



PUBLIC
AGENCY
RETIREMENT
SERVICES

PARS

TRUSTED SOLUTIONS. LASTING RESULTS.



COMMUNITY COLLEGE
LEAGUE OF CALIFORNIA

SAN BERNARDINO COMMUNITY COLLEGE DISTRICT

Pension Rate Stabilization Program (PRSP) Trust Funding Client Review
November 14, 2019

PARS TRUST TEAM

Program Sponsor:



COMMUNITY COLLEGE LEAGUE OF CALIFORNIA

Trust Administrator & Consultant



- Recordkeeping/reporting
- Coordinates all District services
- Monitors plan compliance
- Processes contributions/disbursements
- Hands-on, dedicated support teams

35

Years of Experience
(1984-2019)

1,600+

Plans under
Administration

850+

Public Agency
Clients

500 K+

Plan Participants

\$4.0B

Assets under
Administration

Trustee



- 5th largest commercial bank and one of the nation's largest trustees for Section 115 trusts.
- Safeguard plan assets, oversight protection
- Plan fiduciary
- Custodian of assets

156

Years of Experience
(1863-2019)

\$5.0T

Assets under
Administration



Vanguard

- Independent low-cost investment leader
- Specially designed pools for program
- Portfolios comprised of institutional class, index funds with low expense ratios
- Fees decrease by economies of scale as assets in all Vanguard pools grow

44

Years of Experience
(1975-2019)

\$5.5T

Assets under
Management

PARS PLANS AND PROGRAMS

COMBO TRUST

1

Pension Rate Stabilization Program

The PARS-CCLC Pension Rate Stabilization Program is a first-of-its kind, turn-key, IRS-approved trust program developed to prefund pension obligations.

2

OPEB Trust Program

An OPEB prefunding trust designed to address OPEB liabilities and increase investment rates of return.

3

Supplementary Retirement Plan (SRP)

A constructive and appealing tool to reduce labor costs, restructure your workforce, avoid lay-offs and retain/attract skilled employees.

4

Alternate Retirement System (ARS)

An alternative to Social Security for part-time employees offered to provide a valuable benefit for employees and permanent payroll savings to the District.

5

Supplemental Defined Contribution Plan

A locally designed retirement plan offered in addition to STRS or PERS with the goal of attracting and retaining select employees to the District.

BENEFITS OF PENSION PREFUNDING

1

Stabilize Costs

Access funds to reimburse your District for pension-related expenses to help offset rising STRS/PERS contribution rates

2

Local Control

District maintains autonomy over assets, contributions, disbursements, timing and investment risk tolerance

3

Protection

Funds in the trust are securely set-aside and protected from diversion for uses other than pension

4

Diversified Investing

Assets in an exclusive benefit trust can be diversely invested and may achieve greater returns than your general fund/treasury pool

5

Rainy Day Fund

Emergency source of funds when employer revenues are strained in difficult budgetary or economic times

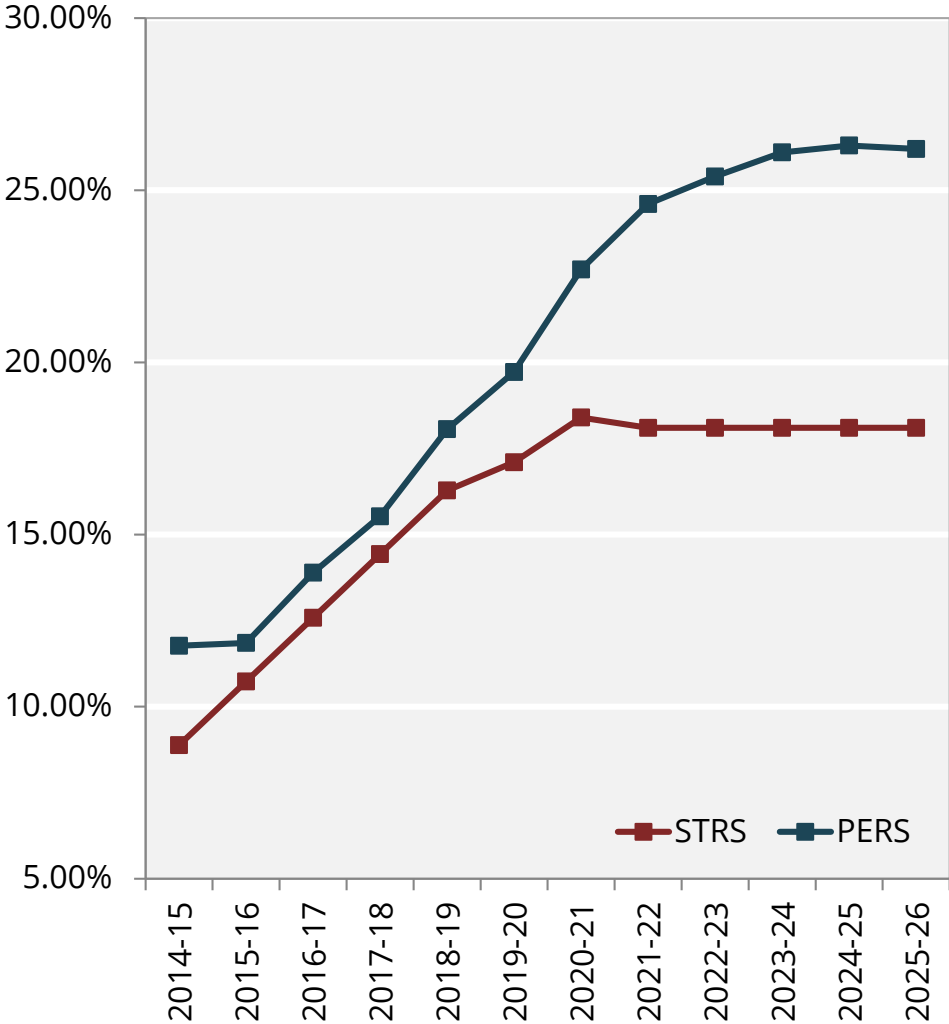
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Long-Term Planning

Prudent solution for managing ongoing pension liabilities on financial statements due to GASB 68

HOW MUCH HAVE PENSION COSTS GROWN?

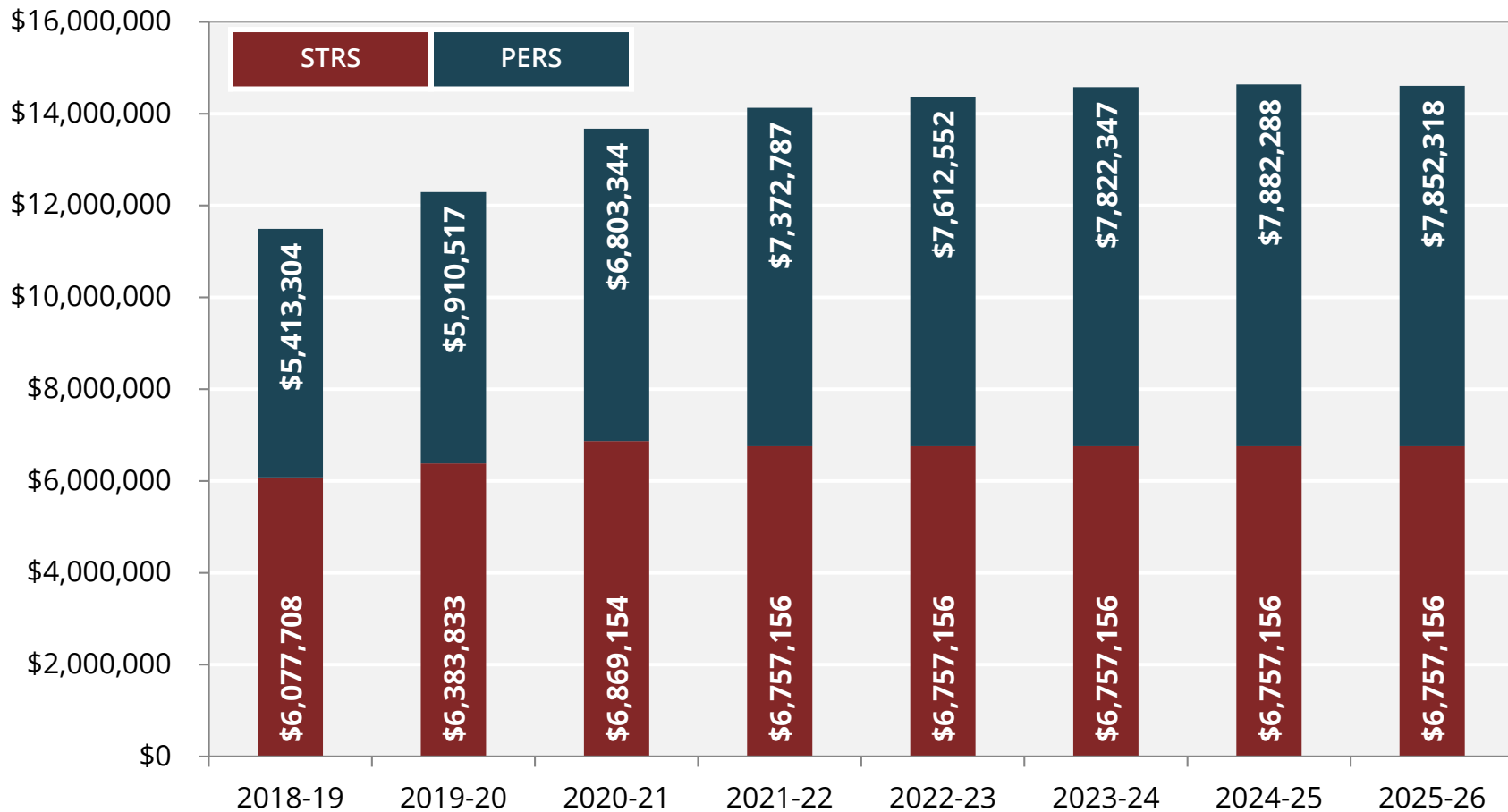
STRS/PERS rate increases through 2025-26:



Fiscal Year	STRS	PERS
2014-2015	8.88%	11.77%
2015-2016	10.73%	11.85%
2016-2017	12.58%	13.89%
2017-2018	14.43%	15.53%
2018-2019	16.28%	18.06%
2019-2020	17.10%	19.72%
2020-2021	18.40%	22.70%
2021-2022	18.10%	24.60%
2022-2023	18.10%	25.40%
2023-2024	18.10%	26.10%
2024-2025	18.10%	26.30%
2025-2026	18.10%	26.20%

HOW DO RATE INCREASES AFFECT A DISTRICT?

Annual pension costs increase from \$11.5 million to \$14.6 million in 2025-26.



**STRS and PERS contributions for 2018-19 and thereafter assume consistent STRS/PERS covered payroll amounts from the 2017-18 Annual Financial Report Numbers (increases are only based on increased STRS/PERS contribution rates)*

SUMMARY OF DISTRICT'S PLAN

Plan Type:	IRC Section 115 Irrevocable Exclusive Benefit Trust
Investment Manager:	Vanguard
Current Investment Strategy:	Vanguard Conservative Strategy
Plan Effective Date:	November 10, 2016
Plan Administrator:	Executive Vice Chancellor

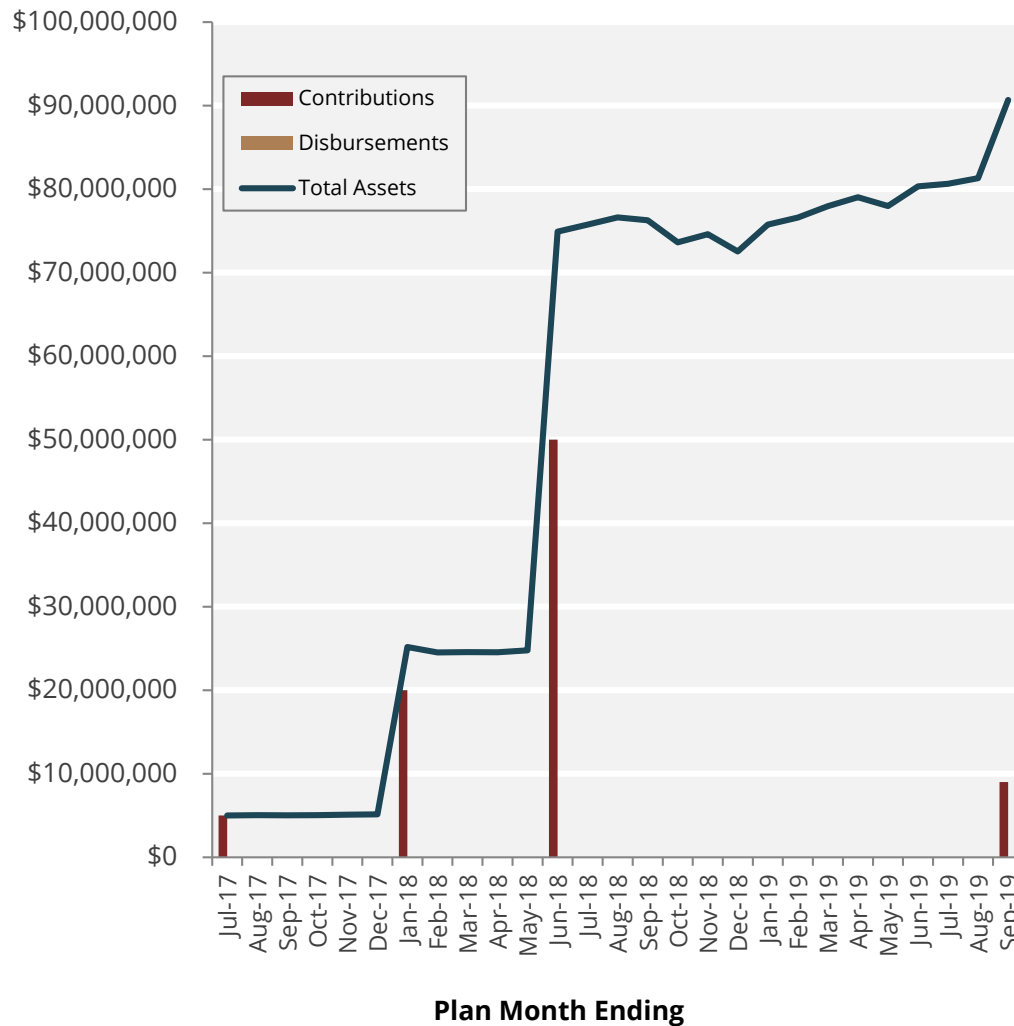
AS OF SEPTEMBER 30, 2019:

Initial Contribution:	July 2017: \$5,000,000
Additional Contributions:	\$79,000,000
Total Contributions:	\$84,000,000
Disbursements:	\$0
Net Investment Earnings:	\$6,677,024
Account Balance:*	\$90,677,024

**Pending \$2,700,000 contribution made to subaccount "CHC" on 11/1/2019*

SUMMARY OF DISTRICT'S PLAN

CONTRIBUTIONS, DISTRIBUTIONS, AND TOTAL ASSETS AS OF SEPTEMBER 30, 2019:



Month	Contributions	Disbursements	Total Assets
Jul-17	\$5,000,000	\$0	\$5,002,101
Aug-17	\$0	\$0	\$5,035,333
Sep-17	\$0	\$0	\$5,014,417
Oct-17	\$0	\$0	\$5,047,376
Nov-17	\$0	\$0	\$5,094,373
Dec-17	\$0	\$0	\$5,130,915
Jan-18	\$20,000,000	\$0	\$25,172,265
Feb-18	\$0	\$0	\$24,526,389
Mar-18	\$0	\$0	\$24,553,116
Apr-18	\$0	\$0	\$24,533,017
May-18	\$0	\$0	\$24,776,985
Jun-18	\$50,000,000	\$0	\$74,912,028
Jul-18	\$0	\$0	\$75,754,638
Aug-18	\$0	\$0	\$76,617,584
Sep-18	\$0	\$0	\$76,256,663
Oct-18	\$0	\$0	\$73,623,309
Nov-18	\$0	\$0	\$74,591,938
Dec-18	\$0	\$0	\$72,536,546
Jan-19	\$0	\$0	\$75,738,447
Feb-19	\$0	\$0	\$76,593,819
Mar-19	\$0	\$0	\$77,947,765
Apr-19	\$0	\$0	\$79,024,885
May-19	\$0	\$0	\$77,960,982
Jun-19	\$0	\$0	\$80,318,459
Jul-19	\$0	\$0	\$80,630,477
Aug-19	\$0	\$0	\$81,299,973
Sep-19	\$9,000,000	\$0	\$90,677,024

PENSION - KVCR

Total Contributions:	\$21,000,000
Transfer Out: (August 2019)*	\$9,000,000
Net Investment Earnings:	\$1,875,306
Account Balance:	\$13,875,306

PENSION - FNX

Transfer In: (August 2019)*	\$9,000,000
Net Investment Earnings:	\$41,745
Account Balance:	\$9,041,745

PENSION - SBVC

Total Contributions:	\$5,000,000
Net Investment Earnings:	\$456,179
Account Balance:	\$5,456,179

PENSION - CHC

Total Contributions:*	\$2,700,000
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*Pending contribution made 11/1/2019

PENSION - FCC

Total Contributions:	\$24,000,000
Transfer In: (May 2019)**	\$25,875,283
Net Investment Earnings:	\$3,419,745
Account Balance:	\$53,295,028

PENSION

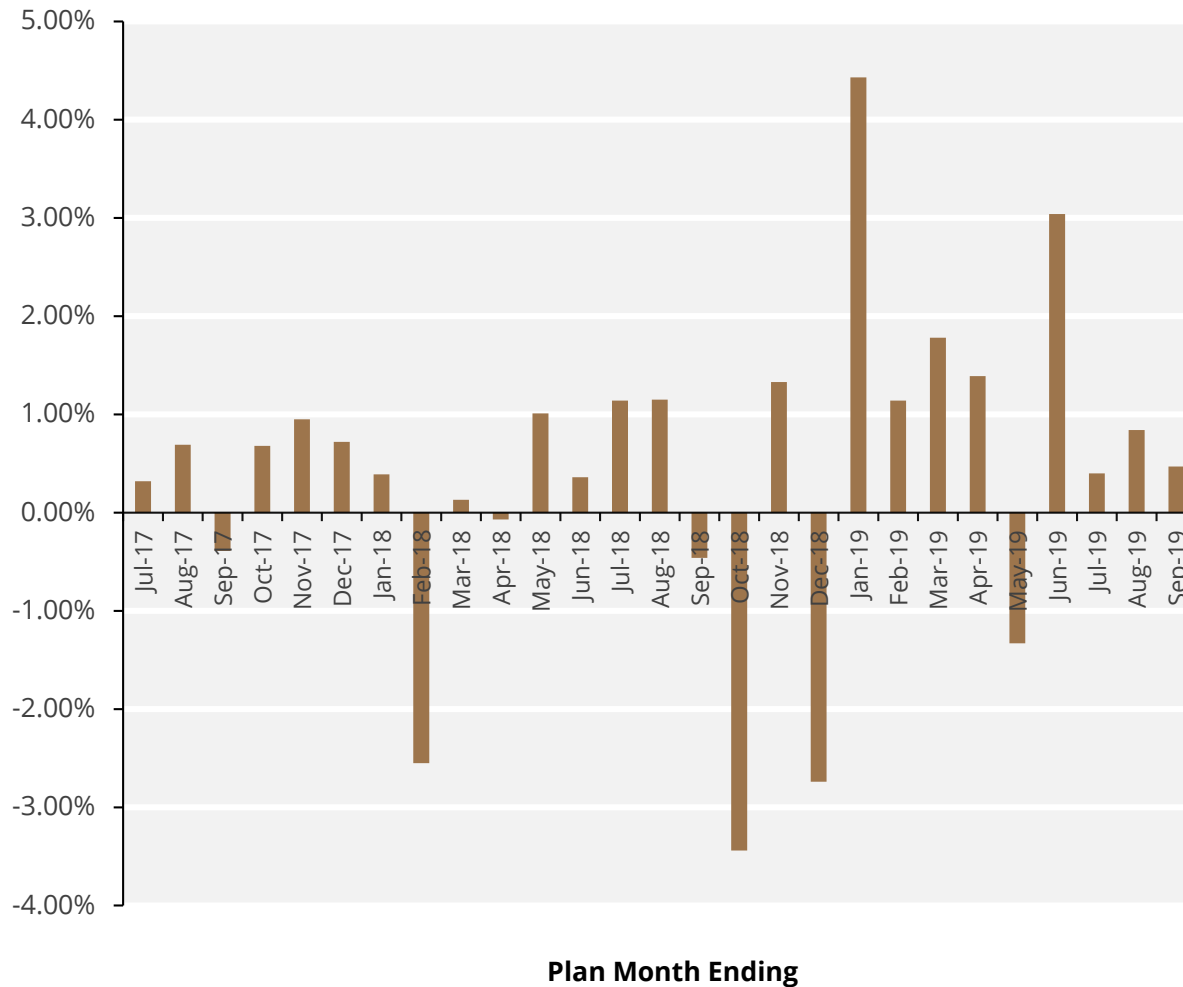
Transfer Out: (May 2019)**	\$25,875,283
Net Investment Earnings:	\$936,719
Account Balance:	\$0

PENSION - Media Academy Endowment

Total Contributions:	\$9,000,000
Net Investment Earnings:	\$8,765
Account Balance:	\$9,008,765

PLAN TOTAL RETURNS

AS OF SEPTEMBER 30, 2019



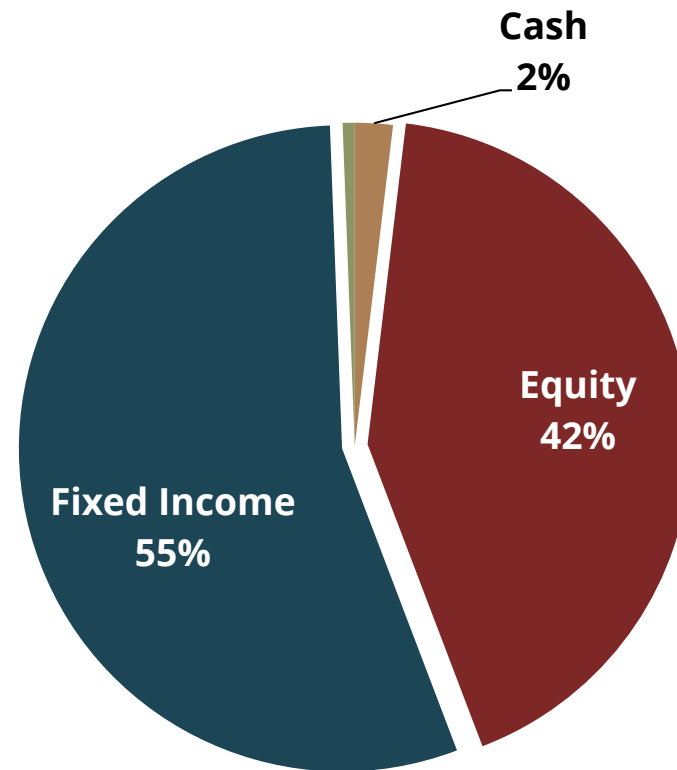
Month	Total Returns
Jul-17	0.32%
Aug-17	0.69%
Sep-17	-0.39%
Oct-17	0.68%
Nov-17	0.95%
Dec-17	0.72%
Jan-18	0.39%
Feb-18	-2.55%
Mar-18	0.13%
Apr-18	-0.07%
May-18	1.01%
Jun-18	0.36%
Jul-18	1.14%
Aug-18	1.15%
Sep-18	-0.46%
Oct-18	-3.44%
Nov-18	1.33%
Dec-18	-2.74%
Jan-19	4.43%
Feb-19	1.14%
Mar-19	1.78%
Apr-19	1.39%
May-19	-1.33%
Jun-19	3.04%
Jul-19	0.40%
Aug-19	0.84%
Sep-19	0.46%

VANGUARD INVESTMENT REVIEW

VANGUARD ASSET ALLOCATION

As of September 30, 2019

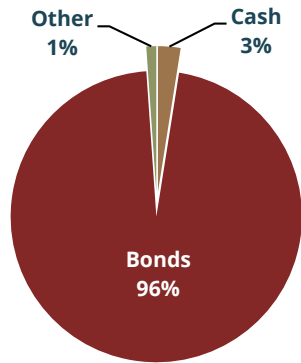
Asset Class	Allocation (%)
U.S. Equity	32.10%
Non U.S. Equity	10.30%
U.S. Bond	49.40%
Non-U.S. Bond	5.70%
Cash	1.90%
Other	0.60%
TOTAL	100.00%



Conservative Portfolio

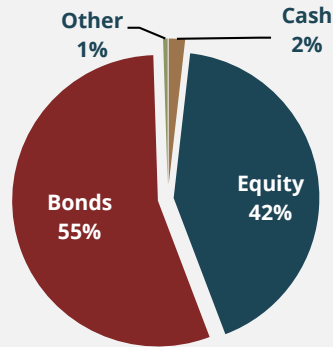
INVESTMENT OPTIONS

As of September 30, 2019



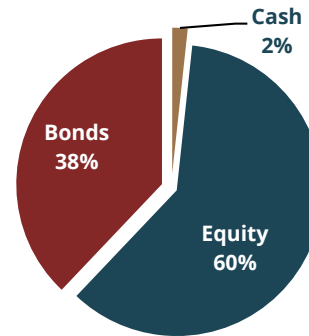
Fixed Income

10-Yr. Exp. Returns: 2.60%
30-Yr. Exp. Returns: 3.50%



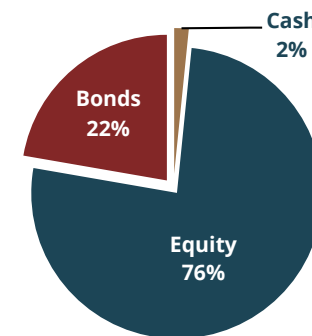
Conservative

10-Yr. Exp. Returns: 4.10%
30-Yr. Exp. Returns: 5.60%



Balanced

10-Yr. Exp. Returns: 4.60%
30-Yr. Exp. Returns: 6.30%



Growth

10-Yr. Exp. Returns: 5.00%
30-Yr. Exp. Returns: 6.90%

- The District can invest its assets in one of four investment pools which have been designed specifically by Vanguard for PARS Section 115 Trust Programs.
- Assets are pooled for economies of scale but there is no cross sharing of earnings or liabilities.
- Portfolios are comprised of Admiral and Institutional share class, index-based, mutual funds selected for their low-weighted expense ratios.

*Expected Returns are based on Vanguard's Capital Markets Model (VCMM) as of 6/30/2019

VANGUARD HYPOTHETICAL RETURNS

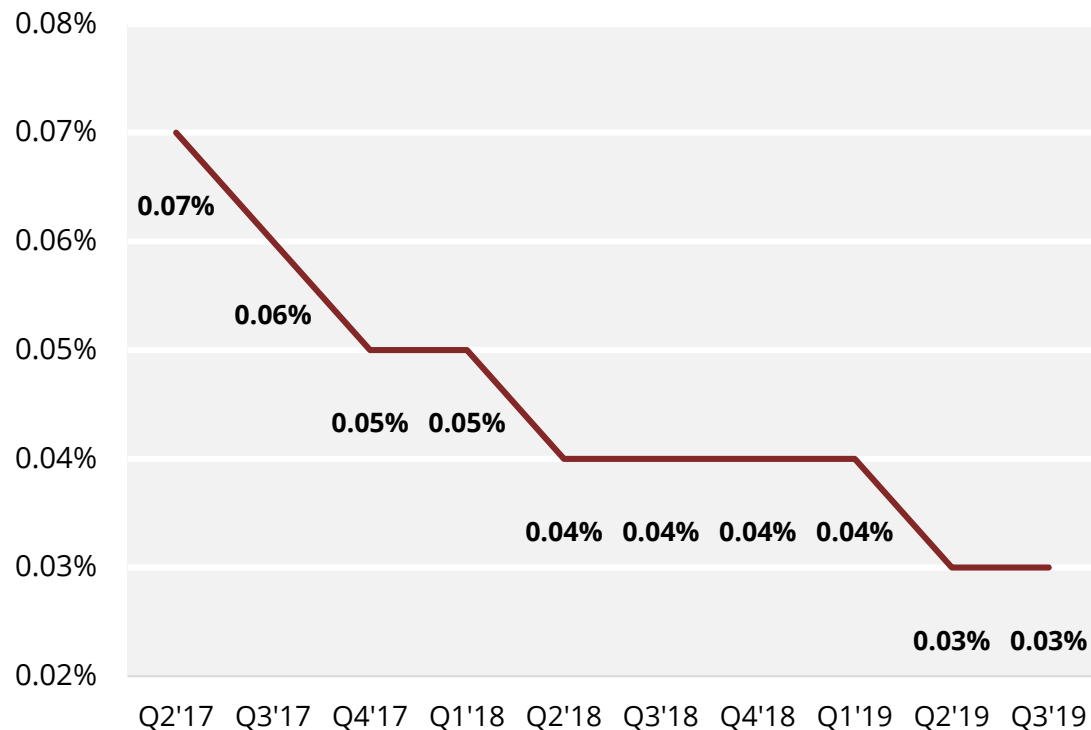
As of September 30, 2019

Strategy	Equity/REIT (%)	1 Year	3 Years	5 Years	10 Years
Growth	75.90%	4.98%	8.79%	7.38%	9.35%
Balanced	60.20%	6.10%	7.47%	6.53%	8.29%
Conservative	42.40%	7.57%	6.04%	5.64%	7.10%
Fixed Income	0.00%	9.18%	3.12%	3.45%	3.92%

Past performance does not guarantee future results; Returns are net of the fund expenses, and gross of advisory fees; PARS is not licensed to provide and does not offer investment advice or recommendations of any kind; All investment decisions in the PARS Section 115 Trust Programs are made at the sole discretion of the District, with or without the assistance of the District's selected investment advisors and/or managers.

INVESTMENT MANAGEMENT FEES

- Vanguard’s investment management fees are based on total assets of all participants in the four portfolio options.
- **As of September 30, 2019, the investment management fee for Vanguard investment program members is 0.033% of assets (3.3 basis points).**



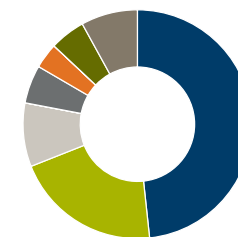
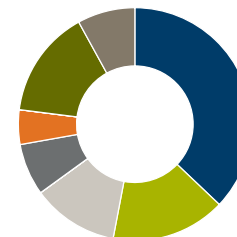
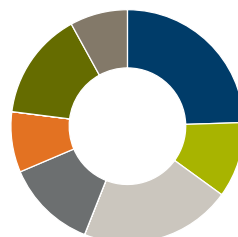
Vanguard Fee Schedule

- 0.07%** for assets \$0-50 million
- 0.04%** for assets \$50-150 million
- 0.03%** for assets \$150-250 million
- 0.01%** for assets \$250-500 million
- 0.005%** for assets over \$500 million

Asset allocation and capital market assumptions

Suite of Vanguard portfolio options

Investment	Fixed Income Portfolio (0/100)	Conservative Portfolio (35/57/8)	Balanced Portfolio (53/39/8)	Growth Portfolio (69/23/8)
Total Equity	0.0%	35.0%	53.0%	69.0%
● Total Stock Market Index	0.0%	24.5%	37.1%	48.3%
● Total International Stock Market Index	0.0%	10.5%	15.9%	20.7%
Total Fixed Income	100.0%	57.0%	39.0%	23.0%
● Total Bond Market Index	24.0%	21.0%	12.0%	9.0%
● Total International Bond Market Index	24.0%	0.0%	0.0%	0.0%
● Intermediate-Term Investment-Grade	20.0%	12.6%	7.2%	5.4%
● Short-Term Investment-Grade	28.0%	8.4%	4.8%	3.6%
● Short-Term Inflation-Protected Securities	4.0%	0.0%	0.0%	0.0%
● Inflation-Protected Securities	0.0%	15.0%	15.0%	5.0%
Total Real Estate	0.0%	8.0%	8.0%	8.0%
● Real Estate Index	0.0%	8.0%	8.0%	8.0%
Portfolio weighted average expense ratio	0.09%	0.08%	0.07%	0.07%
Advisory fee	0.03%	0.03%	0.03%	0.03%
All-in fee	0.12%	0.11%	0.10%	0.10%

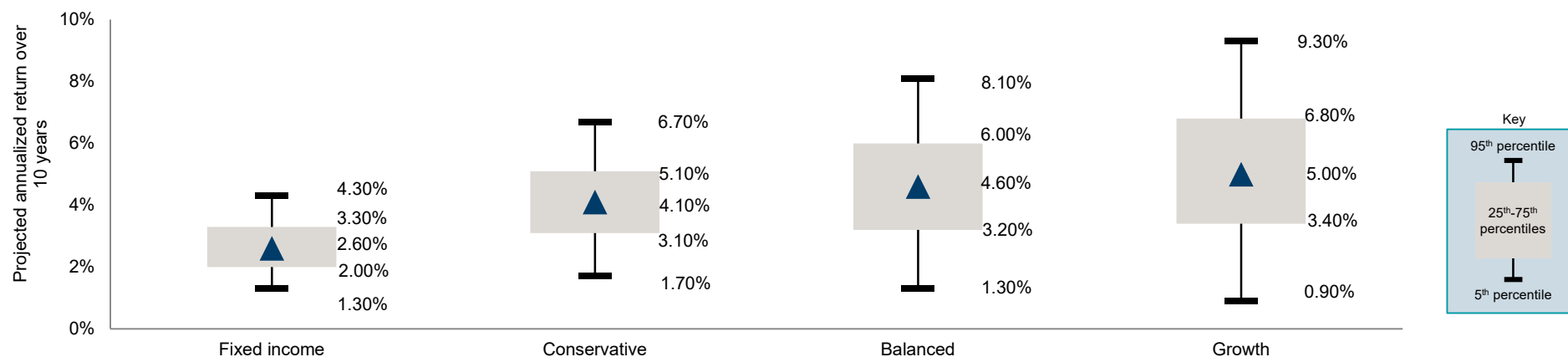


NOTE: The data on this page is representative of Target Allocations

Asset allocation analysis: 10-year outlook

Asset classes	Fixed income	Conservative	Balanced	Growth
U.S. Equity	—	24.5%	37.1%	48.3%
Non U.S. Equity	—	10.5%	15.9%	20.7%
REITs	—	8%	8%	8%
U.S. Aggregate Bonds	24%	21%	12%	9%
Non U.S. Bonds	24%	—	—	—
Intermediate-Term Credit	20%	12.6%	7.2%	5.4%
Short-Term Credit	28%	8.4%	4.8%	3.6%
Short-Term Inflation-Protected	4%	—	—	—
Inflation-Protected	—	15%	15%	5%
Median expected outcomes				
Returns	2.6%	4.1%	4.6%	5.0%
Volatility	3.3%	6.8%	9.3%	11.8%
Sharpe ratio	0.15	0.30	0.29	0.28
EQ/REITS/FI (%)	0/0/100	35/8/57	53/8/39	69/8/23

Portfolio nominal return distributions (10-year horizon)



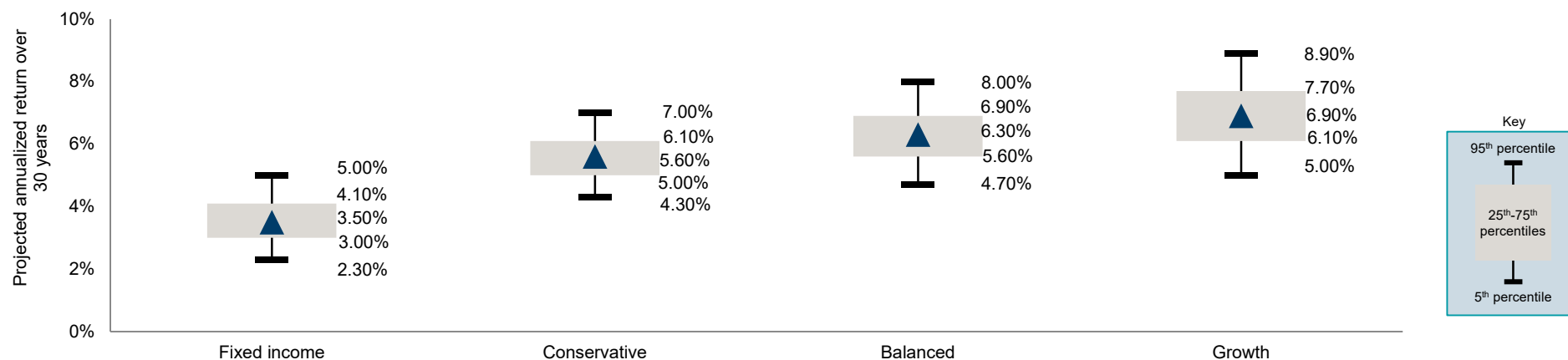
IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model®(VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM derived from 10,000 simulations for U.S. equity returns and fixed income returns. Simulations as of June 30, 2019. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

Note: Returns, real returns, and Sharpe ratio listed above represent the median value for 10,000 scenarios. The Sharpe ratio calculates return (or reward) per unit of risk; $(R_x - r_f) / \sigma(x - r)$; R_f = cash. The risk-free rate is based on VCMM's projections for cash.
 Source: Vanguard, Investment Strategy Group.

Asset allocation analysis: 30-year outlook

Asset classes	Fixed income	Conservative	Balanced	Growth
U.S. Equity	—	24.5%	37.1%	48.3%
Non U.S. Equity	—	10.5%	15.9%	20.7%
REITs	—	8%	8%	8%
U.S. Aggregate Bonds	24%	21%	12%	9%
Non U.S. Bonds	24%	—	—	—
Intermediate-Term Credit	20%	12.6%	7.2%	5.4%
Short-Term Credit	28%	8.4%	4.8%	3.6%
Short-Term Inflation-Protected	4%	—	—	—
Inflation-Protected	—	15%	15%	5%
Median expected outcomes				
Returns	3.5%	5.6%	6.3%	6.9%
Volatility	3.9%	7.2%	9.8%	12.5%
Sharpe ratio	0.22	0.41	0.39	0.38
EQ/REITS/FI (%)	0/0/100	35/8/57	53/8/39	69/8/23

Portfolio nominal return distributions (30-year horizon)



IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model®(VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM derived from 10,000 simulations for U.S. equity returns and fixed income returns. Simulations as of June 30, 2019. Results from the model may vary with each use and over time. For more information on VCMM, see the Important Information slide.

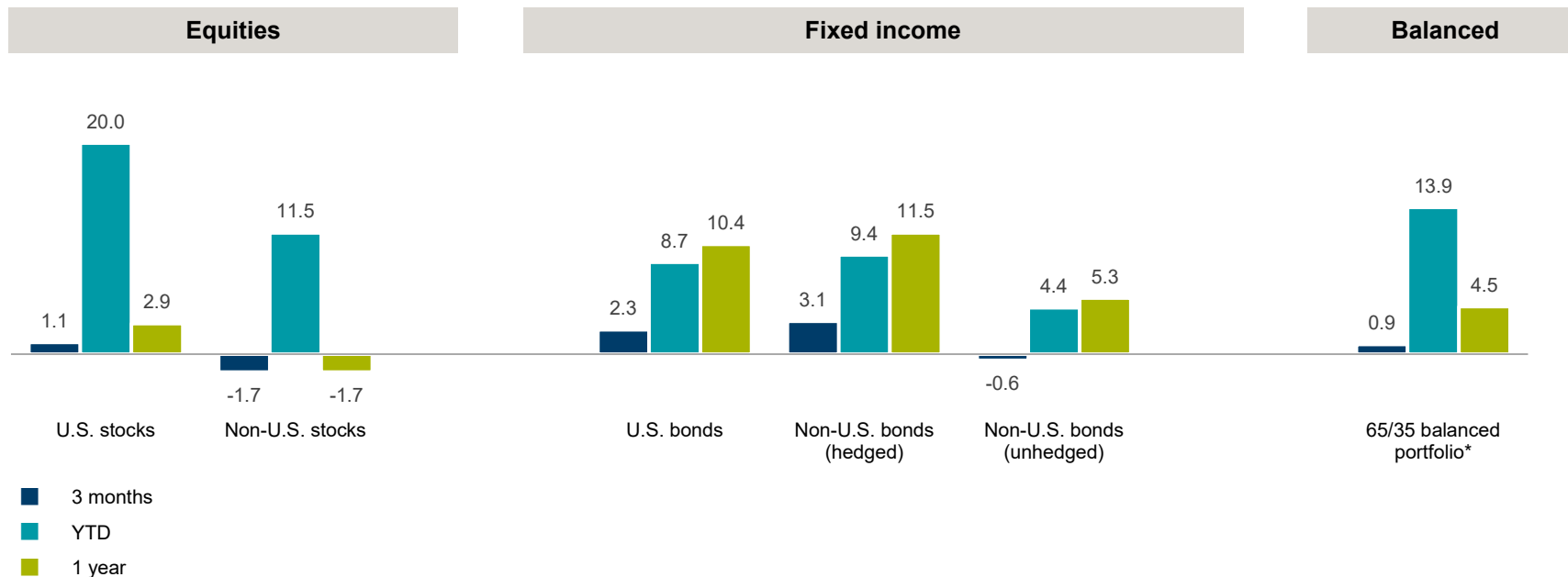
Note: Returns, real returns, and Sharpe ratio listed above represent the median value for 10,000 scenarios. The Sharpe ratio calculates return (or reward) per unit of risk; $(R_x - r_f) / \sigma(x - r)$; R_f = cash. The risk-free rate is based on VCMM's projections for cash. Source: Vanguard, Investment Strategy Group.

Performance review

Global markets continue to deliver strong results in 2019

- Central bank easing has helped to maintain upward market momentum despite weaker economic data and ongoing uncertainty regarding trade relations
- Global equity returns were mixed for the third quarter while fixed income returns were mainly positive for the quarter and remain strong year to date (YTD)
- Global equities lagged their U.S. counterparts

Global market returns as of September 30, 2019 (%)



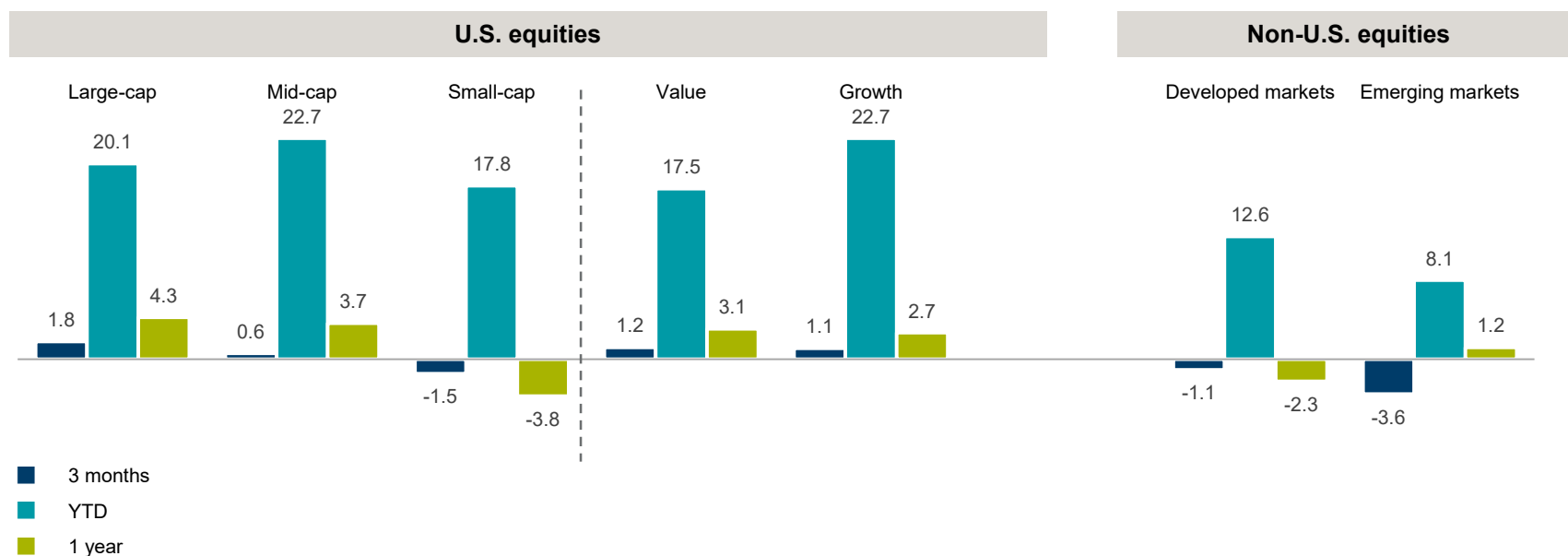
Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: Bloomberg Barclays, CRSP, and FTSE.
 U.S. Stocks (CRSP U.S. Total Market Index), Non-U.S. Stocks (FTSE Global All-Cap ex-US Index), U.S. Bonds (Bloomberg Barclays U.S. Aggregate Float Adjusted Index), Non-U.S. Bonds hedged (Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index hedged), Non-U.S. Bonds unhedged (Bloomberg Barclays Global Aggregate Index ex USD).
 * 65/35 balanced portfolio Static Composite (39% U.S. stocks, 26% International stocks, and 24.5% Investment-grade U.S. bonds, 10.5% Investment-grade international bonds).

Stocks across styles maintain their trend upward

- Large-, mid-, and small-cap U.S. stocks completed the third quarter with strong YTD results
- U.S. growth continued to outperform value stocks YTD, yet value has slightly led for the trailing 12 months, thus ending growth's dominance
- Non-U.S. stocks lagged domestic equities, with emerging markets trailing developed markets for the quarter

Global equity market returns as of September 30, 2019 (%)



Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

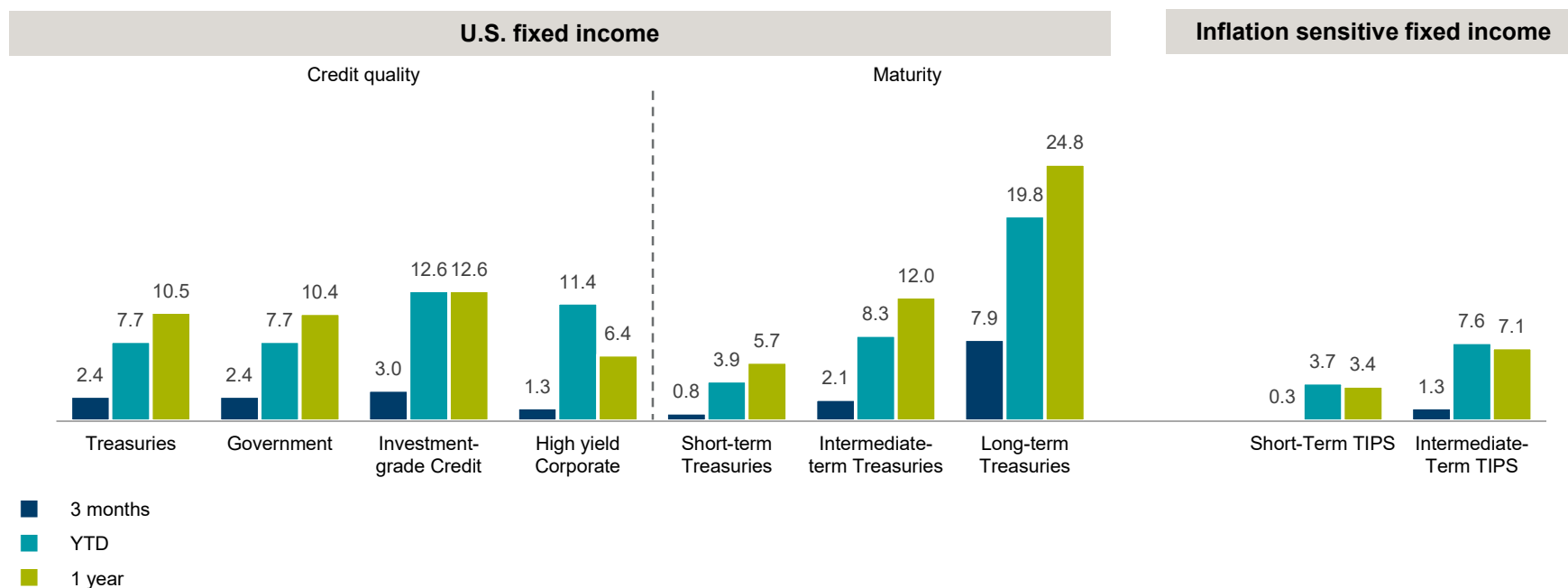
Sources: CRSP, FTSE, and Russell.

Large-cap (CRSP U.S. Mega Cap Index), Mid-cap (CRSP U.S. Mid Cap Index), Small-cap (CRSP U.S. Small Cap Index); Value (Russell 3000 Value Index), Growth (Russell 3000 Growth Index); Developed markets (FTSE Developed All Cap ex-U.S. Index), Emerging markets (FTSE Emerging Markets All Cap China A Inclusion Index).

Bonds extend positive results amid tame inflation

- Bond performance remains strong as interest rates fell across the yield curve and the bond market began to price in rate cuts from central banks
- Credit spreads have narrowed, bolstering investment-grade credit performance
- Long-term Treasuries have had strong performance given muted economic growth and inflation expectations

Domestic fixed income market returns as of September 30, 2019 (%)



Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: Bloomberg Barclays.

Treasuries-Government-Investment Grade Credit-High Yield (Bloomberg Barclays U.S. Treasury/Government/Credit/Corporate High Yield Indices); Short-Inter-Long-term Treasuries (Bloomberg Barclays U.S. 1-5/5-10/Long Treasury Indices); Short-term TIPS (Bloomberg Barclays U.S. Treasury 0-5 Year Inflation Protected Index), Intermediate-Term TIPS (Bloomberg Barclays U.S. Treasury Inflation Protected Index).

Market outlook

Vanguard October 2019 market and economic update

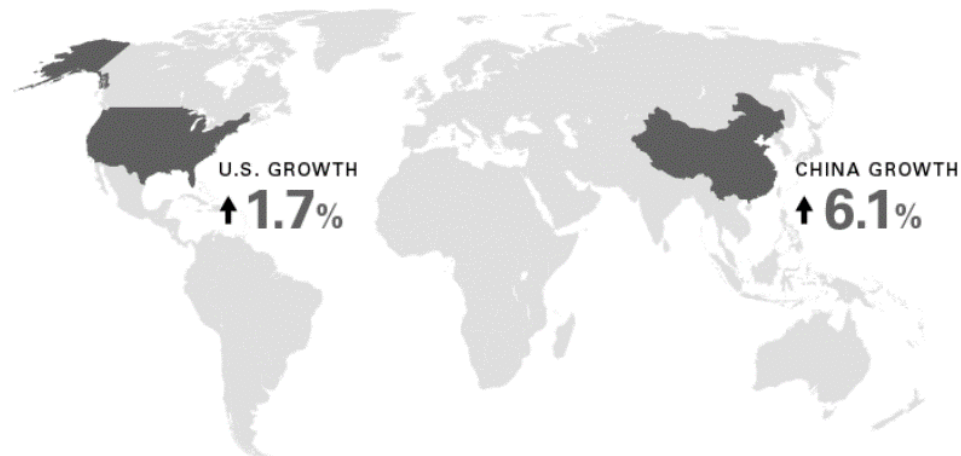


Elevated chance of
a recession over the
next 12 months

Trade tensions and policy uncertainty hamper growth prospects

- The risk of a global or major regional recession is not Vanguard's base case, but it's more elevated than normal.
- Vanguard expects global growth to continue softening over the next 12 months.
- Vanguard's baseline case for China for the next 12 months sees the government delicately balancing growth and financial stability.
- We believe that China will likely set its official growth target for 2020 early next year "around 6%."
- In the euro area, Vanguard continues to see 2019 GDP growth at 0.8%. We place a 35% to 40% probability on a euro-area recession in the next 12 months as we watch closely to see if persistent weakness in manufacturing spills over into services.
- In emerging markets, we continue to see 2019 real GDP growth at 4.1%.

U.S. and China second-half growth estimates



Vanguard October 2019 market and economic update



No more Fed rate cuts in 2019?

Central banks try to thread the needle and keep their economies on track

- Vanguard sees the U.S. Federal Reserve's 0.25% rate cut in September as the second of two “insurance” cuts intended to inoculate a resilient U.S. economy from weakness elsewhere and geopolitical concerns.
- Vanguard believes that the Fed won't make further policy changes for the rest of the year.
- Vanguard has changed our base case for Bank of England (BoE) monetary policy to no interest-rate cuts for the rest of the year. That's based on the significantly decreased prospect of a “no-deal” Brexit, a greater chance of expansionary fiscal policy, and better-than-expected recent economic data.



The mixed picture on jobs

The latest job market numbers in the United States offer a conundrum

- Participation—the percentage of the working-age population that is employed or looking for work—was up in August, at 63.2%. The unemployment rate remained near a 50-year low, at 3.7%, and wages rose.
- Yet these signs of strength bring caveats that may deserve consideration given weaker-than-expected job-creation numbers.
- Given demographic shifts, the current unemployment rate may stay low even as job growth slows.
- Strong month-on-month wage growth of 0.4% could reflect either a long-awaited rise in wages as competition for labor intensifies or it could reflect the shaking out of typically lower-paid contract and temporary workers from the workforce—often seen in a slowing economy—skewing wages upward.
- Despite growth concerns, Vanguard expects labor markets to remain relatively tight and unemployment rates to remain stable in most major economies.



Trade tensions take a toll

U.S.-China trade developments are likely to continue to move markets

- Recent trade moves between the U.S. and China have been squarely within Vanguard's baseline case of moderate tariff escalation and modest spillover to global trade.
- But a sharp escalation in tariffs and concomitant spillovers to global trade represent the greatest downside risk to several of our economic projections.

Vanguard October 2019 market and economic update



Inflation targets
remain elusive

A mixed outlook for global inflation

- A weaker global growth outlook is being offset by upward pressure from tariffs.
- In the United States, we see the core Personal Consumption Expenditures Index rising in the second half of 2019 but remaining below the Federal Reserve's 2% inflation target.
- We see core inflation in the United Kingdom remaining close to 2% amid a tight labor market, but in the euro area we see monetary easing as necessary to combat low inflation expectations.



Brexit: The
neverending story

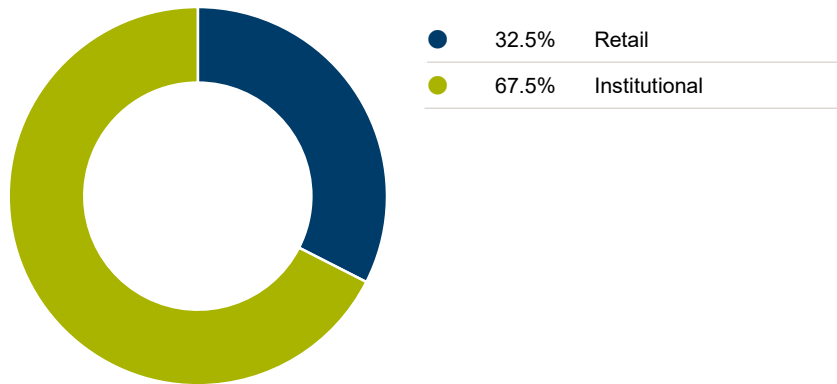
Reduced chances for a no-deal Brexit

- The latest developments suggest that the prime minister will push for a Northern Ireland-only "backstop" to secure a deal, in which Northern Ireland would continue to have a customs arrangement with the European Union while the rest of the U.K. would be free to negotiate its own trade deals.
- Should a deal not be reached and the U.K.'s exit be delayed, Vanguard sees the likelihood of a general election being called for late November or early December 2019, ahead of an expected new exit date of January 31, 2020.

Vanguard

Who we are: Vanguard

By business line

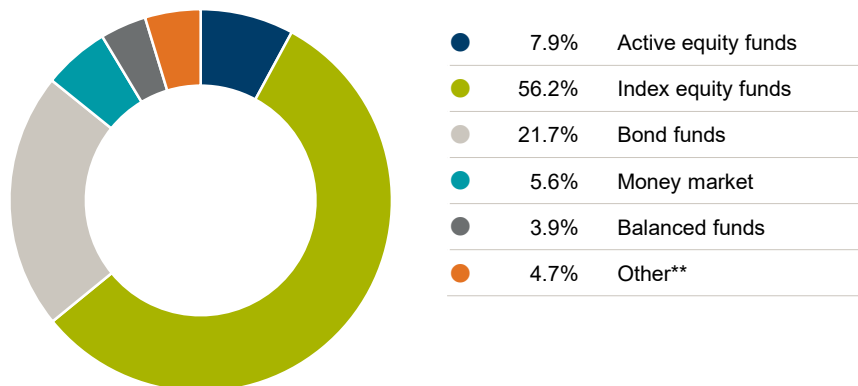


Vanguard's mission is to take a stand for all investors, to treat them fairly, and to give them the best chance for investment success.

Key facts

- Launched May 1, 1975, by John C. Bogle
- President and CEO: Tim J. Buckley, since 2018
- Assets under administration: \$5.5 trillion
- Approximately 166 U.S. funds plus additional funds in international markets
- Corporate headquarters: Valley Forge, Pennsylvania

By asset class



Source: Vanguard, as of June 30, 2019.

* Total assets includes international clients invested in U.S.-domiciled funds. Does not include assets in offshore funds.

** Includes company stock, stable value funds, commingled trusts, and Vanguard brokerage option.

Institutional assets are adjusted for Vanguard funds in stable value funds. Vanguard total assets reflect the portion of Vanguard ETF® shares held by other Vanguard funds.

Note: Detail may not sum to 100% or totals because of rounding.

Important information

IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model® (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More importantly, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

The Vanguard Lifecycle Model (VLCM) is designed to identify the product design that represents the best investment solution for a theoretical, representative investor who uses the target-date funds to accumulate wealth for retirement. The VLCM generates an optimal custom glide path for a participant population by assessing the trade-offs between the expected (median) wealth accumulation and the uncertainty about that wealth outcome, for thousands of potential glide paths. The VLCM does this by combining two set of inputs: the asset class return projections from the VCMM and the average characteristics of the participant population. Along with the optimal custom glide path, the VLCM generates a wide range of portfolio metrics such as a distribution of potential wealth accumulation outcomes, risk and return distributions for the asset allocation, and probability of ruin, such as the odds of participants depleting their wealth by age 95.

The VLCM inherits the distributional forecasting framework of the VCMM and applies to it the calculation of wealth outcomes from any given portfolio.

The most impactful drivers of glide path changes within the VLCM tend to be risk aversion, the presence of a defined benefit plan, retirement age, savings rate and starting compensation. The VLCM chooses among glide paths by scoring them according to the utility function described and choosing the one with the highest score. The VLCM does not optimize the levels of spending and contribution rates. Rather, the VLCM optimizes the glide path for a given customizable level of spending, growth rate of contributions and other plan sponsor characteristics.

A full dynamic stochastic life-cycle model, including optimization of a savings strategy and dynamic spending in retirement is beyond the scope of this framework.

Important information

For more information about any fund, visit institutional.vanguard.com or call 866-499-8473 to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.

Vanguard ETF[®] Shares are not redeemable with the issuing fund other than in very large aggregations worth millions of dollars. Instead, investors must buy or sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.

Mutual funds and all investments are subject to risk, including the possible loss of the money you invest. Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. These risks are especially high in emerging markets. Funds that concentrate on a relatively narrow sector face the risk of higher share-price volatility. It is possible that tax-managed funds will not meet their objective of being tax-efficient. Because company stock funds concentrate on a single stock, they are considered riskier than diversified stock funds.

Investments in bond funds are subject to the risk that an issuer will fail to make payments on time and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. High-yield bonds generally have medium- and lower-range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings. Although the income from a municipal bond fund is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or through your own redemption of shares. For some investors, a portion of the fund's income may be subject to state and local taxes, as well as to the federal Alternative Minimum Tax. Diversification does not ensure a profit or protect against a loss.

Investments in Target Retirement Funds or Trusts are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund or trust would retire and leave the workforce. The fund or trust will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in the Target Retirement Fund or Trust is not guaranteed at any time, including on or after the target date.

Vanguard collective trusts are not mutual funds. They are collective trusts available only to tax-qualified plans and their eligible participants. Investment objectives, risks, charges, expenses, and other important information should be considered carefully before investing. The collective trust mandates are managed by Vanguard Fiduciary Trust Company, a wholly owned subsidiary of The Vanguard Group, Inc.

A stable value investment is neither insured nor guaranteed by the U.S. government. There is no assurance that the investment will be able to maintain a stable net asset value, and it is possible to lose money in such an investment.

Factor funds are subject to investment style risk, which is the chance that returns from the types of stocks in which the fund invests will trail returns from U.S. stock markets. Factor funds are subject to manager risk, which is the chance that poor security selection will cause the fund to underperform relevant benchmarks or other funds with a similar investment objective.

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Vanguard Marketing Corporation, Distributor of the Vanguard Funds. U.S. Patent Nos. 6,879,964; 7,337,138; 7,720,749; 7,925,573; 8,090,646; 8,417,623; and 8,626,636.



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ADMINISTRATIVE REVIEW

- 1 Future anticipated contributions
- 2 Future anticipated disbursement requests/options
- 3 Funding policy
- 4 SOC 1-Type 2
- 5 Audit of 115 Trust
- 6 Ongoing Plan/Investment Review frequency
- 7 Client feedback: discussion of any administrative questions or concerns

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PARS Investment Partnership - Conservative Portfolio

Overview

The PARS Investment Partnership relates to a relationship between Vanguard and PARS where Vanguard manages four trusts (Conservative, Balanced, Growth, and Fixed Income) in which individual clients can invest their assets according to their appropriate investment objective.

Investment objective

The Conservative Portfolio seeks to provide current income and low to moderate capital appreciation consistent with its current allocation.

Investment strategy

The Conservative Portfolio invests in Vanguard mutual funds using an asset allocation strategy designed for investors seeking both current income and low to moderate capital appreciation. The underlying funds are: Vanguard Total Stock Market Index Fund, Vanguard Total International Stock Index Fund, Vanguard Total Bond Market Index Fund, Vanguard Intermediate-Term Investment-Grade Fund, Vanguard Short-Term Investment-Grade Fund, Vanguard Inflation-Protected Securities Fund, and Vanguard Real Estate Index Fund.

The Portfolio's indirect stock holdings are a diversified mix of U.S. and foreign large-, mid-, and small-capitalization stocks. The Portfolio's indirect bond holdings are a diversified mix of short-, intermediate-, and long-term U.S. government, U.S. agency, and investment-grade U.S. corporate bonds; mortgage backed and asset-backed securities; and government, agency, and corporate bonds.

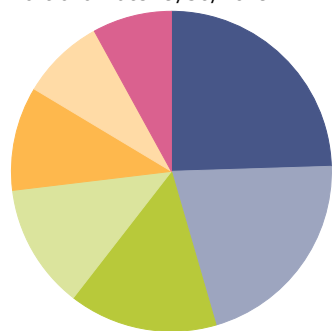
Fees

The fees for managing the portfolio consists of the expense ratios of the individual funds and the advisor fee. Both of these fees are dependent on the assets under management. Currently the average expense ratio is **0.08%** which consists of averaging the expense ratio of the individual funds which are outlined above. The average advisory fee is **0.03%** based on the current assets under management.

PARS Investment Partnership - Conservative Portfolio

Portfolio holdings

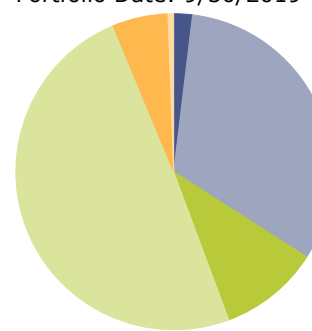
Portfolio Date: 9/30/2019



	%
● Vanguard Total Stock Mkt Idx Adm	24.5
● Vanguard Total Bond Market Index Adm	21.0
● Vanguard Inflation-Protected Secs Adm	15.0
● Vanguard Interm-Term Investment-Grde Adm	12.6
● Vanguard Total Intl Stock Index Inv	10.5
● Vanguard Short-Term Investment-Grade Adm	8.4
● Vanguard Real Estate Index Admiral	8.0
Total	100.0

Asset allocation

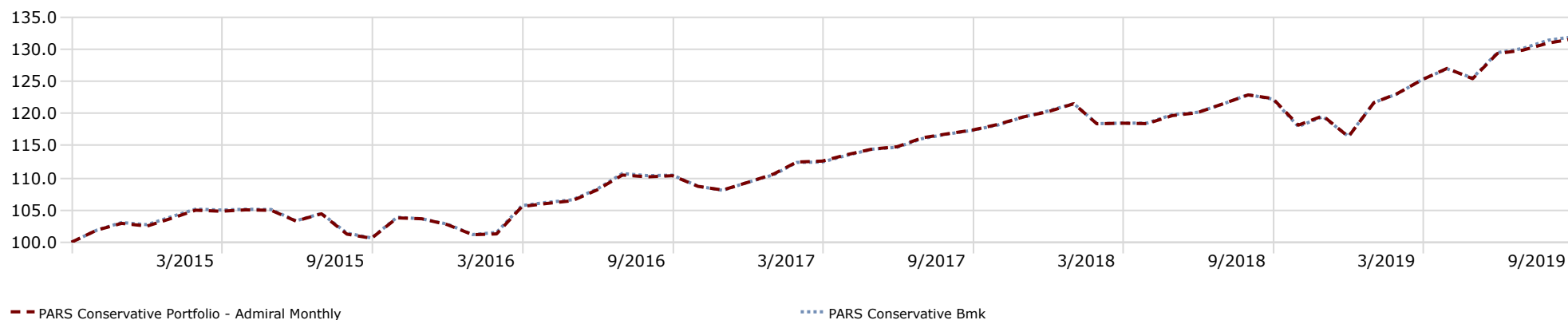
Portfolio Date: 9/30/2019



	%
● Cash	1.9
● US Equity	32.1
● Non-US Equity	10.3
● US Bond	49.4
● Non-US Bond	5.7
● Other	0.6
Total	100.0

Investment growth

Time Period: 10/1/2014 to 9/30/2019

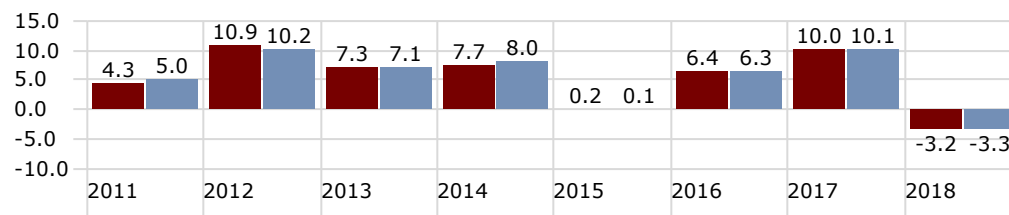


Trailing Returns - Annualized after one year

As of Date: 9/30/2019

	YTD	One Year	Three Years	Five Years	Eight Years	Ten Years
PARS Conservative Portfolio - Admiral Monthly	13.05	7.57	6.04	5.64	7.13	7.10
PARS Conservative Bmk	13.26	7.91	6.10	5.69	7.06	7.06

Annual returns



Benchmark

24.5% Spliced Total Stock Mkt Index (equal to CRSP US Total Market Index as of 6/2/13, MSCI US Broad Market Index through 4/22/05, prior DJ Wilshire 5000 Index)/ 10.5% Spliced Total International Composite Index (Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI ACWI ex USA IMI Index through 6/2/13; and the FTSE Global All Cap ex US Index thereafter) / 42% Spliced Barclays US Aggregate Float-Adjusted Bond Index/ 15% Barclays US Treasury Inflation-Protected Securities Index / 8% US REIT Spliced Index (equal to MSCI US REIT Index adjusted for a 2% cash position though 4/30/2009; MSCI US REIT Index thereafter).

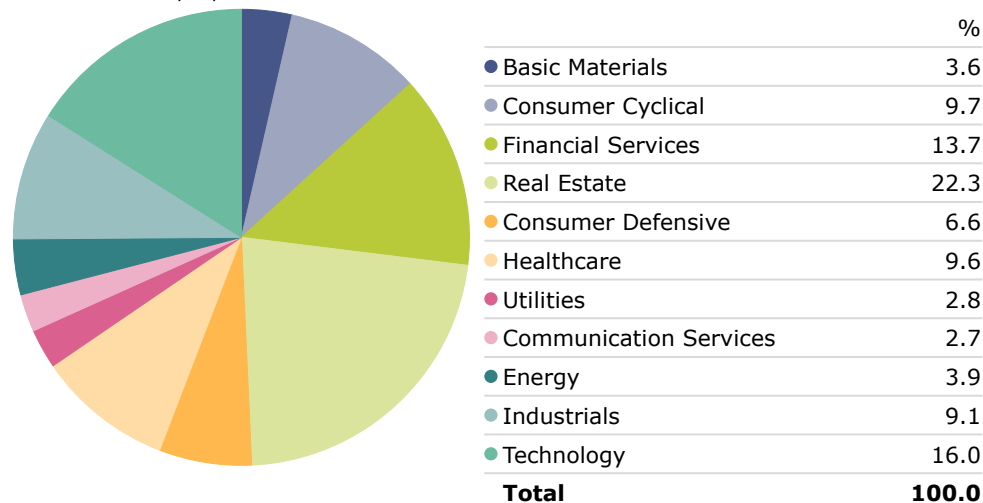
The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. Returns are net of the fund expense ratio, gross of advisory fees. Returns represent the historical performance for a Vanguard composite based on the portfolio holdings listed above.

Source: Morningstar Direct

PARS Investment Partnership - Conservative Portfolio

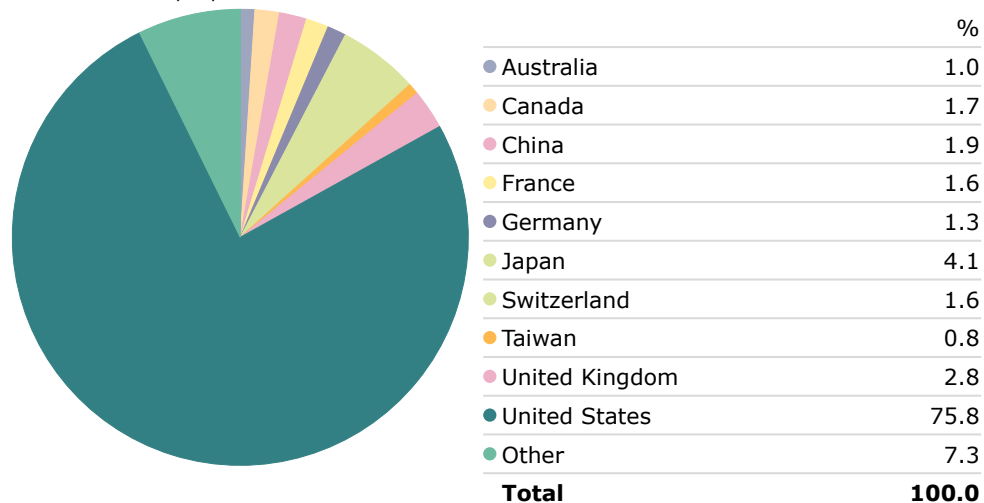
Equity sectors

Portfolio Date: 9/30/2019



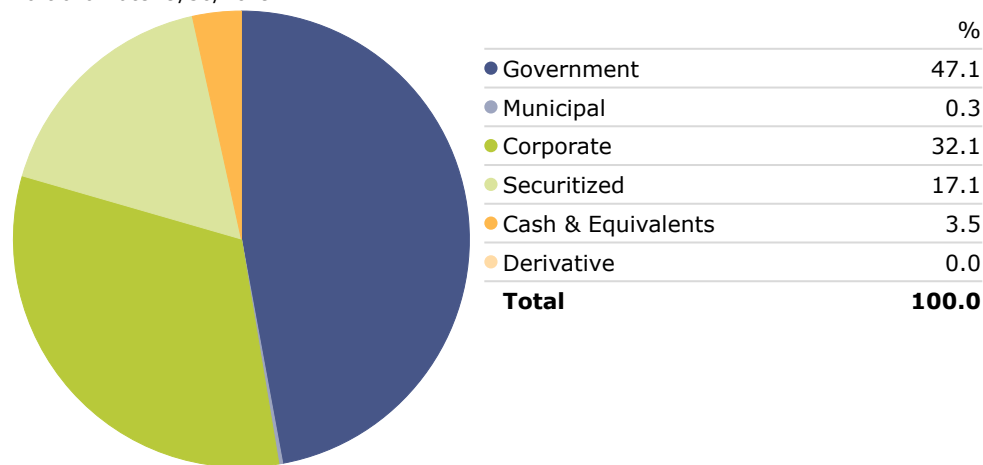
Equity country exposure

Portfolio Date: 9/30/2019



Fixed income sectors

Portfolio Date: 9/30/2019



Fixed income credit quality

Portfolio Date: 9/30/2019

