52
Tracking Error	3.70	0.00	3.60
Consistency	41.67	0.00	41.67
Up Market Capture	79.36	100.00	93.38
Down Market Capture	66.55	100.00	102.13
R-Squared	0.86	1.00	0.88

### **Fund Objective**

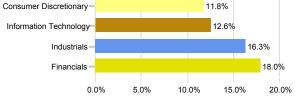
The Fund seeks capital appreciation. The Fund mainly invests in common stocks of small and mid-cap companies. Under normal market conditions, the Fund will invest at least 80% of its net assets in securities of companies having a market capitalization in the range of the Russell 2500 Index and the Russell Midcap Index.

Performance Summary (net of fees)						
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Oppenheimer Mn St MC;Y (OPMYX)	3.35	7.46	12.15	12.30	9.62	10.78
Russell Midcap Index	5.00	7.46	13.98	14.52	11.65	12.31
Excess Return	-1.65	0.00	-1.83	-2.22	-2.03	-1.53

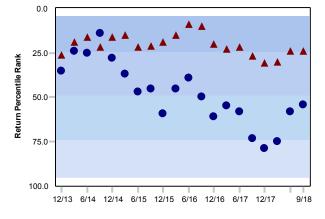
# 20.00 2011 2012 2013 2014 2015 2016 2017 YTD



Oppenheimer Mn St MC;Y (OPMYX) Russell Midcap Index



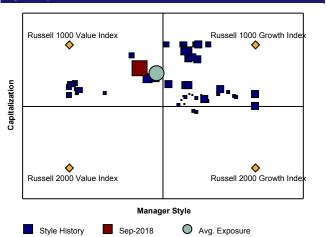
### Rolling Percentile Ranking (Return)- 36 Months













Vanguard Ext Mk Id;Inst (VIEIX)

As of September 30, 2018

Fund information	
Product Name :	Vanguard Ext Mk Id;Inst (VIEIX

Fund Family: Vanguard Group Inc

Ticker: VIEIX

Peer Group: IM U.S. SMID Cap Core Equity (MF)

Benchmark: S&P Completion Index

Fund Inception: 07/07/1997
Portfolio Manager: Butler/Coleman
Total Assets: \$14,672 Million
Total Assets Date: 07/31/2018
Gross Expense: 0.06%
Net Expense: 0.06%
Turnover: 11%

# Fund Characteristics As of 06/30/2018

**Total Securities** 3.281 Avg. Market Cap \$6,945 Million P/E 30.28 P/B 5.21 Div. Yield 2.50% Annual EPS 23.45 5Yr EPS 12.04 3Yr EPS Growth 13.19

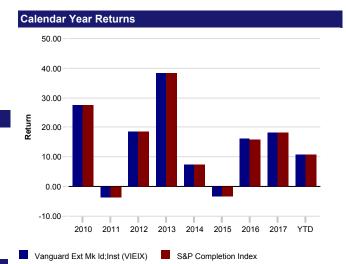
Portfolio	<b>Statistics</b>	- 36 Months	

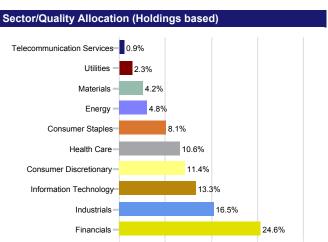
	Portfolio	Benchmark	Peer Media
Standard Deviation	11.18	11.16	12.16
Beta	1.00	1.00	1.01
Sharpe Ratio	1.34	1.33	1.14
Information Ratio	2.09	N/A	-0.27
Tracking Error	0.06	0.00	4.35
Consistency	75.00	0.00	44.44
Up Market Capture	100.48	100.00	99.23
Down Market Capture	99.88	100.00	113.11
R-Squared	1.00	1.00	0.88

## **Fund Objective**

The Fund seeks to track the performance of a benchmark index that measures the investment return of small- and mid-capitalization stocks.

Performance Summary (net of fees)						
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Vanguard Ext Mk Id;Inst (VIEIX)	4.37	10.79	16.12	16.18	11.43	12.44
S&P Completion Index	4.33	10.66	16.02	16.04	11.31	12.31
Excess Return	0.04	0.13	0.10	0.14	0.12	0.13

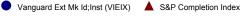


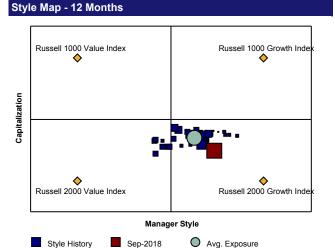


8.0%

0.0%







16.0%

24.0%

32.0%

International Equity

Vanguard Dev Mkt;Inst (VTMNX)

As of September 30, 2018

Fund Information

i una imormation	
Product Name :	Vanguard Dev Mkt;Inst (VTMNX)

Fund Family: Vanguard Group Inc

Ticker: VTMNX

Peer Group: IM International Equity (MF)

Benchmark : Vanguard Developed Market Policy Index

Fund Inception: 01/04/2001
Portfolio Manager: Franquin/Perre
Total Assets: \$11,686 Million
Total Assets Date: 07/31/2018
Gross Expense: 0.06%
Net Expense: 0.06%
Turnover: 3%

#### Fund Characteristics As of 06/30/2018

Total Securities 3,895

Avg. Market Cap \$51,421 Million

 P/E
 20.87

 P/B
 2.99

 Div. Yield
 2.96%

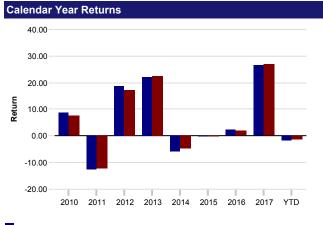
 Annual EPS
 30.17

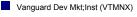
 5Yr EPS
 9.96

 3Yr EPS Growth
 11.34

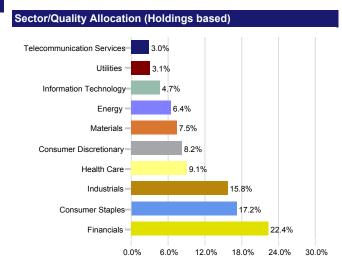
Portfolio Statistics - 36 Months						
	Portfolio	Benchmark	Peer Median			
Standard Deviation	9.92	10.74	11.08			
Beta	0.91	1.00	0.91			
Sharpe Ratio	0.92	0.89	0.77			
Information Ratio	-0.23	N/A	-0.18			
Tracking Error	1.99	0.00	5.61			
Consistency	47.22	0.00	47.22			
Up Market Capture	92.15	100.00	89.86			
Down Market Capture	88.85	100.00	89.28			
R-Squared	0.97	1.00	0.75			

Performance Summary (net of fees)						
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Vanguard Dev Mkt;Inst (VTMNX)	1.09	-1.59	2.79	9.85	4.85	5.55
Vanguard Developed Market Policy Index	1.35	-1.43	3.43	10.26	5.16	5.76
Excess Return	-0.26	-0.16	-0.64	-0.41	-0.31	-0.21

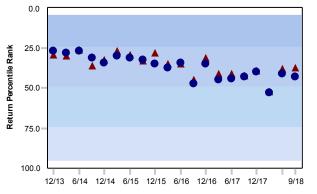




Vanguard Developed Market Policy Index



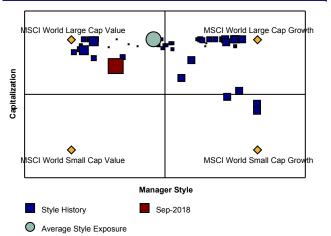
# Rolling Percentile Ranking (Return)- 36 Months



Vanguard Dev Mkt;Inst (VTMNX)

▲ Vanguard Developed Market Policy Index

# Style Map - 12 Months



International Equity w/ E.M.

Dodge & Cox Intl Stock (DODFX)

As of September 30, 2018

# **Fund Information**

Product Name : Dodge & Cox Intl Stock (DODFX)

Fund Family : Dodge & Cox Ticker : DODFX

Peer Group: IM International Core Equity (MF)
Benchmark: MSCI AC World ex USA (Net)

 Fund Inception:
 05/01/2001

 Portfolio Manager:
 Team Managed

 Total Assets:
 \$59,274 Million

 Total Assets Date:
 06/30/2018

 Gross Expense:
 0.63%

 Net Expense:
 0.63%

 Turnover:
 17%

#### Fund Characteristics As of 06/30/2018

Total Securities 79

Avg. Market Cap \$66,348 Million

 P/E
 24.42

 P/B
 2.08

 Div. Yield
 3.34%

 Annual EPS
 34.04

 5Yr EPS
 5.76

 3Yr EPS Growth
 3.58

# Portfolio Statistics - 36 Months

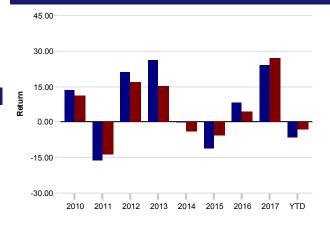
	Portfolio	Benchmark	Peer Median
Standard Deviation	13.77	10.73	10.21
Beta	1.20	1.00	0.91
Sharpe Ratio	0.58	0.87	0.77
Information Ratio	-0.24	N/A	-0.41
Tracking Error	5.24	0.00	3.40
Consistency	47.22	0.00	47.22
Up Market Capture	109.58	100.00	91.68
Down Market Capture	130.73	100.00	95.19
R-Squared	0.88	1.00	0.90

## **Fund Objective**

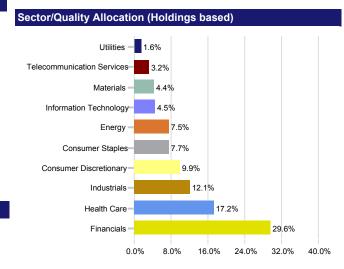
The Fund seeks long-term growth of principal and income by investing primarily in a diversified portfolio of equity securities issued by non-U.S. companies from at least three different foreign countries, including emerging markets.

Performance Summary (net of fee	es)					
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Dodge & Cox Intl Stock (DODFX)	0.81	-6.39	-5.26	8.20	3.74	5.90
MSCI AC World ex USA (Net)	0.71	-3.09	1.76	9.97	4.12	5.18
Excess Return	0.10	-3.30	-7.02	-1.77	-0.38	0.72

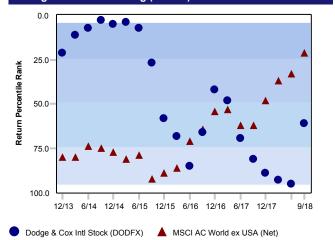
#### **Calendar Year Returns**



# Dodge & Cox Intl Stock (DODFX) MSCI AC World ex USA (Net)



# Rolling Percentile Ranking (Return)- 36 Months



## Style Map - 12 Months





Global Equity

Franklin Mut GI Disc; A (TEDIX)

As of September 30, 2018

Fund Information	
Product Name :	Franklin Mut GI Disc;A (TED

OIX) Fund Family: Franklin Templeton Investments

Ticker: **TEDIX** 

Peer Group: IM Global Core Equity (MF) Benchmark: MSCI AC World Index (Net)

Fund Inception: 11/01/1996 Portfolio Manager: Team Managed Total Assets: \$8,641 Million Total Assets Date: 06/30/2018 Gross Expense: 1.21% Net Expense: 1.21% Turnover: 18%

## Fund Characteristics As of 06/30/2018

**Total Securities** 121

Avg. Market Cap \$94,446 Million

P/E 22.75 P/B 2.36 Div. Yield 3.06% Annual EPS 31.46 5Yr EPS 5.47 3Yr EPS Growth 9.84

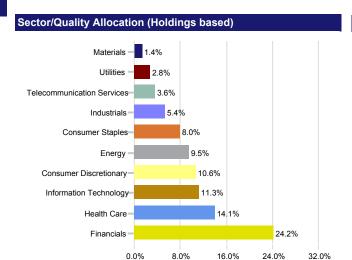
Portfolio Statistics - 36 Months

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	Portfolio	Benchmark	Peer Media
Standard Deviation	8.36	9.24	9.22
Beta	0.79	1.00	0.95
Sharpe Ratio	1.00	1.33	1.24
Information Ratio	-0.86	N/A	-0.35
Tracking Error	4.48	0.00	2.93

Standard Deviation	8.36	9.24	9.22
Beta	0.79	1.00	0.95
Sharpe Ratio	1.00	1.33	1.24
Information Ratio	-0.86	N/A	-0.35
Tracking Error	4.48	0.00	2.93
Consistency	38.89	0.00	47.22
Up Market Capture	76.49	100.00	95.32
Down Market Capture	89.02	100.00	102.42
R-Squared	0.77	1.00	0.91

Performance Summary (net of fees)						
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Franklin Mut Gl Disc;A (TEDIX)	3.48	1.82	2.84	9.24	6.43	7.50
MSCI AC World Index (Net)	4.28	3.83	9.77	13.40	8.67	8.19
Excess Return	-0.80	-2.01	-6.93	-4.16	-2.24	-0.69







Franklin Mut Gl Disc;A (TEDIX)



▲ MSCI AC World Index (Net)



**Domestic Fixed Income** 

Vanguard Tot Bd;Inst (VBTIX)

As of September 30, 2018

Fund imormation	
Product Name :	Vanguard Tot Bd;Inst (VBTIX)
Fund Family:	Vanguard Group Inc

Ticker: **VBTIX** 

Peer Group: IM U.S. Broad Market Core Fixed Income

Vanguard Total Bond Policy Index Benchmark:

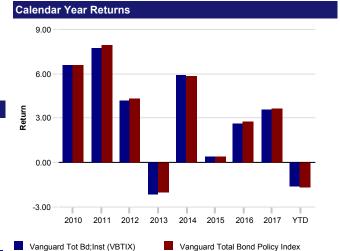
09/18/1995 Fund Inception: Portfolio Manager: Joshua C. Barrickman Total Assets: \$39,986 Million

Total Assets Date: 07/31/2018 Gross Expense: 0.04% Net Expense: 0.04% Turnover: 55%

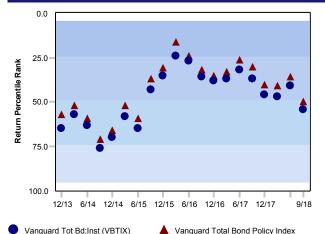
## Fund Characteristics As of 03/31/2018

Avg. Coupon 3.08 % **Nominal Maturity** N/A Effective Maturity 8.50 Years Duration 6.08 Years SEC 30 Day Yield 2.69 Avg. Credit Quality

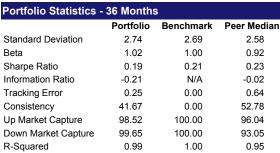
	1 Quarter	CYTD	1 Year	3 Years	5 Years	10 Years
Vanguard Tot Bd;Inst (VBTIX)	0.03	-1.60	-1.21	1.29	2.10	3.73
Vanguard Total Bond Policy Index	0.04	-1.64	-1.23	1.35	2.16	3.80
Excess Return	-0.01	0.04	0.02	-0.06	-0.06	-0.07

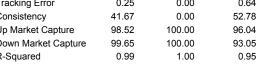


Performance Summary (net of fees)



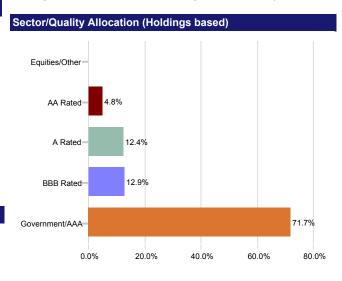
Rolling Percentile Ranking (Return)- 36 Months

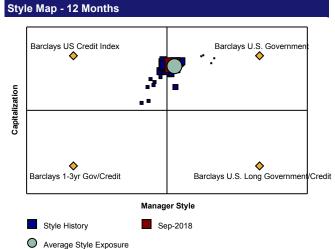




# **Fund Objective**

The Fund seeks to track the performance of a broad, marketweighted bond index.







**Target Date Retirement Funds** 

Vanguard ITR Inc;Inst (VITRX)

As of September 30, 2018

# **Fund Information**

Product Name : Vanguard ITR Inc;Inst (VITRX)

Fund Family: Vanguard Group Inc

Ticker: VITRX

Peer Group: IM Mixed-Asset Target 2010 (MF)

Benchmark : Vanguard Target Income Composite Index

Fund Inception: 06/26/2015
Portfolio Manager: Coleman/Nejman
Total Assets: \$5,642 Million
Total Assets Date: 07/31/2018
Gross Expense: 0.09%
Net Expense: 0.09%
Turnover: 7%

#### Fund Characteristics As of 06/30/2018

Total Securities 6

Avg. Market Cap \$36,675 Million

P/E 7.41
P/B 1.54
Div. Yield 0.78%
Annual EPS 7.42
5Yr EPS 3.54
3Yr EPS Growth 3.48

# Portfolio Statistics - 36 Months

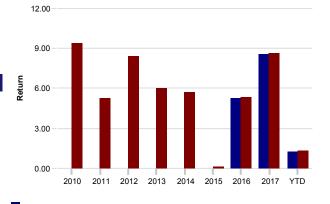
	Portfolio	Benchmark	Peer Mediar
Standard Deviation	2.97	3.00	4.06
Beta	0.99	1.00	1.31
Sharpe Ratio	1.52	1.55	1.35
Information Ratio	-0.60	N/A	0.51
Tracking Error	0.22	0.00	1.43
Consistency	41.67	0.00	61.11
Up Market Capture	98.00	100.00	119.83
Down Market Capture	99.24	100.00	137.74
R-Squared	0.99	1.00	0.92

## **Fund Objective**

The Fund seeks to provide current income and some capital appreciation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors currently in retirement.

#### Performance Summary (net of fees) Year 1 To 3 5 10 Quarter Year Years Date Years Years Vanguard ITR Inc;Inst (VITRX) 1.26 3.34 1.34 5.42 N/A N/A Vanguard Target Income Composite Index 1.34 1.31 3.47 5.55 4.72 5.78 Excess Return 0.00 -0.05 -0.13 -0.13 N/A N/A

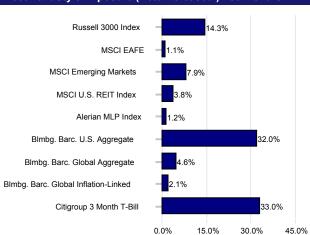
#### **Calendar Year Returns**



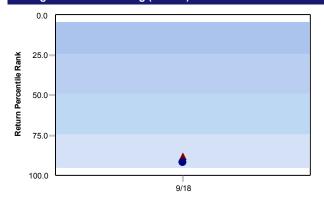
Vanguard ITR Inc;Inst (VITRX)

Vanguard Target Income Composite Index

# Investment Style Exposure (Returns based ) - 36 Months

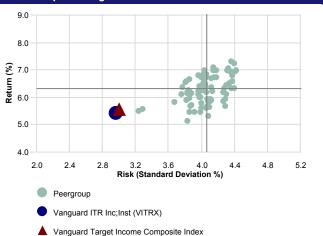


## Rolling Percentile Ranking (Return)- 36 Months



Vanquard ITR Inc:Inst (VITRX)

Vanguard Target Income Composite Index





Vanguard ITR 2015;Inst (VITVX)

As of September 30, 2018

# **Fund Information**

Vanguard ITR 2015;Inst (VITVX) Product Name:

Fund Family: Vanguard Group Inc

VITVX Ticker:

IM Mixed-Asset Target 2015 (MF) Peer Group:

Benchmark: Vanguard Target 2015 Composite Index

06/26/2015 Fund Inception:

Portfolio Manager: Buek/Coleman/Nejman

\$8.402 Million Total Assets: Total Assets Date: 07/31/2018 Gross Expense: 0.09% Net Expense: 0.09% Turnover: 10%

#### Fund Characteristics As of 06/30/2018

**Total Securities** 

Avg. Market Cap \$50,326 Million

P/E 10.17 P/B 2.12 Div. Yield 1.07% Annual EPS 10.17 5Yr EPS 4.85 3Yr FPS Growth 4.77

# Portfolio Statistics - 36 Months

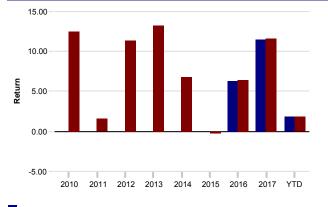
	Portfolio	Benchmark	Peer Median
Standard Deviation	4.18	4.29	4.66
Beta	0.97	1.00	1.06
Sharpe Ratio	1.50	1.50	1.37
Information Ratio	-0.54	N/A	-0.26
Tracking Error	0.32	0.00	0.99
Consistency	41.67	0.00	47.22
Up Market Capture	97.31	100.00	100.09
Down Market Capture	96.30	100.00	109.23
R-Squared	1.00	1.00	0.97

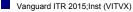
## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2015.

#### Performance Summary (net of fees) Year To 1 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2015;Inst (VITVX) 1.82 4.60 1.77 7.24 N/A N/A Vanguard Target 2015 Composite Index 1.80 1.88 4.78 7.41 6.13 7.00 Excess Return -0.03 -0.06 -0.18 -0.17 N/A N/A

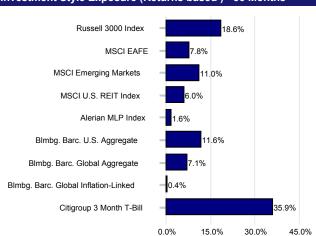
#### **Calendar Year Returns**



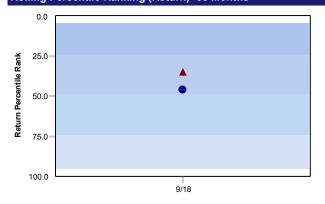


Vanguard Target 2015 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months



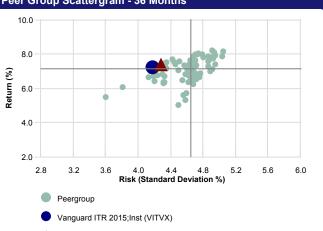
## Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2015:Inst (VITVX)

Vanguard Target 2015 Composite Index

# Peer Group Scattergram - 36 Months



Vanguard Target 2015 Composite Index



Vanguard ITR 2020;Inst (VITWX)

As of September 30, 2018

# **Fund Information**

Product Name: Vanguard ITR 2020;Inst (VITWX)

Fund Family: Vanguard Group Inc

Ticker: VITWX

Peer Group: IM Mixed-Asset Target 2020 (MF)
Benchmark: Vanguard Target 2020 Composite Index

 Fund Inception:
 06/26/2015

 Portfolio Manager:
 Coleman/Nejman

 Total Assets:
 \$21,481 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 0.09%

 Net Expense:
 0.09%

 Turnover:
 6%

#### Fund Characteristics As of 06/30/2018

Total Securities

Avg. Market Cap \$66,360 Million

P/E 13.37
P/B 2.79
Div. Yield 1.40%
Annual EPS 13.35
5Yr EPS 6.38
3Yr EPS Growth 6.27

## Portfolio Statistics - 36 Months

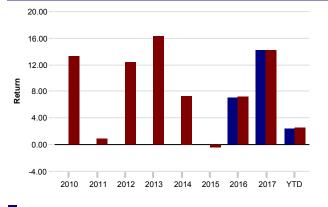
	Portfolio	Benchmark	Peer Median
Standard Deviation	5.10	5.23	4.94
Beta	0.97	1.00	0.92
Sharpe Ratio	1.52	1.51	1.32
Information Ratio	-0.47	N/A	-1.06
Tracking Error	0.40	0.00	1.03
Consistency	44.44	0.00	36.11
Up Market Capture	97.53	100.00	88.32
Down Market Capture	96.69	100.00	97.80
R-Squared	0.99	1.00	0.97

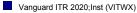
## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2020.

#### Performance Summary (net of fees) Year To 1 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2020;Inst (VITWX) 2.40 2.44 5.92 8.73 N/A N/A Vanguard Target 2020 Composite Index 2.36 2.51 6.12 8.93 7.15 7.75 Excess Return 0.04 -0.20 -0.20 N/A -0.07N/A

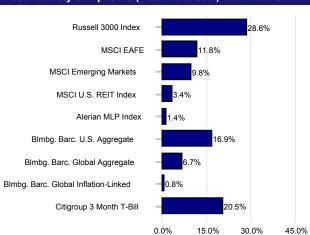
## Calendar Year Returns



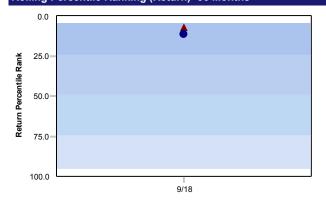


Vanguard Target 2020 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months

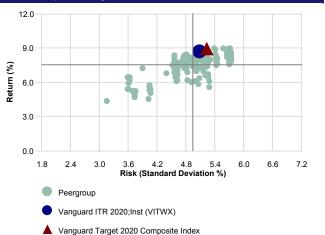


## Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2020:Inst (VITWX)

Vanguard Target 2020 Composite Index



Vanguard ITR 2025;Inst (VRIVX)

As of September 30, 2018

# **Fund Information**

Product Name: Vanguard ITR 2025;Inst (VRIVX)

Fund Family: Vanguard Group Inc

Ticker: VRIVX

Peer Group: IM Mixed-Asset Target 2025 (MF)

Benchmark: Vanguard Target 2025 Composite Index

 Fund Inception:
 06/26/2015

 Portfolio Manager:
 Coleman/Nejman

 Total Assets:
 \$27,584 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 0.09%

 Net Expense:
 0.09%

#### Fund Characteristics As of 06/30/2018

4%

Total Securities

Turnover:

Avg. Market Cap \$77,381 Million

P/E 15.62
P/B 3.26
Div. Yield 1.64%
Annual EPS 15.63
5Yr EPS 7.46
3Yr EPS Growth 7.33

## Portfolio Statistics - 36 Months

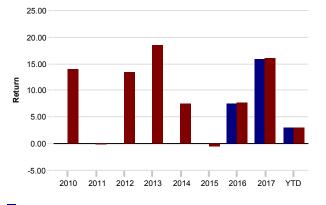
	Portfolio	Benchmark	Peer Median
Standard Deviation	5.79	5.94	5.76
Beta	0.97	1.00	0.94
Sharpe Ratio	1.51	1.50	1.36
Information Ratio	-0.42	N/A	-1.00
Tracking Error	0.46	0.00	1.08
Consistency	47.22	0.00	36.11
Up Market Capture	97.70	100.00	91.79
Down Market Capture	96.79	100.00	98.42
R-Squared	0.99	1.00	0.98

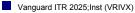
## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2025.

#### Performance Summary (net of fees) Year To 1 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2025;Inst (VRIVX) 2.93 2.80 6.85 9.80 N/A N/A Vanguard Target 2025 Composite Index 2.76 2.96 7.08 10.00 7.80 8.19 Excess Return 0.04 -0.03 -0.23 -0.20 N/A N/A

#### Calendar Year Returns



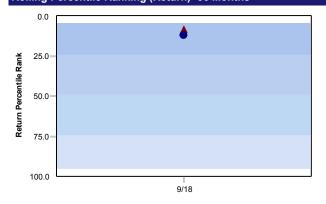


Vanguard Target 2025 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months

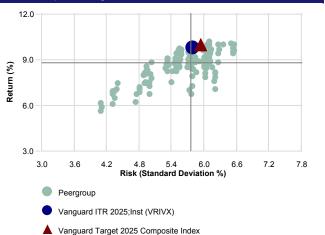


# Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2025:Inst (VRIVX)

▲ Vanguard Target 2025 Composite Index



Vanguard ITR 2030;Inst (VTTWX)

As of September 30, 2018

# **Fund Information**

Product Name: Vanguard ITR 2030;Inst (VTTWX)

Fund Family: Vanguard Group Inc

Ticker: VTTWX

Peer Group: IM Mixed-Asset Target 2030 (MF)
Benchmark: Vanguard Target 2030 Composite Index

 Fund Inception:
 06/26/2015

 Portfolio Manager:
 Coleman/Nejman

 Total Assets:
 \$25,037 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 0.09%

 Net Expense:
 0.09%

 Turnover:
 4%

#### Fund Characteristics As of 06/30/2018

Total Securities 5

Avg. Market Cap \$86,661 Million

P/E 17.50
P/B 3.65
Div. Yield 1.84%
Annual EPS 17.52
5Yr EPS 8.36
3Yr EPS Growth 8.22

# Portfolio Statistics - 36 Months

	Portfolio	Benchmark	Peer Median
Standard Deviation	6.46	6.60	6.44
Beta	0.98	1.00	0.97
Sharpe Ratio	1.49	1.49	1.36
Information Ratio	-0.41	N/A	-0.76
Tracking Error	0.50	0.00	1.22
Consistency	50.00	0.00	38.89
Up Market Capture	98.54	100.00	95.43
Down Market Capture	99.79	100.00	101.73
R-Squared	0.99	1.00	0.98

## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2030.

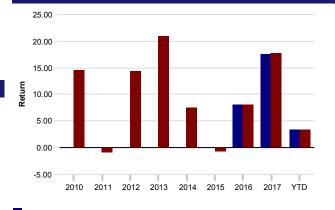
#### Performance Summary (net of fees) Year To 1 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2030;Inst (VTTWX) 3.33 3.11 7.73 10.74 N/A N/A 3.10 Vanguard Target 2030 Composite Index 3.41 7.97 10.96 8.37 8.57

-0.08

0.01

#### **Calendar Year Returns**

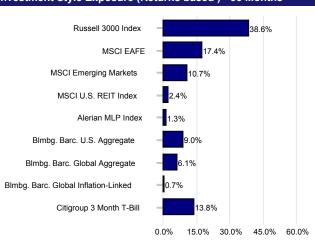
Excess Return



Vanguard ITR 2030;Inst (VTTWX)

Vanguard Target 2030 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months



## Rolling Percentile Ranking (Return)- 36 Months

-0.22

N/A

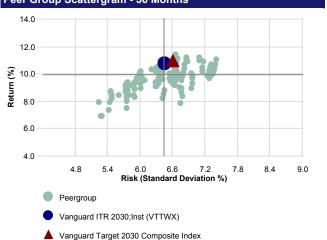
N/A



Vanguard ITR 2030:Inst (VTTWX)

-0.24

▲ Vanguard Target 2030 Composite Index





Vanguard ITR 2035;Inst (VITFX)

As of September 30, 2018

# Fund Information

Product Name: Vanguard ITR 2035;Inst (VITFX)

Fund Family: Vanguard Group Inc

Ticker: VITFX

Peer Group : IM Mixed-Asset Target 2035 (MF)

Benchmark : Vanguard Target 2035 Composite Index

Fund Inception: 06/26/2015
Portfolio Manager: Coleman/Nejman
Total Assets: \$23,253 Million
Total Assets Date: 07/31/2018

Gross Expense: 0.09% Net Expense: 0.09% Turnover: 4%

#### Fund Characteristics As of 06/30/2018

Total Securities 5

Avg. Market Cap \$95,960 Million

P/E 19.39
P/B 4.04
Div. Yield 2.03%
Annual EPS 19.42
5Yr EPS 9.26
3Yr EPS Growth 9.10

# Portfolio Statistics - 36 Months

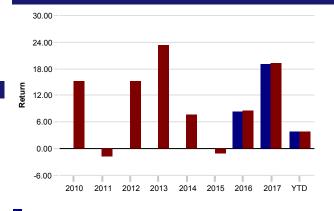
	Portfolio	Benchmark	Peer Median
Standard Deviation	7.10	7.28	7.20
Beta	0.97	1.00	0.98
Sharpe Ratio	1.48	1.48	1.38
Information Ratio	-0.42	N/A	-0.66
Tracking Error	0.54	0.00	1.15
Consistency	44.44	0.00	41.67
Up Market Capture	98.50	100.00	96.44
Down Market Capture	99.78	100.00	103.35
R-Squared	0.99	1.00	0.98

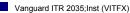
## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2035.

#### Performance Summary (net of fees) Year To 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2035;Inst (VITFX) 3.77 3.46 8.54 11.66 N/A N/A 8.93 Vanguard Target 2035 Composite Index 3.43 3.83 8.82 11.90 9.00 Excess Return 0.03 -0.06 -0.28 N/A -0.24N/A

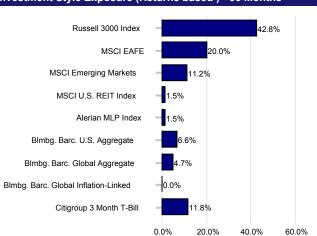
#### **Calendar Year Returns**



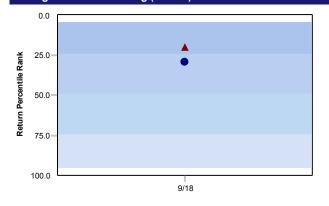


Vanguard Target 2035 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months

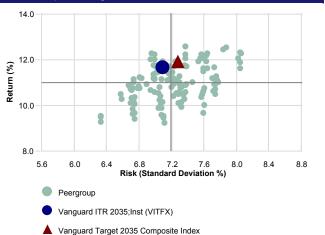


## Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2035;Inst (VITFX)

▲ Vanguard Target 2035 Composite Index



Vanguard ITR 2040;Inst (VIRSX)

As of September 30, 2018

# Fund Information

Product Name: Vanguard ITR 2040;Inst (VIRSX)

Fund Family: Vanguard Group Inc

Ticker: VIRSX

Peer Group: IM Mixed-Asset Target 2040 (MF)
Benchmark: Vanguard Target 2040 Composite Index

 Fund Inception:
 06/26/2015

 Portfolio Manager:
 Coleman/Nejman

 Total Assets:
 \$20,093 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 0.09%

 Net Expense:
 0.09%

 Turnover:
 5%

# Fund Characteristics As of 06/30/2018

Total Securities

Avg. Market Cap \$105,226 Million

 P/E
 21.27

 P/B
 4.43

 Div. Yield
 2.23%

 Annual EPS
 21.31

 5Yr EPS
 10.16

 3Yr EPS Growth
 9.99

# Portfolio Statistics - 36 Months

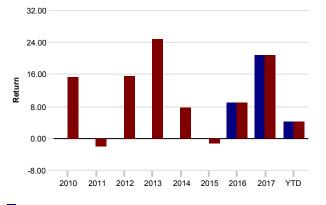
	Portfolio	Benchmark	Peer Median
Standard Deviation	7.77	7.96	7.63
Beta	0.97	1.00	0.94
Sharpe Ratio	1.47	1.46	1.36
Information Ratio	-0.39	N/A	-0.79
Tracking Error	0.64	0.00	1.29
Consistency	44.44	0.00	38.89
Up Market Capture	98.31	100.00	94.24
Down Market Capture	99.03	100.00	98.35
R-Squared	0.99	1.00	0.98

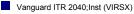
#### **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2040.

#### Performance Summary (net of fees) Year To 1 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2040;Inst (VIRSX) 4.19 3.80 9.39 12.58 N/A N/A Vanguard Target 2040 Composite Index 3.77 4.23 9.67 12.84 9.44 9.36 Excess Return 0.03 -0.04 -0.28 -0.26 N/A N/A

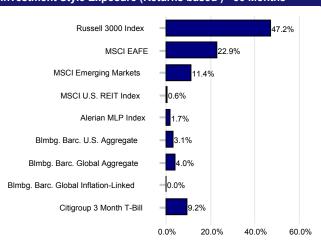
#### **Calendar Year Returns**



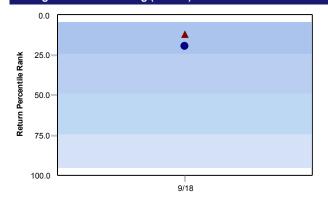


Vanguard Target 2040 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months

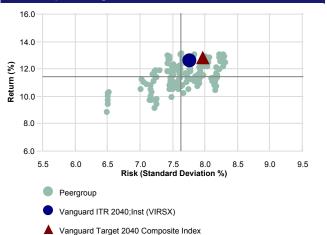


#### Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2040:Inst (VIRSX)

▲ Vanguard Target 2040 Composite Index





Vanguard ITR 2045;Inst (VITLX)

As of September 30, 2018

#### **Fund Information** Vanguard ITR 2045;Inst (VITLX) Product Name:

Fund Family: Vanguard Group Inc

VITLX Ticker:

IM Mixed-Asset Target 2045 (MF) Peer Group: Benchmark: Vanguard Target 2045 Composite Index

06/26/2015 Fund Inception: Portfolio Manager: Coleman/Nejman \$16.820 Million Total Assets: Total Assets Date: 07/31/2018 Gross Expense: 0.09% Net Expense: 0.09% Turnover: 5%

#### Fund Characteristics As of 06/30/2018

**Total Securities** 

Avg. Market Cap \$111,024 Million

P/E 22.45 P/B 4.68 Div. Yield 2.36% Annual EPS 22 49 5Yr EPS 10.72 3Yr FPS Growth 10.54

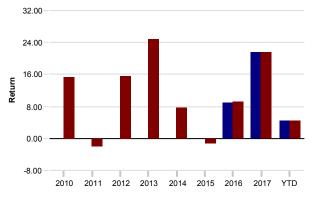
# Portfolio Statistics - 36 Months

	Portfolio	Benchmark	Peer Median
Standard Deviation	7.93	8.14	8.01
Beta	0.97	1.00	0.97
Sharpe Ratio	1.48	1.47	1.39
Information Ratio	-0.37	N/A	-0.77
Tracking Error	0.64	0.00	1.27
Consistency	50.00	0.00	38.89
Up Market Capture	98.24	100.00	95.24
Down Market Capture	98.40	100.00	99.39
R-Squared	0.99	1.00	0.98

## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2045.

#### Performance Summary (net of fees) Year To 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2045;Inst (VITLX) 4.45 4.02 9.92 12.97 N/A N/A Vanguard Target 2045 Composite Index 3.98 4.49 10.15 13.22 9.65 9.46 Excess Return -0.04 -0.23 -0.25 0.04 N/A N/A

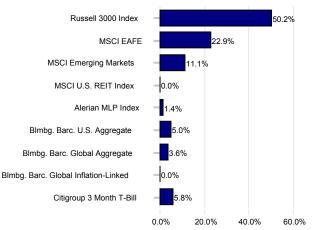




Vanguard Target 2045 Composite Index

Calendar Year Returns







Vanguard ITR 2045:Inst (VITLX) Vanguard Target 2045 Composite Index

Peer Group Scattergram - 36 Months

# 14.0 Return (%) 12.0 10.0 6.9 7.2 7.5 7.8 8.7 9.0 8.1 8 4 Risk (Standard Deviation %)

Peergroup

Vanguard ITR 2050;Inst (VTRLX)

As of September 30, 2018

# **Fund Information**

Vanguard ITR 2050;Inst (VTRLX) Product Name:

Fund Family: Vanguard Group Inc

VTRLX Ticker:

IM Mixed-Asset Target 2050 (MF) Peer Group: Benchmark: Vanguard Target 2050 Composite Index

06/26/2015 Fund Inception: Portfolio Manager: Coleman/Nejman \$11.722 Million Total Assets: Total Assets Date: 07/31/2018 Gross Expense: 0.09% Net Expense: 0.09% Turnover: 5%

#### Fund Characteristics As of 06/30/2018

**Total Securities** 

\$111,095 Million Avg. Market Cap

P/E 22.47 P/B 4.68 Div. Yield 2.36% 22 52 Annual EPS 5Yr EPS 10.73 3Yr FPS Growth 10.55

## Portfolio Statistics - 36 Months

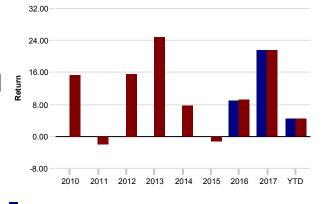
	Portfolio	Benchmark	Peer Median
Standard Deviation	7.95	8.14	8.10
Beta	0.97	1.00	0.98
Sharpe Ratio	1.48	1.47	1.36
Information Ratio	-0.35	N/A	-0.65
Tracking Error	0.67	0.00	1.29
Consistency	44.44	0.00	38.89
Up Market Capture	98.22	100.00	96.22
Down Market Capture	98.38	100.00	102.06
R-Squared	0.99	1.00	0.98

## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2050.

#### Performance Summary (net of fees) Year To 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2050;Inst (VTRLX) 4.01 4.45 9.88 12.97 N/A N/A 9.65 Vanguard Target 2050 Composite Index 3.98 4.49 10.15 13.22 9.46 Excess Return 0.03 -0.04 -0.27 -0.25 N/A N/A

# **Calendar Year Returns**

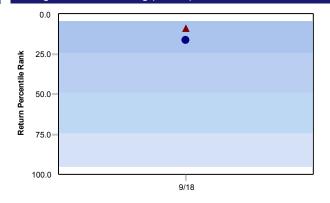


Vanguard ITR 2050;Inst (VTRLX)

Vanguard Target 2050 Composite Index



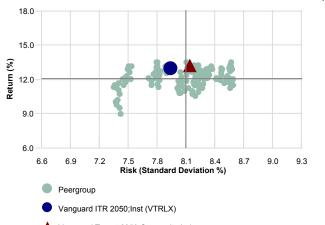
## Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2050:Inst (VTRLX)

Vanguard Target 2050 Composite Index

# Peer Group Scattergram - 36 Months



Vanguard Target 2050 Composite Index

Vanguard ITR 2055;Inst (VIVLX)

As of September 30, 2018

#### **Fund Information** Vanguard ITR 2055;Inst (VIVLX) Product Name : Fund Family: Vanguard Group Inc

VIVLX Ticker:

IM Mixed-Asset Target 2055 (MF) Peer Group: Benchmark: Vanguard Target 2055 Composite Index

06/26/2015 Fund Inception: Portfolio Manager: Coleman/Nejman \$5.168 Million Total Assets: Total Assets Date: 07/31/2018 Gross Expense: 0.09% Net Expense: 0.09% Turnover: 6%

Total	Securities	5

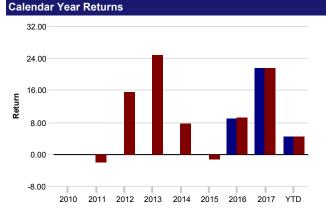
\$110,884 Million Avg. Market Cap

P/E 22.45 P/B 4.67 Div. Yield 2.36% Annual EPS 22.52 5Yr EPS 10.73 3Yr EPS Growth 10.55

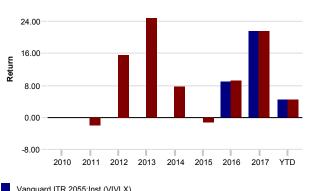
	Portfolio	Benchmark	Peer Median
Standard Deviation	7.93	8.14	8.18
Beta	0.97	1.00	0.99
Sharpe Ratio	1.48	1.47	1.39
Information Ratio	-0.40	N/A	-0.57
Tracking Error	0.65	0.00	1.27
Consistency	41.67	0.00	38.89
Up Market Capture	98.15	100.00	96.83
Down Market Capture	98.60	100.00	101.89
R-Squared	0.99	1.00	0.98

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2055.

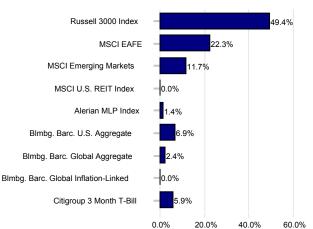
#### Performance Summary (net of fees) Year To 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2055;Inst (VIVLX) 4.01 4.44 9.84 12.94 N/A N/A Vanguard Target 2055 Composite Index 9.65 3.98 4.49 10.15 13.22 N/A Excess Return 0.03 -0.05 -0.31 -0.28 N/A N/A







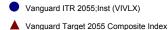




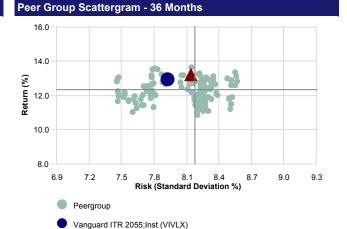


9/18

Rolling Percentile Ranking (Return)- 36 Months



100.0



Vanguard Target 2055 Composite Index

Vanguard ITR 2060;Inst (VILVX)

As of September 30, 2018

# Fund Information

Product Name: Vanguard ITR 2060;Inst (VILVX)

Fund Family: Vanguard Group Inc

Ticker: VILVX

Peer Group: IM Mixed-Asset Target 2055 (MF)
Benchmark: Vanguard Target 2060 Composite Index

Fund Inception: 06/26/2015
Portfolio Manager: Coleman/Nejman
Total Assets: \$1,419 Million
Total Assets Date: 07/31/2018
Gross Expense: 0.09%
Net Expense: 0.09%

#### Fund Characteristics As of 06/30/2018

7%

Total Securities

Turnover:

Avg. Market Cap \$110,861 Million

P/E 22.45
P/B 4.67
Div. Yield 2.36%
Annual EPS 22.53
5Yr EPS 10.73
3Yr EPS Growth 10.55

## Portfolio Statistics - 36 Months

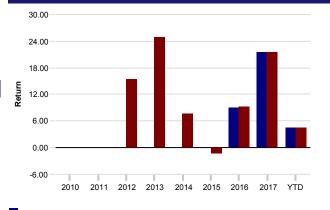
	Portfolio	Benchmark	Peer Median
Standard Deviation	7.95	8.14	8.18
Beta	0.97	1.00	0.99
Sharpe Ratio	1.48	1.47	1.39
Information Ratio	-0.40	N/A	-0.57
Tracking Error	0.64	0.00	1.27
Consistency	44.44	0.00	38.89
Up Market Capture	98.27	100.00	96.83
Down Market Capture	99.00	100.00	101.89
R-Squared	0.99	1.00	0.98

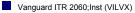
## **Fund Objective**

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2060.

#### Performance Summary (net of fees) Year To 1 3 5 10 Quarter Year Years Date Years Years Vanguard ITR 2060;Inst (VILVX) 4.05 4.44 9.83 12.94 N/A N/A 9.65 Vanguard Target 2060 Composite Index 3.98 4.49 10.15 13.22 N/A Excess Return 0.07 -0.05 -0.32 -0.28 N/A N/A

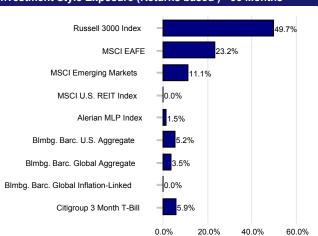
## Calendar Year Returns



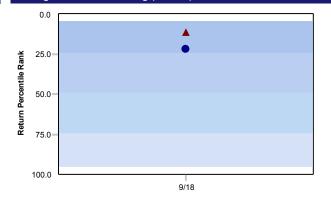


Vanguard Target 2060 Composite Index

# Investment Style Exposure (Returns based ) - 36 Months

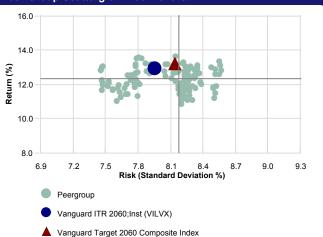


## Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2060:Inst (VILVX)

▲ Vanguard Target 2060 Composite Index





Vanguard ITR 2065;Inst (VSXFX)

As of September 30, 2018

# Fund Information

Product Name: Vanguard ITR 2065;Inst (VSXFX)

Fund Family: Vanguard Group Inc

Ticker: VSXFX

Peer Group: IM Mixed-Asset Target 2055 (MF)
Benchmark: Vanguard Target 2060 Composite Index

 Fund Inception:
 07/12/2017

 Portfolio Manager:
 Coleman/Nejman

 Total Assets:
 \$78 Million

 Total Assets Date:
 07/31/2018

 Gross Expense:
 0.09%

 Net Expense:
 0.09%

 Turnover:
 N/A

# Fund Characteristics As of 03/31/2018

Total Securities 5
Avg. Market Cap 5

\$103,296 Million

P/E 22.37
P/B 4.52
Div. Yield 2.34%
Annual EPS 20.89
5Yr EPS 10.53
3Yr EPS Growth 10.27

## Portfolio Statistics - 36 Months

	Portfolio	Benchmark	Peer Median
Standard Deviation	N/A	8.14	8.18
Beta	N/A	1.00	0.99
Sharpe Ratio	N/A	1.47	1.39
Information Ratio	N/A	N/A	-0.57
Tracking Error	N/A	0.00	1.27
Consistency	N/A	0.00	38.89
Up Market Capture	N/A	100.00	96.83
Down Market Capture	N/A	100.00	101.89
R-Squared	N/A	1.00	0.98

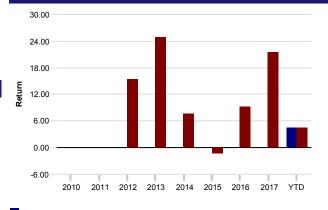
# Fund Objective

The Fund seeks to provide capital appreciation and current income consistent with its current asset allocation. The Fund invests in other Vanguard mutual funds according to an asset allocation strategy designed for investors planning to retire and leave the workforce in or within a few years of 2065.

# Performance Summary (net of fees)

		Year				
	1	То	1	3	5	10
	Quarter	Date	Year	Years	Years	Years
Vanguard ITR 2065;Inst (VSXFX)	3.94	4.47	9.93	N/A	N/A	N/A
Vanguard Target 2060 Composite Index	3.98	4.49	10.15	13.22	9.65	N/A
Excess Return	-0.04	-0.02	-0.22	N/A	N/A	N/A

#### **Calendar Year Returns**

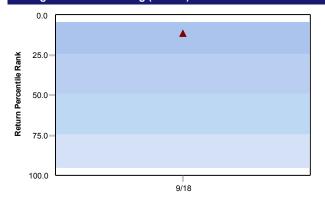


Vanguard ITR 2065;Inst (VSXFX)

Vanguard Target 2060 Composite Index

No data found.

## Rolling Percentile Ranking (Return)- 36 Months



Vanguard ITR 2065;Inst (VSXFX)

▲ Vanguard Target 2060 Composite Index

Peer Group Scattergram - 36 Months

# 16.0— 14.0— 12.0— 10.0— 10.0—

7.8

8.1

Risk (Standard Deviation %)

8.4

Peergroup

7.2

6.9

Vanguard ITR 2065;Inst (VSXFX)

7.5

▲ Vanguard Target 2060 Composite Index

8.7

9.0

9.3