



AGENDA

RETIREMENT BOARD MEETING

SECOND MONTHLY MEETING
November 20, 2019
9:00 a.m.

Board Conference Room
1200 Concord Avenue, Suite 350
Concord, California

THE RETIREMENT BOARD MAY DISCUSS AND TAKE ACTION ON THE FOLLOWING:

1. Pledge of Allegiance.
2. Accept comments from the public.
3. Approve minutes from the October 23, 2019 meeting.
4. Review of total portfolio performance for period ending September 30, 2019.
 - a. Presentation from Verus
 - b. Presentation from staff
5. Update from StepStone Group on private equity.
6. Update from StepStone Group on private credit implementation.
7. Presentation of the alternate investment fees and expense report.
8. Consider and take possible action on Board meeting schedule for 2020.
9. Consider authorizing the attendance of Board:
 - a. 2020 Legislative Conference, National Conference on Public Employee Retirement Systems, January 26-28, 2020, Washington, DC.
 - b. Commonfund Forum 2020, March 8-10, 2020, Orlando, FL.
10. Miscellaneous
 - a. Staff Report
 - b. Outside Professionals' Report
 - c. Trustees' comments



MINUTES

RETIREMENT BOARD MEETING MINUTES

REGULAR MEETING
October 23, 2019
9:00 a.m.

Board Conference Room
1200 Concord Avenue, Suite 350
Concord, California

Present: Candace Andersen, Scott Gordon, Jerry Holcombe, Louie Kroll, Jay Kwon, David MacDonald, John Phillips, William Pigeon, Mike Sloan, Todd Smithey and Russell Watts

Absent: Donald Finley

Staff: Gail Strohl, Chief Executive Officer; Christina Dunn, Deputy Chief Executive Officer; Timothy Price, Chief Investment Officer; Wrally Dutkiewicz, Compliance Officer; Anne Sommers, Administrative/HR Manager; Tim Hoppe, Retirement Services Manager; and Son Lu, Information Technology Manager

Outside Professional Support:	Representing:
John Monroe	Segal Consulting
Eileen Neill	Verus Investments
Mike Kamell	Verus Investments

1. Pledge of Allegiance

The Board, staff and audience joined in the *Pledge of Allegiance*.

2. Accept comments from the public

Peter Marshall, Retiree, spoke on his disability application that was denied.

Denise Cannon, Retiree, spoke in support of Mr. Marshall's disability application.

3. Approval of minutes

It was **M/S/C** to approve the minutes of the September 25, 2019 Board meeting. (Yes: Andersen, Gordon, Holcombe, Kroll, MacDonald, Phillips, Pigeon, Smithey and Watts).

4. Consider and take possible action to adopt the December 31, 2018 Valuation Report and contribution rates for the period July 1, 2020-June 30, 2021

Monroe reported on a minor revision to the report. He stated the report now reflects the fact that Non-Enhanced Safety Tier A members in Cost Group 12 stop making contributions after 30 years of service.

It was **M/S/C** to adopt the December 31, 2018 Valuation Report and contribution rates for the period July 1, 2020-June 30, 2021. (Yes: Andersen, Gordon, Holcombe, Kroll, MacDonald, Phillips, Pigeon, Smithey and Watts)

5. Consider and take possible action to amend the Retirement Board's Regulations

Levy reviewed the proposed amendments to the Retirement Board's Regulations.

It was **M/S/C** to amend the Retirement Board's Regulations. (Yes: Andersen, Gordon, Holcombe, Kroll, MacDonald, Phillips, Pigeon, Smithey and Watts)

6. Consider and take possible action to authorize the CEO to execute a contract with LRWL Inc. for pension administration system consulting services

Jeff Mills, Sue Ziegler and Chris Fikes – LRWL Inc.

Mills introduced the team and reviewed the scope of the project including assessing, defining requirements and procuring a pension administration system. It was **M/S** to authorize the CEO to execute a contract with LRWL Inc. for pension administration system consulting services, not to exceed \$1,697,280.

After a discussion, a substitute motion was **M/** to approve the expenditure for Phase 1 (assessing and defining requirements and the procurement of a pension administration system) with LRWL Inc., not to exceed \$293,280.

After a discussion, the substitute motion failed for a lack of a second.

The original motion was amended. It was **M/S/C** to authorize the CEO to execute a contract with LRWL Inc. for pension administration system consulting services, not to exceed \$1,697,280 and subject to legal review. (Yes: Andersen, Gordon, Holcombe, Kroll, MacDonald, Phillips, Pigeon, Smithey and Watts)

7. Review of risk diversifying sub-portfolio

a. Report from staff

Price reviewed the staff report.

b. Presentation from AFL-CIO Housing Investment Trust – Chang Suh

Suh briefly reviewed his background noting he is CEO/Co-Chief Portfolio Manager. He reviewed the history of the organization and changes to the organization. He reviewed their investments in major U.S. markets as well as nationwide noting they invest primarily in debt that finances union built multi-family housing.

Andersen was no longer present for subsequent discussion and voting.

He also reviewed CCCERA's performance.

8. Miscellaneous

(a) Staff Report –

Strohl reported Jasmine Lee has been hired as the new Member Services Manager; and, the new logo is now on the wall in our lobby.

(b) Outside Professionals' Report -

None

(c) Trustees' comments –

Phillips reported on the IFEBP Trustees Master Program he attended.

Pigeon complimented staff on the great job to the new Boardroom.

Smithey echoed Pigeon's comments.

It was **M/S/C** to adjourn the meeting. (Yes: Gordon, Holcombe, Kroll, Kwon, MacDonald, Phillips, Pigeon, Smithey and Watts)

Todd Smithey, Chairman

David MacDonald, Secretary

**PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**



PERIOD ENDING: SEPTEMBER 30, 2019
Investment Performance Review for

Contra Costa County Employees' Retirement Association

Meeting Date
11/20/19
Agenda Item
#4a.

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SEATTLE 206-622-3700

LOS ANGELES 300-297-1777

SAN FRANCISCO 415-362-3484

Investment Landscape

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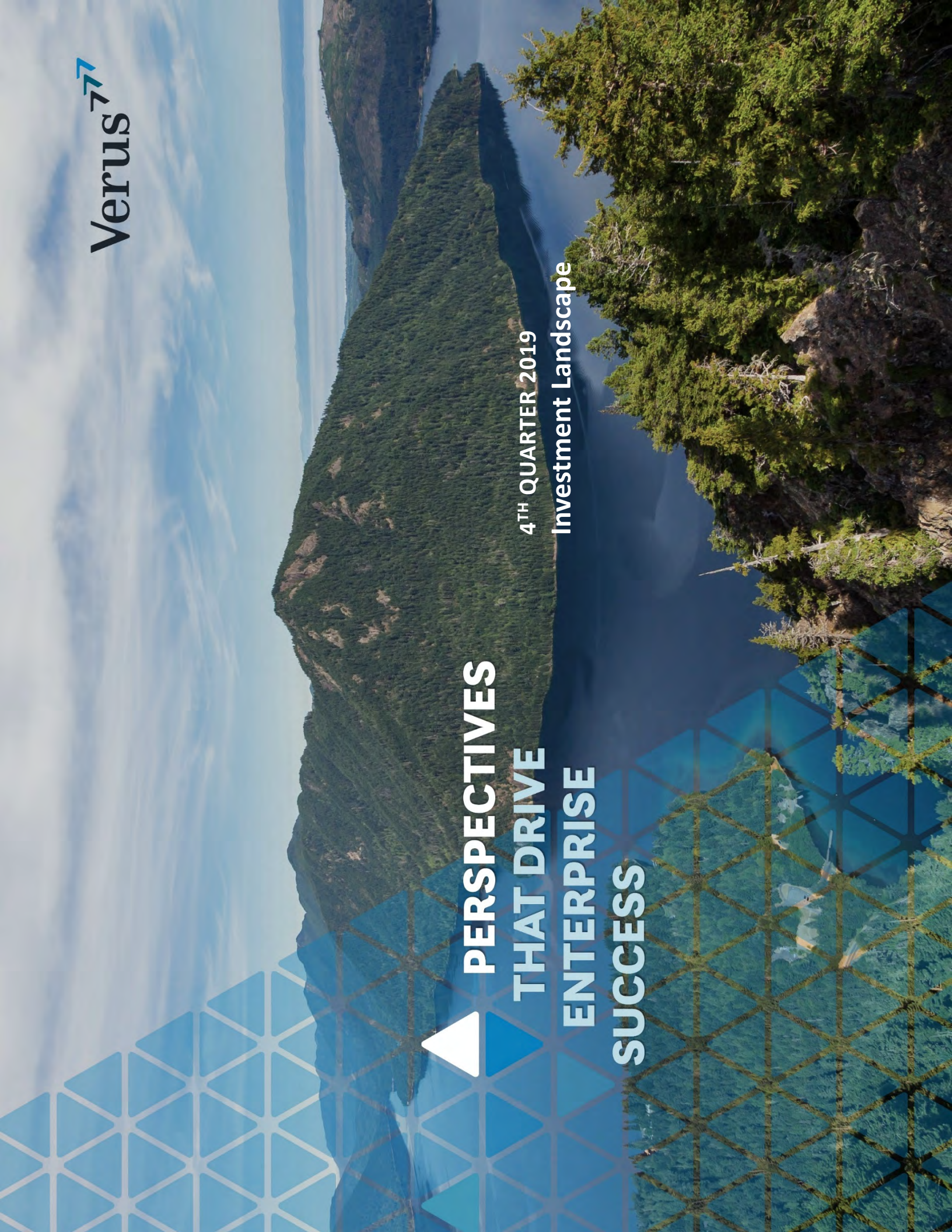
Investment Performance
Review

TAB II

Verus⁷⁷

 **PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS**

4TH QUARTER 2019
Investment Landscape



Recent Verus research

Visit: <https://www.verusinvestments.com/insights/>

Annual outlooks

PRIVATE EQUITY OUTLOOK

In our annual outlook we discuss the following trends occurring in the private markets:

- Continued strong deal flow in 2018, surpassing the all-time high of 2017.
- Another strong year for M&A activity by strategic buyers in response to slowing global growth to shore up profit margins.
- Europe’s continued deployment into new investments to surpass exits by almost 2x, despite the uncertainty of political policies.
- Persistent excess returns above public markets and borrower-friendly leveraged financing driving more capital into the private markets, however investors are gravitating towards larger fund managers with longer track records.
- The continued evolution of secondary markets encompassing increasingly complex transactions.

Topics of interests

CRISIS RISK MITIGATION

We went back in time to find the worst periods in U.S. stock market history. There is always a question regarding whether it is possible to employ risk mitigation within a portfolio without giving up too much in terms of returns or paying too much in expenses.

We briefly examine strategies which are thought to mitigate these effects and find that some are better than others. Most institutional investors already have an effective program of crisis risk mitigation in the form of a significant allocation to high-quality bonds. For those wishing to construct a dedicated crisis risk allocation, we suggest a roadmap.

THE INVESTMENT GOLDEN RULE

Effective capital allocation involves distributing financial resources in a way that aligns the goals and objectives of an organization with its investment program. For institutional investors, this involves designing an appropriate strategic asset allocation (SAA), selecting competent investment managers, and then managing the resulting portfolio well. We believe there is a framework that can help. The “Investment Golden Rule” combines the components of the capital allocation process with the return objective in order to improve investment decisions across the organization. In this paper we analyze some practical examples of the capital allocation process through the lens of this framework.

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3rd quarter summary

THE ECONOMIC CLIMATE

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag. **p. 7**
- Trade policies and conflict likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to hinder growth in the future. **p. 16**

PORTFOLIO IMPACTS

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. **p. 26**
- Core inflation has crept up to cycle-highs in 2019, increasing to 2.4% YoY in September. Headline inflation rose 1.7% YoY, dragged down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces in the global economy. **p. 9**

THE INVESTMENT CLIMATE

- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%. **p. 18**
- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion. **p. 18**

ASSET ALLOCATION ISSUES

- Risk assets were flat over the quarter. Global equities gained 0.0% and U.S. Treasuries gained 2.4% as domestic interest rates fell. Longer duration exposures continued to outperform. **p. 41**
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Emerging market currencies fell -4.0% in Q3 on the back of U.S. dollar strength. These currencies remain depressed relative to history. **p. 36**

A neutral risk stance may be appropriate in today's environment

What drove the market in Q3?

“Trade talks seen as unlikely to mend U.S.-China divide”

U.S. TREASURY FEDERAL BUDGET NET CUSTOMS RECEIPTS (\$BILLIONS)				
Apr	May	Jun	Jul	Aug
\$5.24	\$4.93	\$5.61	\$6.47	\$7.01

Article Source: Reuters, September 16th, 2019

“World Economy Sends Up Flares as Manufacturing Slump Hits U.S.”

ISM MANUFACTURING PURCHASING MANAGERS' INDEX				
Apr	May	Jun	Jul	Aug
52.8	52.1	51.7	51.2	49.1
				Sep
				47.8

Article Source: Bloomberg, September 30th, 2019

“Fed Will Weigh Resuming Balance Sheet Growth at October Meeting”

SIZE OF FEDERAL RESERVE BALANCE SHEET (\$TRILLIONS)				
Apr	May	Jun	Jul	Aug
\$3.93	\$3.85	\$3.83	\$3.78	\$3.76
				Sep
				\$3.86

Article Source: The Wall Street Journal, September 19th, 2019

“Can Boris Johnson deliver Brexit as he pledged?”

GBP/USD SPOT EXCHANGE RATE (PRICE OF 1 GBP in USD)				
Apr	May	Jun	Jul	Aug
\$1.30	\$1.26	\$1.27	\$1.22	\$1.22
				Sep
				\$1.23

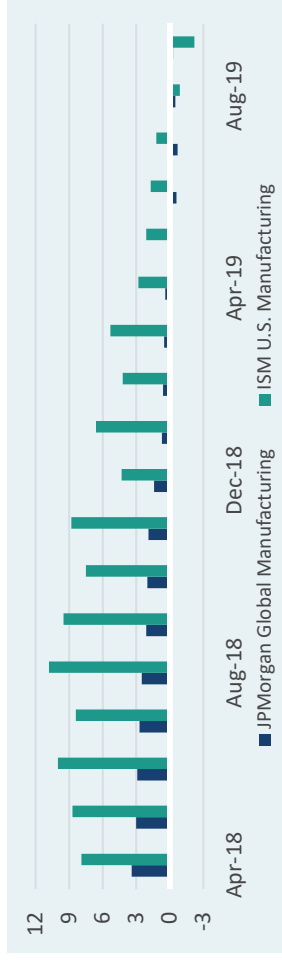
Article Source: The Australian Financial Review, September 11th, 2019

U.S. TREASURY FEDERAL BUDGET NET RECEIPTS CUSTOMS (\$BILLIONS)



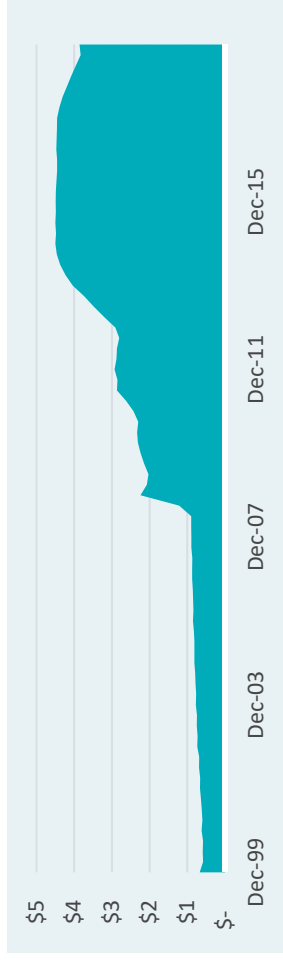
Source: Bloomberg, as of 8/31/19

MANUFACTURING PURCHASING MANAGERS INDEXES (RELATIVE TO 50)



Source: Bloomberg, Federal Reserve, as of 9/30/19. A reading of 0 is considered neutral.

FEDERAL RESERVE BALANCE SHEET (\$TRILLIONS)



Source: Bloomberg, Federal Reserve, as of 9/30/19

Economic environment

U.S. economics summary

- Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). U.S. Q2 consumer spending came in stronger than any time since 2014, while weak business inventory investment acted as a slight drag.
- U.S-China trade remained a major story in Q3. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.
- Trade conflict has likely weighed on economic progress. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to act as a drag on growth in the future.
- Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, dragged down by falling energy prices.
- The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run.
- Despite record unemployment, wage growth remains lukewarm, decelerating from a cycle high of 3.4% achieved in February, to 2.9% in September.
- In October, the IMF cut its 2019 global economic growth forecast from 3.2% to 3.0%, referencing global trade friction as a primary driver.

	Most Recent	12 Months Prior
GDP (YoY)	2.3% 6/30/19	3.2% 6/30/18
Inflation (CPI YoY, Core)	2.4% 9/30/19	2.3% 9/30/18
Expected Inflation (5yr-5yr forward)	1.7% 9/30/19	2.2% 9/30/18
Fed Funds Target Range	1.75 – 2.00% 9/30/19	2.00 – 2.25% 9/30/18
10 Year Rate	1.7% 9/30/19	3.1% 9/30/18
U-3 Unemployment	3.5% 9/30/19	3.7% 9/30/18
U-6 Unemployment	6.9% 9/30/19	7.5% 9/30/18

GDP growth

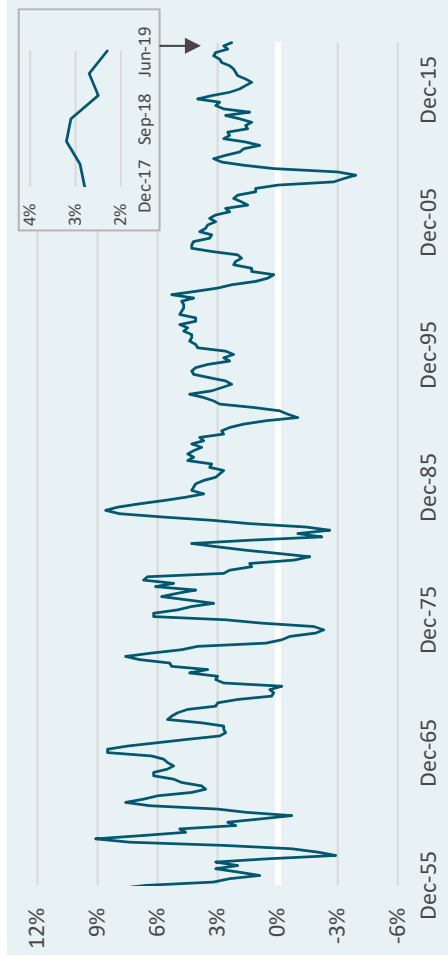
Real GDP grew at a 2.3% rate year-over-year in the second quarter (2.0% quarterly annualized rate). A lack of corporate inventory investment detracted -0.9% from the overall GDP print, perhaps fueled by frontloaded business purchases in efforts to avoid tariffs. Business investment also acted as a slight drag. Weakness was offset by strength in consumer spending not seen since late 2014. Economists broadly expect U.S. economic growth to moderate to a 2.0% pace in 2020.

Trade policies and conflict likely resulted in a mild drag on

economic growth. Uncertainty regarding the future of U.S.-China trade relations and supply chain disruptions caused by new tariff impositions are expected to further weigh on trade, spending, and business investment.

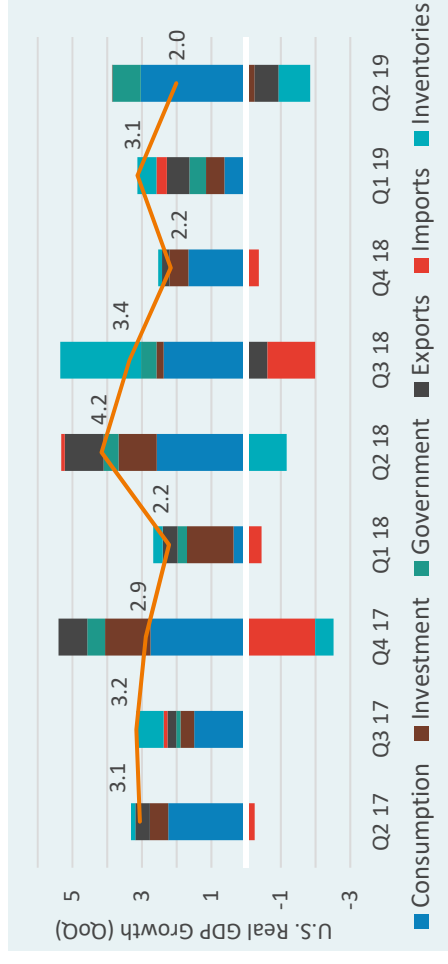
On October 9th, the Federal Reserve Bank of Atlanta GPNow forecast indicated GDP growth of 1.7% in the third quarter. This forecast has recently fallen due to weaker than expected inventory investment.

U.S. REAL GDP GROWTH (YOY)



Source: Bloomberg, as of 6/30/19

U.S. GDP GROWTH ATTRIBUTION



Source: BEA, annualized quarterly rate, as of 6/30/19

Inflation

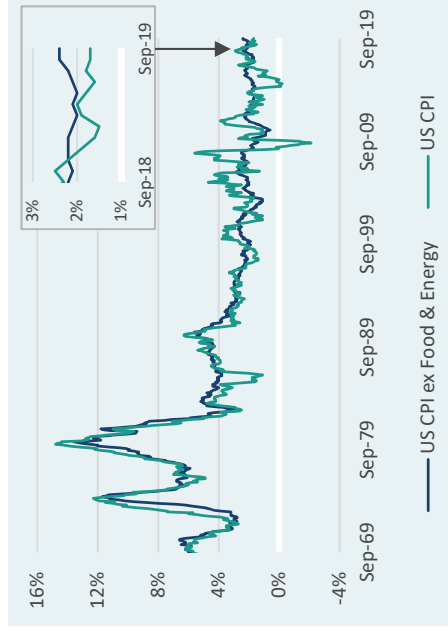
Core inflation has crept up to cycle-highs, rising 2.4% YoY in September. Headline inflation increased 1.7% YoY, held down by falling energy prices. Neither the media nor investors appear to be concerned about rising inflation, as of yet. Investors remain focused on deflationary forces across the global economy.

The market is pricing inflation to be very low over the next 10 years, as indicated by the U.S. 10yr TIPS breakeven inflation rate of 1.52%. This breakeven rate is still a ways

from its cycle low of 1.18% achieved in February 2016, when the price of oil crashed to below \$30 per barrel and pushed inflation down drastically.

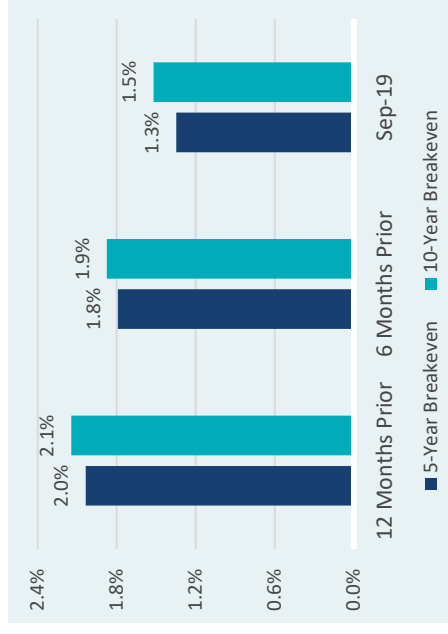
We believe it is likely that inflation will remain subdued. If inflation was to rise persistently, this might place central banks in a perilous position, given their recent unwillingness to raise interest rates. A rising inflation environment would also put upward pressure on interest rates, creating a drag on the global economy.

U.S. CPI (YOY)



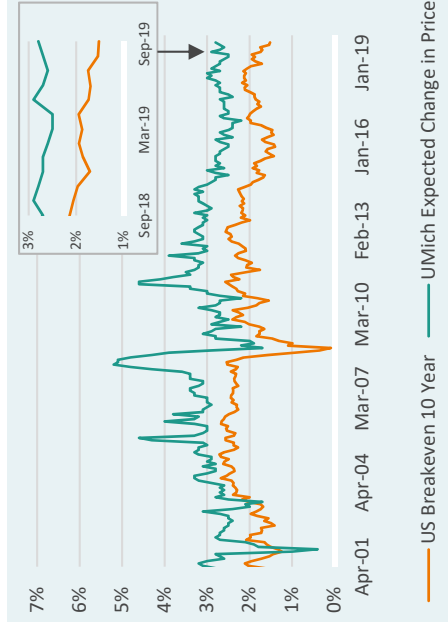
Source: Bloomberg, as of 9/30/19

U.S. BREAKEVEN INFLATION RATES



Source: FRED, as of 9/30/19

INFLATION EXPECTATIONS



Source: Bloomberg, as of 9/30/19

Labor market

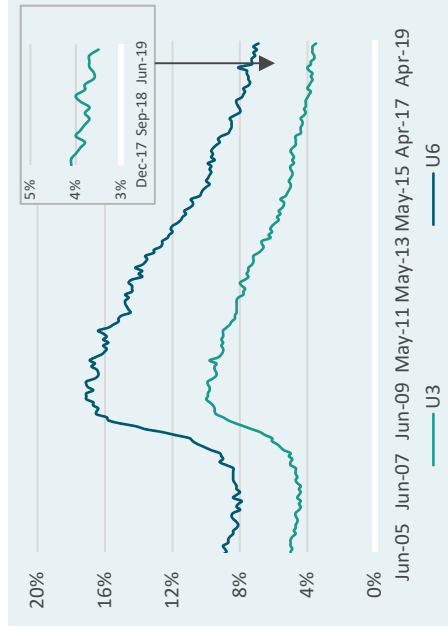
The U.S. unemployment rate reached a 50-year low of 3.5% in September. Historically, the rate of unemployment has risen prior to the beginning of each U.S. recession, which suggests the U.S. expansion may still have room to run. Despite record unemployment, wage growth remains lukewarm, decelerating to 2.9% YoY in September, down from a cycle high of 3.4% YoY achieved in February.

Interestingly, the small pool of U.S. workers who are currently unemployed have been out of work for much

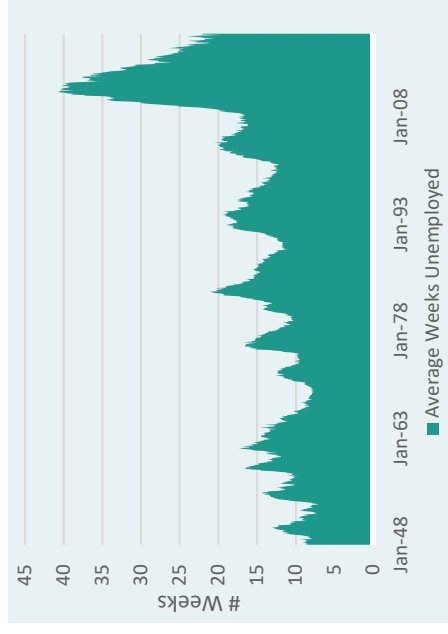
longer, on average, than during past economic cycles. A shift in the composition of U.S. jobs may be contributing to this effect, as many manufacturing jobs have been outsourced/lost, and automated production processes have displaced some workers. Mismatches between the skills of available U.S. job-seekers and the skills required for current jobs appears to be creating some *structural unemployment*. Workers who are *structurally unemployed* require retraining and education to reposition themselves in the labor market.

U.S. labor market remains strong, though further upside may be limited

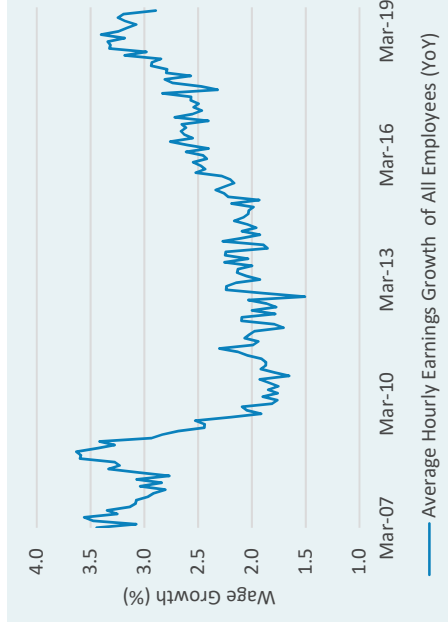
U.S. UNEMPLOYMENT



LENGTH OF UNEMPLOYMENT



U.S. WAGE GROWTH



Source: FRED, as of 9/30/19

Source: FRED, as of 9/30/19

Source: FRED, as of 9/30/19

The consumer

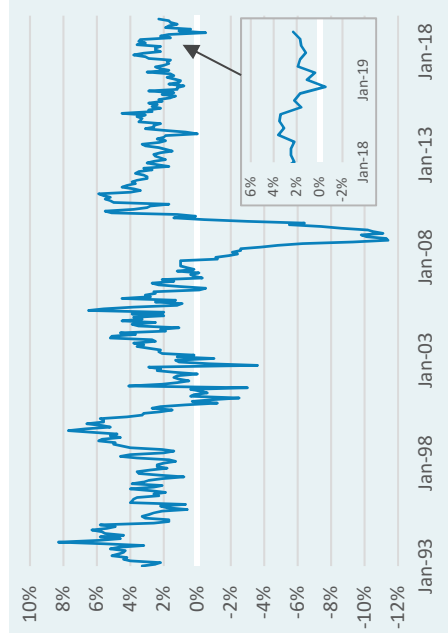
Retail sales fell in late 2018 but recovered year-to-date with a September growth rate of 2.3% YoY. Big-ticket purchases of items such as automobiles and homes have slowed from their 2016 highs.

The U.S. consumer continues to exhibit strength, as the labor market has reached record tightness, sentiment remains solid, and borrowing costs have fallen. However, slowing big ticket purchases will act as a headwind to growth. This slowing may be partly an effect of low interest rate burnout. As interest rates have been low for many years, consumers in need of big-ticket items have likely already purchased those items. Since

consumers are not likely to purchase yet another car or home, the incremental positive impacts of lower interest rates may be limited.

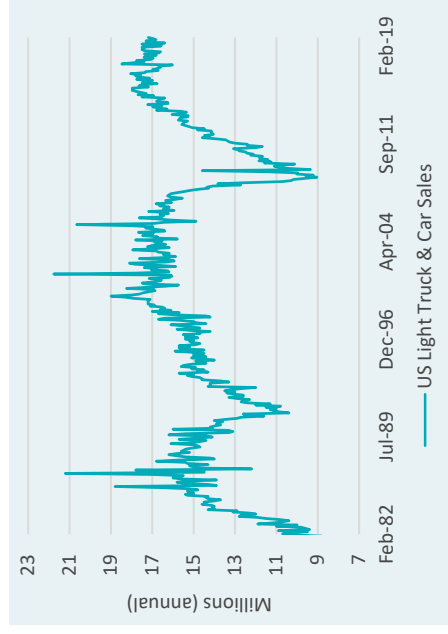
Consumer spending growth throughout this expansion has been a bright spot but has remained moderate, perhaps influenced by memories of the U.S. housing bubble and global financial crisis. Conservative spending habits are reflected in much higher savings rates than those witnessed during the economic boom of the 2000s – during which households spent more of their disposable income than any time since the Great Depression of the 1930s.

REAL RETAIL SALES GROWTH (YOY)



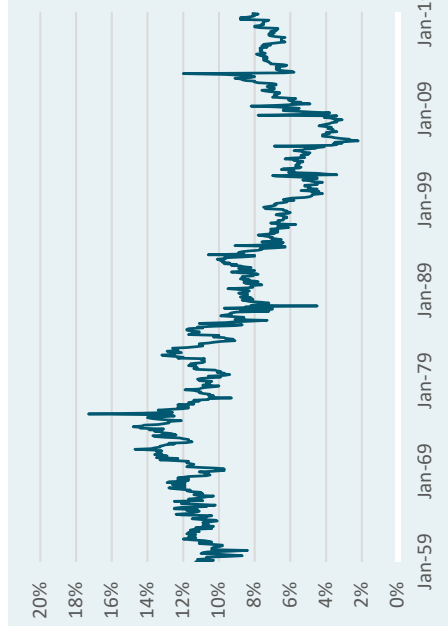
Source: FRED, as of 8/31/19

AUTO SALES



Source: Bloomberg, as of 9/30/19

PERSONAL SAVINGS RATE



Source: FRED, as of 8/31/19

Sentiment

Consumer sentiment faded but remained strong relative to history. The ratcheting up of trade tensions between the U.S. and China cast a shadow over a robust U.S. labor market.

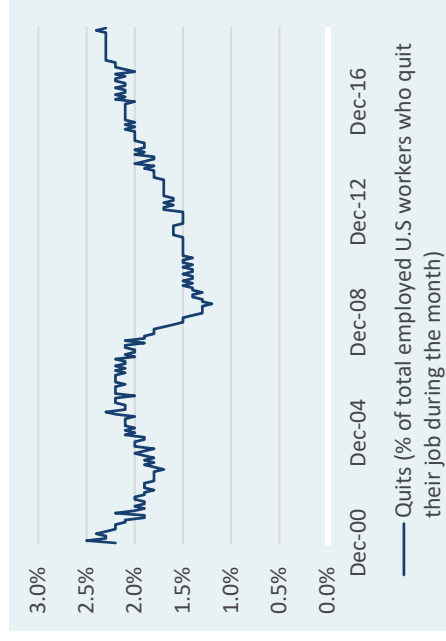
Quits rate data from the Bureau of Labor Statistics indicated that 2.3% of total employed U.S. workers voluntarily quit their jobs in August - a level not seen since April 2001.

Policy makers and economists view the quits rate as a measure of job confidence; quits rates typically rise when the labor market is relatively tight, and wages are moving higher.

Over the quarter, the University of Michigan's Consumer Sentiment Index fell from 98.2 to 93.2. Consumers remained more concerned about the near-term future than about the current situation. The two components of the index – Expectations and Current Situation - fell from 89.3 to 83.4 and from 111.9 to 108.5, respectively.

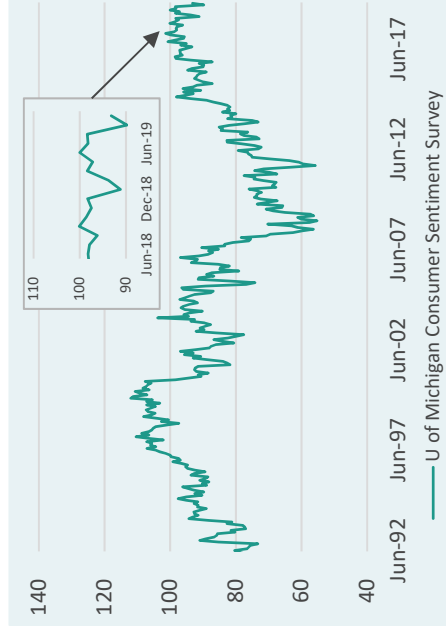
Optimism among small business owners trended lower as well. In the September NFIB report, 30% of small business owners reported they were negatively affected by tariffs.

U.S. WORKER QUIT RATE



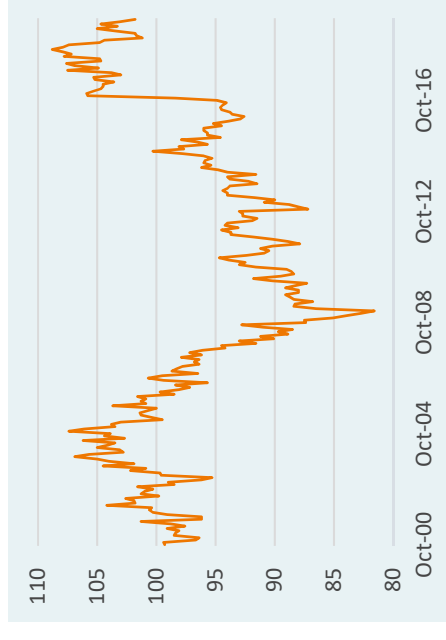
Source: FRED, as of 8/31/19

CONSUMER SENTIMENT



Source: University of Michigan, as of 9/30/19 (see Appendix)

NFIB SMALL BUSINESS OPTIMISM INDEX



Source: NFIB, as of 9/30/19

Housing

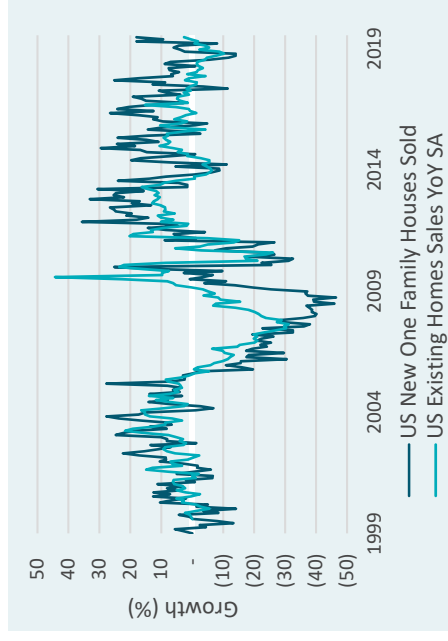
The housing market appears to be cooling off after a strong boom throughout the recent economic expansion. Home prices are falling modestly in some markets, and sales activity slowed in 2018. However, the recent drop in interest rates and mortgage rates has eased the cost of home ownership and may reignite activity.

Home prices have fallen. The median U.S. home sale price was down -5% YoY in Q2. Falling prices and further weakening of the U.S. economy may create negative momentum as many buyers do not wish to purchase a home in a falling housing market, or in an economy that may be headed for recession.

It is always helpful to remember that home price trends can vary meaningfully by location, which means national statistics are sometimes difficult to interpret at a local level.

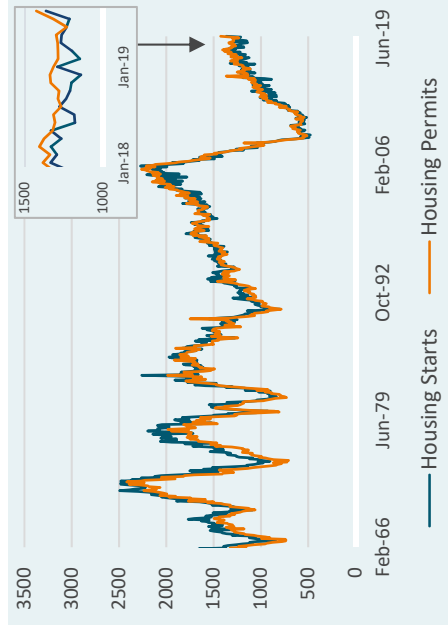
Existing home sales grew +2.6% YoY in August. New home sales, a far smaller portion of the overall market, grew at a stronger rate of +18% YoY. An increase in new home sales likely reflects rising homebuilder activity in recent years, as indicated by the NAHB Housing Starts and Housing Permits Indices.

U.S. HOME SALES (YOY)



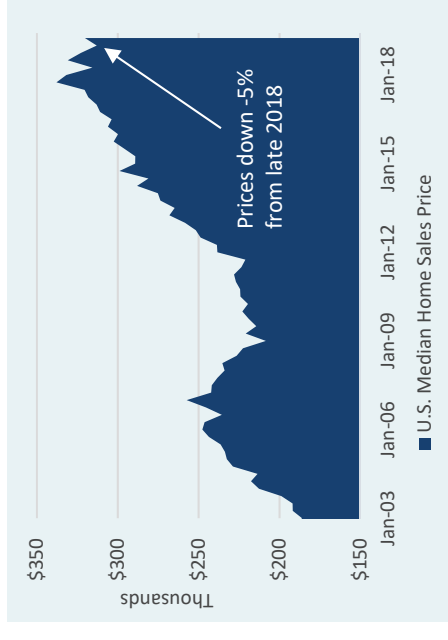
Source: FRED, as of 8/31/19

HOUSING STARTS & PERMITS



Source: Bloomberg, NAHB, as of 8/31/19 (see appendix)

MEDIAN U.S. HOME SALES PRICE



Source: FRED, as of 6/30/19

International economics summary

- The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%. Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%,
- A major theme in the third quarter was the global manufacturing slowdown, which was illuminated by gloomy European manufacturing PMI data. The Markit Eurozone Manufacturing PMI fell to 45.7, further into contractionary territory indicated by a reading below 50. The German reading fell to 41.7. It has yet to be seen whether manufacturing weakness will spill into the larger services sector, where PMIs still indicate business expansion.
- Inflation has remained subdued across international developed markets, and many pundits have viewed the mild inflation data as a cue for central banks to step in and attempt to bolster economic growth through more accommodative policy.
- Unemployment rates continued to tick lower around the globe. In the U.S., unemployment hit a 50-year low at 3.5%.
- U.S-China negotiations will likely continue to impact trade around the world. The U.S. scheduled tariff rate hikes on \$250B in already-tariffed Chinese imports, as well as tariff impositions of up to 15% on the remaining \$300B in Chinese imports not currently exposed to duties. The Chinese retaliated with commensurate tariff adjustments. The two sides agreed to continued trade talks in Washington D.C. at the beginning of October.
- Dormant trade tensions between the U.S. and the E.U. saw a resurgence over the quarter – the U.S. applied tariffs between 10-25% on \$7.5B of imports from the E.U.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.3% 6/30/19	1.7% 9/30/19	3.5% 9/30/19
Eurozone	1.2% 6/30/19	0.8% 9/30/19	7.4% 8/31/19
Japan	1.0% 6/30/19	0.4% 9/30/19	2.3% 5/31/19
BRICS Nations	5.0% 6/30/19	3.1% 9/30/19	5.1% 6/30/19
Brazil	1.0% 6/30/19	2.9% 9/30/19	11.8% 8/31/19
Russia	0.9% 6/30/19	4.0% 9/30/19	4.3% 8/31/19
India	5.8% 3/31/19	4.0% 9/30/19	8.5% 12/31/17
China	6.2% 6/30/19	3.0% 9/30/19	3.6% 6/30/19

International economics

The United States delivered year-over-year GDP growth of 2.3% in the second quarter, extending outperformance relative to other developed nations, which have posted year-over-year growth of around 1.0%.

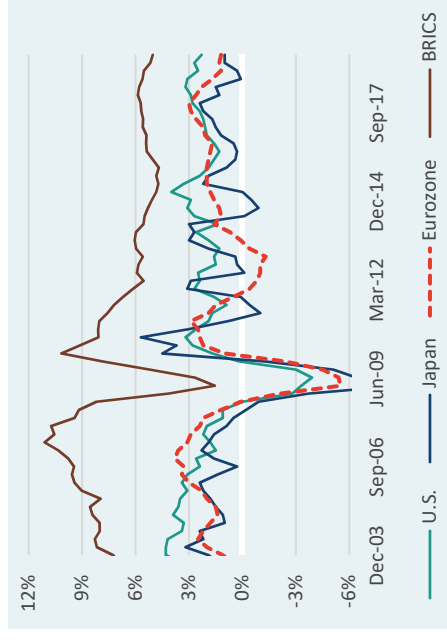
The Organization for Economic Development cut its 2019 calendar year forecast for global growth from 3.2% to 2.9% and its 2020 calendar year forecast from 3.4% to 3.0%.

Driving the downward revisions were trade tensions, which the OECD estimated would reduce 2019 global growth by 0.6%, 2019 U.S. growth by 0.7%, and 2019 Chinese growth by 1.0%

Inflation has remained subdued across international developed markets, and many pundits have viewed the mild inflation data as a cue for central banks to step in and attempt to bolster economic growth through more accommodative policy. Unemployment rates continued to tick lower around the globe. In the U.S., unemployment hit a 50-year low at 3.5%.

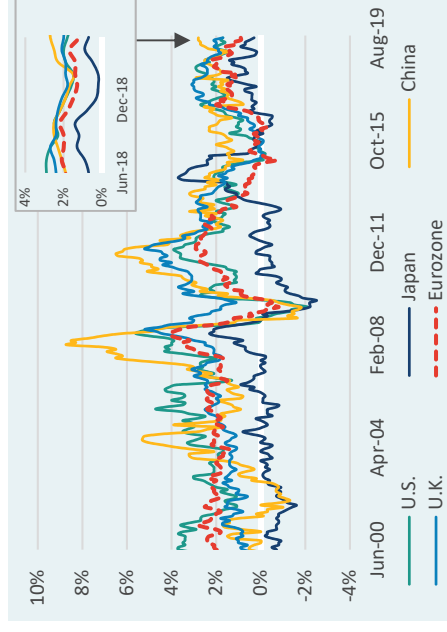
Chinese GDP expanded 6.0% year-over-year in the third quarter, its slowest rate of growth since the first quarter of 1992. Beijing's official target range for 2019 growth is between 6.0-6.5%.

REAL GDP GROWTH (YOY)



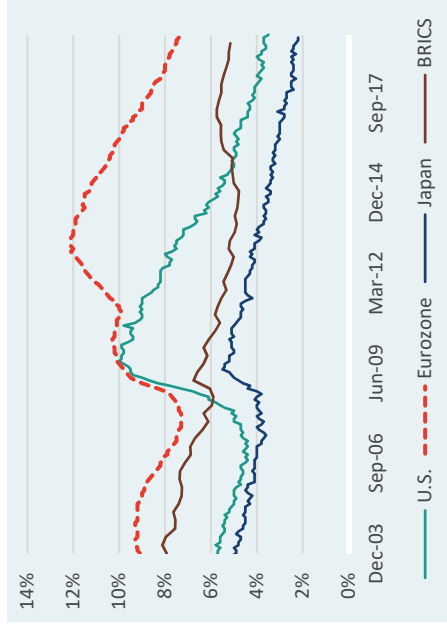
Source: Bloomberg, as of 6/30/19

INFLATION (CPI YOY)



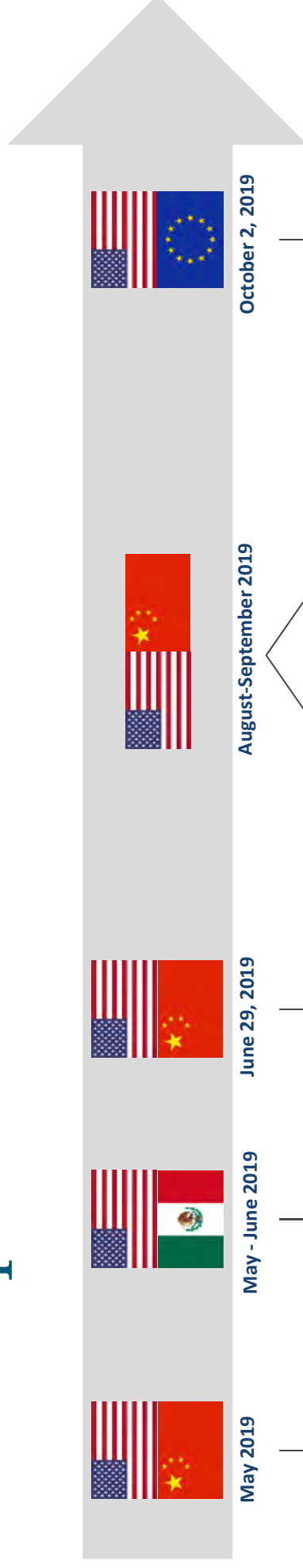
Source: Bloomberg, as of 9/30/19

UNEMPLOYMENT RATE



Source: Bloomberg, as of 9/30/19 or most recent release

Trade update



May 2019



United States: 5/10/19
Hikes tariff rates on \$200B of Chinese imports from 10% to 25%, and reportedly considers 25% duties on an additional \$325B in Chinese imports.

China: 5/13/2019

Responds with commensurate tariff rate hikes on \$60B scheduled to take effect June 1st.

United States: 5/16/19

Places Huawei on it's "entity list" cutting it off from U.S. tech companies.

May - June 2019



United States: 5/30/19

President Trump announces 5% tariffs on all Mexican imports effective June 10th, which could move to 25% by October 1st.

United States & Mexico: 6/7/2019

Tariffs indefinitely suspended following agreement on an immigration enforcement deal, which expanded the Migrant Protections Protocol (MPP) program.

June 29, 2019



G20 SUMMIT

United States: 6/29/19

Relaxes stance on Huawei, allows company to resume importing high-tech U.S. intermediate goods.

China: 6/29/19

Unofficially agrees to boost purchases of U.S. agricultural goods.

August-September 2019



FOLLOWING 7/31/19 TALKS IN SHANGHAI

United States: 8/1/19

President Trump announced that a 10% tariff would be applied to the remaining \$300B in Chinese imports including electronic and clothing consumer goods, effective September 1st.

China: 8/6/19

Halts U.S. agricultural purchases; rebukes U.S. allegations of currency manipulation.

United States: 8/13/19

Delays some of the 10% tariffs effective 9/1/19 to 12/15/19.

October 2, 2019



World Trade Organization: 10/2/19

Rules E.U. subsidies for the French aviation giant Airbus were illegal.

United States: 10/2/19

Announced duties on \$7.5B of European exports effective October 18th.

10/18/19

Tariffs on various food products including whiskey, wine, coffee, pork, butter, and cheese set to start at 25%. Tariffs on commercial aircraft set to start at 10%.

China & United States: 9/5/19

Agree to a 13th round of trade talks which will take place in Washington D.C. in early October.

Source: [Wikimedia Commons](#)

Fixed income rates & credit

Interest rate environment

- Global sovereign bonds rallied, encouraged by muted inflation expectations and dovish guidance from global central banks. Central bankers appealed for fiscal action, citing the limited capacity of monetary policy to sustain further economic expansion.
- The Federal Open Market Committee cut the range for its benchmark interest rate by 0.25% in both its July and September meetings, bringing the new range for federal funds to 1.75-2.00%.
 - FOMC members appear divided on the likely future path of interest rates. Per the September dot plot, 8 of 17 members expect one further 0.25% cut by the end of 2020, 2 expect no change, and 7 expect either one or two 0.25% rate hikes.
 - The European Central Bank delivered a fresh stimulus package in September, in line with expectations. The ECB cut its main deposit rate from -0.40% to -0.50% and announced it would restart asset purchases of €20 billion per month, beginning November 1st.
 - Global sovereign yields continued to plummet. In Germany, 10-year bond yields touched fresh all-time lows, and the entire German sovereign curve moved below 0%. In Italy, 10-year bond yields fell 1.28% to 0.82%, boosted by the formation of a new coalition government between the Democratic Party and the Five-Star Movement.
 - Repo rates, which represent the overnight rate paid by short-term borrowers of cash, surged as overnight liquidity was constrained. The New York Fed intervened, injecting over \$300 billion into money markets over the course of a few weeks. Fed officials viewed the brief spike in repo rates as a financial “plumbing” issue, which could justify an “organic resumption of balance sheet growth”, not to be confused with crisis-era QE policy.

Area	Short Term (3M)	10-Year
United States	1.81%	1.66%
Germany	(0.57%)	(0.57%)
France	(0.59%)	(0.27%)
Spain	(0.54%)	0.15%
Italy	(0.28%)	0.82%
Greece	0.65%	1.35%
U.K.	0.78%	0.49%
Japan	(0.32%)	(0.21%)
Australia	1.06%	1.02%
China	2.33%	3.14%
Brazil	5.04%	7.05%
Russia	6.58%	7.01%

Source: Bloomberg, as of 9/30/19

Rising global debt – two opposing forces

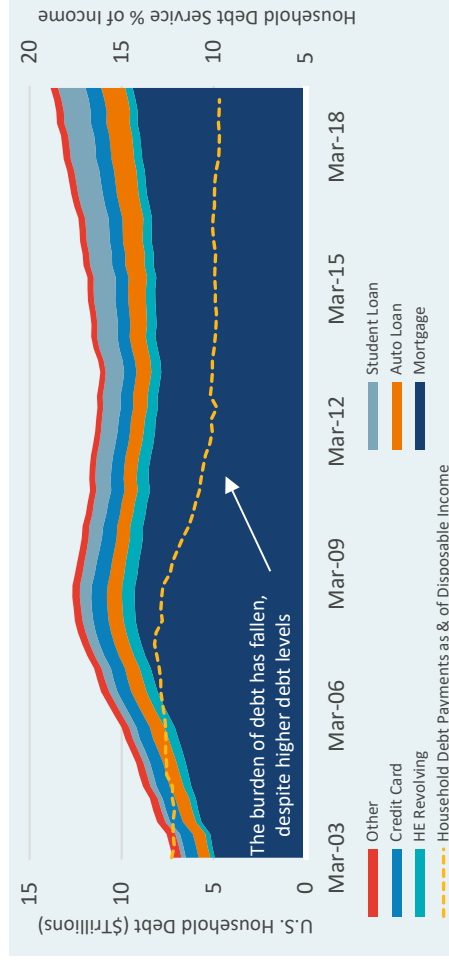
As the world has entered a low interest rate environment, many businesses and households have taken on greater debt. This is a natural trend – cheaper financing makes many purchases economical that were not when interest rates were high. As the cost of debt falls, businesses have also increasingly sought debt as a preferred source of overall financing.

Simultaneously, lower interest rates have offset much of the burden of taking on more debt. Some may argue that if an entity loads up on debt, but interest rates fall enough so that the entity's monthly debt payment does not change, this additional debt does not add significant risk to the entity's situation. It appears this is what is occurring around the world – greater use of debt, with the

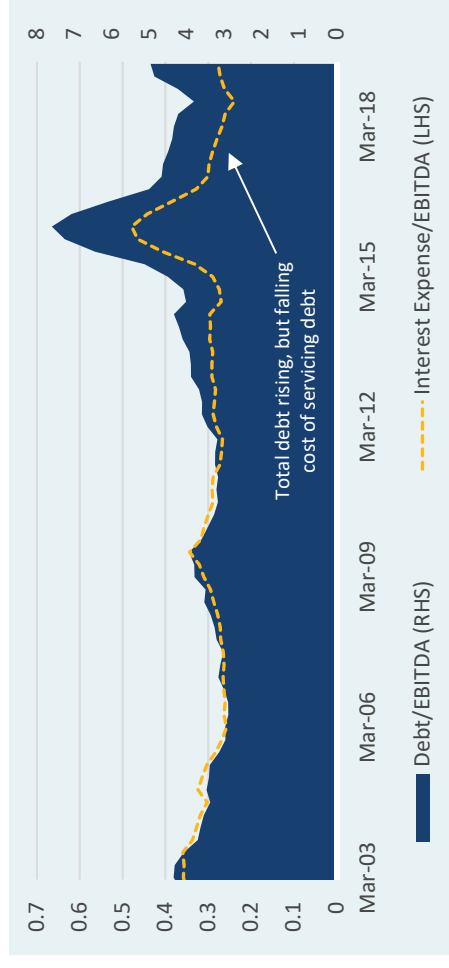
burden of that debt largely offset by much lower interest rates. However, we believe risks are heightened in this environment.

What are the investment implications? Changes in debt levels and interest rates tend to be slow-moving and secular, and difficult to act upon. But these events may in fact be informative about the future. First, expanded budgets and higher debt loads create incentives for governments to keep interest rates low to avoid economic problems. Second, significant corporate profit growth in recent years from financial engineering should not be expected to continue indefinitely. Third, higher debt loads may add to deflationary pressure, if debt service begins to take a greater share of income. We will continue to watch these secular forces.

HOUSEHOLD DEBT BURDEN



HIGH YIELD DEBT BURDEN

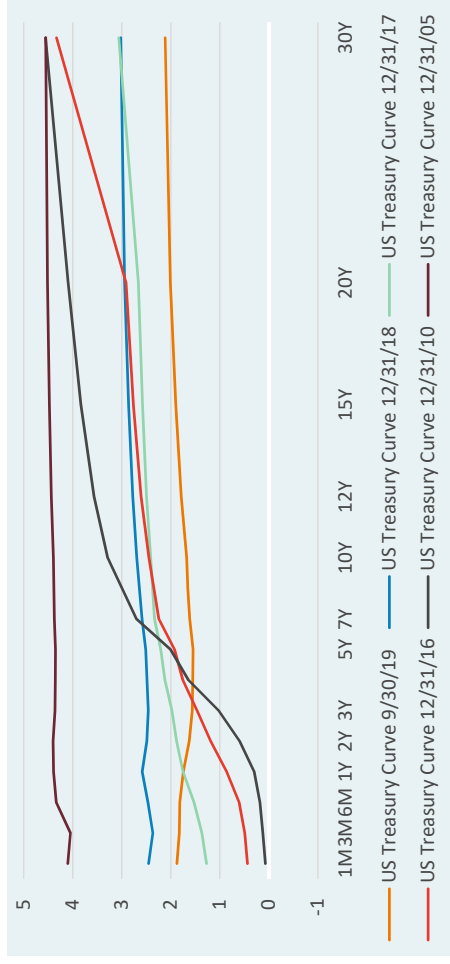


Source: FRED, as of 6/30/19

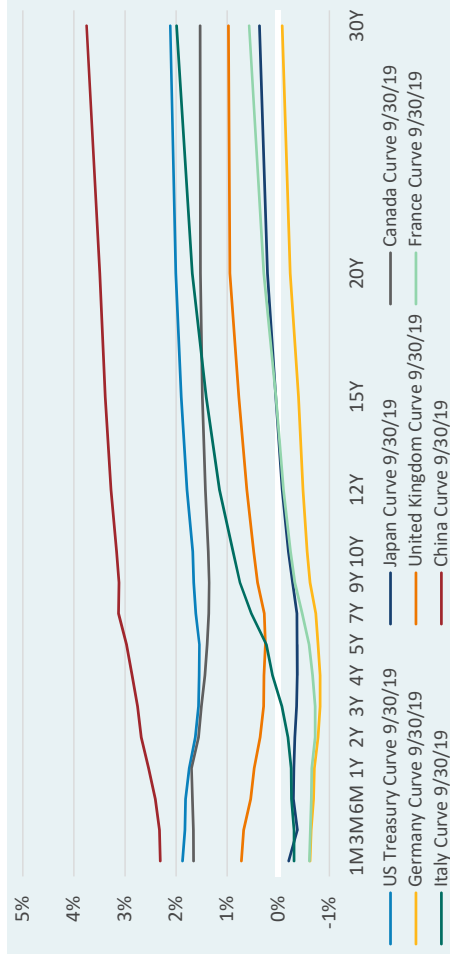
Source: Bank of America Merrill Lynch, as of 6/30/19 – Interest expense divided by total debt

Yield environment

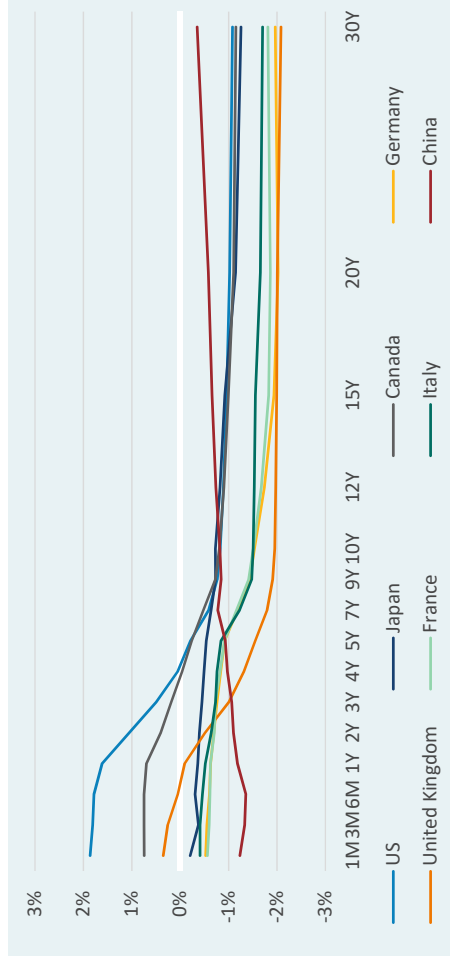
U.S. YIELD CURVE



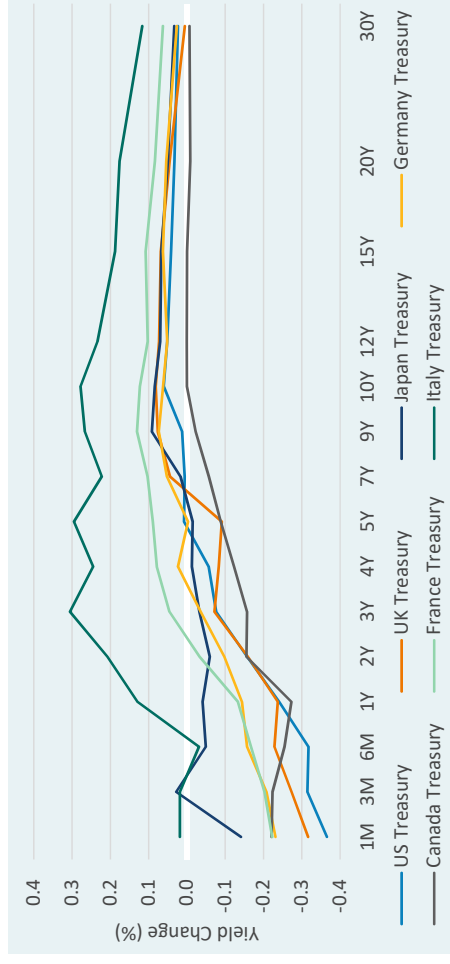
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



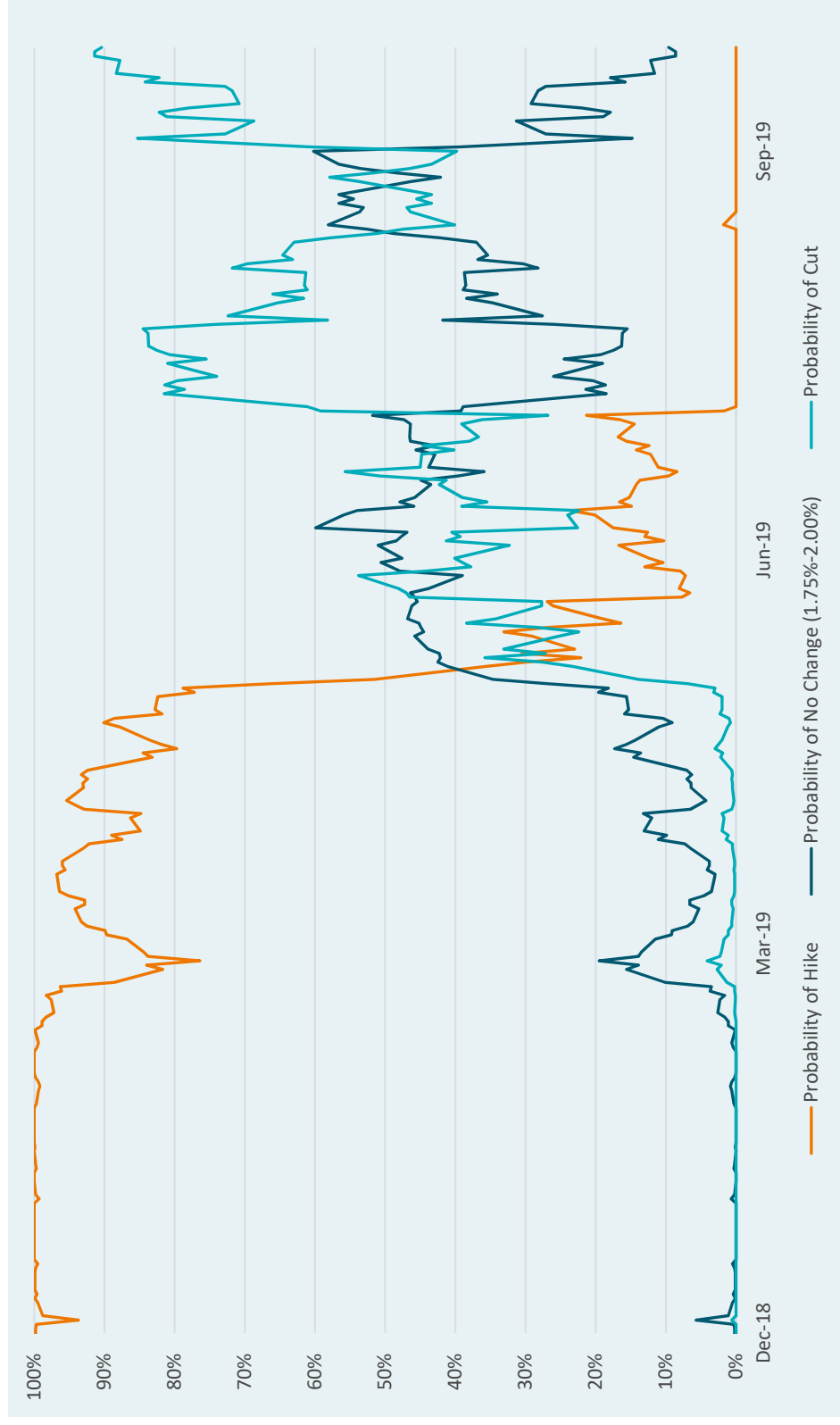
IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 9/30/19

October Fed meeting

FUTURES IMPLIED PROBABILITIES FOR OCTOBER FED RATE DECISION



In September, the Fed cut its range for federal funds by 0.25%, in line with expectations

Investors expect the Fed to cut rates again by 0.25% at the October 30th meeting

Source: Bloomberg, as of 10/24/19

Credit environment

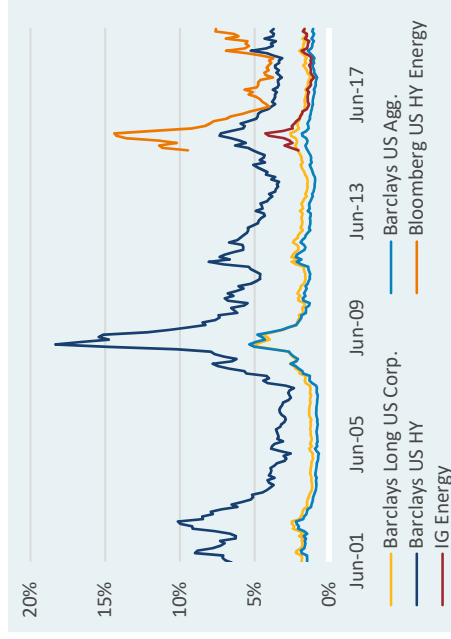
High yield bond spreads tightened slightly during Q3 as below investment grade assets remained somewhat stable over the period. Credit in general has been positively impacted by Federal Reserve dovishness. Anticipation of easier interest rate policies, which could potentially lengthen the credit cycle, has strengthened sentiment for risk assets. BB-rated bonds outperformed both CCC- and B-rated bonds in the third quarter once again. High yield bonds have returned +11.4% YTD, materially outperforming bank loans (+6.4%), but slightly underperforming investment grade credit (+12.6%).

The bank loan market has experienced some modest positive performance as interest rates rose off of their lows during the

quarter. The asset class was impacted by a pause in the Fed's hiking cycle and uncertainty surrounding future moves.

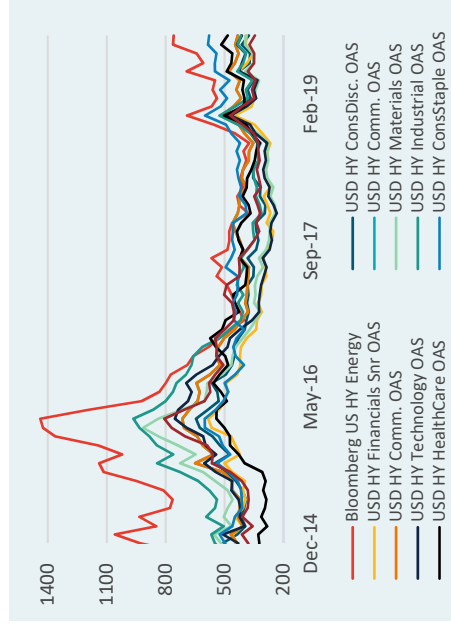
Based on concerns over late-cycle behavior in credit markets, we do not believe investors are being adequately compensated for credit risk. Late-cycle volatility tends to coincide with widening credit spreads and higher propensity for default activity. An underweight to U.S. investment grade, high yield credit, and bank loans may be warranted, with an overweight to emerging market debt which appears to offer more attractive value. This positioning should result in an overall neutral credit risk stance. Within U.S. markets, higher quality and more liquid assets appear most attractive.

SPREADS



Source: Barclays, Bloomberg, as of 9/30/19

HIGH YIELD SECTOR SPREADS (BPS)



Source: Bloomberg, as of 9/30/19

Market	9/30/19	9/30/18
Long U.S. Corp	1.7%	1.5%
U.S. Inv Grade Corp	1.2%	1.1%
U.S. High Yield	3.7%	3.2%
U.S. Bank Loans*	4.5%	3.7%

Source: Barclays, Credit Suisse, Bloomberg, as of 9/30/19

*Discount margin (4-year life)

Default & issuance

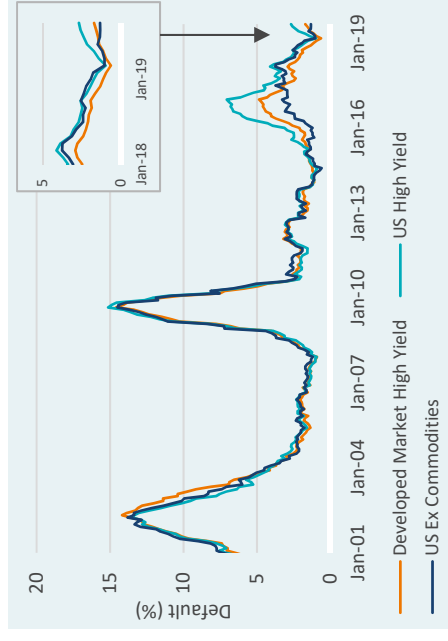
Default activity has been low and stable in the U.S. credit market, despite price volatility. The par-weighted default rate for high yield increased to 2.5% but remains below its long-term average range of 3.0-3.5%. For loans, the par-weighted default rate at the end of the third quarter was 1.4% and remains below the long-term average of 3.1%, according to data from J.P. Morgan. Consumer, retail, telecom, and utilities sectors may be especially prone to stress in the current environment.

Senior loan and high yield markets have essentially

recovered from a wave of defaults seen in 2015-2016 that were generated by energy and metals/mining sectors. High yield bond recovery rates have improved significantly since that time. However, the recent reversal in this recovery trend is notable and worth watching.

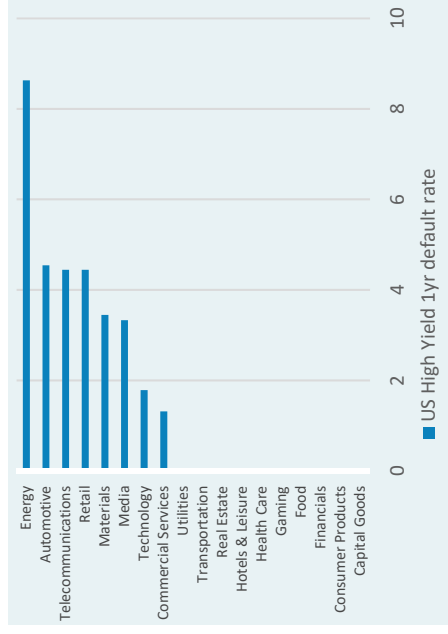
Gross high yield issue activity increased in September as investors took advantage of a dip in yields. Loan market issuance is significantly behind last year's pace, likely influenced by lower demand for floating rate securities now that the Federal Reserve has paused monetary tightening.

HY DEFAULT RATE (ROLLING 1-YEAR)



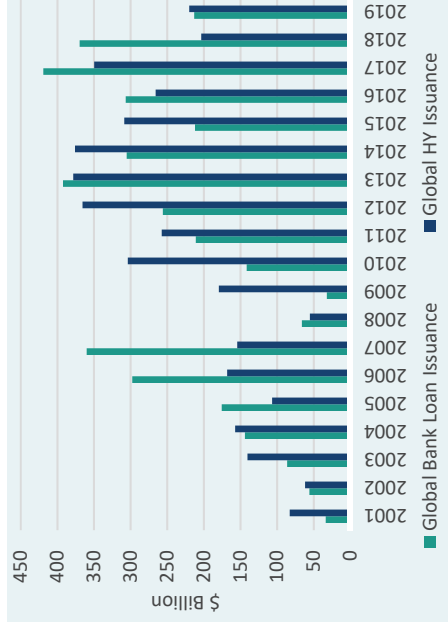
Source: BofA Merrill Lynch, as of 9/30/19

U.S. HY SECTOR DEFAULTS (LAST 12 MONTHS)



Source: BofA Merrill Lynch, as of 9/30/19 – par weighted

GLOBAL ISSUANCE (\$ BILLIONS)



Source: Bloomberg, BofA Merrill Lynch, as of 9/30/19

Equity

Equity environment

- U.S. equities outperformed international in Q3 (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.
- The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by flat earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S. equities on track for three consecutive quarters of earnings loss.
- The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies, which created volatility and currency losses for unhedged investors.
 - A large rotation from momentum stocks into value stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance of the prior five months largely reversed in several days. The fall was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.
 - Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have continued their run of underperformance.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
US Large Cap (S&P 500)	1.7%		4.3%	
US Small Cap (Russell 2000)	(2.4%)		(8.9%)	
US Large Value (Russell 1000 Value)	1.4%		4.0%	
US Large Growth (Russell 1000 Growth)	1.5%		3.7%	
International Large (MSCI EAFE)	(1.1%)	2.3%	(1.3%)	4.2%
Eurozone (Euro Stoxx 50)	(1.4%)	3.8%	1.3%	11.5%
U.K. (FTSE 100)	(2.2%)	1.4%	(2.7%)	5.4%
Japan (NIKKEI 225)	2.9%	3.6%	(8.2%)	(5.9%)
Emerging Markets (MSCI Emerging Markets)	(4.2%)	(2.2%)	(2.0%)	(0.4%)

Source: Russell Investments, MSCI, STOXX, FTSE, Nikkei, as of 9/30/19

Domestic equity

U.S. equities outpaced international in the third quarter (S&P 500 +1.7%, MSCI EAFE -1.1%) as domestic markets continued to lead. Some convergence of U.S. interest rates with the ultra-low rates of international markets likely supported equity prices over the quarter. We expect further declines in U.S. yields to be supportive of stocks, as low rates bolster earnings and reduce the attractiveness of fixed income.

The S&P 500 has delivered moderate returns of 4.3% over the past year. Returns have likely been limited by slow earnings growth of 1.7%, and relatively high valuations. In the third quarter, S&P 500 YoY earnings growth is expected to be -4.1%, which would put U.S.

equities on track for three consecutive quarters of earnings loss. Revenue growth in Q3 is expected to be 2.8% YoY. Investors may point to seemingly lofty earnings growth expectations for 2020 as reason for optimism, though in reality this is a fairly average forecast. Growth expectations are typically high initially, and then fall to a more realistic level as time passes.

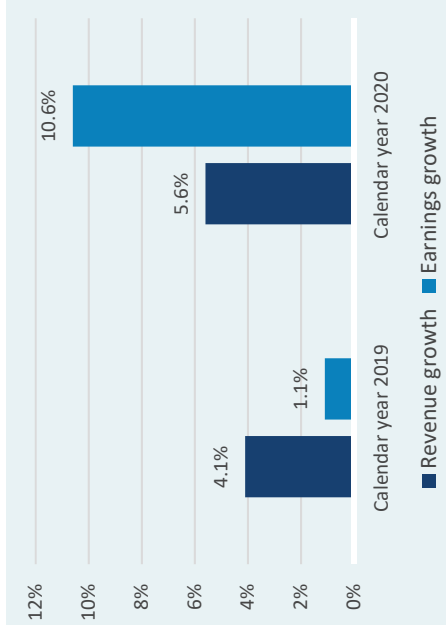
U.S. equities offer lower yields and less attractive valuations relative to other markets around the world, which suggests domestic equities might underperform over the long-term. However, U.S. may continue to outperform over the shorter-term due to relative economic and market strength.

U.S. EQUITIES



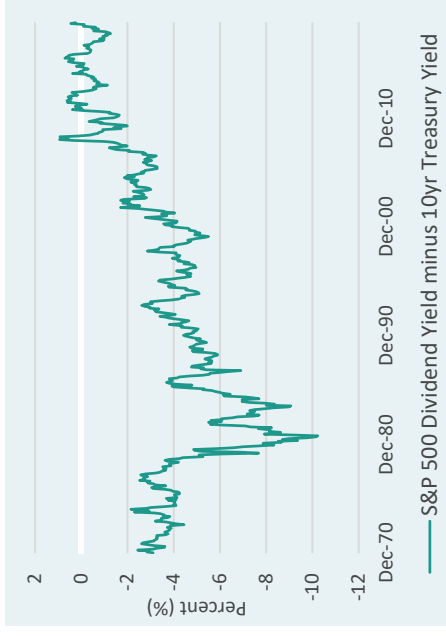
Source: Standard & Poor's, as of 9/30/19

Q3 2019 EARNINGS EXPECTATIONS



Source: FactSet, as of 10/11/19

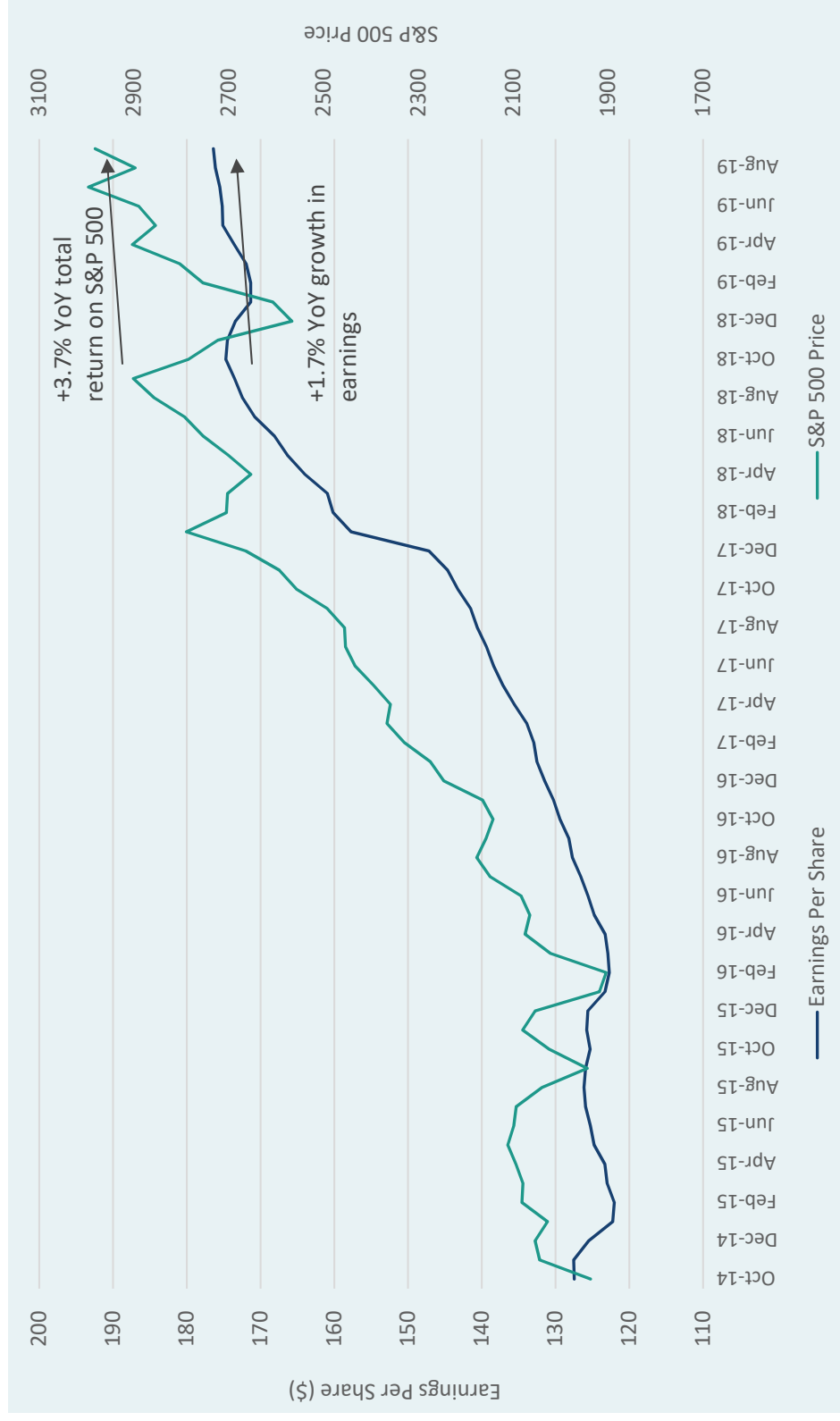
RELATIVE YIELDS



Source: Standard & Poor's, as of 9/30/19

Domestic equity

S&P 500 INDEX PRICE & EARNINGS LEVEL



U.S. equity performance has moderated

If earnings flatten out, this may lead to milder future returns

Source: Standard & Poor's, Bloomberg, as of 9/30/19

Domestic equity size & style

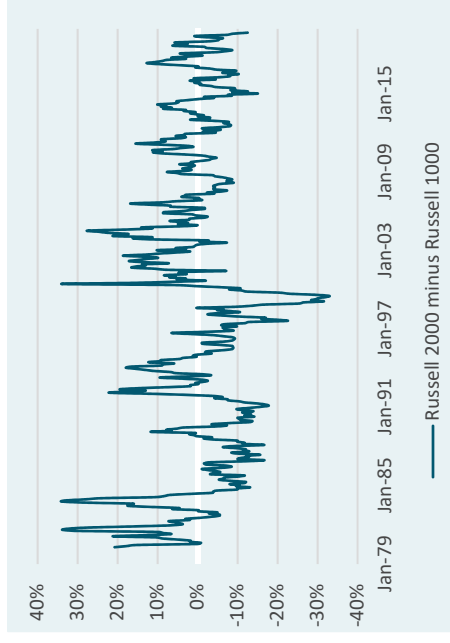
Value stock performance was on par with growth stocks during the third quarter (Russell 1000 Value +1.4%, Russell 1000 Growth +1.5%) while small cap stocks underperformed large stocks (Russell 2000 -2.4%, Russell 1000 +1.4%). Year-to-date, the size factor and value factor have extended their run of weakness.

The impact of sector performance on the value premium was mixed in the third quarter. Financials (+2.0%) and Utilities (+9.3%) outperformed the overall index (S&P 500 +1.7%) which boosted value, but poor Energy (-6.3%) performance counteracted these effects. Information Technology beat the

overall index (+3.3%) which acted as a headwind for value stocks.

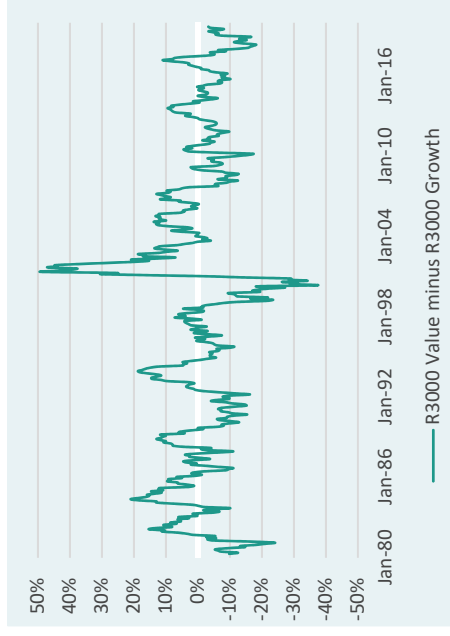
Value stocks have exhibited a long run of underperformance over the past decade. Our view has been that value stocks did not appear attractive, despite persistent performance pain. This was because value stocks had underperformed due to fundamental reasons rather than due to prices becoming stretched. Now, for the first time in this cycle it appears value prices are becoming unusually cheap, as indicated by a large disparity between Russell 1000 Value and Russell 1000 Growth P/E multiples.

SMALL CAP VS LARGE CAP (YOY)



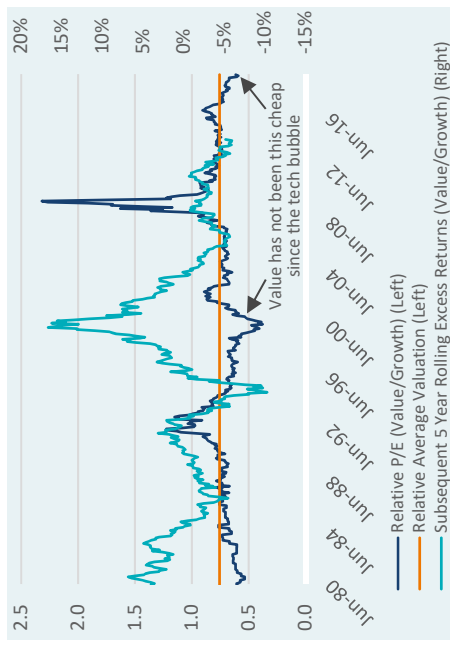
Source: FTSE, as of 9/30/19

VALUE VS GROWTH (YOY)



Source: FTSE, as of 9/30/19

VALUE STARTING TO LOOK CHEAP



Source: Russell, Bloomberg, as of 9/30/19

Domestic equity style – a closer look

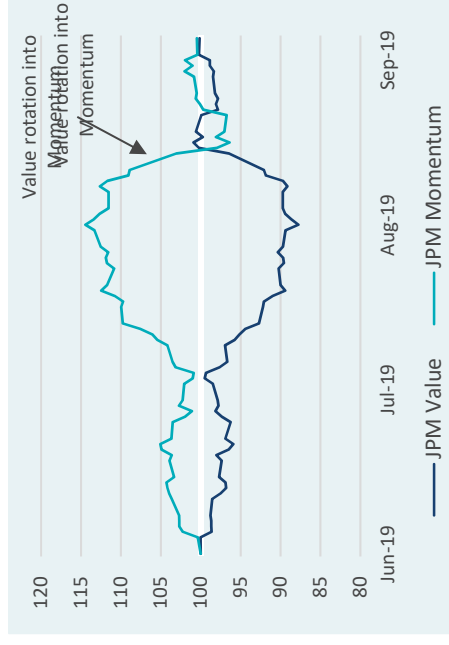
One of the largest rotations in decades into value stocks from momentum stocks occurred in Q3. The selloff was a multi-standard deviation event, with performance accruing from the prior five months largely reversed in several days. The reversal was likely due to a combination of better than expected economic news, monetary/fiscal stimulus expectations, and extreme positioning in these factors.

However, the selloff was short-lived as factor volatility reversed later in September. The Q3 reversal did not negate a long run of poor value results. As mentioned, the value factor

remains cheap relative to history.

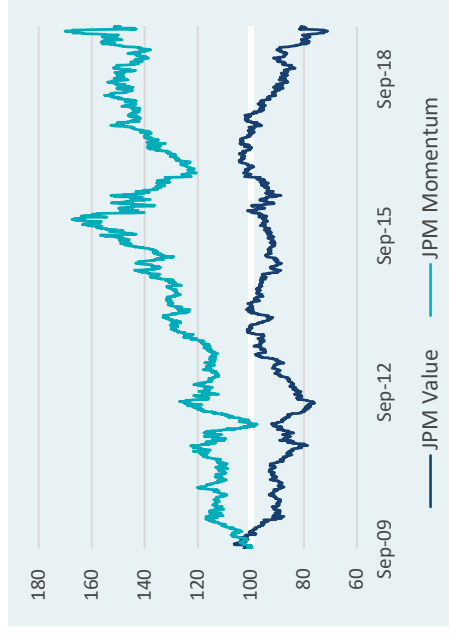
Mean reversion is a key underlying driver of the value factor. After the Global Financial Crisis, the speed at which stocks moved in/out of the respective top (cheap) and bottom (expensive) factor quintiles slowed relative to history. While expensive stocks are now exiting the bottom quintile at a somewhat faster rate, stocks with the most attractive valuations continued to remain cheap for longer periods of time relative to the pre-Global Financial Crisis period.

Q3 CUMULATIVE FACTOR PERFORMANCE (INDEXED 6/30/2019 = 100)



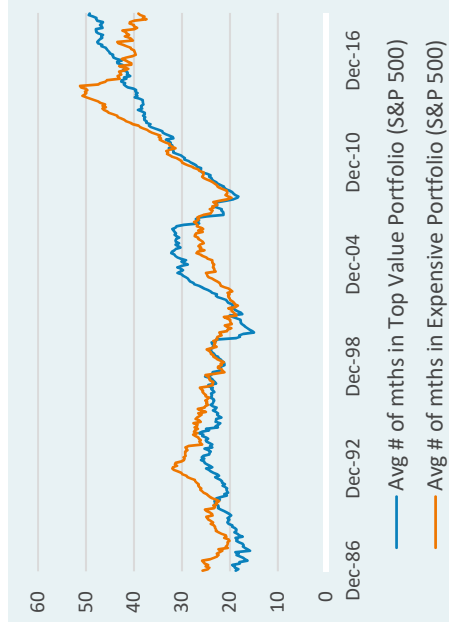
Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

10YR CUMULATIVE FACTOR PERFORMANCE (INDEXED 9/30/2009 = 100)



Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

STRUCTURAL HEADWIND TO VALUE



Source: J.P. Morgan Chase & Co., Copyright 2019, as of 9/30/19

International developed equity

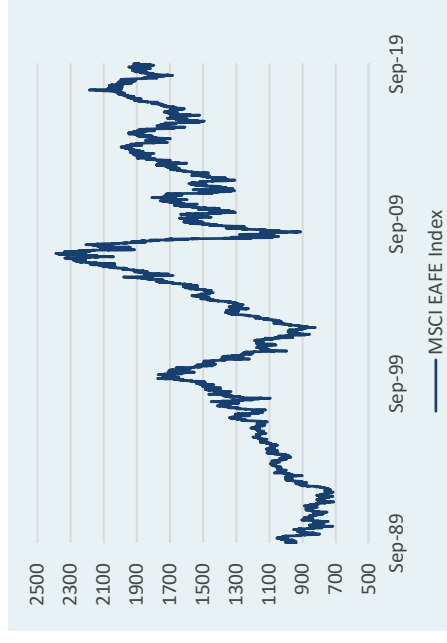
International equity performance was impacted heavily by currency movements in the third quarter. In local terms, the MSCI EAFE Index delivered a total return of 1.8%, bringing year-to-date performance to 15.7%. For unhedged U.S. investors however, the MSCI EAFE Index generated a quarterly return of -1.1%, dragging the year-to-date figure to 12.8%. Dollar strength reemerged as a powerful force driving returns due in part to widening interest rate differentials between the U.S. and the rest of the world.

Japanese equities outperformed over the period, delivering a

Q3 return of 3.5% in local terms. Unhedged U.S. investors in the MSCI Japan Index received only 3.1%, as the yen depreciated slightly vs. the U.S. dollar over the period.

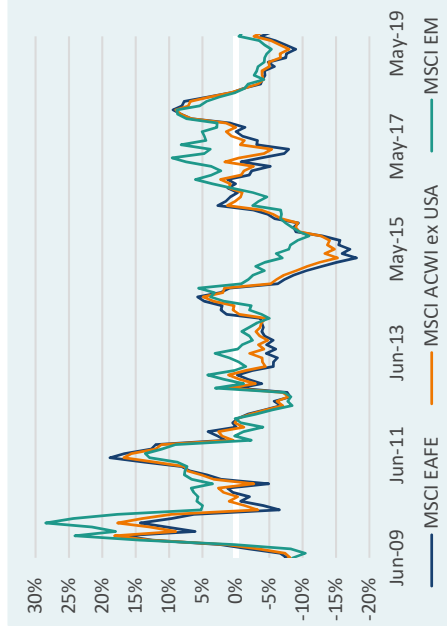
The British pound weakened in July as the new Prime Minister Boris Johnson signaled a much harder line on Brexit than his predecessor's. Toward the end of the quarter, the pound strengthened as markets began pricing a lower likelihood of a "no-deal" Brexit, which many market participants viewed as unfriendly to markets.

INTERNATIONAL DEVELOPED EQUITIES



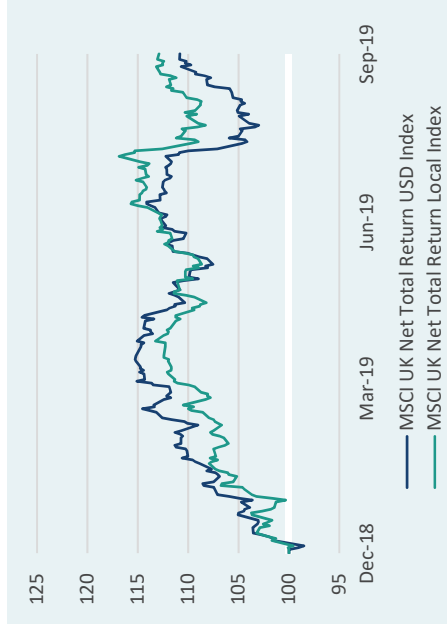
Source: MSCI, as of 9/30/19

EFFECT OF CURRENCY (1-YEAR ROLLING)



Source: MSCI, as of 9/30/19

U. K. EQUITY PERFORMANCE (YTD)



Source: Bloomberg, as of 9/30/19

Emerging market equity

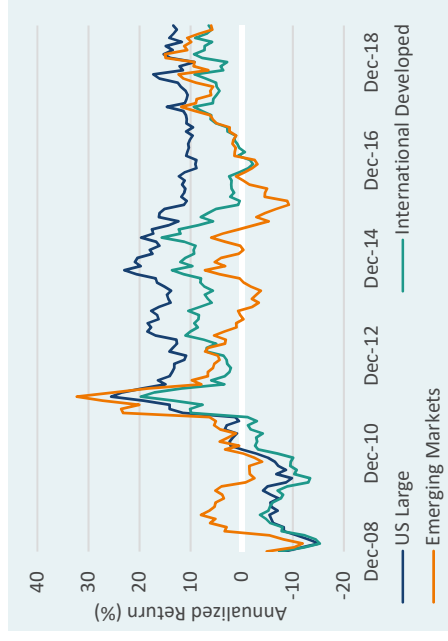
Emerging market equities (MSCI Emerging Markets -4.2%) lagged developed markets (MSCI EAFE -1.1%) over the quarter, while U.S. equities outperformed (S&P 500 +1.7%).

Equity multiples have expanded year-to-date, recovering to the levels of September 2018. Developed and emerging markets continue to appear cheap relative to domestic equity valuations.

We see two opposing forces impacting emerging markets in

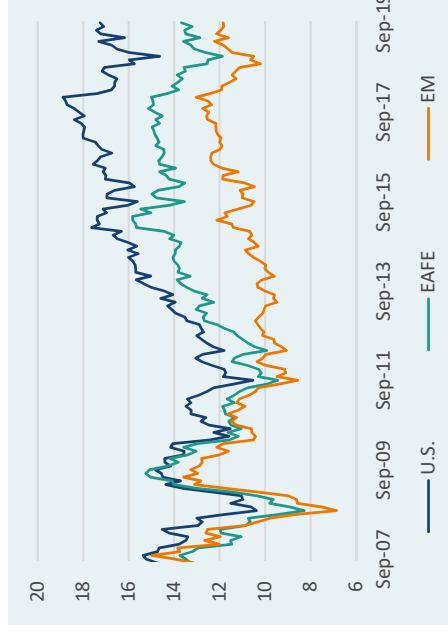
the current environment. The first force is decelerating global growth and a rising probability of recession, which likely bodes poorly for emerging market performance. However, the second force of widespread central bank dovishness may boost emerging market performance in the near term. Specifically, if global growth levels out while central banks unleash another round of easing, there may be material upside to emerging market equities. On balance, we remain moderately bullish on emerging markets, though we are watching developments closely.

EQUITY PERFORMANCE (3-YR ROLLING)



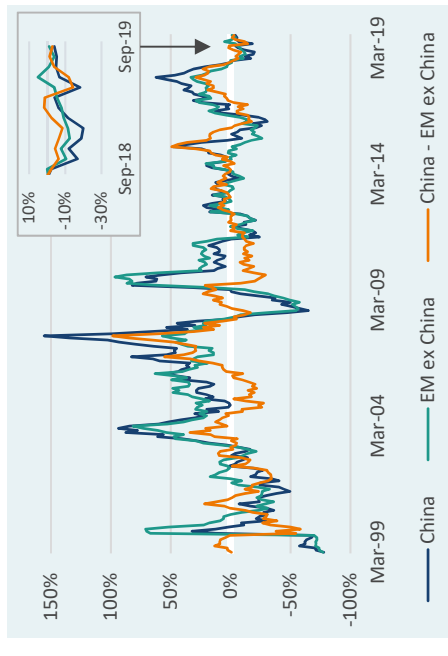
Source: Standard & Poor's, MSCI, as of 9/30/19

FORWARD P/E



Source: MSCI, as of 9/30/19

CHINA & EM: ROLLING 1-YEAR PERFORMANCE (USD)



Source: MSCI, as of 9/30/19

Equity valuations

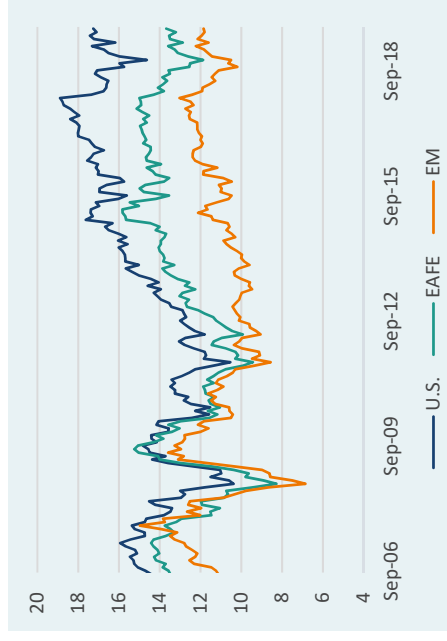
Equity valuations have climbed back up year-to-date as prices recover from their large drop in late 2018. U.S. equities are expensive relative to their long-run average, while international and emerging equities currently sit at normal levels.

The forward P/E multiple on the MSCI US Index ticked up from 17.2x to 17.3x over the quarter and remains above both its 5-year (17.1x) and 10-year (15.3x) averages. International equities remain at a forward P/E multiple (13.7x) between the

5-year (14.2x) and 10-year (13.2x) averages. Emerging market equities became a bit cheaper but are still trading at a forward P/E of 11.9x, above both their 5-year and 10-year averages.

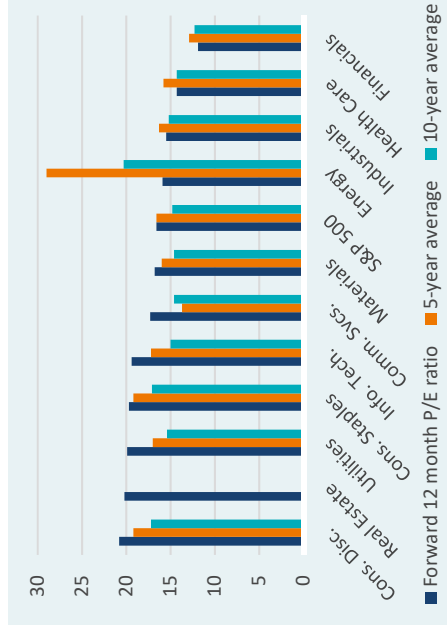
U.S. large cap stocks outperformed most unhedged international and emerging market equities. In a more uncertain geopolitical landscape, investors appear to remain willing to stomach loftier relative valuations in exchange for the quality of U.S. institutions. The U.S. economy is less reliant on exports, and U.S. companies are less reliant on foreign demand, helping to shield U.S. stocks from trade turbulence.

FORWARD P/E RATIOS



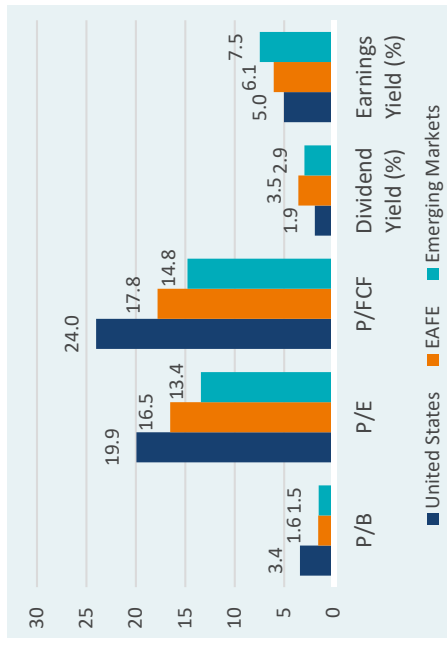
Source: MSCI, 12m forward P/E, as of 9/30/19

S&P 500 INDEX FORWARD SECTOR P/E RATIOS



Source: Standard & Poor's, FactSet, as of 10/11/19

VALUATION METRICS (3-MONTH AVERAGE)



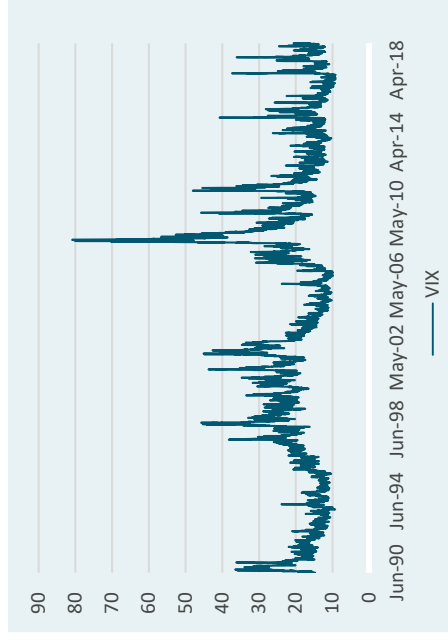
Source: Bloomberg, MSCI as of 9/30/19 - trailing P/E

Equity volatility

Implied volatility on both U.S. stocks and European stocks picked up over the quarter, albeit from depressed levels. The VIX Index which measures the 30-day implied volatility of U.S. stocks jumped to nearly 25.0 in August following a material escalation in U.S.-Chinese trade tensions. By quarter-end, the VIX settled at 16.2, up 1.1 points, and above its year-to-date average of 15.9. In Europe, the V2X Index gauging implied volatility on the Euro Stoxx 50 Index rose from 13.7 to 15.8, above its year-to-date average of 15.4.

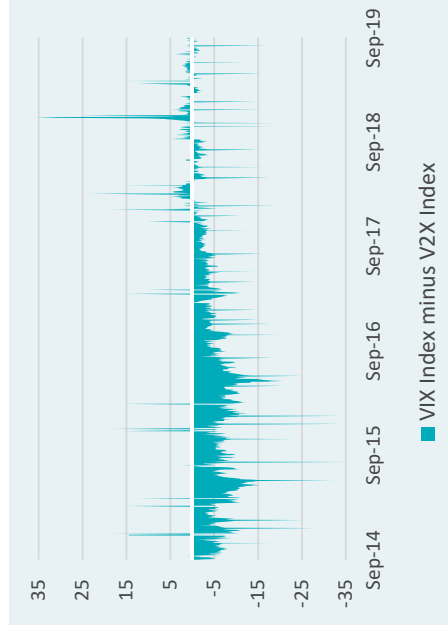
Despite the ratcheting up of trade tension in Q3, the realized trailing 30-day realized volatility on Chinese mainland shares was surprisingly low – falling from 18.0% to 12.9%. In comparison, U.S. 30-day volatility rose from 12.2% to 12.7%. Volatility of U.S. and China equities has only been this close 17% of the time. Looking ahead to Q4, despite realized volatility being low, it is important to remember that Chinese equities have been extremely volatile. As recent as 2014, 30-day annualized volatility reached 60% in mainland China.

U.S. IMPLIED VOLATILITY (VIX)



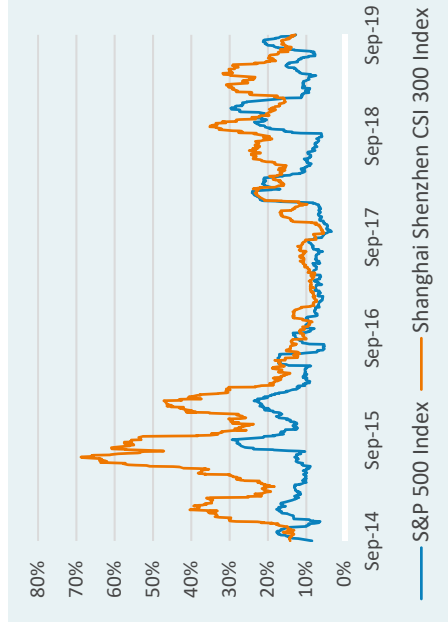
Source: CBOE, as of 9/30/19

U.S. IMPLIED VOLATILITY VS. EUROPEAN IMPLIED VOLATILITY



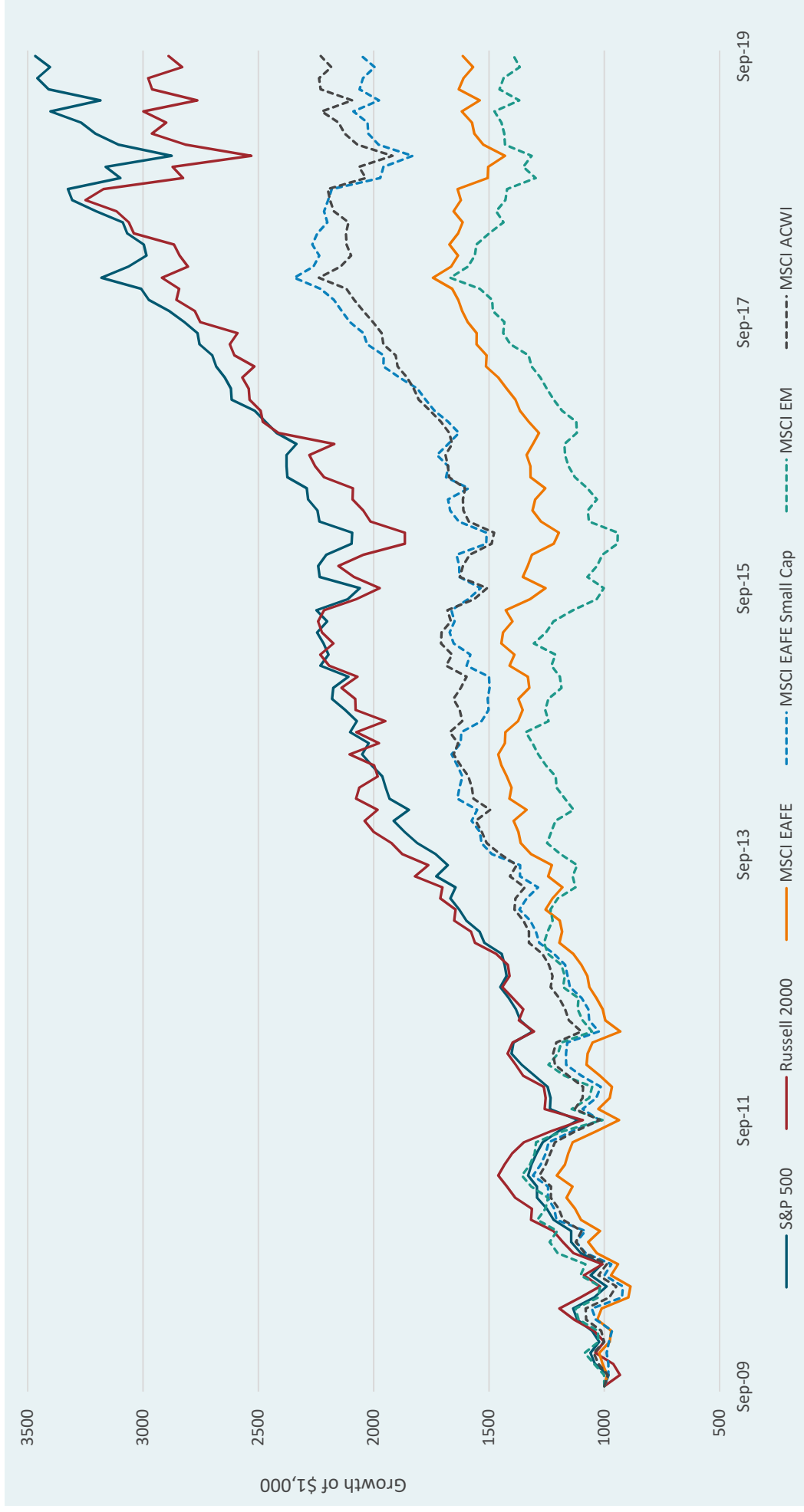
Source: Bloomberg, as of 9/30/19

30-DAY REALIZED VOLATILITY – U.S. LARGE CAP STOCKS VS. CHINESE MAINLAND STOCKS



Source: Bloomberg, as of 9/30/19

Long-term equity performance



Source: Morningstar, as of 9/30/19

Other assets

Currency

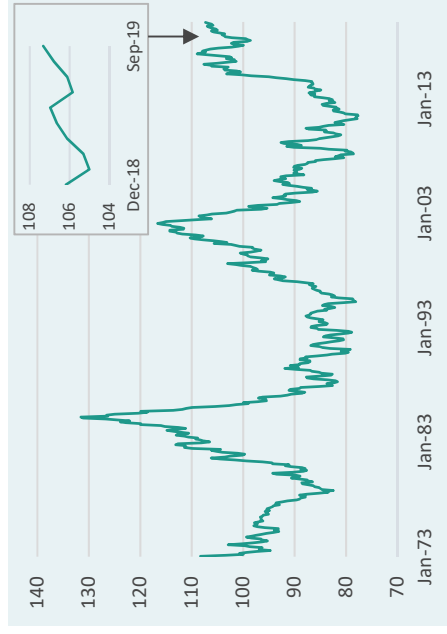
The U.S. dollar appreciated 2.6% in Q3 relative to a trade-weighted basket of currencies. Dollar volatility has been suppressed so far in 2019, following large swings experienced during years 2014-2018. Investors are pricing in a 78% chance of one more 0.25% rate cut by the end of 2019, and a 25% chance of 0.50% in rate cuts. The market continues to price in more aggressive easing than what the Federal Reserve has indicated, which may contribute to volatility if actual easing measures overwhelm the market.

A variety of market scenarios may lead to U.S. dollar

weakness in the short-term, including: aggressive easing by the Federal Reserve which leads to a convergence of U.S. and international interest rates levels, further upside surprise to U.S. inflation, and/or weakening U.S. economic conditions which brings the U.S. more in line with other developed economies.

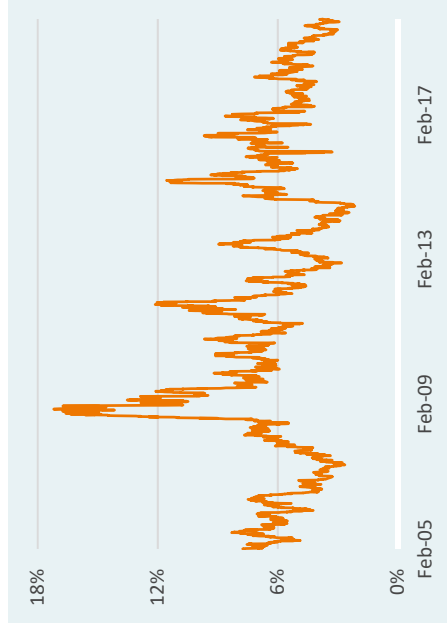
Emerging market currencies fell -4% quarter, on the back of U.S. dollar strength. These currencies remain very depressed relative to history.

U.S. DOLLAR TRADE WEIGHTED INDEX



Source: Federal Reserve, Verus, as of 9/30/19

BLOOMBERG DOLLAR SPOT INDEX REALIZED 30-DAY VOLATILITY



Source: Bloomberg, as of 9/30/19

JPM EMERGING MARKET CURRENCY INDEX

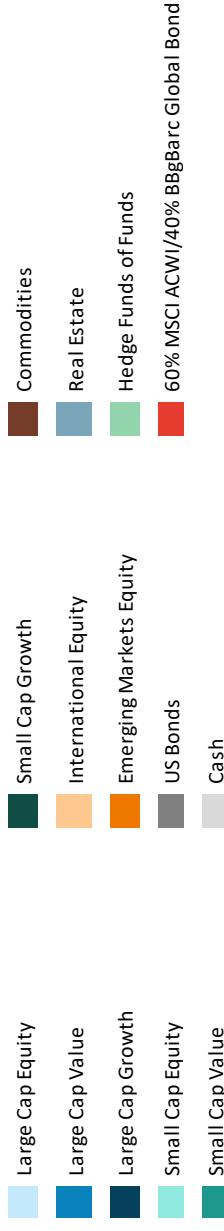


Source: Bloomberg, JPMorgan, as of 9/30/19

Appendix

Periodic table of returns

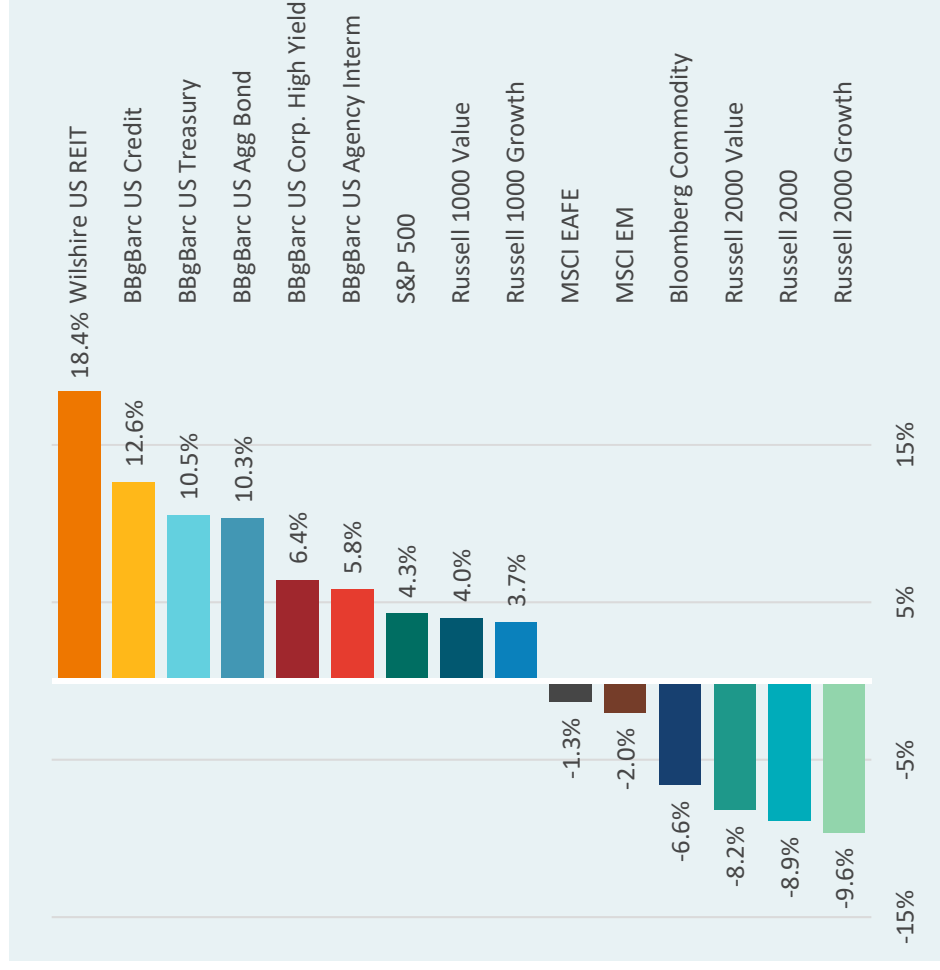
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018	YTD	5-Year 10-Year
Large Cap Growth	38.7	66.4	31.8	14.0	25.9	56.3	26.0	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	23.3	13.1	15.4
Large Cap Equity	27.0	43.1	22.8	8.4	10.3	48.5	22.2	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	18.5	9.9	13.5
Small Cap Growth	20.3	33.2	12.2	7.3	6.7	47.3	20.7	20.1	23.5	15.8	-6.5	34.5	24.5	2.6	17.9	34.5	13.0	0.9	17.3	25.0	0.0	16.3	8.8	13.1
Large Cap Value	19.3	27.3	11.6	3.3	1.6	46.0	18.3	14.0	22.2	11.8	-21.4	32.5	19.2	1.5	17.5	33.5	11.8	0.6	12.1	22.2	-1.5	13.8	8.1	11.6
Small Cap Equity	16.2	26.5	7.0	2.8	1.0	39.2	16.5	7.5	18.4	11.6	-25.9	28.4	16.8	0.4	16.4	33.1	6.0	0.0	11.8	21.7	-3.5	11.8	6.6	11.5
60/40 Global Portfolio	8.7	21.3	4.1	-2.4	-6.0	29.9	14.3	6.3	15.5	10.3	-33.8	23.3	16.1	-2.1	15.3	23.3	4.9	-0.8	11.2	14.6	-6.0	11.4	6.4	10.0
International Equity	15.6	24.3	6.0	2.5	-5.9	30.0	14.5	7.1	16.6	10.9	-28.9	27.2	16.7	0.1	16.3	32.5	5.6	-0.4	11.3	17.1	-4.8	9.7	4.6	9.3
US Bonds	4.9	20.9	-3.0	-5.6	-11.4	29.7	12.9	5.3	15.1	7.0	-35.6	20.6	15.5	-2.9	14.6	12.1	4.2	-1.4	8.0	13.7	-8.3	9.1	4.1	6.4
Small Cap Value	1.2	13.2	-7.3	-9.1	-15.5	25.2	11.4	4.7	13.3	7.0	-36.8	19.7	13.1	-4.2	11.5	11.0	3.4	-2.5	7.1	7.8	-9.3	7.3	3.3	5.0
Hedge Funds of Funds	-2.5	11.4	-7.8	-9.2	-15.7	23.9	9.1	4.6	10.4	5.8	-37.6	18.9	10.2	-5.5	10.5	9.0	2.8	-3.8	5.7	7.7	-11.0	5.7	2.0	4.1
Emerging Markets Equity	-5.1	7.3	-14.0	-12.4	-20.5	11.6	6.9	4.6	9.1	4.4	-38.4	11.5	8.2	-5.7	4.8	0.1	0.0	-4.4	2.6	7.0	-11.2	3.9	1.9	3.9
Real Estate	-6.5	4.8	-22.4	-19.5	-21.7	9.0	6.3	4.2	4.8	-0.2	-38.5	5.9	6.5	-11.7	4.2	-2.0	-1.8	-7.5	1.0	3.5	-12.9	3.3	0.9	2.9
Commodities	-25.3	-0.8	-22.4	-20.4	-27.9	4.1	4.3	3.2	4.3	-1.6	-43.1	0.2	5.7	-13.3	0.1	-2.3	-4.5	-14.9	0.5	1.7	-13.8	1.9	0.4	0.5
Cash	-27.0	-1.5	-30.6	-21.2	-30.3	1.0	1.4	2.4	2.1	-9.8	-53.2	-16.9	0.1	-18.2	-1.1	-9.5	-17.0	-24.7	0.3	0.9	-14.6	1.5	-8.6	-4.3



Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, BBGBarc US Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRIF FOF, MSCI ACWI, BBGBarc Global Bond. NCREIF Property Index performance data as of 6/30/19.

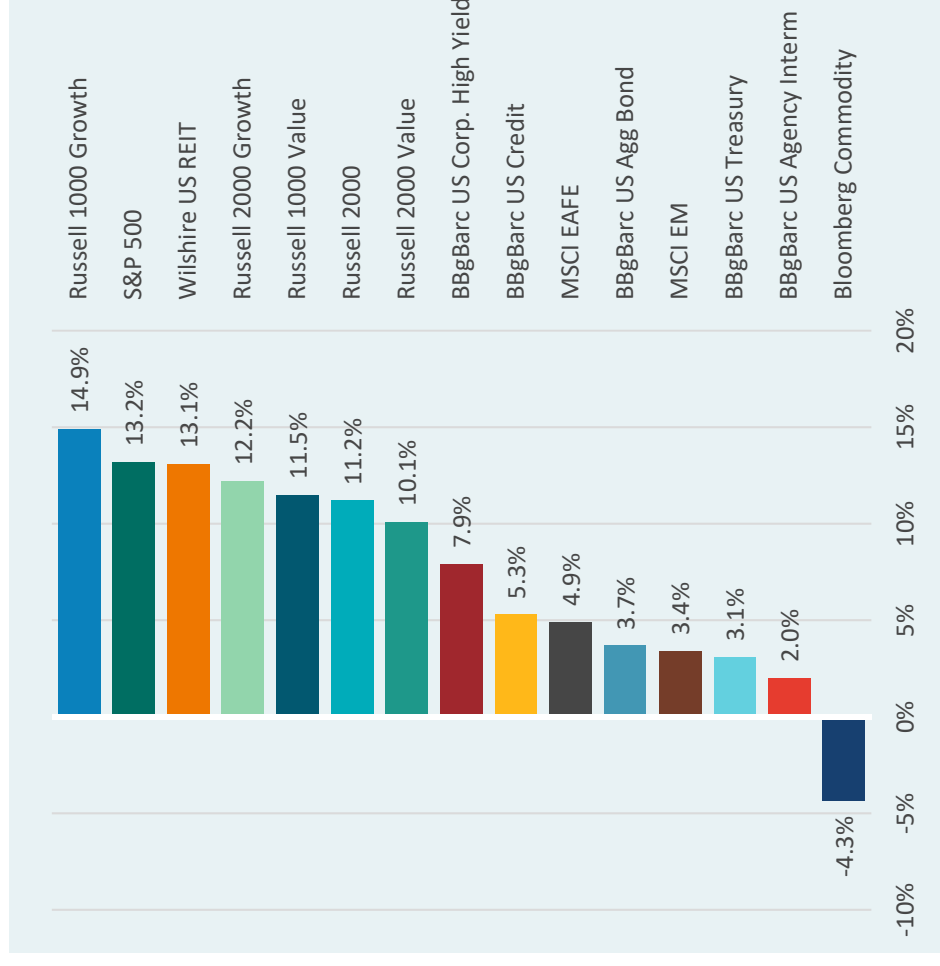
Major asset class returns

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

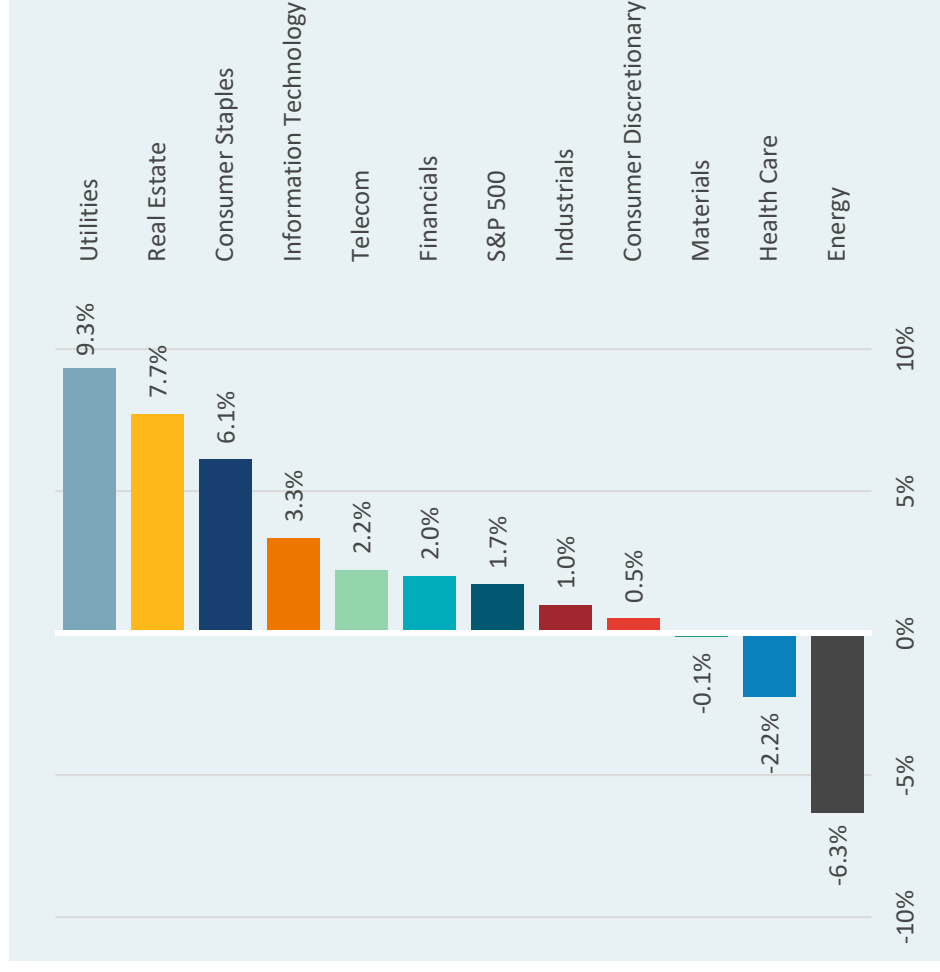
TEN YEARS ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

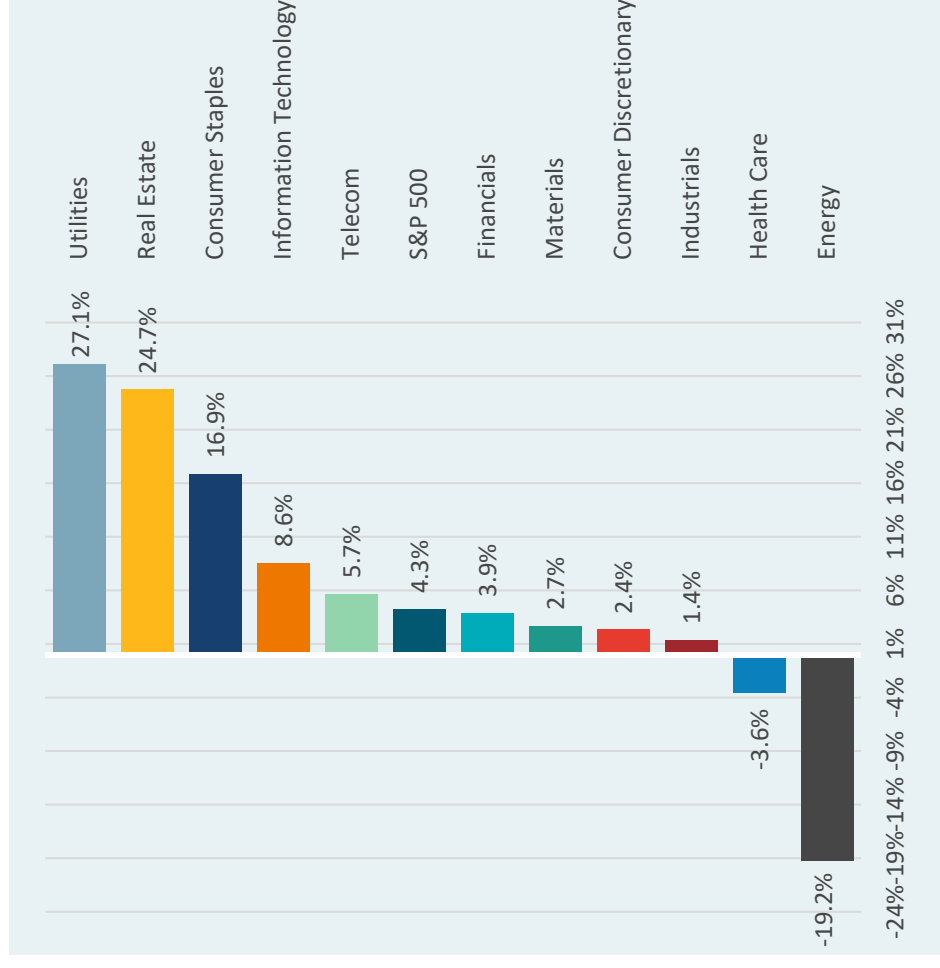
S&P 500 sector returns

Q3



Source: Morningstar, as of 9/30/19

ONE YEAR ENDING SEPTEMBER



Source: Morningstar, as of 9/30/19

Detailed index returns

DOMESTIC EQUITY		Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index		1.9	1.7	20.6	4.3	13.4	10.8	13.2
S&P 500		3.1	0.8	20.1	3.4	11.1	9.5	13.4
S&P 500 Equal Weighted		2.1	1.8	17.5	4.2	16.4	12.3	13.6
DJ Industrial Average		1.6	1.8	20.0	4.1	14.2	11.2	13.3
Russell Top 200		1.7	1.4	20.5	3.9	13.2	10.6	13.2
Russell 1000		2.1	(2.4)	14.2	(8.9)	8.2	8.2	11.2
Russell 2000		1.8	1.2	20.1	2.9	12.8	10.4	13.1
Russell 3000		2.0	0.5	21.9	3.2	10.7	9.1	13.1
Russell Mid Cap								
Style Index		0.0	1.5	23.3	3.7	16.9	13.4	14.9
Russell 1000 Growth		3.6	1.4	17.8	4.0	9.4	7.8	11.5
Russell 1000 Value		(0.8)	(4.2)	15.3	(9.6)	9.8	9.1	12.2
Russell 2000 Growth		5.1	(0.6)	12.8	(8.2)	6.5	7.2	10.1
Russell 2000 Value								
INTERNATIONAL EQUITY								
Broad Index		2.1	(0.0)	16.2	1.4	9.7	6.7	8.3
MSCI ACWI		2.6	(1.8)	11.6	(1.2)	6.3	2.9	4.5
MSCI ACWI ex US		2.9	(1.1)	12.8	(1.3)	6.5	3.3	4.9
MSCI EAFE		1.9	(4.2)	5.9	(2.0)	6.0	2.3	3.4
MSCI EM		2.8	(0.4)	12.1	(5.9)	5.9	6.0	7.5
MSCI EAFE Small Cap								
Style Index		1.1	(0.4)	17.9	2.2	7.8	5.5	6.5
MSCI EAFE Growth		4.8	(1.7)	7.7	(4.9)	5.1	1.0	3.2
MSCI EAFE Value								
Regional Index		4.2	(2.5)	10.1	(2.9)	4.6	0.4	4.8
MSCI UK		4.0	3.1	11.1	(4.7)	6.2	5.6	5.5
MSCI Japan		2.8	(2.0)	13.9	(1.1)	7.1	2.4	3.1
MSCI Euro		2.0	(3.4)	6.0	(3.9)	6.3	4.1	5.2
MSCI EM Asia		2.6	(5.6)	6.3	6.7	6.8	(0.8)	(0.5)
MSCI EM Latin American								
FIXED INCOME								
Broad Index		1.3	7.6	7.1	2.2	2.4	3.5	
BbgBarc US TIPS		0.2	0.6	1.9	2.4	1.5	0.6	
BbgBarc US Treasury Bills		(0.5)	2.3	8.5	10.3	2.9	3.4	
BbgBarc US Treasury 1-3 Yr		(0.1)	0.6	3.1	4.4	1.5	1.3	
BbgBarc US Treasury Long		(2.5)	7.9	19.8	24.8	4.1	6.8	
BbgBarc US Treasury		(0.8)	2.4	7.7	10.5	2.2	2.9	
Issuer		0.1	1.4	5.6	7.8	2.3	2.8	
BbgBarc US MBS		0.4	1.3	11.4	6.4	6.1	5.4	
BbgBarc US Corp. High Yield		(0.2)	1.0	4.1	5.8	1.9	2.0	
BbgBarc US Agency Interm		(0.7)	3.0	12.6	12.6	4.3	4.5	
BbgBarc US Credit								
OTHER								
Index		1.2	(1.8)	3.1	(6.6)	(1.5)	(7.2)	(4.3)
Bloomberg Commodity		2.8	7.9	27.2	18.4	7.2	10.2	13.1
Wilshire US REIT		0.4	0.9	6.4	3.1	4.7	4.1	5.4
CS Leveraged Loans		0.8	(5.1)	11.8	(6.4)	(2.7)	(8.2)	7.0
Alerian MLP								
Regional Index		1.5	13.0	11.6	4.6	5.7	6.9	
JPM EMBI Global Div		1.0	(0.8)	7.9	10.1	3.1	0.6	2.5
JPM GBI-EM Global Div								
Hedge Funds		(0.3)	(0.5)	6.7	0.3	3.8	2.9	4.0
HFR Composite		(0.6)	(1.1)	5.0	(0.2)	3.1	1.9	2.7
HFR FOF Composite								
Currency (Spot)		(1.8)	(0.3)	1.5	5.1	(2.1)	0.3	(1.9)
Euro		1.2	(3.2)	(3.2)	(5.5)	(1.7)	(5.3)	(2.6)
Pound		(1.0)	(4.3)	(4.6)	(6.1)	(1.0)	(2.9)	(2.9)
Yen								

Source: Morningstar, HFR, as of 9/30/19

Definitions

Bloomberg US Weekly Consumer Comfort Index - tracks the public's economic attitudes each week, providing a high-frequency read on consumer sentiment. The index, based on cell and landline telephone interviews with a random, representative national sample of U.S. adults, tracks Americans' ratings of the national economy, their personal finances and the buying climate on a weekly basis, with views of the economy's direction measured separately each month. (www.lanqerresearch.com)

University of Michigan Consumer Sentiment Index - A survey of consumer attitudes concerning both the present situation as well as expectations regarding economic conditions conducted by the University of Michigan. For the preliminary release approximately three hundred consumers are surveyed while five hundred are interviewed for the final figure. The level of consumer sentiment is related to the strength of consumer spending. (www.Bloomberq.com)

NFIB Small Business Outlook - Small Business Economic Trends (SBET) is a monthly assessment of the U.S. small-business economy and its near-term prospects. Its data are collected through mail surveys to random samples of the National Federal of Independent Business (NFIB) membership. The survey contains three broad question types: recent performance, near-term forecasts, and demographics. The topics addressed include: outlook, sales, earnings, employment, employee compensation, investment, inventories, credit conditions, and single most important problem. (<http://www.nfib-sbet.org/about/>)

NAHB Housing Market Index - the housing market index is a weighted average of separate diffusion indices for three key single-family indices: market conditions for the sale of new homes at the present time, market conditions for the sale of new homes in the next six months, and the traffic of prospective buyers of new homes. The first two series are rated on a scale of Good, Fair, and Poor and the last is rated on a scale of High/Very High, Average, and Low/Very Low. A diffusion index is calculated for each series by applying the formula $\frac{(Good-Poor + 100)}{2}$ to the present and future sales series and $\frac{(High/Very High-Low/Very Low + 100)}{2}$ to the traffic series. Each resulting index is then seasonally adjusted and weighted to produce the HMI. Based on this calculation, the HMI can range between 0 and 100.

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Contra Costa County Employees' Retirement Association

Investment Performance Review

Period Ending: September 30, 2019



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SEATTLE 206-622-3700

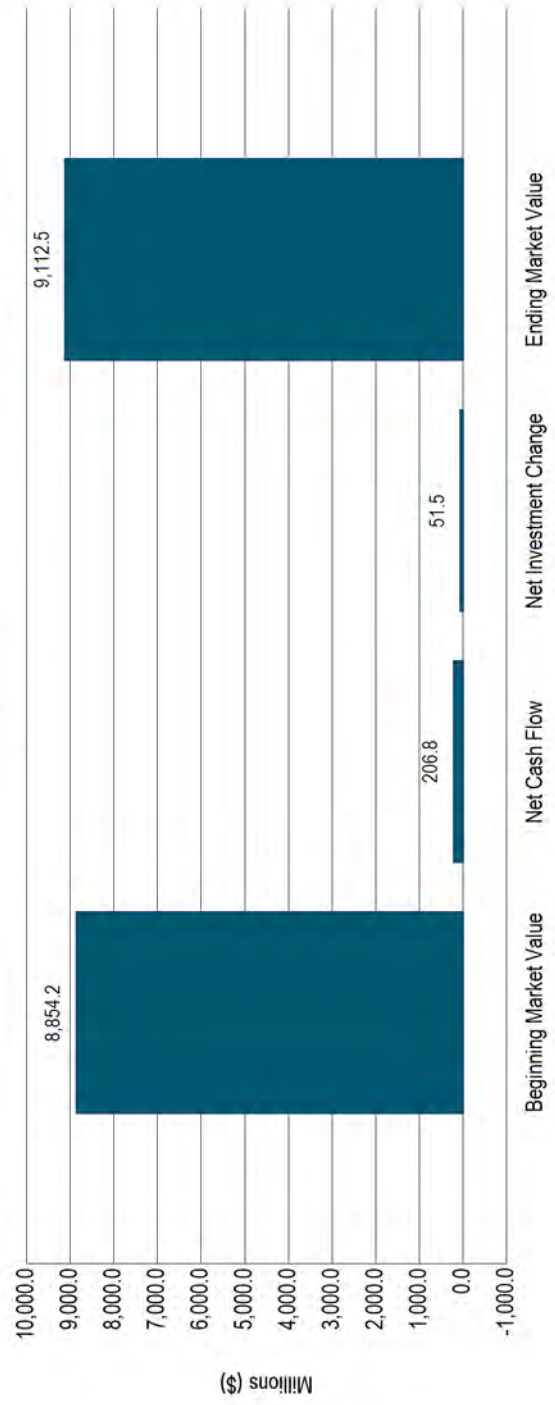
LOS ANGELES 310-297-1777

SAN FRANCISCO 415-362-3484

Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	\$8,854,187,910	\$8,255,873,307
Net Cash Flow	\$206,808,649	\$17,347,992
Net Investment Change	\$51,549,936	\$839,325,197
Ending Market Value	\$9,112,546,495	\$9,112,546,495

Change in Market Value Last Three Months



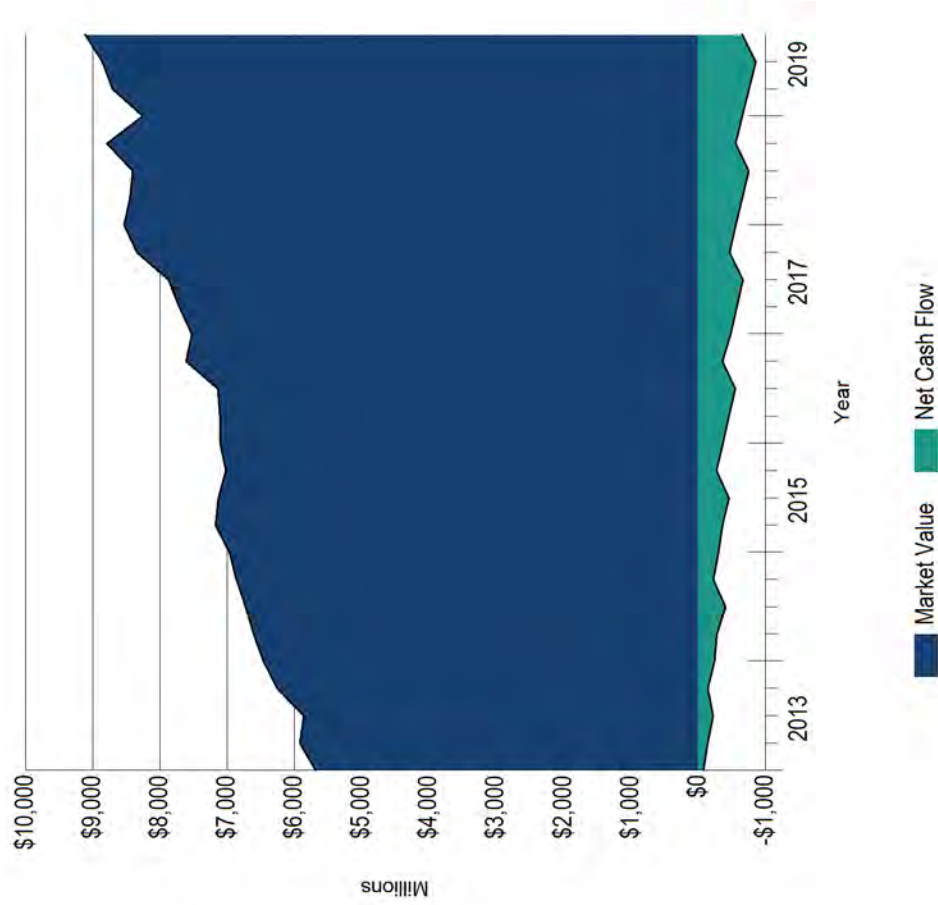
Contributions and withdrawals may include intra-account transfers between managers/funds.

Total Fund

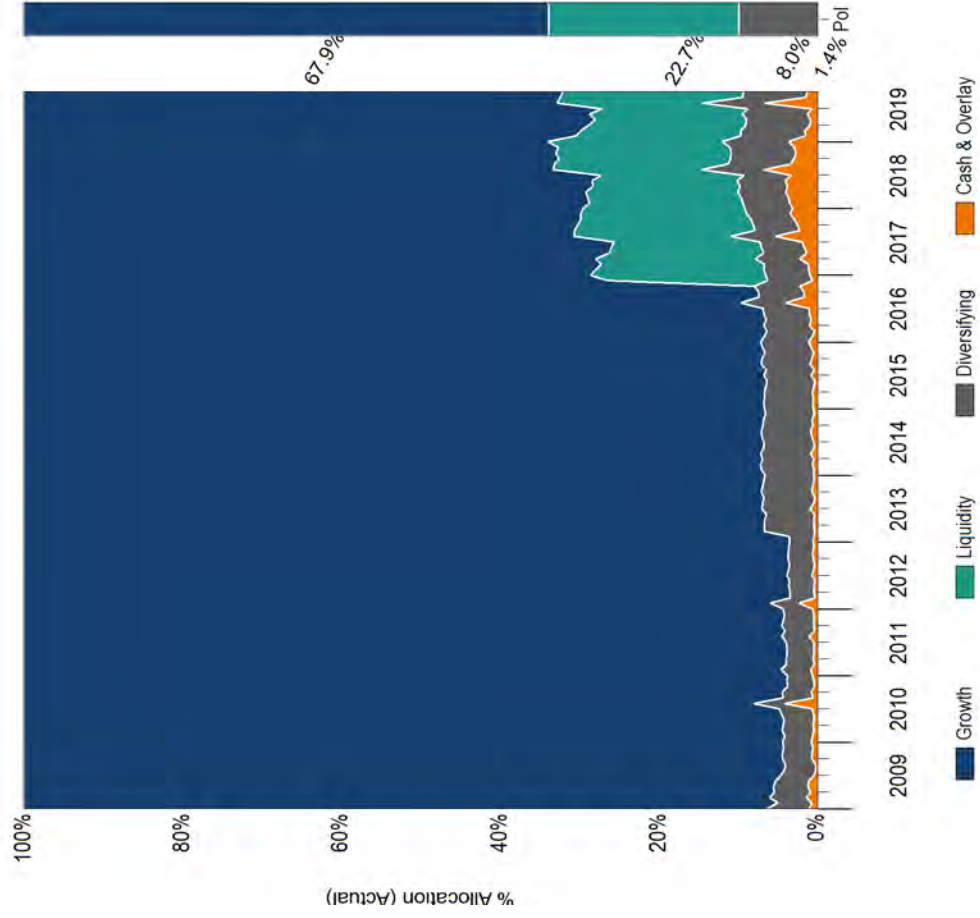
Asset Allocation History

Period Ending: September 30, 2019

Market Value History
Cumulative Cash Flows

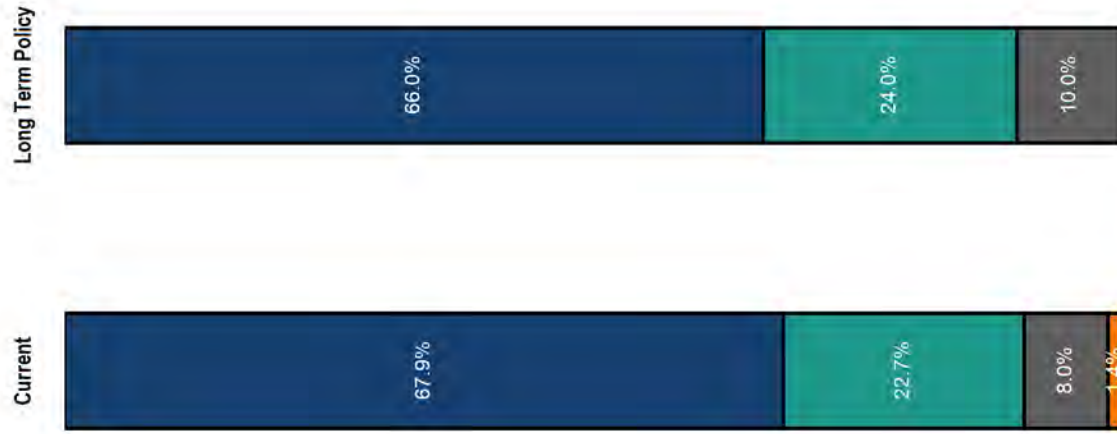


Asset Allocation History



Policy reflects FFP 4-Yr. allocations approved in June 2019.

Total Fund
 Asset Allocation vs. Long Term Target Policy Period Ending: September 30, 2019



Allocation vs. Long Term Target

	Current Balance	Current Allocation	Long Term Target	Difference
Growth	\$6,187,514,493	67.9%	66.0%	\$173,233,806
Liquidity	\$2,072,876,610	22.7%	24.0%	-\$114,134,549
Diversifying	\$727,267,101	8.0%	10.0%	-\$183,987,548
Cash & Overlay	\$124,888,291	1.4%	--	\$124,888,291
Total	\$9,112,546,495	100.0%	100.0%	

Allocation vs. Current Targets

	Current Balance	Current Allocation	Current Target	Difference
Growth	\$6,187,514,493	67.9%	68.0%	-\$9,017,124
Liquidity	\$2,072,876,610	22.7%	24.0%	-\$114,134,549
Diversifying	\$727,267,101	8.0%	8.0%	-\$1,736,618
Cash & Overlay	\$124,888,291	1.4%	--	\$124,888,291
Total	\$9,112,546,495	100.0%	100.0%	

Long Term Targets reflect FFP 4-Yr allocations approved in June 2019.
 Current Targets reflect targets approved in June 2019.

Total Fund
Executive Summary (Net of Fees) Period Ending: September 30, 2019

	% of Portfolio	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Total Fund	100.0	0.5	10.1	4.4	7.0	6.4	8.5	-2.7	13.9	6.9	2.1	7.7
Policy Index		1.0	9.9	5.2	7.6	6.8	9.1	-0.9	13.7	8.9	0.6	9.0
Growth	67.9	0.2	12.1	3.8	8.8	7.6	--	-3.9	18.7	7.6	2.3	8.1
Custom Growth Benchmark		1.1	12.5	5.1	10.0	8.2	--	-2.1	19.3	10.1	0.3	8.4
Diversifying	8.0	1.8	6.2	5.3	1.5	0.8	2.3	-2.3	2.6	0.8	-1.8	1.7
Custom Diversifying Benchmark		1.5	5.6	5.9	3.4	3.8	4.1	1.4	4.7	4.1	2.5	5.4
Liquidity	22.7	0.8	4.2	5.5	--	--	--	1.7	1.4	--	--	--
BBgBarc US Govt/Credit 1-3 Yr: TR		0.7	3.4	4.6	--	--	--	1.6	0.8	--	--	--

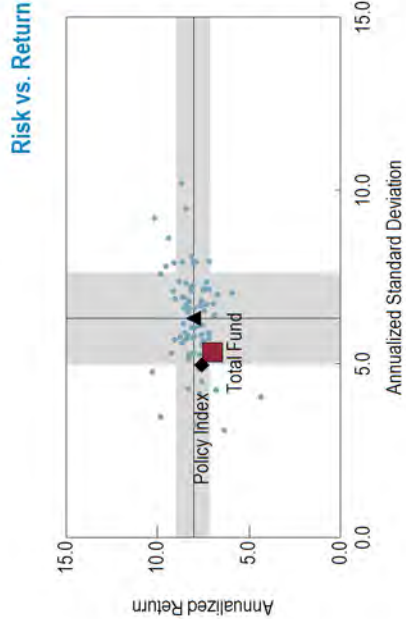
**Correlation between the Growth and Diversifying composites is .48, .27 and .26 over the previous 1, 3 and 5 year periods respectively.*

Policy Index (7/1/2019-Present): 10% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 24% BBgBarc 1-3 Yr Govt/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 5% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.0% CPI +4%, 11% S&P 500 +4%(Lagged), 2.5% HFRI EH Equity Market Neutral, Policy Index (7/1/2018-6/30/2019): 11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 23% BBgBarc 1-3 Yr Govt/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2.0% CPI +4%, 10% S&P 500 +4%(Lagged), 2.5% HFRI EH Equity Market Neutral, Policy Index (10/1/2017-6/30/2018): 16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 25% BBgBarc 1-3 Yr Govt/Credit, 3.5% BBgBarc US Aggregate, 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI +4%, 10.1% S&P 500 +4%(Lagged), Policy Index (1/1/2017-9/30/2017): 22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 22.4% BBgBarc 1-3 Yr Govt/Credit, 3.2% BBgBarc US Aggregate, 1.7% NCREIF Property Index, 1.7% NCREIF ODCE Index, 6.8% NCREIF ODCE Index, 3.6% CPI +4%, 8.1% S&P 500 +4%(Lagged), 1.6% 90-day T-Bills, Policy Index (4/1/2012-12/31/16): 27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% S&P 500 +4% (Lagged), 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5.4% Wilshire REIT, 6.75% NCREIF Property Index, 1.35% FTSE/EPRX NAREIT Developed exUS, 6.8% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills, Policy Index (4/1/2011-3/31/2012): 31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% BBgBarc US Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills, Policy Index (4/1/2010-3/31/2011): 35.6% Russell 3000, 10.4% MSCI EAFE (Gross), 5% MSCI ACWI (Net), 25% BBgBarc US Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% Wilshire REIT, 3.1% NCREIF Property Index, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills, Policy Index (7/1/2009-3/31/2010): 40.6% Russell 3000, 10.4% MSCI EAFE (Gross), 25% BBgBarc US Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% Wilshire REIT, 3.1% NCREIF Property Index, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.

Total Fund
 Executive Summary (Net of Fees) Period Ending: September 30, 2019

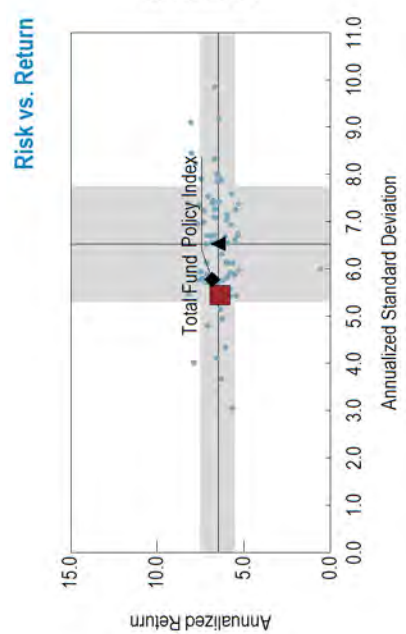
3 Years

Total Fund	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
	7.00%	-0.56%	5.32%	-0.70%	1.02	1.67%	0.90	1.03	-0.33	96.57%	104.34%



5 Years

Total Fund	Anlzd Return	Ann Excess BM Return	Anlzd Standard Deviation	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Information Ratio	Up Mkt Capture Ratio	Down Mkt Capture Ratio
	6.39%	-0.42%	5.45%	0.29%	0.90	1.82%	0.90	0.99	-0.23	88.35%	87.97%



Total Fund Performance Summary (Gross of Fees) Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Total Fund	9,112,546,495	100.0	0.6	10.4	4.7	7.3	6.8	9.1	-2.5	14.2	7.4	2.7	8.4
<i>Policy Index</i>			1.0	9.9	5.2	7.6	6.8	9.1	-0.9	13.7	8.9	0.6	9.0
<i>InvMetrics Public DB > \$1B Gross Rank</i>			49	78	26	84	32	17	25	83	74	5	6
Total Fund ex Overlay & Cash	8,987,658,204	98.6	0.6	10.2	4.7	7.4	6.8	9.1	-2.1	14.1	7.4	2.7	8.4
<i>Policy Index</i>			1.0	9.9	5.2	7.6	6.8	9.1	-0.9	13.7	8.9	0.6	9.0
<i>InvMetrics Public DB > \$1B Gross Rank</i>			49	82	26	80	30	17	20	84	74	5	6
Growth	6,187,514,493	67.9	0.3	12.4	4.1	9.1	8.1	--	-3.6	19.1	8.1	3.0	8.8
<i>Custom Growth Benchmark</i>			1.1	12.5	5.1	10.0	8.2	--	-2.1	19.3	10.1	0.3	8.4
Total Domestic Equity	950,562,255	10.4	-0.2	18.1	-0.7	12.0	10.4	13.3	-7.2	23.9	11.5	1.1	11.4
<i>Russell 3000</i>			1.2	20.1	2.9	12.8	10.4	13.1	-5.2	21.1	12.7	0.5	12.6
<i>InvMetrics Public DB US Eq Gross Rank</i>			94	92	96	74	37	20	78	6	77	21	50
<i>BlackRock Russell 1000 Index</i>	187,647,476	2.1	1.4	20.5	3.9	--	--	--	-4.8	--	--	--	--
<i>Russell 1000</i>			1.4	20.5	3.9	--	--	--	-4.8	--	--	--	--
<i>eV US Large Cap Equity Gross Rank</i>			52	41	46	--	--	--	47	--	--	--	--
<i>Jackson Square Partners</i>	231,044,330	2.5	0.1	21.0	4.4	13.7	10.7	14.5	-2.0	29.3	-4.4	6.1	13.9
<i>Russell 1000 Growth</i>			1.5	23.3	3.7	16.9	13.4	14.9	-1.5	30.2	7.1	5.7	13.0
<i>eV US Large Cap Growth Equity Gross Rank</i>			59	64	46	85	85	50	59	47	98	37	31
<i>Boston Partners</i>	232,261,879	2.5	1.7	14.9	-0.9	10.9	8.0	12.0	-8.7	20.1	15.1	-3.9	12.0
<i>Russell 1000 Value</i>			1.4	17.8	4.0	9.4	7.8	11.5	-8.3	13.7	17.3	-3.8	13.5
<i>eV US Large Cap Value Equity Gross Rank</i>			51	81	75	40	56	47	55	23	50	65	55
<i>Emerald Advisers</i>	143,146,343	1.6	-6.8	17.3	-8.8	12.2	11.7	15.1	-10.1	28.8	10.1	4.1	7.3
<i>Russell 2000 Growth</i>			-4.2	15.3	-9.6	9.8	9.1	12.2	-9.3	22.2	11.3	-1.4	5.6
<i>eV US Small Cap Growth Equity Gross Rank</i>			76	55	65	62	41	31	85	26	54	19	21
<i>Ceredex</i>	156,462,227	1.7	1.2	15.4	-3.8	6.7	9.2	--	-11.3	11.4	29.8	-4.4	3.3
<i>Russell 2000 Value</i>			-0.6	12.8	-8.2	6.5	7.2	--	-12.9	7.8	31.7	-7.5	4.2
<i>eV US Small Cap Value Equity Gross Rank</i>			24	50	31	60	21	--	25	48	32	52	74

Individual closed end funds are not shown in performance summary table. AQR Global Risk Premium funded 1/18/2019. PanAgora Risk Parity funded 3/15/2019. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

**Total Fund
Performance Summary (Gross of Fees)**

Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Total International Equity	1,548,770,876	17.0	-2.8	11.6	0.1	5.0	3.4	5.2	-14.3	25.5	1.2	-1.2	0.3
MSCI ACWI ex USA Gross			-1.7	12.1	-0.7	6.8	3.4	4.9	-13.8	27.8	5.0	-5.3	-3.4
MSCI EAFE Gross			-1.0	13.3	-0.8	7.0	3.8	5.4	-13.4	25.6	1.5	-0.4	-4.5
InvMetrics Public DB ex-US Eq Gross Rank			93	65	19	86	61	56	44	90	89	28	5
International Equity	898,836,871	9.9	-1.0	15.8	0.9	6.6	4.3	5.7	-13.6	25.3	1.2	-1.2	0.3
MSCI ACWI ex USA Gross			-1.7	12.1	-0.7	6.8	3.4	4.9	-13.8	27.8	5.0	-5.3	-3.4
InvMetrics Public DB ex-US Eq Gross Rank			12	8	11	43	29	36	21	93	89	28	5
Pyrford			-1.0	12.6	1.9	5.5	3.6	--	-10.1	19.8	3.4	-2.9	--
MSCI ACWI ex USA Value			-2.8	6.9	-4.5	5.2	0.9	--	-14.0	22.7	8.9	-10.1	--
eV ACWI ex-US Value Equity Gross Rank			25	26	6	41	20	--	5	84	74	59	--
William Blair			-1.0	19.0	0.0	7.6	4.9	--	-16.8	30.9	-1.4	0.5	-1.2
MSCI ACWI ex USA Growth			-0.8	16.2	2.0	7.4	4.9	--	-14.4	32.0	0.1	-1.3	-2.6
eV ACWI ex-US Growth Equity Gross Rank			32	43	53	67	84	--	69	81	55	69	37
Emerging Markets Equity	649,934,004	7.1	-5.3	6.1	-0.9	--	--	--	-15.3	--	--	--	--
MSCI Emerging Markets			-4.2	5.9	-2.0	--	--	--	-14.6	--	--	--	--
InvMetrics Public DB Emg Mkt Eq Gross Rank			96	68	64	--	--	--	51	--	--	--	--
PIMCO RAE Emerging Markets			-5.9	3.1	-4.0	--	--	--	-12.3	--	--	--	--
MSCI Emerging Markets			-4.2	5.9	-2.0	--	--	--	-14.6	--	--	--	--
eV Emg Mkts Equity Gross Rank			93	89	86	--	--	--	19	--	--	--	--
TT Emerging Markets			-4.7	9.6	2.5	--	--	--	-18.4	--	--	--	--
MSCI Emerging Markets			-4.2	5.9	-2.0	--	--	--	-14.6	--	--	--	--
eV Emg Mkts Equity Gross Rank			77	39	31	--	--	--	83	--	--	--	--
Total Global Equity	740,933,715	8.1	0.9	20.1	5.8	10.6	8.7	8.1	-7.8	23.7	7.6	2.2	5.2
MSCI ACWI			0.0	16.2	1.4	9.7	6.7	8.3	-9.4	24.0	7.9	-2.4	4.2
InvMetrics Public DB Gbl Eq Gross Rank			48	1	3	50	30	9	60	79	40	16	41
Artisan Partners			0.7	24.9	5.9	13.0	11.9	--	-7.9	32.9	5.6	9.2	3.9
MSCI ACWI			0.0	16.2	1.4	9.7	6.7	--	-9.4	24.0	7.9	-2.4	4.2
eV All Global Equity Gross Rank			34	7	27	14	7	--	40	11	61	4	56
First Eagle			1.0	15.3	5.9	7.1	6.6	--	-7.6	15.1	11.7	0.2	4.5
MSCI ACWI			0.0	16.2	1.4	9.7	6.7	--	-9.4	24.0	7.9	-2.4	4.2
eV All Global Equity Gross Rank			28	62	27	79	66	--	38	89	19	49	51

Individual closed end funds are not shown in performance summary table. AQR Global Risk Premium funded 1/18/2019. PanAgora Risk Parity funded 3/15/2019. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

**Total Fund
Performance Summary (Gross of Fees)** Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Private Credit	520,751,451	5.7	2.6	5.9	9.9	8.6	9.7	14.6	8.3	10.4	8.2	12.9	15.4
ICE BofAML High Yield Master II +2%			1.8	13.2	8.5	8.2	7.5	10.0	-0.3	9.6	19.8	-2.7	4.5
Total High Yield	203,391,255	2.2	1.8	13.0	7.6	5.9	4.8	7.7	-3.2	6.5	14.3	-3.5	1.2
ICE BofAML High Yield Master II			1.2	11.5	6.3	6.1	5.4	7.9	-2.3	7.5	17.5	-4.6	2.5
eV US High Yield Fixed Inc Gross Rank			34	12	30	63	72	67	88	74	47	68	83
Allianz Global Investors	203,391,255	2.2	1.8	13.0	7.6	5.9	4.8	7.7	-3.2	6.5	14.3	-3.5	1.2
ICE BofAML High Yield Master II			1.2	11.5	6.3	6.1	5.4	7.9	-2.3	7.5	17.5	-4.6	2.5
eV US High Yield Fixed Inc Gross Rank			34	12	30	63	72	67	88	74	47	68	83
Total Real Estate	746,988,208	8.2	1.7	7.1	7.6	8.8	10.1	12.8	7.4	11.1	5.5	13.5	20.6
Real Estate Benchmark			2.0	6.4	7.2	6.2	8.6	10.6	6.7	7.1	6.7	8.3	18.8
NCREIF-ODCE			1.3	3.8	5.6	7.3	9.3	10.9	8.3	7.6	8.8	15.0	12.5
NCREIF Property Index			1.4	4.8	6.2	6.8	8.6	9.8	6.7	7.0	8.0	13.3	11.8
Adelante	80,779,460	0.9	7.7	29.1	21.0	8.8	10.7	13.9	-5.0	7.8	4.1	5.1	33.4
Wilshire REIT			7.9	27.2	18.4	7.2	10.2	13.1	-4.8	4.2	7.2	4.2	31.8
Private Equity	1,023,772,828	11.2	2.0	5.6	7.9	11.5	10.4	11.7	12.1	11.9	9.4	11.6	17.3
S&P 500 Index +4% (Lagged)			5.3	5.6	14.8	18.7	15.1	19.2	22.6	23.3	20.0	3.4	24.5
Risk Parity	452,343,905	5.0	3.0	--	--	--	--	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.3	--	--	--	--	--	--	--	--	--	--
AQR Global Risk Premium-EL	228,677,512	2.5	1.9	--	--	--	--	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.3	--	--	--	--	--	--	--	--	--	--
PanAgora Risk Parity Multi Asset	223,666,393	2.5	4.2	--	--	--	--	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			0.3	--	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. AQR Global Risk Parity funded 3/15/2019. PanAgora Risk Parity funded 1/18/2019. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

**Total Fund
Performance Summary (Gross of Fees)** Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Diversifying	727,267,101	8.0	1.9	6.4	5.5	1.8	1.1	2.7	-2.0	2.8	1.3	-1.4	2.2
Custom Diversifying Benchmark			1.5	5.6	5.9	3.4	3.8	4.1	1.4	4.7	4.1	2.5	5.4
Diversifying Fixed Income	524,100,666	5.8	1.9	8.0	7.8	2.1	3.0	3.7	-1.7	2.8	2.8	1.6	6.6
eV US Core Fixed Inc Gross Rank			92	90	98	99	97	93	99	96	72	15	25
AFL-CIO	337,480,361	3.7	2.2	8.6	10.8	3.2	3.7	4.1	0.6	3.6	2.4	1.6	6.6
BBgBarc US Aggregate TR			2.3	8.5	10.3	2.9	3.4	3.7	0.0	3.5	2.6	0.6	6.0
eV US Core Fixed Inc Gross Rank			78	75	29	64	57	74	16	76	87	15	25
Wellington Real Total Return	186,620,305	2.0	1.4	7.0	2.8	0.9	-1.4	--	-5.6	1.9	-0.1	-4.9	-2.5
CPI + 4%			1.2	5.2	5.8	6.1	5.6	--	6.0	6.2	6.2	4.8	4.8
Diversifying Equity	203,166,436	2.2	1.7	2.5	-0.1	--	--	--	--	--	--	--	--
Parametric Defensive Equity	203,166,436	2.2	1.7	2.5	-0.1	--	--	--	--	--	--	--	--
91 Day T-Bill +4%			1.5	4.7	6.3	--	--	--	--	--	--	--	--
Liquidity	2,072,876,610	22.7	0.9	4.3	5.6	--	--	--	1.8	1.5	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			0.7	3.4	4.6	--	--	--	1.6	0.8	--	--	--
eV US Short Duration Fixed Inc Gross Rank			44	34	21	--	--	--	24	50	--	--	--
DFA Short Credit	501,752,961	5.5	0.9	4.5	5.8	--	--	--	1.2	1.9	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			0.9	4.5	6.0	--	--	--	1.4	1.3	--	--	--
eV US Short Duration Fixed Inc Gross Rank			47	25	16	--	--	--	93	26	--	--	--
Insight Short Duration	1,028,461,532	11.3	1.1	3.9	4.7	--	--	--	1.7	1.5	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			0.7	3.4	4.6	--	--	--	1.6	0.8	--	--	--
eV US Short Duration Fixed Inc Gross Rank			7	54	64	--	--	--	38	50	--	--	--
Sit Short Duration	542,662,117	6.0	0.6	4.8	7.0	--	--	--	2.5	1.3	--	--	--
BBgBarc US Govt 1-3 Yr TR			0.6	3.1	4.4	--	--	--	1.6	0.4	--	--	--
eV US Short Duration Fixed Inc Gross Rank			97	15	1	--	--	--	1	68	--	--	--
Total Cash	97,820,797	1.1	0.8	2.5	3.2	1.9	1.3	3.0	1.7	0.9	0.9	0.1	-3.0
91 Day T-Bills			0.5	1.7	2.3	1.5	1.0	0.5	1.9	0.9	0.3	0.0	0.0
Cash	97,577,832	1.1	1.0	2.7	3.3	2.0	1.3	3.1	1.7	0.9	0.9	0.1	1.4
State Street Cash/Tax Reclaims	235,873	0.0	-13.1	--	--	--	--	--	--	--	--	--	--
Northern Trust Transition	7,092	0.0	-0.7	--	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. AQR Global Risk Premium funded 1/18/2019. PanAgora Risk Parity funded 3/15/2019. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. State Street Cash/Tax Reclaims reflects \$11,062 in cash and \$224,874 in potential tax reclaims at State Street after assets were transferred to Northern Trust. Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

Total Fund Performance Summary (Net of Fees)

Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Total Fund	9,112,546,495	100.0	0.5	10.1	4.4	7.0	6.4	8.5	-2.7	13.9	6.9	2.1	7.7
Policy Index			1.0	9.9	5.2	7.6	6.8	9.1	-0.9	13.7	8.9	0.6	9.0
Total Fund ex Overlay & Cash	8,987,658,204	98.6	0.5	10.0	4.5	7.1	6.4	8.6	-2.4	13.8	6.9	2.1	7.7
Policy Index			1.0	9.9	5.2	7.6	6.8	9.1	-0.9	13.7	8.9	0.6	9.0
Growth	6,187,514,493	67.9	0.2	12.1	3.8	8.8	7.6	--	-3.9	18.7	7.6	2.3	8.1
Custom Growth Benchmark			1.1	12.5	5.1	10.0	8.2	--	-2.1	19.3	10.1	0.3	8.4
Total Domestic Equity	950,562,255	10.4	-0.3	17.7	-1.2	11.5	10.0	12.9	-7.6	23.5	11.1	0.6	11.0
Russell 3000			1.2	20.1	2.9	12.8	10.4	13.1	-5.2	21.1	12.7	0.5	12.6
BlackRock Russell 1000 Index	187,647,476	2.1	1.4	20.5	3.9	--	--	--	-4.8	--	--	--	--
Russell 1000			1.4	20.5	3.9	--	--	--	-4.8	--	--	--	--
Jackson Square Partners	231,044,330	2.5	0.0	20.6	3.9	13.2	10.2	14.0	-2.4	28.7	-4.8	5.6	13.4
Russell 1000 Growth			1.5	23.3	3.7	16.9	13.4	14.9	-1.5	30.2	7.1	5.7	13.0
Boston Partners	232,261,879	2.5	1.6	14.6	-1.2	10.6	7.7	11.7	-8.9	19.7	14.7	-4.2	11.6
Russell 1000 Value			1.4	17.8	4.0	9.4	7.8	11.5	-8.3	13.7	17.3	-3.8	13.5
Emerald Advisers	143,146,343	1.6	-7.0	16.6	-9.5	11.5	11.1	14.4	-10.7	28.0	9.4	3.5	6.6
Russell 2000 Growth			-4.2	15.3	-9.6	9.8	9.1	12.2	-9.3	22.2	11.3	-1.4	5.6
Ceredex	156,462,227	1.7	1.1	14.9	-4.4	6.1	8.6	--	-11.8	10.7	29.1	-5.0	2.7
Russell 2000 Value			-0.6	12.8	-8.2	6.5	7.2	--	-12.9	7.8	31.7	-7.5	4.2
Total International Equity	1,548,770,876	17.0	-3.0	11.2	-0.4	4.6	3.0	4.8	-14.7	25.0	0.8	-1.6	0.0
MSCI ACWI ex USA Gross			-1.7	12.1	-0.7	6.8	3.4	4.9	-13.8	27.8	5.0	-5.3	-3.4
MSCI EAFE Gross			-1.0	13.3	-0.8	7.0	3.8	5.4	-13.4	25.6	1.5	-0.4	-4.5
International Equity	898,836,871	9.9	-1.1	15.4	0.5	6.1	3.9	5.3	-13.9	24.8	0.8	-1.6	0.0
MSCI ACWI ex USA Gross			-1.7	12.1	-0.7	6.8	3.4	4.9	-13.8	27.8	5.0	-5.3	-3.4
Pyrford	447,988,315	4.9	-1.1	12.3	1.5	5.1	3.2	--	-10.5	19.3	3.0	-3.3	--
MSCI ACWI ex USA Value			-2.8	6.9	-4.5	5.2	0.9	--	-14.0	22.7	8.9	-10.1	--
William Blair	450,848,556	4.9	-1.1	18.6	-0.4	7.2	4.5	--	-17.1	30.4	-1.8	0.0	-1.7
MSCI ACWI ex USA Growth			-0.8	16.2	2.0	7.4	4.9	--	-14.4	32.0	0.1	-1.3	-2.6
Emerging Markets Equity	649,934,004	7.1	-5.5	5.7	-1.5	--	--	--	-15.7	--	--	--	--
MSCI Emerging Markets			-4.2	5.9	-2.0	--	--	--	-14.6	--	--	--	--
PIMCO RAE Emerging Markets	332,474,898	3.6	-6.0	2.6	-4.5	--	--	--	-12.6	--	--	--	--
MSCI Emerging Markets			-4.2	5.9	-2.0	--	--	--	-14.6	--	--	--	--
TT Emerging Markets	317,459,106	3.5	-4.9	9.1	1.9	--	--	--	-18.9	--	--	--	--
MSCI Emerging Markets			-4.2	5.9	-2.0	--	--	--	-14.6	--	--	--	--

Individual closed end funds are not shown in performance summary table. AQR Global Risk Premium funded 1/18/2019. PanAgora Risk Parity funded 3/15/2019. Effective 7/1/2018. Private Credit and Private Equity data provided by StepStone Group.

Total Fund
Performance Summary (Net of Fees)

Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Total Global Equity	740,933,715	8.1	0.7	19.4	5.1	9.8	8.0	7.5	-8.5	22.8	6.9	1.6	4.5
MSCI ACWI			0.0	16.2	1.4	9.7	6.7	8.3	-9.4	24.0	7.9	-2.4	4.2
Artisan Partners	368,952,264	4.0	0.5	24.2	5.1	12.2	11.1	--	-8.6	31.9	4.8	8.4	3.1
MSCI ACWI			0.0	16.2	1.4	9.7	6.7	--	-9.4	24.0	7.9	-2.4	4.2
First Eagle	371,818,334	4.1	0.8	14.7	5.2	6.3	5.8	--	-8.3	14.3	10.9	-0.6	3.7
MSCI ACWI			0.0	16.2	1.4	9.7	6.7	--	-9.4	24.0	7.9	-2.4	4.2
Private Credit	520,751,451	5.7	2.6	5.9	9.9	8.6	9.2	12.7	8.3	10.4	6.9	11.6	12.3
ICE BofAML High Yield Master II +2%			1.8	13.2	8.5	8.2	7.5	10.0	-0.3	9.6	19.8	-2.7	4.5
Total High Yield	203,391,255	2.2	1.5	12.6	7.0	5.5	4.4	7.3	-3.6	6.1	13.9	-3.9	0.8
ICE BofAML High Yield Master II			1.2	11.5	6.3	6.1	5.4	7.9	-2.3	7.5	17.5	-4.6	2.5
Allianz Global Investors	203,391,255	2.2	1.5	12.6	7.0	5.5	4.4	7.2	-3.6	6.1	13.9	-3.9	0.8
ICE BofAML High Yield Master II			1.2	11.5	6.3	6.1	5.4	7.9	-2.3	7.5	17.5	-4.6	2.5
Total Real Estate	746,988,208	8.2	1.7	7.0	7.6	8.7	9.7	11.9	7.4	11.0	4.8	12.4	19.1
Real Estate Benchmark			2.0	6.4	7.2	6.2	8.6	10.6	6.7	7.1	6.7	8.3	18.8
NCREIF-ODCE			1.3	3.8	5.6	7.3	9.3	10.9	8.3	7.6	8.8	15.0	12.5
NCREIF Property Index			1.4	4.8	6.2	6.8	8.6	9.8	6.7	7.0	8.0	13.3	11.8
Adelante	80,779,460	0.9	7.6	28.6	20.4	8.2	10.1	13.3	-5.5	7.2	3.6	4.6	32.7
Wilshire REIT			7.9	27.2	18.4	7.2	10.2	13.1	-4.8	4.2	7.2	4.2	31.8
Private Equity	1,023,772,828	11.2	2.0	5.6	7.9	11.5	9.9	10.2	12.1	11.9	8.9	9.9	15.2
S&P 500 Index +4% (Lagged)			5.3	5.6	14.8	18.7	15.1	19.2	22.6	23.3	20.0	3.4	24.5
Risk Parity	452,343,905	5.0	3.0	--	--	--	--	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBGBarc Global Aggregate			0.3	--	--	--	--	--	--	--	--	--	--
AQR Global Risk Premium-EL	228,677,512	2.5	1.9	--	--	--	--	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBGBarc Global Aggregate			0.3	--	--	--	--	--	--	--	--	--	--
PanAgora Risk Parity Multi Asset	223,666,393	2.5	4.2	--	--	--	--	--	--	--	--	--	--
60% MSCI ACWI Net/40% BBGBarc Global Aggregate			0.3	--	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. AQR Global Risk Parity funded 3/15/2019. PanAgora Risk Parity funded 1/18/2019. Effective 7/1/2018. Private Credit and Private Equity data provided by StepStone Group.

**Total Fund
Performance Summary (Net of Fees)** Period Ending: September 30, 2019

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2018	2017	2016	2015	2014
Diversifying	727,267,101	8.0	1.8	6.2	5.3	1.5	0.8	2.3	-2.3	2.6	0.8	-1.8	1.7
Custom Diversifying Benchmark			1.5	5.6	5.9	3.4	3.8	4.1	1.4	4.7	4.1	2.5	5.4
Diversifying Fixed Income	524,100,666	5.8	1.9	7.8	7.5	1.8	2.7	3.3	-2.0	2.6	2.3	1.1	6.1
AFL-CIO	337,480,361	3.7	2.1	8.2	10.4	2.8	3.2	3.6	0.2	3.2	1.9	1.1	6.1
BBgBarc US Aggregate TR			2.3	8.5	10.3	2.9	3.4	3.7	0.0	3.5	2.6	0.6	6.0
Wellington Real Total Return	186,620,305	2.0	1.4	7.0	2.8	0.9	-1.6	--	-5.6	1.9	-0.6	-5.4	-3.1
CPI + 4%			1.2	5.2	5.8	6.1	5.6	--	6.0	6.2	6.2	4.8	4.8
Diversifying Equity	203,166,436	2.2	1.6	2.3	-0.3	--	--	--	--	--	--	--	--
Parametric Defensive Equity	203,166,436	2.2	1.6	2.3	-0.3	--	--	--	--	--	--	--	--
91 Day T-Bill+4%			1.5	4.7	6.3	--	--	--	--	--	--	--	--
Liquidity	2,072,876,610	22.7	0.8	4.2	5.5	--	--	--	1.7	1.4	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			0.7	3.4	4.6	--	--	--	1.6	0.8	--	--	--
DFA Short Credit	501,752,961	5.5	0.8	4.4	5.7	--	--	--	1.1	1.8	--	--	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			0.9	4.5	6.0	--	--	--	1.4	1.3	--	--	--
Insight Short Duration	1,028,461,532	11.3	1.1	3.9	4.7	--	--	--	1.7	1.5	--	--	--
BBgBarc US Govt/Credit 1-3 Yr. TR			0.7	3.4	4.6	--	--	--	1.6	0.8	--	--	--
Sit Short Duration	542,662,117	6.0	0.6	4.7	6.8	--	--	--	2.3	1.1	--	--	--
BBgBarc US Govt 1-3 Yr TR			0.6	3.1	4.4	--	--	--	1.6	0.4	--	--	--
Total Cash	97,820,797	1.1	0.8	2.5	3.2	1.9	1.3	3.0	1.7	0.9	0.9	0.1	-3.0
91 Day T-Bills			0.5	1.7	2.3	1.5	1.0	0.5	1.9	0.9	0.3	0.0	0.0
Cash	97,577,832	1.1	1.0	2.7	3.3	2.0	1.3	3.1	1.7	0.9	0.9	0.1	1.4
State Street Cash/Tax Reclaims	235,873	0.0	-13.1	--	--	--	--	--	--	--	--	--	--
Northern Trust Transition	7,092	0.0	-0.7	--	--	--	--	--	--	--	--	--	--

Individual closed end funds are not shown in performance summary table. AQR Global Risk Premium funded 1/18/2019. PanAgora Risk Parity funded 3/15/2019. Effective 3/1/2019 the custodian of record switched from State Street to Northern Trust. State Street Cash/Tax Reclaims reflects \$11,062 in cash and \$224,874 in potential tax reclaims at State Street after assets were transferred to Northern Trust. Effective 7/1/2018, Private Credit and Private Equity data provided by StepStone Group.

Total Fund
 Closed End Funds - Investment Summary Period Ending: September 30, 2019

StepStone Group Analysis (*)

Closing Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/19 ¹	Total Commitment	% Called	Contributed Capital	Current Qtr. Change in Contributed Capital	Current Qtr. Change in Distributed Capital	Total Distributions	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Private Credit												
8/31/2015	Angelo Gordon Energy Credit Opp.	\$4,292,137	\$16,500,000	114%	\$18,750,000	\$0	\$0	\$18,829,566	\$2,319,783	1.00	1.23	6/30/2019
12/18/2017	Stepstone CC Opportunities Fund	\$461,680,861	\$920,000,000	48%	\$442,681,789	\$78,845,579	\$8,202	\$3,945,947	\$484,243,112	0.01	1.05	6/30/2019
7/1/2006	Torchlight II ⁴	\$380,780	\$128,000,000	171%	\$218,263,562	\$0	\$647,082	\$208,563,775	\$0	0.96	0.96	6/30/2019
8/1/2012	Torchlight IV	\$14,487,121	\$60,000,000	141%	\$84,640,541	\$117,207	\$4,264,946	\$100,553,090	\$0	1.19	1.36	9/30/2019
3/12/2015	Torchlight V	\$39,910,552	\$75,000,000	80%	\$60,000,000	\$0	\$27,249,574	\$34,736,131	\$15,000,000	0.58	1.24	6/30/2019

Total Private Credit **\$520,751,451**
 % of Portfolio (Market Value) 5.7%

*All Data provided by StepStone Group
¹Latest valuation + capital calls - distributions
²(DPI) is equal to (capital returned / capital called)
³(TVPI) is equal to (market value + capital returned) / capital called
⁴Capital has been fully called and fund is in redemption.

Total Fund
Closed End Funds - Investment Summary **Period Ending: September 30, 2019**

Verus Internal Analysis

Inception Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/2019 ¹	Total Commitment	Total % Called	Capital Called	Current Qtr. Capital Called	Current Qtr. Distributions	Total Distributions ⁸	Remaining Commitment	Distrib./ Paid-in (DPI) ²	Tot. Value/ Paid-in (TVPI) ³	Latest Valuation
Real Estate												
1/23/2012	Angelo Gordon Realty Fund VIII	\$22,344,968	\$80,000,000	94%	\$75,401,855	\$0	\$814,186	\$98,433,174	\$12,334,302	1.31	1.60	6/30/2019
12/8/2014	Angelo Gordon Realty Fund IX	\$63,601,514	\$65,000,000	86%	\$55,575,000	\$0	\$0	\$8,775,000	\$12,122,500	0.16	1.30	6/30/2019
6/23/2005	DLJ RECP III	\$21,428,214	\$75,000,000	134%	\$100,560,205 ⁴	\$0	\$0	\$69,918,318	\$4,031,338	0.70	0.91	6/30/2019
2/11/2008	DLJ RECP IV	\$80,780,758	\$100,000,000	127%	\$126,533,735 ⁵	\$1,395,246	\$4,742,268	\$83,790,864	\$2,890,809	0.66	1.30	6/30/2019
7/1/2014	DLJ RECP V	\$51,803,026	\$75,000,000	126%	\$94,533,721 ⁶	\$4,665,104	\$15,311,708	\$66,092,692	\$11,098,940	0.70	1.25	6/30/2019
3/19/2019	DLJ RECP VI	\$28,827,136	\$50,000,000	59%	\$29,613,001	\$0	\$0	\$0	\$20,386,999	0.00	0.97	6/30/2019
6/17/1998	Hearfstone II ⁷	-\$1,368	\$25,000,000	80%	\$19,932,386	\$0	\$0	\$19,952,734	\$0	1.00	1.00	6/30/2019
6/30/2013	Invesco Real Estate III ⁷	\$2,940,056	\$35,000,000	93%	\$32,386,423	\$0	\$4,948,623	\$40,990,564	\$2,613,577	1.27	1.36	9/30/2019
6/30/2014	Invesco Real Estate IV ⁷	\$22,645,538	\$35,000,000	85%	\$29,808,739	\$0	\$668,506	\$15,853,299	\$5,191,261	0.53	1.29	9/30/2019
6/30/2013	Invesco Real Estate V	\$18,592,996	\$75,000,000	24%	\$18,018,734	\$0	\$0	\$0	\$56,981,266	0.00	1.03	9/30/2019
7/16/2013	LaSalle Income & Growth VI ⁷	\$28,250,949	\$75,000,000	95%	\$71,428,571	\$0	\$0	\$78,359,290	\$3,571,429	1.10	1.49	6/30/2019
2/28/2017	LaSalle Income & Growth VII	\$50,740,731	\$75,000,000	87%	\$64,959,341	\$0	\$0	\$27,934,401	\$20,836,646	0.43	1.21	6/30/2019
7/3/2013	Long Wharf Fund IV ⁷	\$7,529,410	\$25,000,000	100%	\$25,000,000	\$0	\$295,916	\$29,404,222	\$0	1.18	1.48	9/30/2019
9/30/2016	Long Wharf Fund V ⁷	\$44,066,432	\$50,000,000	100%	\$50,000,000	\$0	\$285,616	\$16,280,133	\$0	0.33	1.21	9/30/2019
12/31/2011	Oaktree REOF V ⁷	\$4,672,553	\$60,000,000	100%	\$60,000,000	\$0	\$0	\$75,028,955	\$25,750,000 ⁸	1.50	1.59	9/30/2019
9/30/2013	Oaktree REOF VI ⁷	\$31,037,707	\$80,000,000	100%	\$80,000,000	\$0	\$1,631,565	\$82,240,973	\$18,400,000 ⁸	1.03	1.42	9/30/2019
4/1/2015	Oaktree REOF VII	\$58,389,163	\$65,000,000	92%	\$59,995,000	\$3,900,000	\$9,100,000	\$13,715,000	\$18,720,000 ⁸	0.23	1.20	9/30/2019
11/10/2013	Paulson Real Estate Fund II ⁷	\$25,503,076	\$20,000,000	97%	\$19,345,623	\$0	\$0	\$5,783,386	\$654,377	0.30	1.62	6/30/2019
1/25/2012	Siguler Guff DREOF	\$32,853,926	\$75,000,000	93%	\$69,375,000	\$0	\$670,908	\$90,263,619	\$5,625,000	1.30	1.77	6/30/2019
8/31/2013	Siguler Guff DREOF II	\$49,835,467	\$70,000,000	89%	\$61,985,000	\$1,575,000	\$1,613,402	\$35,676,509	\$8,015,000	0.58	1.38	6/30/2019
1/27/2016	Siguler Guff DREOF II Co-Inv	\$20,366,495	\$25,000,000	82%	\$20,537,862	\$0	\$5,024,090	\$6,658,891	\$4,462,138	0.32	1.32	6/30/2019
Total Closed End Real Estate		\$666,208,748	\$1,225,000,000	94%	\$1,155,010,197	\$11,535,350	\$45,106,788	\$865,152,023	\$233,685,581	0.75	1.33	
												7.3%

¹Latest valuation + capital calls - distributions
²(DPI) is equal to (capital returned / capital called)
³(TVPI) is equal to (market value + capital returned) / capital called
⁴Includes \$7,231,879 in management fees charged outside the fund.
⁵Includes \$11,036,354 in management fees charged outside the fund.
⁶Includes \$631,403 in management fees charged outside the fund.
⁷Capital has been fully called and fund is in redemption.
⁸Total distributions may include recallable distributions
⁹Remaining commitment includes recallable distributions

Total Fund

Closed End Funds - Investment Summary

Period Ending: September 30, 2019

StepStone Group Analysis (*)

Closing Date	Manager Name/Fund Name	Estimated Market Value as of 9/30/19 ¹	Total Commitment	Total % Called	Contributed Capital	Current Qtr. Change in Contributed Capital	Current Qtr. Change in Distributed Capital	Total Distributions	Remaining Commitment	Distrib./Paid-In (DPI) ²	Tot. Value/Paid-In (TVPI) ³	Latest Valuation
Private Equity & Venture Capital												
2/11/2004	Adams Street Partners	\$152,677,629	\$210,000,000	88%	\$185,043,125	\$20,000	\$3,601,224	\$146,505,349	\$24,956,875	0.79	1.62	6/30/2019
12/31/2008	Adams Street Partners II	\$8,487,962	\$30,000,000	95%	\$28,365,000	\$0	\$707,950	\$39,941,957	\$1,635,000	1.41	1.71	6/30/2019
12/31/2008	Adams Street Partners - Fund 5	\$20,904,594	\$40,000,000	77%	\$30,611,900	\$0	\$1,089,372	\$16,634,023	\$9,388,100	0.54	1.23	6/30/2019
1/18/1996	Adams Street Partners - BPF	\$1,802,301	\$59,565,614	97%	\$57,517,409	\$0	\$164,113	\$102,731,103	\$2,048,205	1.79	1.82	3/31/2019
3/31/2016	Adams Street Venture Innovation	\$51,250,010	\$75,000,000	61%	\$45,412,500	\$11,250,000	\$0	\$0	\$29,587,500	0.00	1.13	6/30/2019
5/18/2018	AE Industrial Partners Fund II, LP	\$4,471,762	\$35,000,000	15%	\$5,103,684	\$2,461,217	\$0	\$0	\$29,896,316	0.00	0.88	6/30/2019
11/27/2013	Aether Real Assets III	\$20,601,865	\$25,000,000	91%	\$22,742,851	\$604,968	\$186,985	\$3,606,471	\$4,270,732	0.16	1.06	6/30/2019
1/30/2016	Aether Real Assets IV	\$39,406,953	\$50,000,000	99%	\$49,696,370	\$1,278,979	\$367,118	\$8,516,717	\$3,336,311	0.17	1.18	6/30/2019
11/26/2003	Bay Area Equity Fund I ⁴	\$2,407,545	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$37,018,019	\$0	3.70	3.94	6/30/2019
11/26/2003	Bay Area Equity Fund II ⁴	\$12,346,571	\$10,000,000	100%	\$10,000,000	\$0	\$0	\$2,026,313	\$0	0.20	1.44	6/30/2019
6/30/2013	Commonfund	\$43,771,673	\$50,000,000	87%	\$43,324,995	\$0	\$1,577,981	\$10,460,771	\$6,675,005	0.24	1.25	6/30/2019
7/15/2005	EIF US Power Fund II ⁴	\$6,665,595	\$50,000,000	130%	\$65,029,556	\$0	\$466,219	\$72,650,020	\$0	1.12	1.22	6/30/2019
5/31/2007	EIF US Power Fund III ⁴	\$16,736,968	\$85,000,000	110%	\$71,409,097	\$0	\$878,100	\$73,638,258	\$0	1.03	1.27	6/30/2019
8/31/2010	EIF US Power Fund IV	\$47,326,520	\$50,000,000	127%	\$63,746,288	\$1,786,025	\$296,279	\$25,818,414	\$4	0.41	1.15	6/30/2019
11/28/2016	EIF US Power Fund V	\$41,702,913	\$50,000,000	95%	\$47,434,111	\$3,122,408	\$3,134,908	\$9,192,121	\$9,586,328	0.19	1.07	6/30/2019
2/28/2010	Genstar Capital Partners IX, L.P.	\$5,190,800	\$50,000,000	11%	\$5,671,543	\$5,671,543	\$0	\$0	\$44,328,457	0.00	0.92	6/30/2019
8/15/2013	Oaktree PIF 2009	\$6,003,286	\$40,000,000	87%	\$34,816,108	\$0	\$479,085	\$41,266,355	\$6,308,961	1.19	1.36	9/30/2019
4/15/2016	Ocean Avenue Fund II	\$29,959,808	\$30,000,000	87%	\$26,100,000	\$0	\$1,500,015	\$12,440,759	\$3,900,000	0.48	1.62	6/30/2019
11/30/2007	Ocean Avenue Fund III	\$54,155,372	\$50,000,000	84%	\$42,000,000	\$3,000,000	\$0	\$6,000,000	\$8,000,000	0.14	1.43	6/30/2019
8/22/2011	Paladin III	\$32,754,167	\$25,000,000	134%	\$33,560,037	\$369,924	\$967,804	\$24,870,552	\$256,983	0.74	1.72	6/30/2019
7/10/2013	Pathway 6	\$34,134,179	\$40,000,000	95%	\$37,868,925	\$231,432	\$2,858,998	\$24,111,808	\$4,276,924	0.64	1.54	6/30/2019
11/23/2015	Pathway 7	\$66,838,868	\$70,000,000	92%	\$64,102,037	\$157,500	\$3,417,306	\$21,523,840	\$8,765,254	0.34	1.38	6/30/2019
1/19/1999	Pathway 8	\$43,536,219	\$50,000,000	72%	\$36,133,611	\$1,095,795	\$282,050	\$4,780,767	\$15,380,736	0.13	1.34	6/30/2019
7/31/2009	Pathway 2008	\$15,379,976	\$125,000,000	100%	\$124,799,775	\$89,832	\$1,774,050	\$173,297,134	\$10,925,354	1.39	1.51	6/30/2019
6/3/2014	Siguler Guff CCCERA Opportunities	\$18,883,185	\$30,000,000	97%	\$29,082,228	\$249,243	\$1,125,331	\$28,255,024	\$3,269,542	0.97	1.62	6/30/2019
8/31/2013	Siguler Guff Secondary Opportunities	\$175,871	\$200,000,000	74%	\$147,355,741	\$1,000,000	\$1,575,692	\$49,073,188	\$60,224,772	0.33	1.47	6/30/2019
5/18/2018	Siris Partners IV, L.P.	\$10,333,894	\$50,000,000	60%	\$29,999,802	\$0	\$0	\$42,638,494	\$49,356,046	1.42	1.43	3/31/2019
6/28/2019	TPG Healthcare Partners, L.P.	-\$307,532	\$24,000,000	0%	\$0	\$5,332,633	\$0	\$0	\$24,327,036	0.00	0.97	6/30/2019
5/24/2019	Trident VIII, L.P.	\$0	\$40,000,000	0%	\$0	\$0	\$0	\$0	\$24,000,000	-	-	6/30/2019
12/8/2015	Wastewater Opportunity Fund	\$17,944,002	\$25,000,000	83%	\$20,669,204	\$2,485,194	\$0	\$2,031,922	\$4,353,023	0.10	0.97	6/30/2019
Total Private Equity and Venture Capital		\$1,023,772,828	\$1,743,565,614	81%	\$1,413,516,878	\$43,806,333	\$26,610,077	\$981,068,726	\$445,812,135	0.69	1.42	
				% of Portfolio (Market Value)								
												11.2%

* All Data provided by StepStone Group
¹Latest valuation + capital calls - distributions
²(DPI) is equal to (capital returned / capital called)
³(TVPI) is equal to (market value + capital returned) / capital called
⁴Capital has been fully called and fund is in redemption.

Total Fund

Closed End Funds - IRR Summary

Period Ending: September 30, 2019

Private Credit	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Angelo Gordon Energy Cred Opp.	09/24/2015	-	-	-	10.1%	06/30/2019
Stepstone CC Opportunities Fund ¹	02/02/2018	-	-	-	-	-
Torchlight II ⁴	07/01/2006	0.0%	0.2%	-1.2%	-1.0%	09/30/2019
Torchlight IV	08/01/2012	13.1%	13.5%	10.3%	11.0%	09/30/2019
Torchlight V	03/12/2015	18.6%	18.7%	12.1%	12.0%	06/30/2019
Real Estate	Inception	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Angelo Gordon VIII	01/23/2012	-	-	-	15.1%	06/30/2019
Angelo Gordon IX	12/08/2014	-	-	-	12.5%	06/30/2019
DLJ RECP III	06/23/2005	0.0%	0.0%	-2.0%	-2.0%	06/30/2019
DLJ RECP IV	02/11/2008	6.0%	6.0%	4.0%	4.0%	06/30/2019
DLJ RECP V	07/01/2014	23.0%	23.0%	12.0%	12.0%	06/30/2019
DLJ RECP VI ¹	03/19/2019	-	-	-	-	-
Hearthstone II ⁴	06/17/1998	-	30.1%	-	30.1%	06/30/2019
Invesco Fund III ⁴	06/30/2013	15.0%	-	11.8%	-	09/30/2019
Invesco Fund IV ⁴	06/30/2014	17.1%	-	12.6%	-	06/30/2019
Invesco Fund V ¹	02/20/2019	-	-	-	-	-
LaSalle Income & Growth VI ⁴	07/16/2013	14.9%	14.9%	12.3%	12.3%	09/30/2019
LaSalle Income & Growth VII	02/28/2017	14.2%	14.5%	11.5%	11.6%	09/30/2019
Long Wharf IV ⁴	07/03/2013	17.5%	17.6%	12.8%	12.8%	09/30/2019
Long Wharf V ⁴	09/30/2016	16.0%	17.5%	10.7%	11.5%	09/30/2019
Oaktree REOF V ⁴	12/31/2011	16.9%	-	12.5%	-	09/30/2019
Oaktree REOF VI ⁴	09/30/2013	14.3%	-	9.5%	-	06/30/2019
Oaktree REOF VII	04/01/2015	44.8%	-	25.6%	-	09/30/2019
Paulson ⁴	11/10/2013	19.0%	-	13.1%	-	12/31/2018
Siguler Guff I	01/25/2012	14.2%	16.9%	12.7%	13.8%	06/30/2019
Siguler Guff II	08/31/2013	12.8%	12.6%	11.4%	10.3%	06/30/2019
Siguler Guff DREOF II Co-Inv	01/27/2016	14.1%	14.3%	13.0%	11.1%	06/30/2019

¹ Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

² Fund level data includes CCCERA and all other fund investors.

³ Net IRR calculated after deductions of management fees and carried interest to the General Partner.

⁴ Capital has been fully called and fund is in redemption.

Total Fund

Closed End Funds - IRR Summary

Period Ending: September 30, 2019

Private Equity & Venture Capital	Closing Date	Fund Level (G) ²	CCCERA (G)	Fund Level (N) ^{2,3}	CCCERA (N) ³	IRR Date
Adams Street Partners	2/11/2004	-	12.9%	-	10.6%	6/30/2019
Adams Street Partners II	12/31/2008	-	14.3%	-	11.7%	3/31/2019
Adams Street Partners - Fund 5	12/31/2008	-	8.9%	-	6.6%	6/30/2019
Adams Street Partners Venture	1/18/1996	-	26.5%	-	19.5%	6/30/2019
Adams Street Partners - BPF	3/31/2016	-	14.3%	-	11.6%	6/30/2019
AE Industrial Partners Fund II, LP ¹	5/18/2018	-	-	-	-	-
Aether Real Assets III	11/27/2013	6.1%	6.1%	2.4%	2.4%	6/30/2019
Aether Real Assets III Surplus	11/30/2013	7.0%	-	5.5%	5.5%	6/30/2019
Aether Real Assets IV	1/30/2016	19.3%	19.2%	12.5%	12.4%	6/30/2019
Bay Area Equity Fund I ⁹	11/26/2003	25.8%	25.8%	23.2%	23.2%	6/30/2019
Bay Area Equity Fund II ⁹	11/26/2003	7.0%	7.0%	5.9%	5.9%	6/30/2019
CommonFund	6/30/2013	-	-	-	9.0%	6/30/2019
Energy Investor Fund II ⁹	7/15/2005	6.3%	5.9%	6.6%	3.2%	6/30/2019
Energy Investor Fund III ⁹	5/31/2007	6.5%	6.5%	4.0%	4.0%	6/30/2019
Energy Investor Fund IV	8/31/2010	9.2%	9.3%	5.3%	5.1%	6/30/2019
Energy Investor Fund V	11/28/2016	18.1%	14.7%	11.6%	8.6%	6/30/2019
Genstar Capital Partners IX, L.P. ¹	2/21/2019	-	-	-	-	-
Oaktree PIF 2009	2/28/2010	6.8%	-	6.6%	-	9/30/2019
Ocean Avenue II	8/15/2013	18.9%	-	16.0%	-	6/30/2019
Ocean Avenue III	4/15/2016	41.2%	-	33.3%	-	6/30/2019
Paladin III	11/30/2007	19.0%	-	10.7%	-	6/30/2019
Pathway 6	8/22/2011	17.0%	17.0%	14.4%	14.4%	6/30/2019
Benchmark ⁴	-	14.4%	-	-	-	6/30/2019
Pathway 7	7/10/2013	16.8%	16.8%	14.1%	14.1%	6/30/2019
Benchmark ⁵	-	14.4%	-	-	-	6/30/2019
Pathway 8	11/23/2015	21.1%	21.6%	19.0%	19.8%	6/30/2019
Benchmark ⁶	-	14.4%	-	-	-	6/30/2019
Pathway Private Equity Fund	1/19/1999	10.3%	10.3%	8.4%	8.4%	6/30/2019
Benchmark ⁷	-	10.4%	-	-	-	6/30/2019
Pathway Private Equity Fund 2008	7/31/2009	14.9%	14.9%	12.3%	12.3%	6/30/2019
Benchmark ⁸	-	13.2%	-	-	-	6/30/2019
Siguler Guff CCCERA Opportunities	6/3/2014	19.5%	20.1%	18.9%	17.0%	6/30/2019
Siguler Guff Secondary Opportunities	8/31/2013	55.4%	118.7%	49.5%	69.3%	6/30/2019
Siris Partners IV, L.P. ¹	5/18/2018	-	-	-	-	-
TPG Healthcare Partners, L.P. ¹	6/28/2019	-	-	-	-	-
Trident VIII, L.P. ¹	5/24/2019	-	-	-	-	-
Wastewater Opportunity Fund	12/8/2015	5.9%	-	-2.1%	-	6/30/2019

¹Manager has yet to report IRR figure due to no capital invested or meaningful distributions.

²Fund level data includes CCCERA and all other fund investors.

³Net IRR calculated after deductions of management fees and carried interest to the General Partner.

⁴Private IQ global all private equity median pooled return for vintage years 2011-2014, as of June 30, 2019.

⁵Private IQ global all private equity median pooled return for vintage years 2012-2016, as of June 30, 2019.

⁶Private IQ global all private equity median pooled return for vintage years 2015-2018, as of June 30, 2019.

⁷Private IQ global all private equity median pooled return for vintage years 1999-2011, as of June 30, 2019.

⁸Private IQ global all private equity median pooled return for vintage years 2008-2014, as of June 30, 2019.

⁹Capital has been fully called and fund is in redemption.

**Total Fund
Performance Analysis - 3 Years (Net of Fees) Period Ending: September 30, 2019**

3 Years

	Anlzd Ret	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Jackson Square Partners	13.24%	-3.65%	13.19%	-2.64%	0.94	4.29%	0.90	0.89	-0.85	81.74%	97.19%
Boston Partners	10.58%	1.15%	13.29%	0.66%	1.05	2.93%	0.95	0.68	0.39	106.55%	99.72%
Emerald Advisers	11.47%	1.67%	18.53%	1.43%	1.03	4.77%	0.93	0.54	0.35	103.01%	95.82%
Ceredex	6.08%	-0.46%	16.78%	0.22%	0.90	5.87%	0.89	0.27	-0.08	91.00%	95.30%
Pyrford	5.08%	-0.16%	9.67%	1.25%	0.73	5.47%	0.79	0.37	-0.03	67.38%	69.42%
William Blair	7.17%	-0.20%	12.38%	-0.27%	1.01	2.67%	0.95	0.45	-0.07	95.19%	96.52%
Artisan Partners	12.20%	2.49%	13.01%	2.01%	1.05	5.33%	0.83	0.82	0.47	115.12%	99.66%
First Eagle	6.29%	-3.42%	8.40%	-0.69%	0.72	3.79%	0.94	0.56	-0.90	60.11%	71.34%
Allianz Global Investors	5.49%	-0.58%	4.47%	-0.82%	1.04	0.94%	0.96	0.88	-0.62	96.54%	109.50%
Adelante	8.21%	0.99%	12.46%	1.30%	0.96	1.67%	0.98	0.53	0.60	95.24%	89.45%
AFL-CIO	2.75%	-0.17%	3.15%	0.06%	0.92	0.70%	0.96	0.38	-0.25	89.10%	86.32%
Wellington Real Total Return	0.90%	-5.25%	4.24%	-2.76%	0.60	4.22%	0.01	-0.15	-1.24	23.22%	NM

Performance Analysis excludes closed end funds and those funds without 3years of performance.

**Total Fund
Performance Analysis - 5 Years (Net of Fees)** **Period Ending: September 30, 2019**

5 Years

	Ann Excess BM Return	Anlzd Std Dev	Anlzd Alpha	Beta	Tracking Error	R-Squared	Sharpe Ratio	Info Ratio	Up Mkt Cap Ratio	Down Mkt Cap Ratio
Jackson Square Partners	10.19%	13.32%	-2.69%	0.96	4.90%	0.87	0.69	-0.65	88.51%	107.48%
Boston Partners	7.69%	13.02%	-0.62%	1.07	2.90%	0.95	0.52	-0.03	105.18%	104.32%
Emerald Advisers	11.06%	17.65%	1.96%	1.00	4.92%	0.92	0.57	0.40	108.36%	97.91%
Ceredex	8.61%	15.17%	2.29%	0.88	5.72%	0.87	0.50	0.25	92.55%	91.06%
Pyrford	3.17%	10.22%	2.55%	0.71	5.70%	0.83	0.22	0.40	60.87%	68.13%
William Blair	4.50%	12.21%	-0.20%	0.97	2.70%	0.95	0.29	-0.13	91.40%	96.36%
Artisan Partners	11.06%	13.03%	4.27%	1.02	5.17%	0.84	0.77	0.85	122.87%	90.98%
First Eagle	5.84%	8.57%	1.23%	0.69	4.52%	0.90	0.57	-0.18	58.27%	65.60%
Allianz Global Investors	4.41%	5.26%	-0.67%	0.95	1.23%	0.95	0.65	-0.77	89.94%	101.66%
Adelante	10.13%	13.72%	0.49%	0.95	1.79%	0.99	0.67	-0.02	90.45%	93.49%
AFL-CIO	3.24%	2.84%	0.21%	0.90	0.73%	0.95	0.80	-0.19	87.85%	81.33%
Wellington Real Total Return	-1.64%	5.67%	-8.93%	1.31	5.52%	0.05	-0.46	-1.31	-4.20%	NM

Performance Analysis excludes closed end funds and those funds without 5 years of performance.

**Total Fund
Investment Fund Fee Analysis** **Period Ending: September 30, 2019**

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
BlackRock Russell 1000 Index	Growth	0.03% of Assets	\$187,647,476	\$56,294	0.03%
Jackson Square Partners	Growth	0.50% of First 100.0 Mil, 0.40% of Next 150.0 Mil, 0.35% Thereafter	\$231,044,330	\$1,024,177	0.44%
Boston Partners	Growth	0.50% of First 25.0 Mil, 0.30% Thereafter	\$232,261,879	\$746,786	0.32%
Emerald Advisers	Growth	0.75% of First 10.0 Mil, 0.60% Thereafter	\$143,146,343	\$873,878	0.61%
Ceredex	Growth	0.85% of First 10.0 Mil, 0.68% of Next 40.0 Mil, 0.51% Thereafter	\$156,462,227	\$899,957	0.58%
Pyrford	Growth	0.70% of First 50.0 Mil, 0.50% of Next 50.0 Mil, 0.35% Thereafter	\$447,988,315	\$1,817,959	0.41%
William Blair	Growth	0.80% of First 20.0 Mil, 0.60% of Next 30.0 Mil, 0.50% of Next 50.0 Mil, 0.45% of Next 50.0 Mil, 0.40% of Next 50.0 Mil, 0.30% Thereafter	\$450,848,556	\$1,767,546	0.39%
PIMCO RAE Emerging Markets	Growth	0.75% of First 50.0 Mil, 0.68% of Next 50.0 Mil, 0.50% of Next 100.0 Mil, 0.45% Thereafter	\$332,474,898	\$1,808,637	0.54%
TT Emerging Markets	Growth	0.70% of First 100.0 Mil, 0.65% of Next 100.0 Mil, 0.60% Thereafter	\$317,459,106	\$2,054,755	0.65%
Artisan Partners	Growth	0.75% of Assets	\$368,952,264	\$2,767,142	0.75%
First Eagle	Growth	0.75% of Assets	\$371,818,334	\$2,788,638	0.75%
Allianz Global Investors	Growth	0.50% of First 50.0 Mil, 0.40% of Next 50.0 Mil, 0.35% Thereafter	\$203,391,255	\$811,869	0.40%
AQR Global Risk Premium-EL	Growth	0.38% of Assets	\$228,677,512	\$868,975	0.38%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

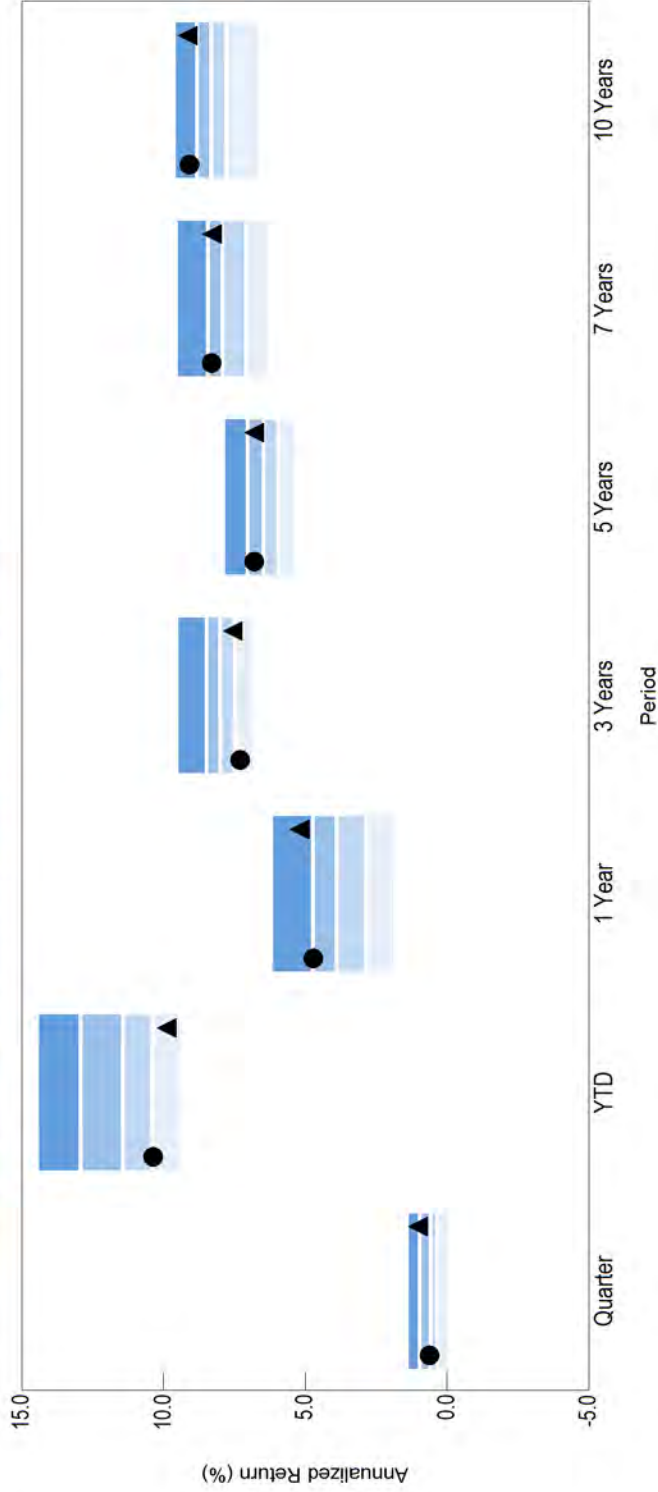
**Total Fund
Investment Fund Fee Analysis** **Period Ending: September 30, 2019**

Name	Asset Class	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
PanAgora Risk Parity Multi Asset	Growth	0.35% of Assets	\$223,666,393	\$782,832	0.35%
AFL-CIO	Diversifying	0.43% of Assets	\$337,480,361	\$1,451,166	0.43%
Wellington Real Total Return	Diversifying	0.35% of Assets	\$186,620,305	\$653,171	0.35%
Parametric Defensive Equity	Diversifying	0.42% of First 200.0 Mil, 0.39% Thereafter	\$203,166,436	\$852,349	0.42%
DFA Short Credit	Liquidity	0.20% of First 25.0 Mil, 0.10% Thereafter	\$501,752,961	\$526,753	0.10%
Insight Short Duration	Liquidity	0.06% of First 500.0 Mil, 0.05% of Next 500.0 Mil, 0.04% Thereafter	\$1,028,461,532	\$561,385	0.05%
Sit Short Duration	Liquidity	0.15% of Assets	\$542,662,117	\$813,993	0.15%

Mutual fund fees shown are sourced from Morningstar and are as of the most current prospectus.

Total Fund
Peer Universe Comparison: Cumulative Performance (Gross of Fees) Period Ending: September 30, 2019

Total Fund Cumulative Performance vs. InvMetrics Public DB > \$1B Gross



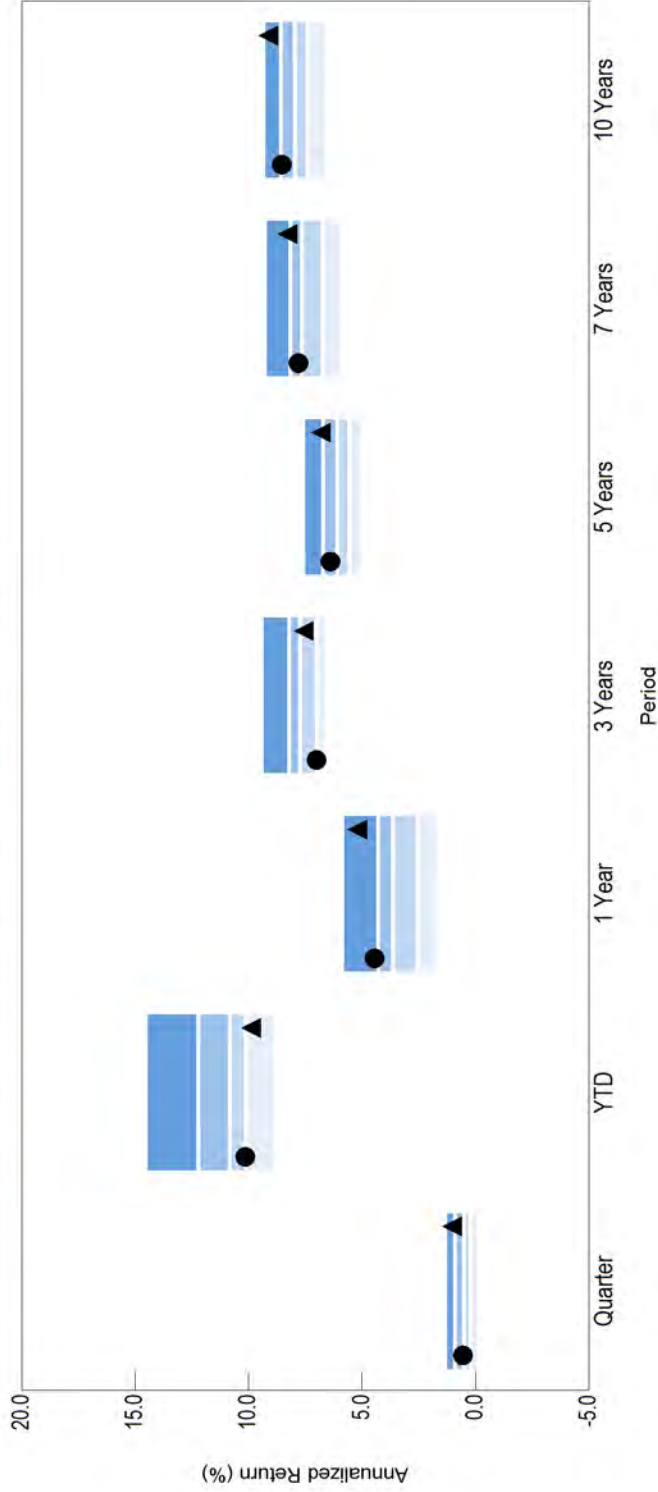
Return (Rank)

5th Percentile	1.4	14.4	6.2	9.5	7.9	9.6	9.6
25th Percentile	1.0	12.9	4.8	8.5	7.1	8.5	8.8
Median	0.6	11.5	3.9	8.0	6.5	7.9	8.3
75th Percentile	0.4	10.4	2.9	7.5	6.0	7.1	7.8
95th Percentile	-0.1	9.4	1.8	6.8	5.4	6.3	6.6
# of Portfolios	81	81	81	81	80	79	74
● Total Fund	0.6 (49)	10.4 (78)	4.7 (26)	7.3 (84)	6.8 (32)	8.3 (33)	9.1 (17)
▲ Policy Index	1.0 (18)	9.9 (88)	5.2 (15)	7.6 (73)	6.8 (31)	8.3 (35)	9.1 (16)

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund
Peer Universe Comparison: Cumulative Performance (Net of Fees) Period Ending: September 30, 2019

Total Fund Cumulative Performance vs. InvMetrics Public DB > \$1B Net

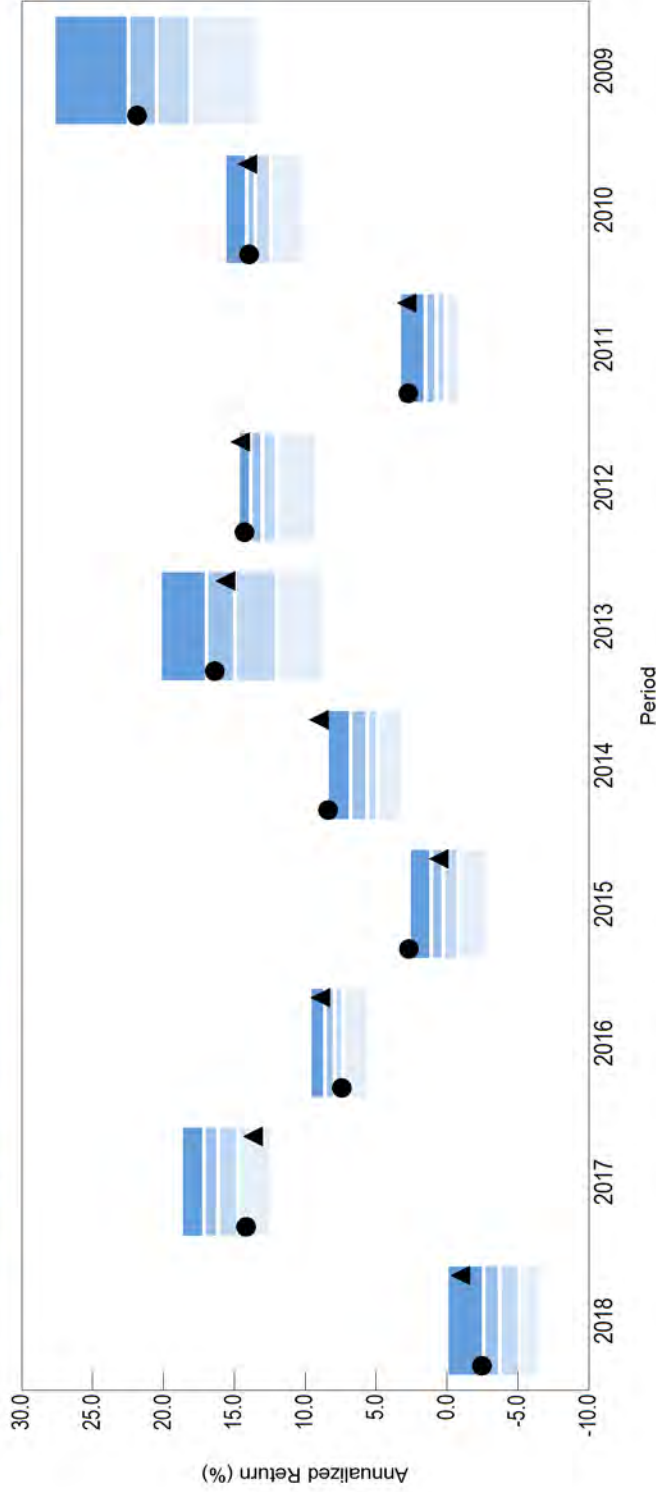


Return (Rank)

5th Percentile	1.3	5.9	9.4	7.6	9.3	9.3	9.3
25th Percentile	0.9	4.3	8.2	6.7	8.2	8.2	8.6
Median	0.5	10.8	7.7	6.1	7.7	7.7	8.0
75th Percentile	0.2	10.1	7.0	5.6	6.8	6.8	7.4
95th Percentile	-0.2	8.9	6.6	5.0	5.9	5.9	6.6
# of Portfolios	71	71	71	69	69	69	63
● Total Fund	0.5 (48)	4.4 (22)	7.0 (76)	6.4 (36)	7.8 (39)	7.8 (39)	8.5 (29)
▲ Policy Index	1.0 (15)	5.2 (9)	7.6 (54)	6.8 (23)	8.3 (21)	8.3 (21)	9.1 (10)

Total Fund
Peer Universe Comparison: Consecutive Periods (Gross of Fees) Period Ending: September 30, 2019

Total Fund Consecutive Periods vs. InvMetrics Public DB > \$1B Gross



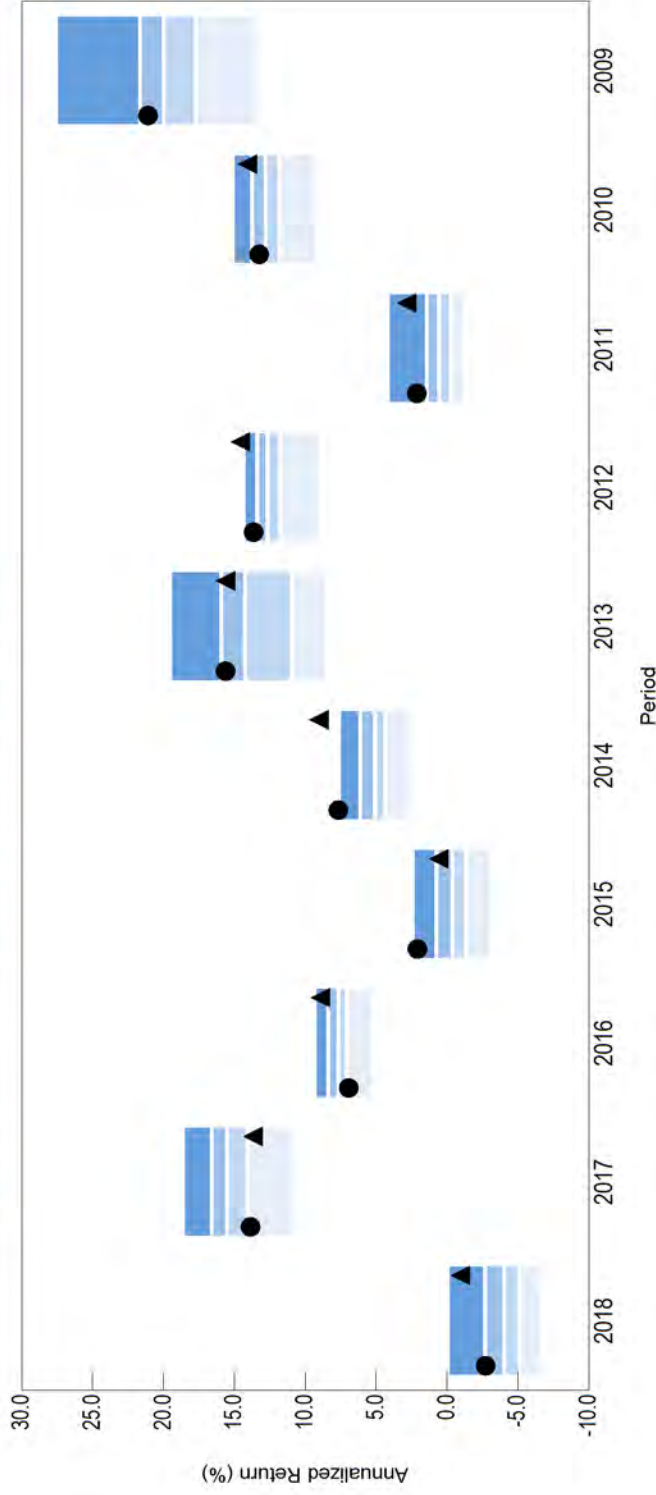
Return (Rank)

5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios	Total Fund	Policy Index
0.0	-2.6	-3.7	-5.1	-6.6	71	-2.5 (25)	-0.9 (8)
18.8	17.2	16.2	14.8	12.4	98	14.2 (83)	13.7 (89)
9.7	8.6	8.0	7.4	5.5	92	7.4 (74)	8.9 (15)
2.7	1.1	0.3	-0.7	-2.8	98	2.7 (5)	0.6 (40)
8.5	6.8	5.7	4.9	3.1	79	8.4 (6)	9.0 (2)
20.2	17.0	15.0	12.0	8.7	67	16.4 (33)	15.6 (43)
14.7	13.9	13.0	12.1	9.2	74	14.3 (13)	14.6 (8)
3.3	1.6	0.8	0.1	-0.9	68	2.7 (9)	2.8 (9)
15.7	14.2	13.5	12.5	10.2	66	14.0 (29)	14.1 (27)
27.7	22.5	20.5	18.1	13.4	66	21.9 (34)	-- (--)

Effective 1/01/2017, only traditional asset class (public equity, public fixed income, REITs) investment management fees will be included in the gross of fee return calculation.

Total Fund
Peer Universe Comparison: Consecutive Periods (Net of Fees) Period Ending: September 30, 2019

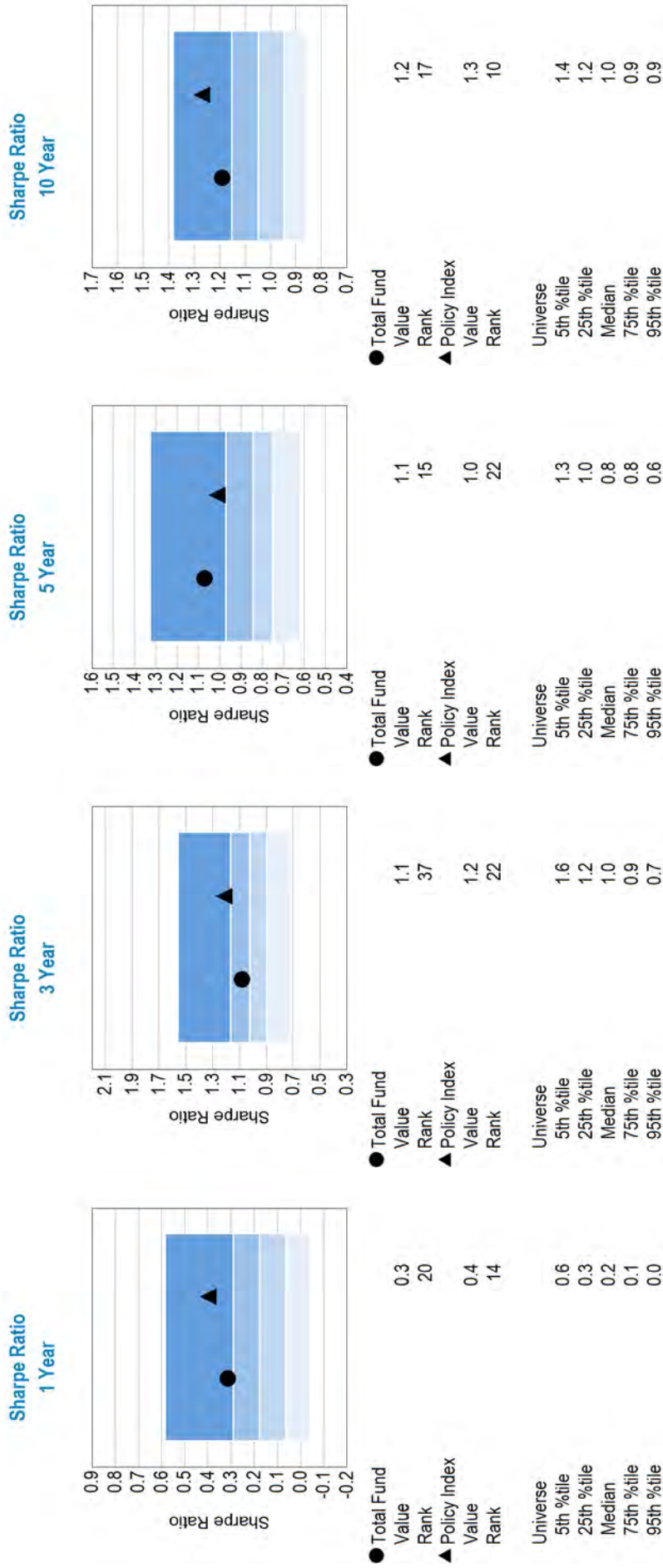
Total Fund Consecutive Periods vs. InvMetrics Public DB > \$1B Net



Return (Rank)

5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios	Total Fund	Policy Index
-0.1	-2.7	-4.0	-5.1	-6.6	63	-2.7 (27)	-0.9 (8)
18.6	16.6	15.6	14.1	10.7	61	13.9 (81)	13.7 (85)
9.3	8.4	7.7	7.1	5.3	62	6.9 (78)	8.9 (13)
2.4	0.8	-0.4	-1.3	-3.2	57	2.1 (12)	0.6 (29)
7.6	6.1	5.1	4.4	2.6	55	7.7 (5)	9.0 (2)
19.5	16.0	14.3	11.0	8.5	48	15.6 (33)	15.6 (33)
14.3	13.4	12.7	11.8	9.0	44	13.6 (21)	14.6 (1)
4.2	1.5	0.6	-0.3	-1.2	42	2.1 (12)	2.8 (11)
15.1	13.8	12.8	11.8	9.3	41	13.3 (34)	14.1 (15)
27.5	21.7	20.0	17.7	13.4	40	21.1 (33)	-- (--)

Total Fund
 Sharpe Ratio Ranking (Gross of Fees) Period Ending: September 30, 2019



Domestic Equity Managers

Jackson Square Partners Manager Portfolio Overview

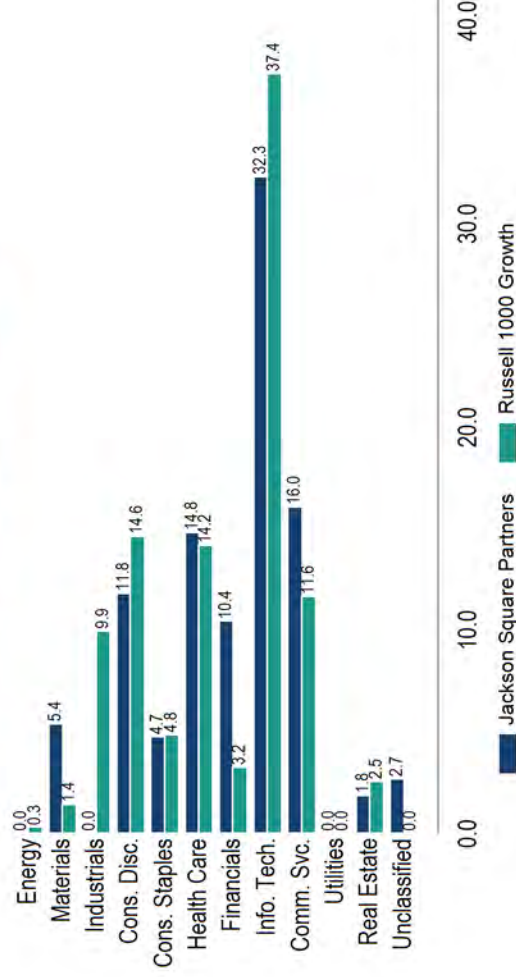
Period Ending: September 30, 2019

Domestic equity large cap growth portfolio concentrated in companies with sustainable long-term growth characteristics. Primary personnel include Jeffrey Van Harte, Christopher Bonavico, Christopher Ericksen, and Daniel Prislín.

Characteristics

	Portfolio	Russell 1000 Growth
Number of Holdings	28	526
Weighted Avg. Market Cap. (\$B)	176.96	300.55
Median Market Cap. (\$B)	43.83	12.24
Price To Earnings	28.92	26.74
Price To Book	5.21	8.05
Price To Sales	2.93	3.09
Return on Equity (%)	22.27	35.42
Yield (%)	0.83	1.21
Beta	0.84	1.00

Sector Allocation (%) vs Russell 1000 Growth

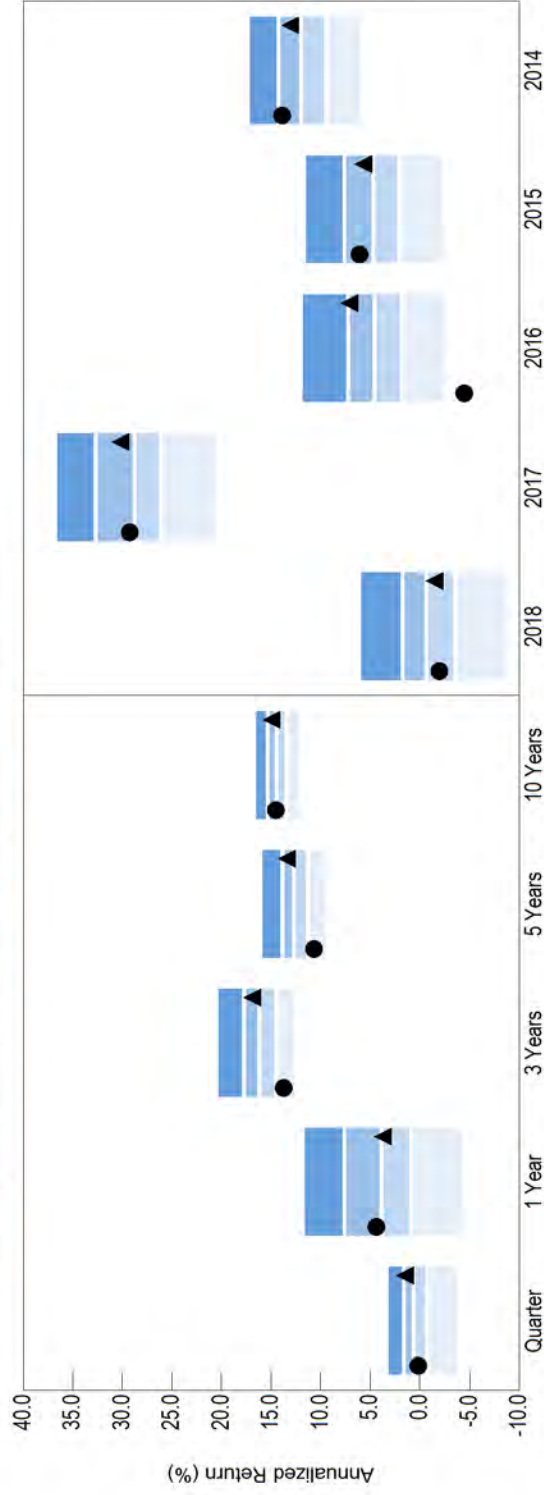


Largest Holdings

	End Weight	Return	Top Contributors		Bottom Contributors	
			Avg Wgt	Return	Avg Wgt	Return
MICROSOFT	10.02	4.14	1.41	12.94	1.00	-16.44
IQVIA HOLDINGS	5.67	-7.16	1.18	11.61	0.89	-17.37
BALL	5.37	4.22	3.23	4.14	2.04	-7.16
DOLLAR TREE	5.01	6.30	0.73	17.87	1.35	-9.50
KKR AND A	4.86	6.78	1.19	10.40	1.26	-9.33
CONSTELLATION BRANDS 'A'	4.75	5.66	1.78	6.30	1.11	-10.53
HASBRO	4.72	12.94	1.62	6.78	1.10	-10.33
CHARTER COMMS.C.L.A	4.39	4.29	0.77	12.78	0.85	-7.97
MASTERCARD	3.91	2.79	0.82	9.26	0.20	-8.30
ILLUMINA	3.69	-17.37	1.24	5.66	1.30	-0.75
				0.07		-0.01

Unclassified sector allocation includes cash allocations.

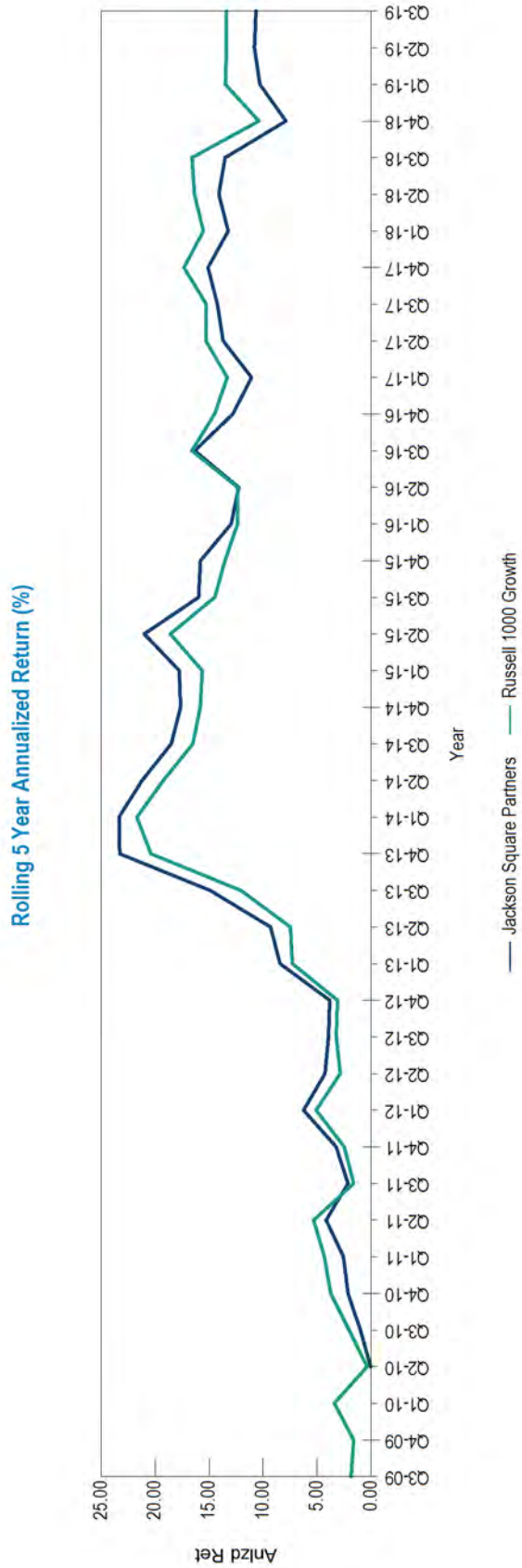
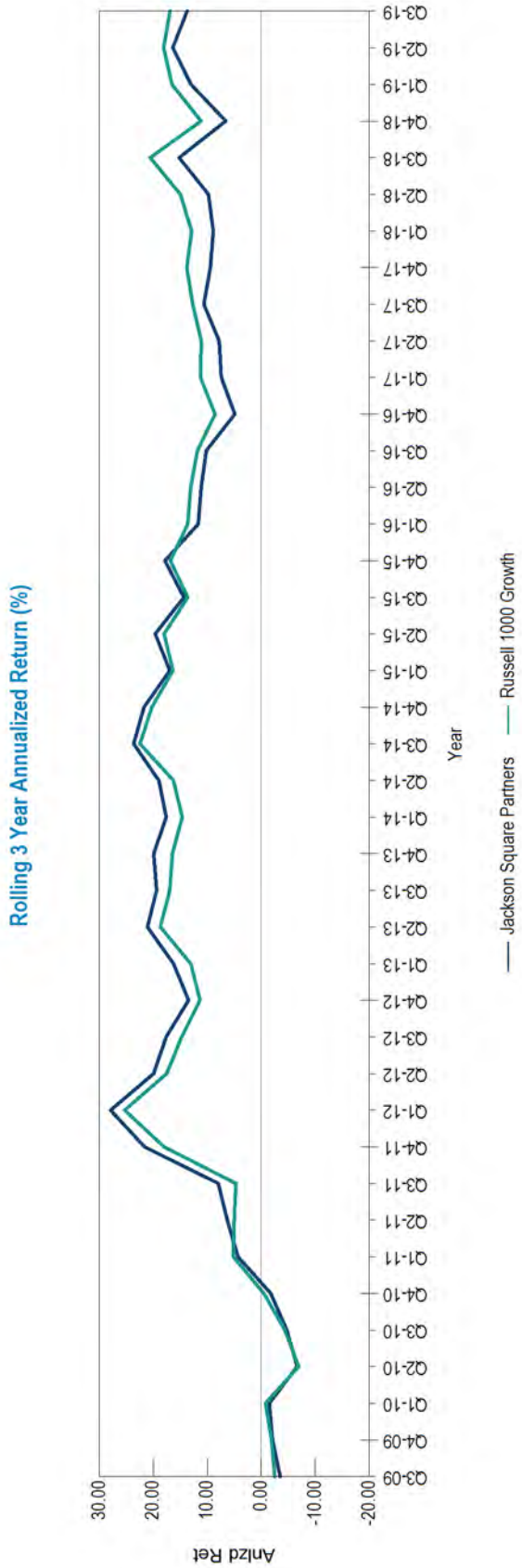
Jackson Square Partners vs. eV US Large Cap Growth Equity Gross Universe



Return (Rank)

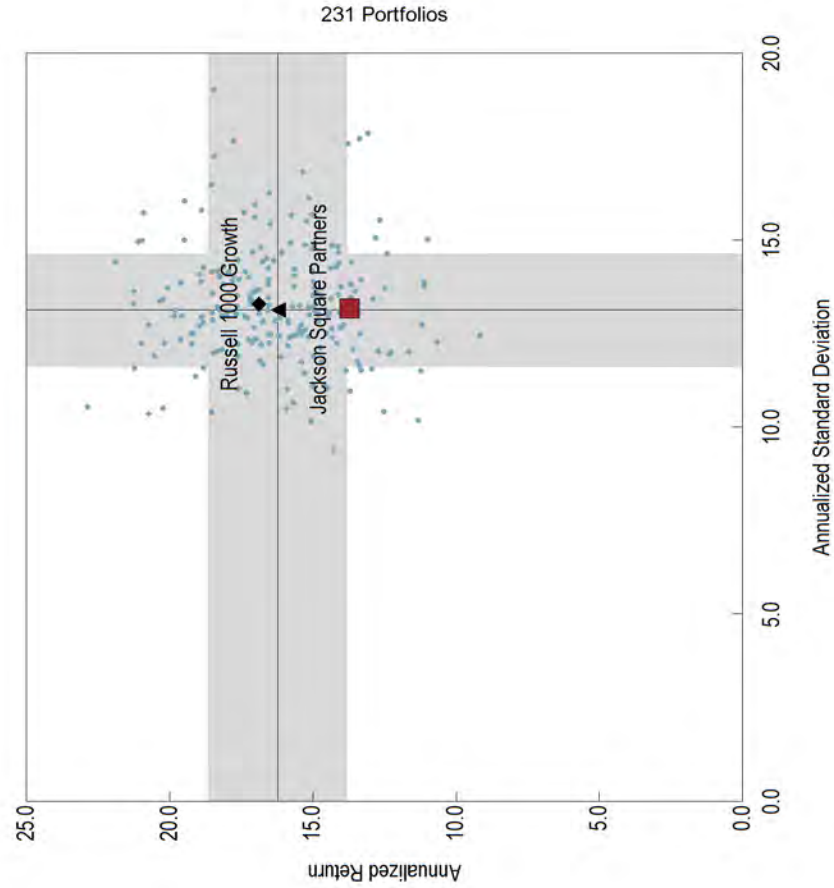
Period	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
Quarter	3.3	1.6	0.6	-0.7	-3.9	239
1 Year	11.8	7.6	3.9	0.9	-4.4	239
3 Years	20.4	17.8	16.2	14.5	12.5	231
5 Years	16.0	13.9	12.7	11.3	9.3	226
10 Years	16.7	15.3	14.5	13.5	12.0	202
2014	17.3	14.3	12.0	9.5	5.8	291
2015	11.6	7.6	4.7	2.1	-2.4	270
2016	12.0	7.3	4.6	1.8	-2.7	282
2017	36.7	32.7	28.8	26.2	20.5	265
2018	6.1	1.7	-0.6	-3.5	-8.8	255
2019	0.1 (59)	4.4 (46)	13.7 (85)	10.7 (85)	-2.0 (59)	29.3 (47)
2019	1.5 (29)	3.7 (53)	16.9 (40)	13.4 (35)	-1.5 (57)	30.2 (42)
2019				14.5 (50)	6.1 (37)	6.1 (37)
2019				14.9 (35)	5.7 (42)	5.7 (42)

● Jackson Square Partners
 ▲ Russell 1000 Growth



Jackson Square Partners
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019

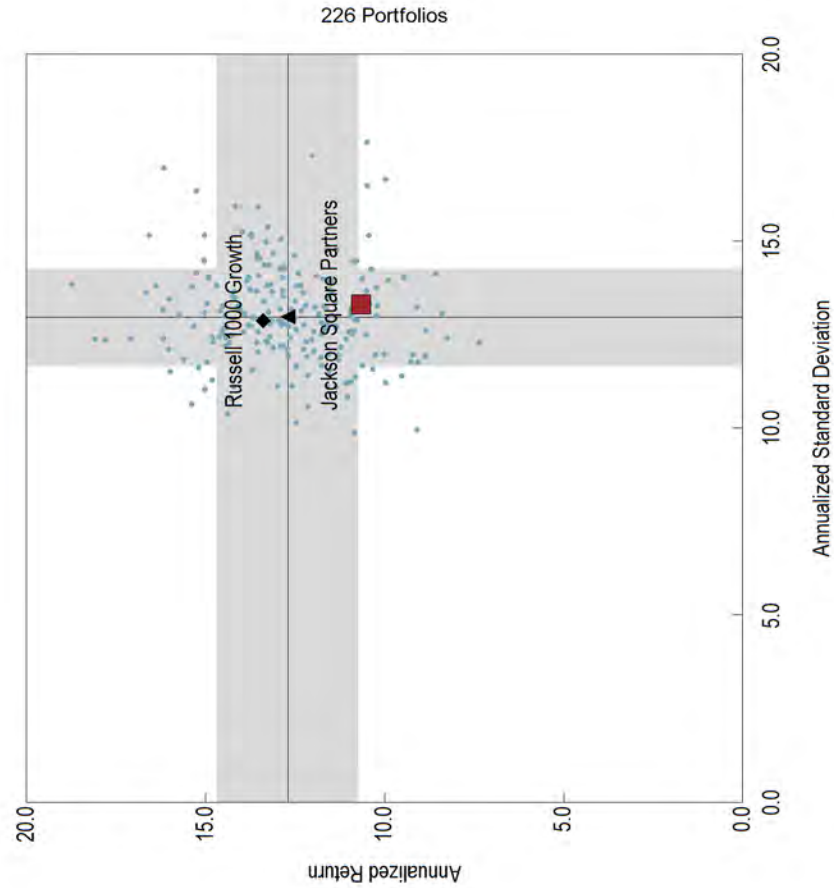
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	13.7%	13.2%	0.9
Russell 1000 Growth	16.9%	13.3%	1.2
eV US Large Cap Growth Equity Gross Median	16.2%	13.1%	1.1

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Jackson Square Partners	10.7%	13.3%	0.7
Russell 1000 Growth	13.4%	12.9%	1.0
eV US Large Cap Growth Equity Gross Median	12.7%	13.0%	0.9

Boston Partners Manager Portfolio Overview

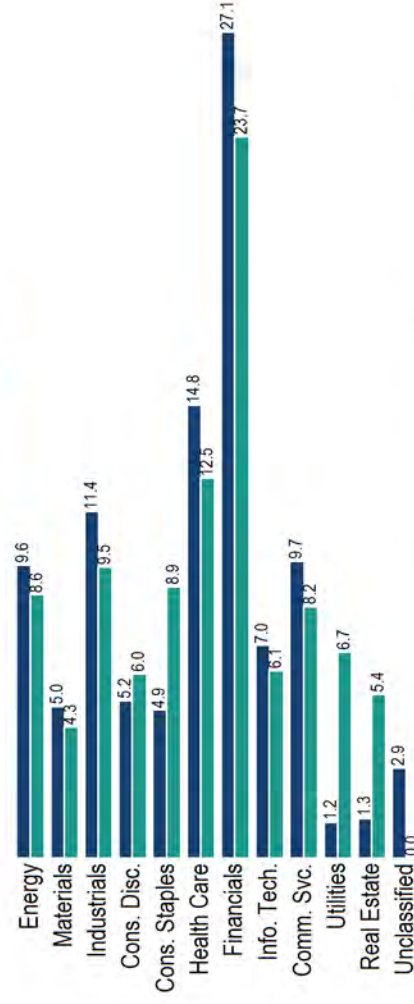
Period Ending: September 30, 2019

Domestic equity large cap value portfolio exhibiting low turnover in companies with low valuations relative to intrinsic value. Primary personnel include Mark Donovan and David Pyle.

Characteristics

	Portfolio	Russell 1000 Value
Number of Holdings	81	760
Weighted Avg. Market Cap. (\$B)	126.09	114.23
Median Market Cap. (\$B)	35.82	8.98
Price To Earnings	16.11	16.68
Price To Book	2.20	2.24
Price To Sales	1.32	1.50
Return on Equity (%)	16.87	14.92
Yield (%)	2.16	2.62
Beta	1.05	1.00

Sector Allocation (%) vs Russell 1000 Value

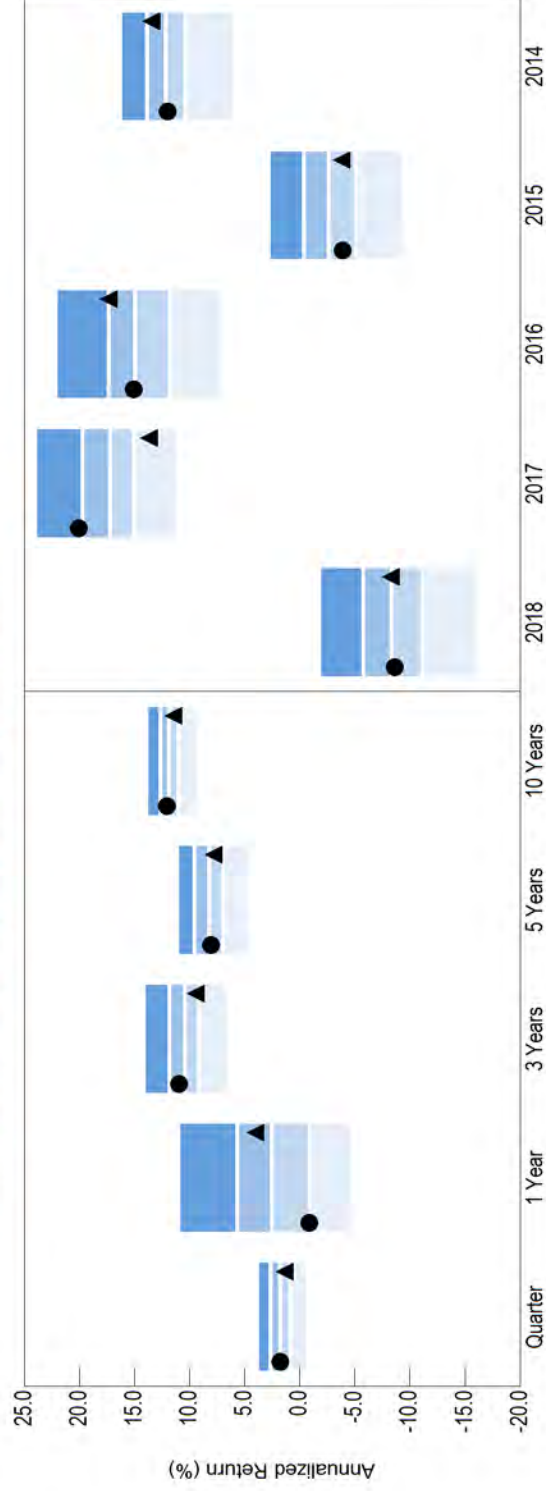


Largest Holdings

	End Weight	Return	Top Contributors		Bottom Contributors		
			Avg Wgt	Return	Avg Wgt	Return	
BERKSHIRE HATHAWAY 'B'	4.42	-2.42	0.80	14.17	0.11	PFIZER	-16.28
BANK OF AMERICA	3.77	1.23	0.64	12.78	0.08	JOHNSON & JOHNSON	-6.42
COMCAST A	3.04	7.14	0.63	12.71	0.08	ANTHEM	-14.65
JP MORGAN CHASE & CO.	2.97	6.01	0.97	7.14	0.07	CISCO SYSTEMS	-9.16
PROCTER & GAMBLE	2.67	14.17	0.60	10.13	0.06	DXC TECHNOLOGY	-46.15
WELLS FARGO & CO	2.57	7.77	0.35	16.78	0.06	UNITEDHEALTH GROUP	-10.53
VERIZON COMMUNICATIONS	2.47	6.78	0.70	7.77	0.05	ROYAL DUTCH SHELL A	-8.02
CHUBB	2.27	10.13	0.79	6.78	0.05	ADR 1:2	-0.05
CITIGROUP	2.21	-0.61	0.46	10.12	0.05	FOX A	-13.33
AMERICAN INTL.GP.	2.18	5.14	0.35	12.17	0.04	PIONEER NTRL.RES.	-17.97
						BERKSHIRE HATHAWAY 'B'	-2.42

Unclassified sector allocation includes cash allocations.

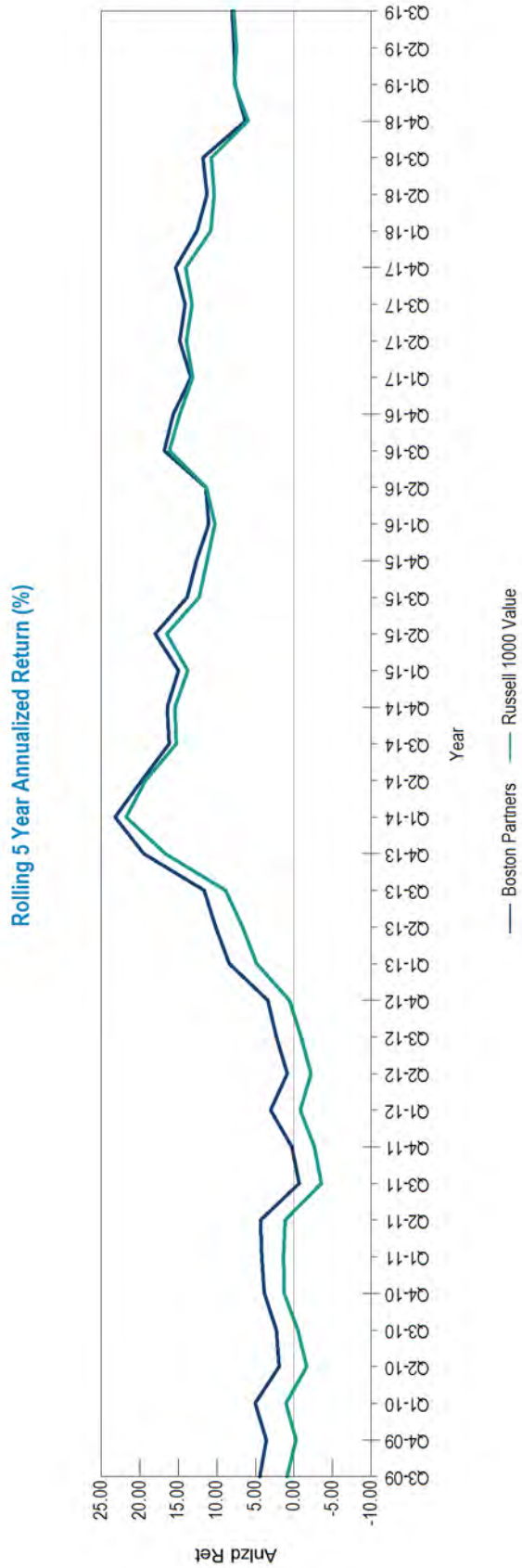
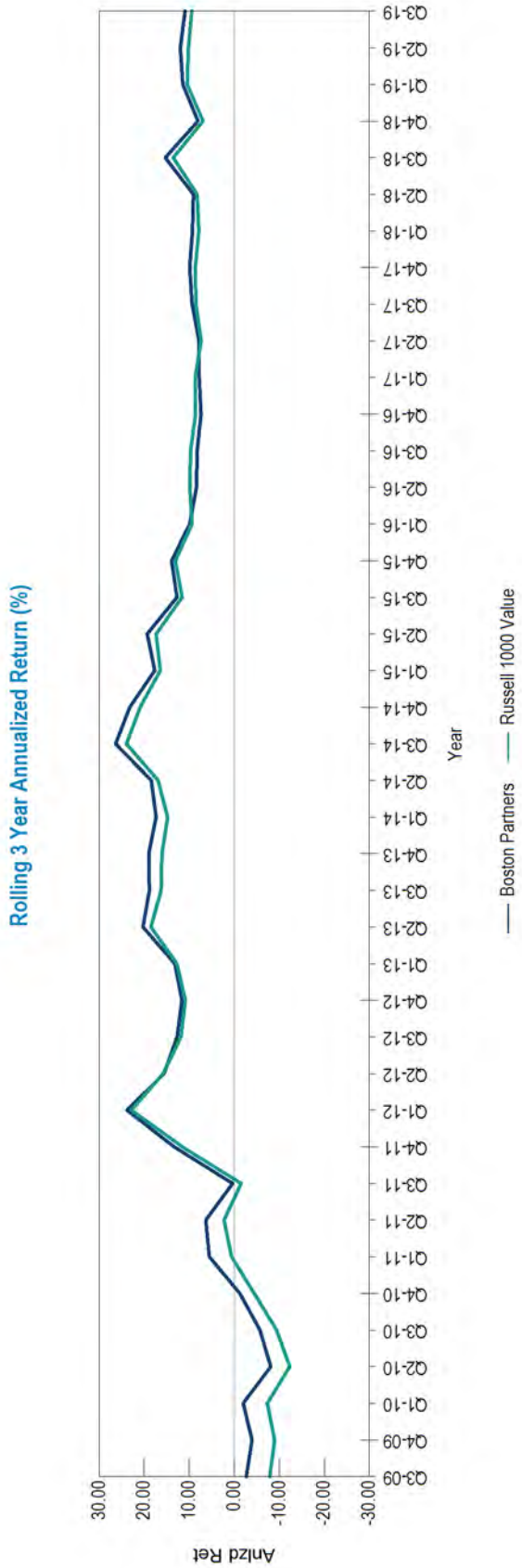
Boston Partners vs. eV US Large Cap Value Equity Gross Universe



Return (Rank)

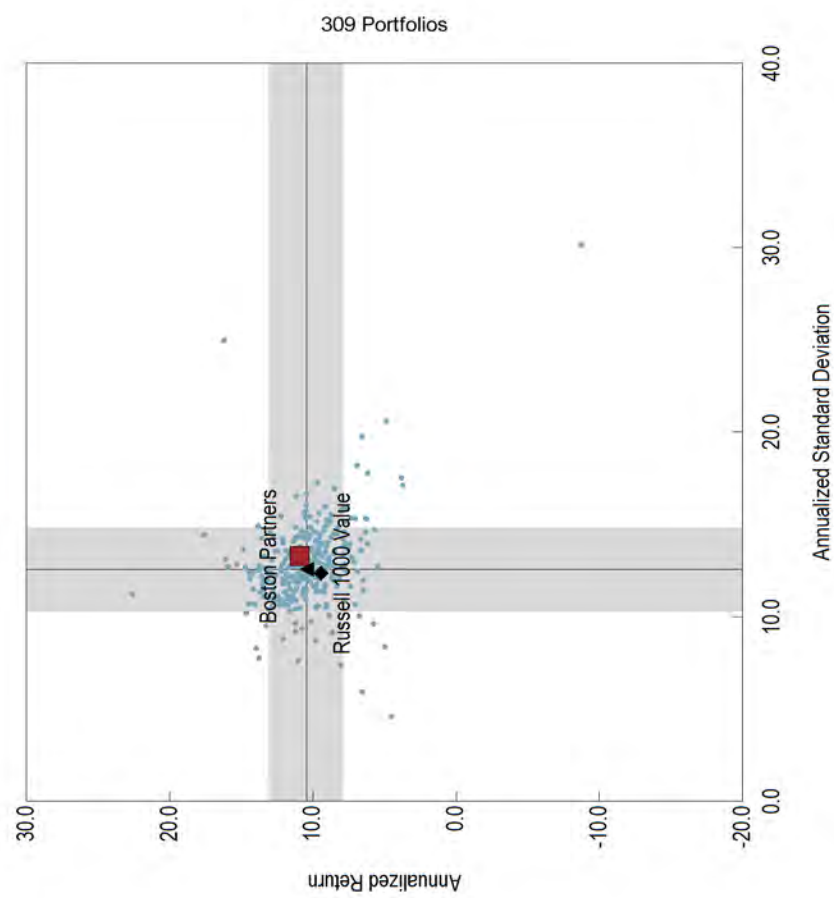
5th Percentile	3.8	11.0	14.1	11.1	13.9	-1.8	24.0	22.1	2.8	16.3
25th Percentile	2.6	5.7	11.8	9.6	12.7	-5.8	19.8	17.4	-0.4	13.9
Median	1.8	2.6	10.5	8.2	11.9	-8.3	17.2	15.0	-2.6	12.2
75th Percentile	0.8	-0.9	9.1	7.0	11.1	-11.1	15.1	11.8	-5.1	10.4
95th Percentile	-0.7	-4.8	6.5	4.6	9.3	-16.1	11.2	7.0	-9.4	5.9
# of Portfolios	314	314	309	304	258	336	342	346	312	307
● Boston Partners	1.7 (51)	-0.9 (75)	10.9 (40)	8.0 (56)	12.0 (47)	-8.7 (55)	20.1 (23)	15.1 (50)	-3.9 (65)	12.0 (55)
▲ Russell 1000 Value	1.4 (62)	4.0 (40)	9.4 (71)	7.8 (64)	11.5 (65)	-8.3 (50)	13.7 (87)	17.3 (26)	-3.8 (64)	13.5 (33)

Boston Partners
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019



Boston Partners
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019

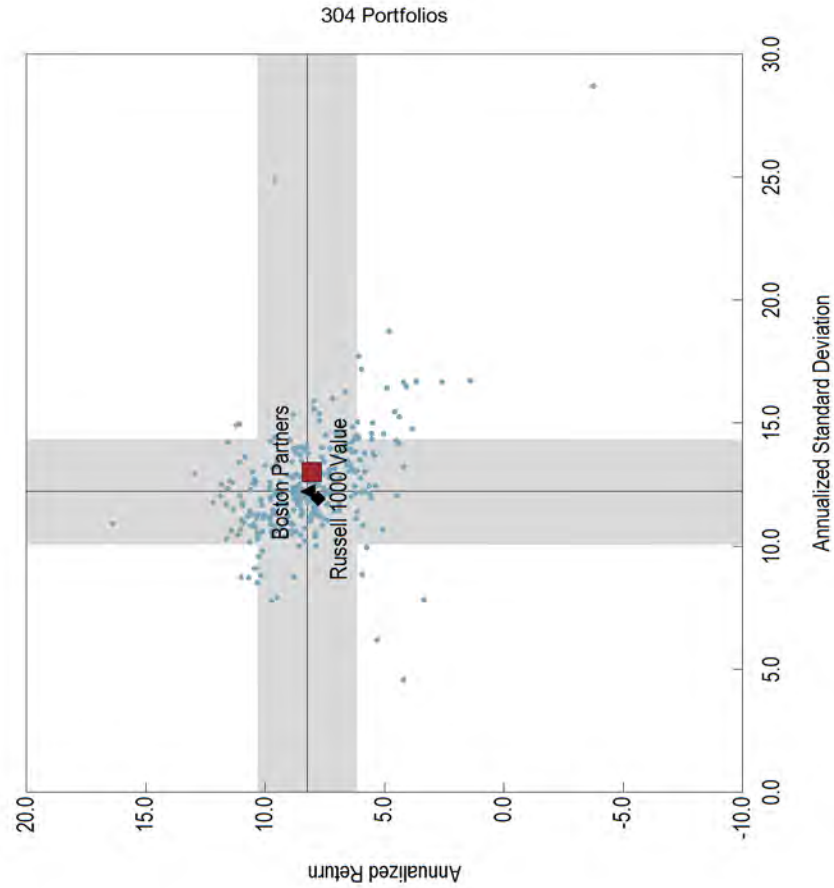
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Boston Partners	10.9%	13.3%	0.7
Russell 1000 Value	9.4%	12.3%	0.6
eV US Large Cap Value Equity Gross Median	10.5%	12.6%	0.7

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Boston Partners	8.0%	13.0%	0.5
Russell 1000 Value	7.8%	11.9%	0.6
eV US Large Cap Value Equity Gross Median	8.2%	12.2%	0.6

Emerald Advisers Manager Portfolio Overview

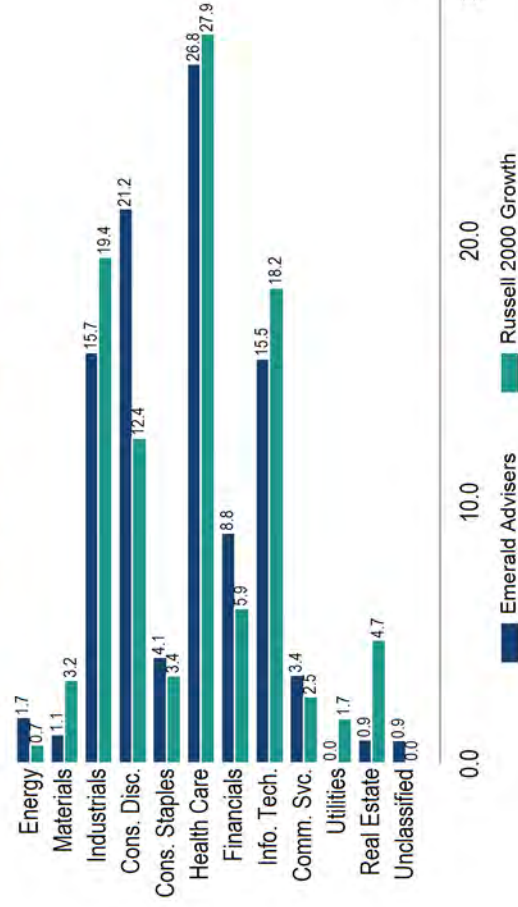
Period Ending: September 30, 2019

Domestic equity small cap growth portfolio of companies with significantly high growth rates. Primary personnel include Kenneth Mertz, Joseph Garner, and Stacey Sears.

Characteristics

	Portfolio	Russell 2000 Growth
Number of Holdings	117	1,144
Weighted Avg. Market Cap. (\$B)	2.74	2.44
Median Market Cap. (\$B)	1.92	0.85
Price To Earnings	26.37	25.60
Price To Book	4.06	4.04
Price To Sales	2.34	1.61
Return on Equity (%)	-9.22	-3.75
Yield (%)	0.51	0.78
Beta	1.13	1.00

Sector Allocation (%) vs Russell 2000 Growth



Largest Holdings

	End Weight	Return	Avg Wgt	Return	Contribution	Avg Wgt	Return	Contribution
TREX	2.50	26.82	0.68	26.82	0.18	0.96	-22.39	-0.21
CHEGG	2.45	-22.39	0.28	37.03	0.11	0.36	-44.61	-0.16
FIVE BELOW	2.08	5.07	0.23	42.36	0.10	0.58	-26.09	-0.15
CHURCHILL DOWNS	2.01	7.29	0.47	20.39	0.10	0.69	-21.52	-0.15
CIENA	1.98	-4.62	0.15	53.97	0.08	0.66	-20.11	-0.13
TETRA TECH	1.97	10.66	0.13	60.60	0.08	0.26	-48.36	-0.13
FRESHPET	1.94	9.36	0.49	15.38	0.08	0.36	-32.68	-0.12
THE SIMPLY GOOD FOODS	1.91	20.39	0.13	60.60	0.08	0.63	-18.76	-0.12
KRATOS DEF&SCTY.SLTN.	1.87	-18.76	0.13	50.51	0.07	0.23	-48.86	-0.11
FORESCOUT TECHNOLOGIES	1.75	11.99	0.60	10.66	0.06	0.22	-47.15	-0.10
			0.46	13.18	0.06			

Top Contributors

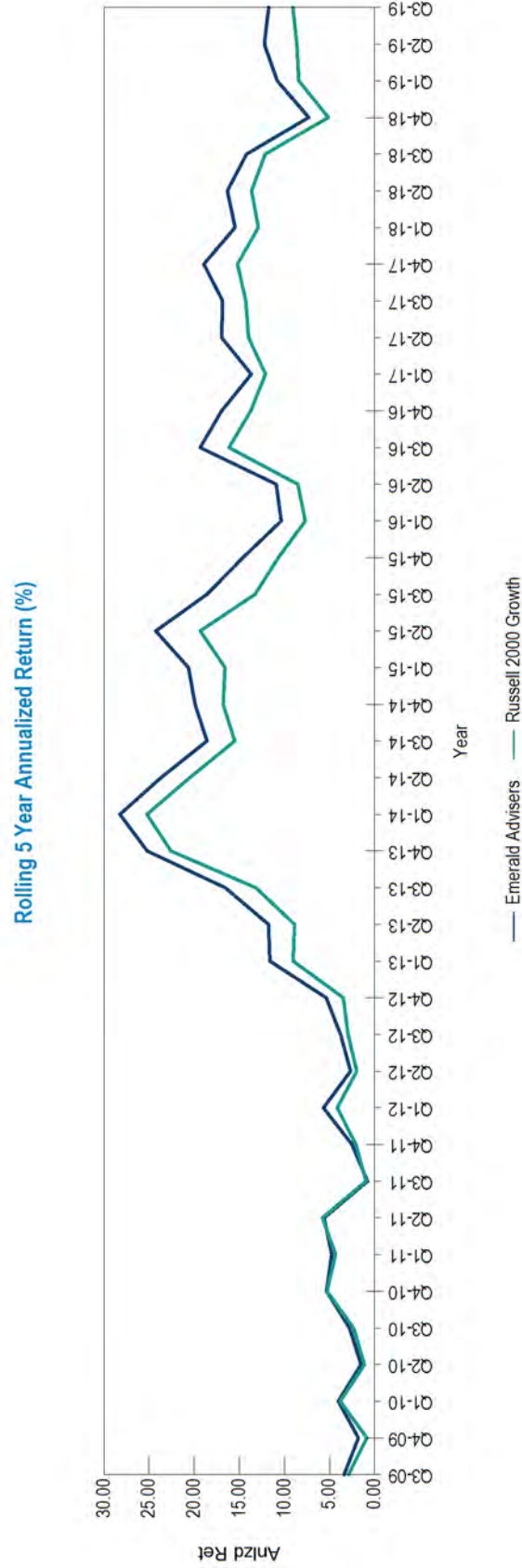
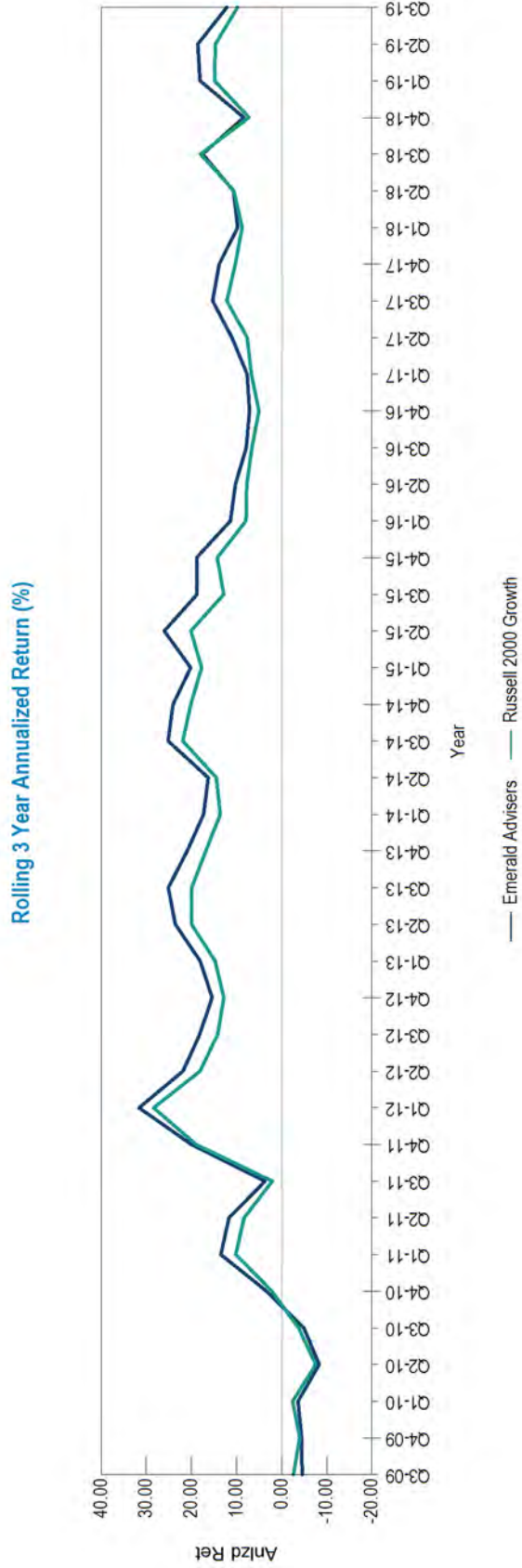
	Avg Wgt	Return	Contribution
TREX	0.68	26.82	0.18
CHEGG	0.28	37.03	0.11
MODEL N	0.23	42.36	0.10
THE SIMPLY GOOD FOODS	0.47	20.39	0.10
NEW FORTRESS ENERGY A	0.15	53.97	0.08
KARYOPHARM THERAPEUTICS	0.13	60.60	0.08
MERCURY SYSTEMS	0.49	15.38	0.08
DECIPHERA PHARMS.	0.13	50.51	0.07
TETRA TECH	0.60	10.66	0.06
HORIZON THERAPEUTICS PUBLIC	0.46	13.18	0.06

Bottom Contributors

	Avg Wgt	Return	Contribution
CHEGG	0.96	-22.39	-0.21
PLURALSIGHT A	0.36	-44.61	-0.16
LENDINGTREE	0.58	-26.09	-0.15
RAPID7	0.69	-21.52	-0.15
PLANET FITNESS CL.A	0.66	-20.11	-0.13
GREEN DOT CLASS A	0.26	-48.36	-0.13
OLLIES BARGAIN OUTLET HLDG.	0.36	-32.68	-0.12
KRATOS DEF&SCTY.SLTN.	0.63	-18.76	-0.12
MERIT MEDICAL SYS.	0.23	-48.86	-0.11
PLAYAGS	0.22	-47.15	-0.10

Unclassified sector allocation includes cash allocations.

**Emerald Advisers
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019**

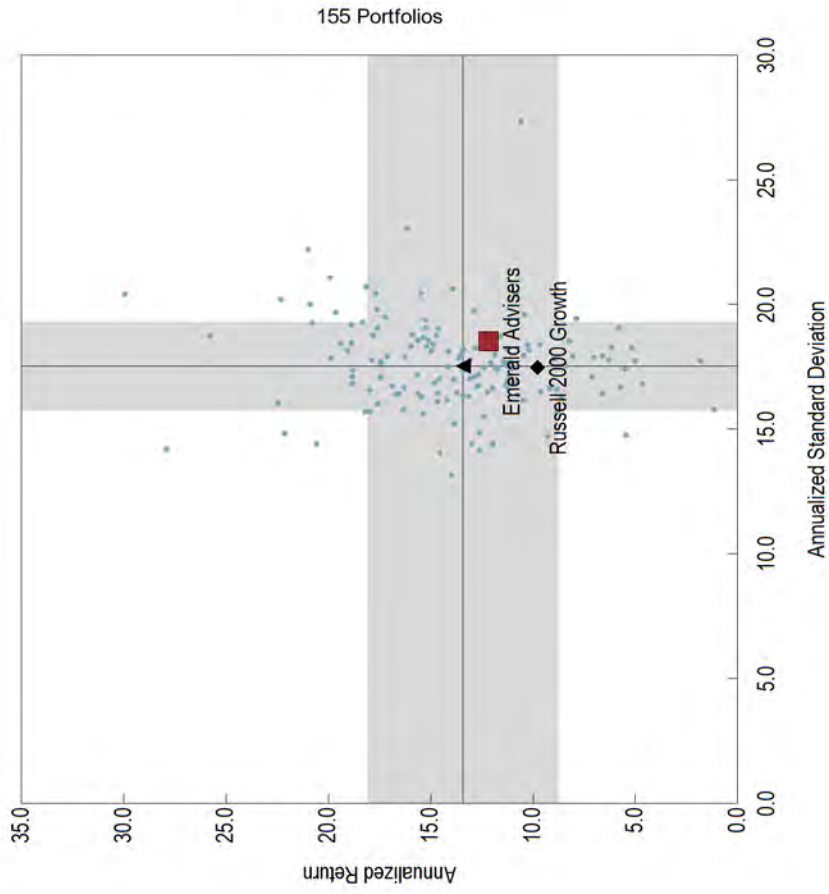


Emerald Advisers

Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2019

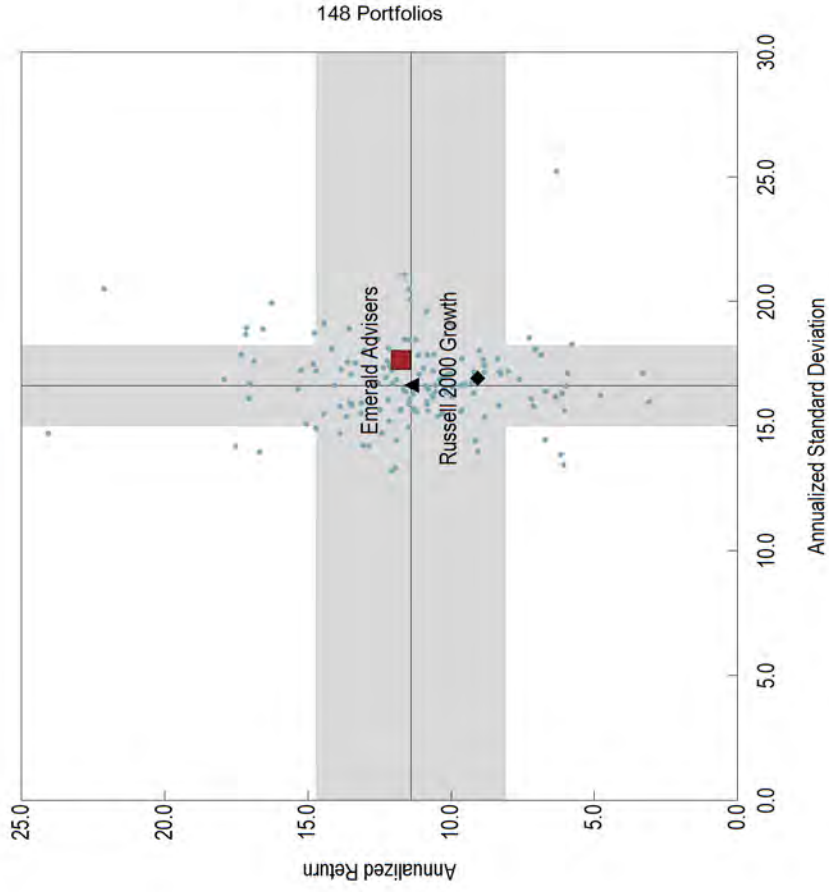
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	12.2%	18.5%	0.6
Russell 2000 Growth	9.8%	17.5%	0.5
eV US Small Cap Growth Equity Gross Median	13.4%	17.5%	0.7

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Emerald Advisers	11.7%	17.7%	0.6
Russell 2000 Growth	9.1%	16.9%	0.5
eV US Small Cap Growth Equity Gross Median	11.4%	16.6%	0.6

Ceredex Manager Portfolio Overview

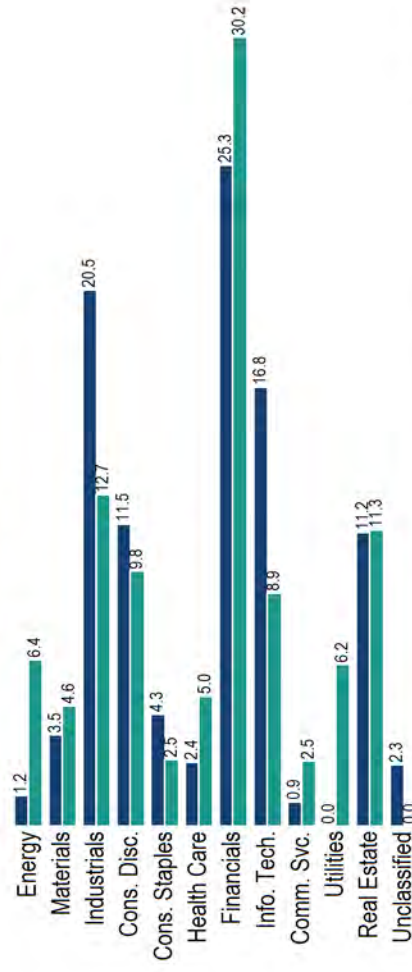
Period Ending: September 30, 2019

Domestic equity small cap value portfolio of companies with dividend yields and low valuations. Primary personnel include Brett Barner and David Maynard.

Characteristics

	Portfolio	Russell 2000 Value
Number of Holdings	82	1,387
Weighted Avg. Market Cap. (\$B)	3.24	1.96
Median Market Cap. (\$B)	2.05	0.62
Price To Earnings	18.25	14.85
Price To Book	2.34	1.62
Price To Sales	1.13	0.92
Return on Equity (%)	14.17	5.44
Yield (%)	2.55	2.21
Beta	0.82	1.00

Sector Allocation (%) vs Russell 2000 Value



Largest Holdings

	End Weight	Return	Avg Wgt	Contribution	Return	Contribution
KEMPER	4.86	-9.36	1.81	0.24	13.00	0.22
POWER INTEGRATIONS	4.71	13.00	0.68	0.19	28.28	-0.15
ENERGIZER HOLDINGS	4.25	13.69	1.18	0.16	13.69	-0.14
FIRST AMER.FINL.	4.01	10.66	1.17	0.11	9.14	-0.09
SLM	3.81	-8.90	0.99	0.09	9.44	-0.08
PHYSICIANS REALTY TST.	3.71	3.14	0.73	0.09	11.71	-0.08
SABRE	3.45	1.49				-0.08
CUBIC	3.28	9.44	0.41	0.08	20.73	-0.07
CHILDRENS PLACE	3.03	-18.69	0.39	0.07	18.79	-0.05
AMER.EAG.OUTFITTERS	2.72	-3.23	0.59	0.06	11.06	-0.04
			0.39	0.06	14.91	-0.04

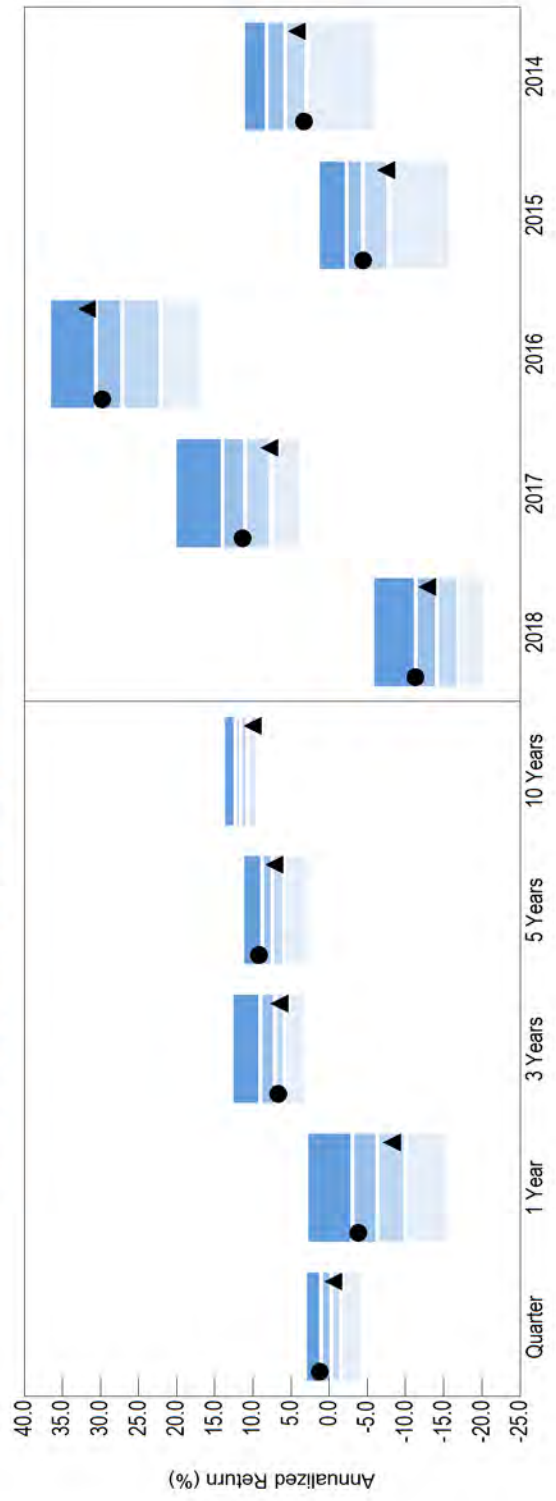
Bottom Contributors

	Avg Wgt	Return	Contribution	Avg Wgt	Return	Contribution
CHILDRENS PLACE	1.15	-18.69	-0.22	1.15	-18.69	-0.22
PHIBRO ANIMAL	0.46	-32.47	-0.15	0.46	-32.47	-0.15
HLTH.CL.A	1.54	-9.36	-0.14	1.54	-9.36	-0.14
KEMPER	0.27	-33.04	-0.09	0.27	-33.04	-0.09
GRANITE CON.	0.88	-8.90	-0.08	0.88	-8.90	-0.08
EVERCORE A	0.31	-24.83	-0.08	0.31	-24.83	-0.08
US SILICA HOLDINGS	1.02	-6.84	-0.07	1.02	-6.84	-0.07
B & G FOODS	0.55	-9.87	-0.05	0.55	-9.87	-0.05
APOGEE ENTERPRISES	0.19	-22.60	-0.04	0.19	-22.60	-0.04
SM ENERGY	0.37	-10.37	-0.04	0.37	-10.37	-0.04
WABASH NATIONAL						

Unclassified sector allocation includes cash allocations.

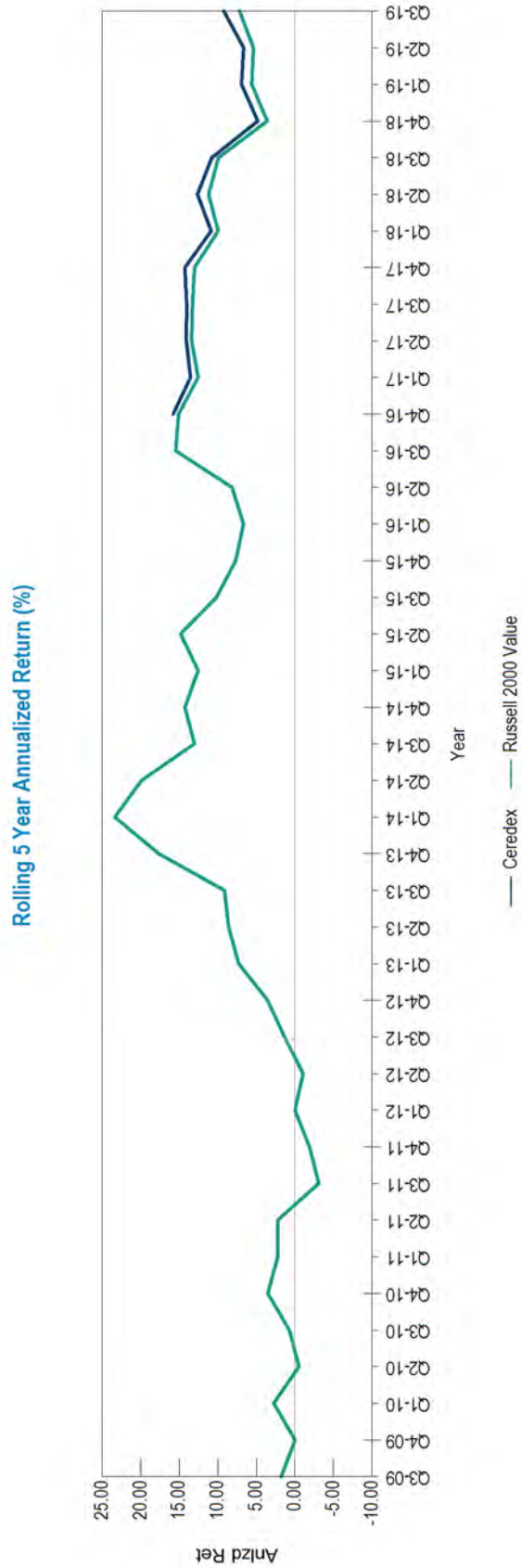
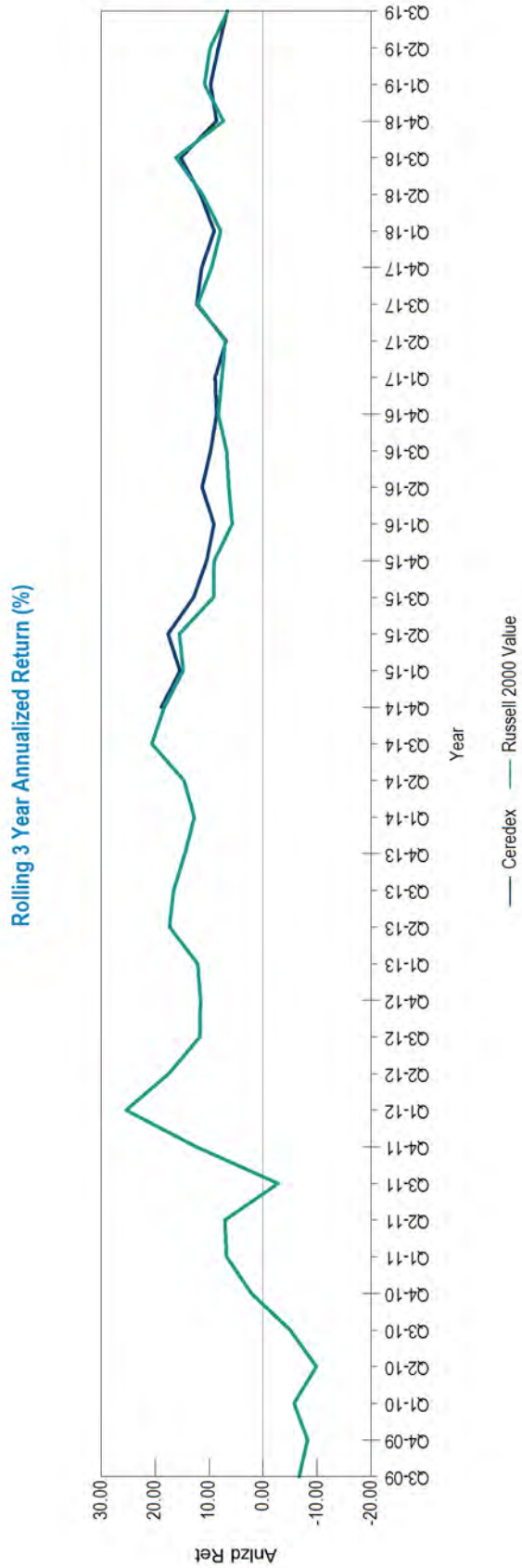
Ceredex
 Manager Performance Comparisons (Gross of Fees) Period Ending: September 30, 2019

Ceredex vs. eV US Small Cap Value Equity Gross Universe



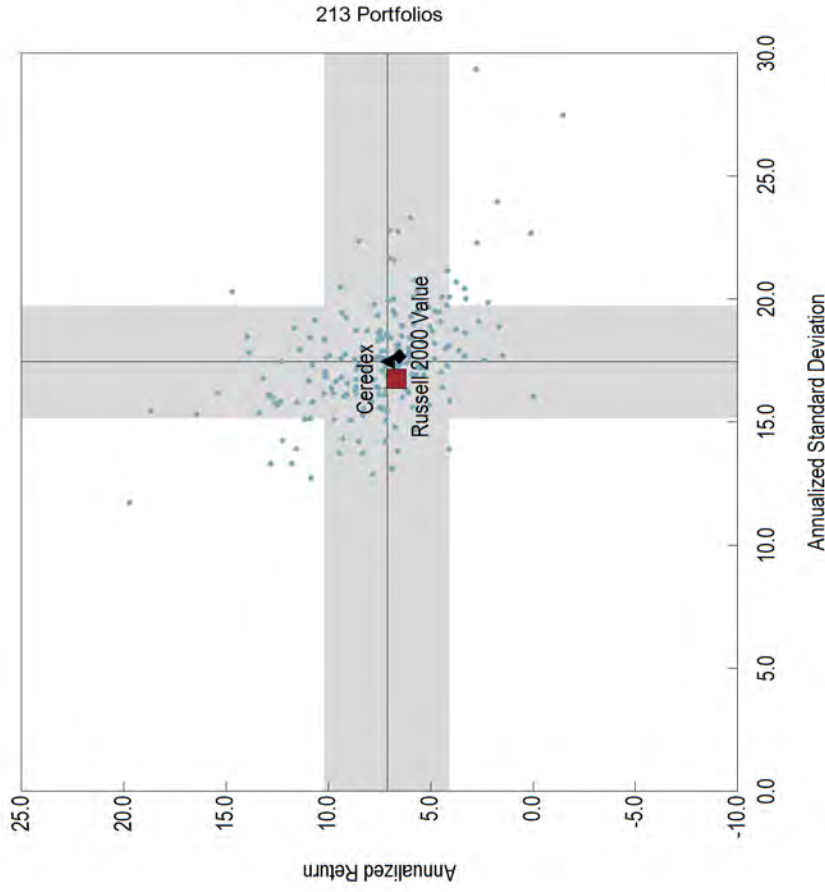
Return (Rank)

5th Percentile	3.1	12.8	11.4	13.9	-5.7	20.2	36.7	1.5	11.2
25th Percentile	1.1	9.1	8.8	12.3	-11.4	14.1	30.7	-2.2	8.2
Median	-0.2	7.1	7.5	11.7	-14.0	11.1	27.2	-4.3	5.8
75th Percentile	-1.5	5.9	5.9	10.8	-16.7	7.8	22.2	-7.7	3.1
95th Percentile	-4.3	3.1	2.6	9.4	-20.2	3.7	16.8	-15.8	-6.3
# of Portfolios	217	213	204	181	220	224	222	212	206
● Ceredex	1.2 (24)	6.7 (60)	9.2 (21)	--	-11.3 (25)	11.4 (48)	29.8 (32)	-4.4 (52)	3.3 (74)
▲ Russell 2000 Value	-0.6 (59)	6.5 (65)	7.2 (57)	10.1 (87)	-12.9 (39)	7.8 (75)	31.7 (17)	-7.5 (74)	4.2 (68)

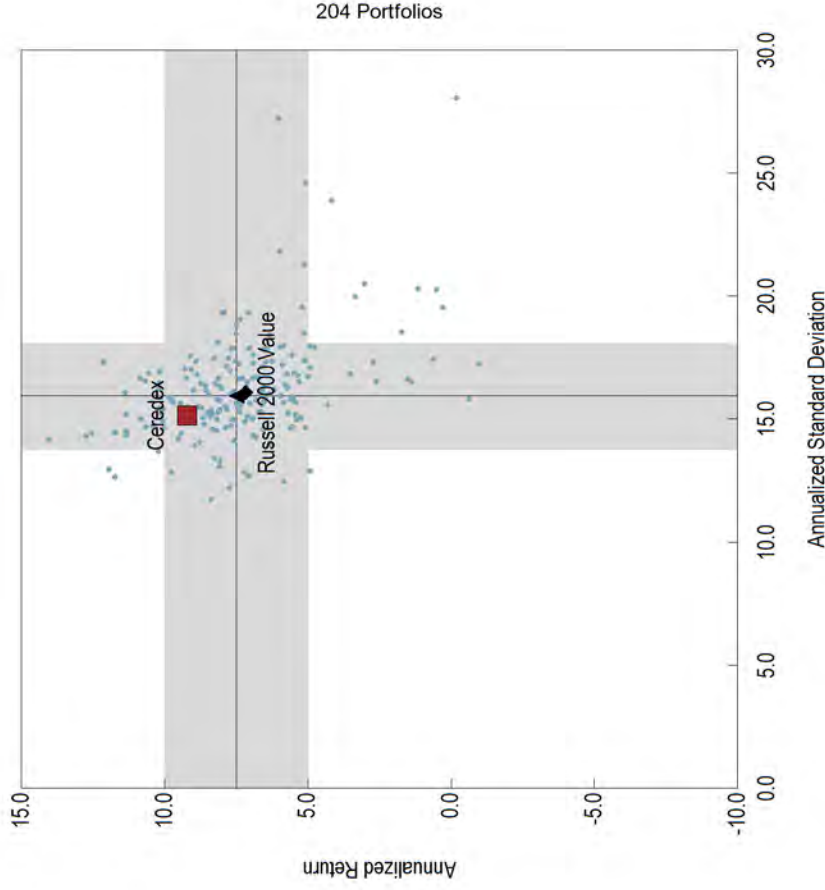


3 Years

5 Years



213 Portfolios



204 Portfolios

3 Years

5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Ceredex	6.7%	16.8%	0.3
Russell 2000 Value	6.5%	17.7%	0.3
eV US Small Cap Value Equity Gross Median	7.1%	17.5%	0.3

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Ceredex	9.2%	15.2%	0.5
Russell 2000 Value	7.2%	16.1%	0.4
eV US Small Cap Value Equity Gross Median	7.5%	15.9%	0.4

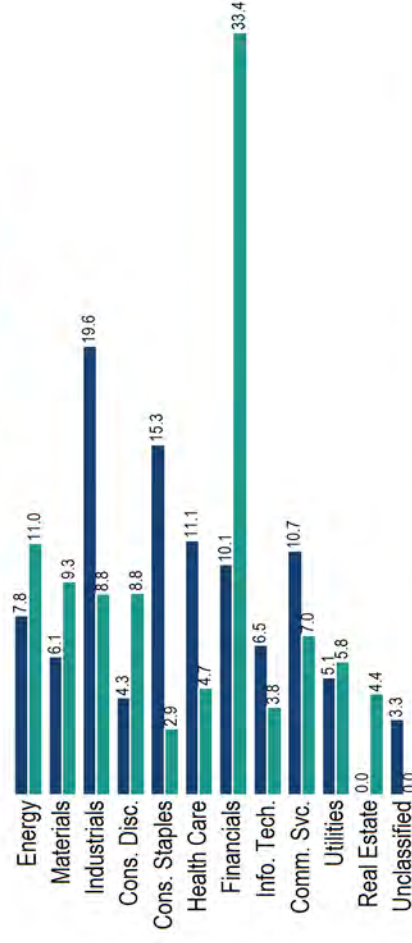
International Equity Managers

International equity value portfolio of non-US companies with low valuations at the country and stock level. Primary personnel include Tony Cousins, Daniel McDonagh, and Paul Simons.

Characteristics

	Portfolio	MSCI ACWI ex USA Value
Number of Holdings	73	1,315
Weighted Avg. Market Cap. (\$B)	64.95	48.64
Median Market Cap. (\$B)	23.02	6.70
Price To Earnings	17.00	11.53
Price To Book	2.40	1.63
Price To Sales	1.52	0.86
Return on Equity (%)	18.15	11.48
Yield (%)	3.81	4.61
Beta	0.86	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Value



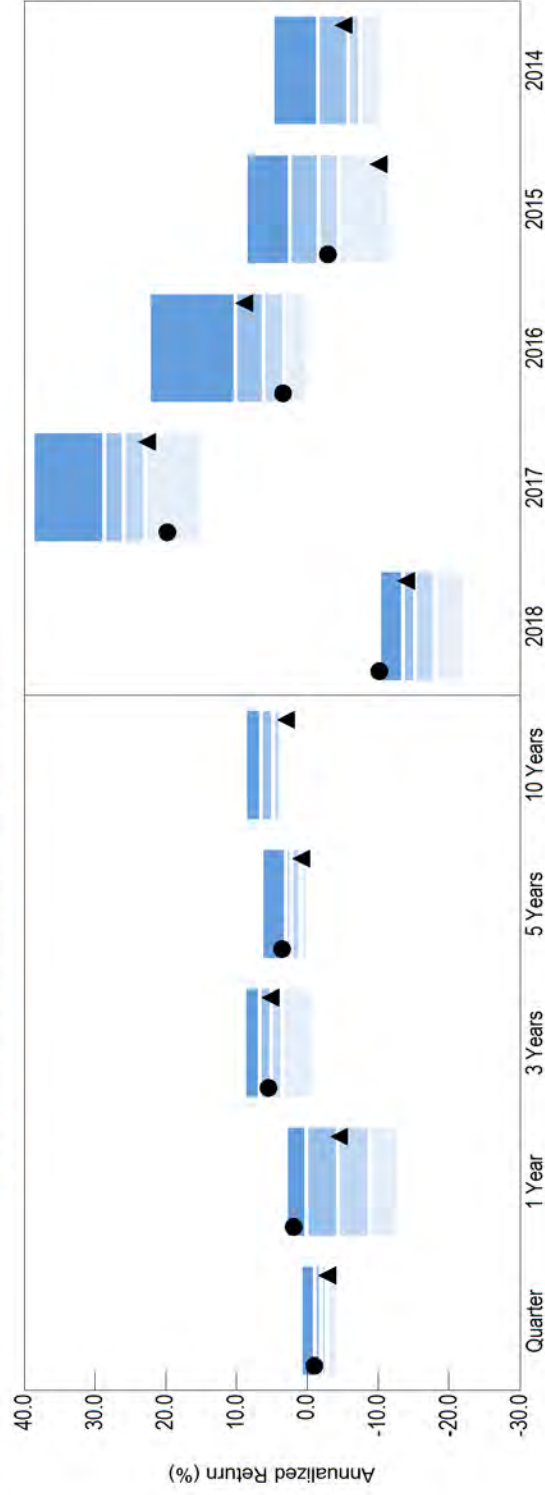
Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	90.0%	73.2%
Emerging*	6.7%	26.8%
Top 10 Largest Countries		
Switzerland	14.2%	3.2%
United Kingdom	13.2%	14.6%
Japan	11.5%	16.9%
Australia	10.9%	4.9%
France	9.3%	6.9%
Germany	9.0%	5.7%
Hong Kong	4.8%	2.5%
Netherlands	4.8%	0.8%
Singapore	4.6%	0.9%
Taiwan*	4.0%	3.0%
Total-Top 10 Largest Countries	86.2%	59.3%

	Pyrford	MSCI ACWI ex USA Value
Top Contributors		
VODAFONE GROUP	Avg Wgt 1.14	Return 21.29
WOOLWORTHS GROUP	2.28	9.50
NESTLE 'R'	3.77	4.76
TAIWAN SEMICON.MNFG.	1.18	14.80
ZURICH INSURANCE GROUP	1.51	9.89
KONINKLIJKE VOPAK	1.31	11.34
SSE	0.88	14.27
NIHON KOHDEN	1.38	9.05
GLAXOSMITHKLINE	1.41	8.36
SANOFI	1.55	7.27
Bottom Contributors		
BRAMBLES	2.20	-13.83
SAP	1.73	-14.09
WOODSIDE PETROLEUM	1.71	-12.94
SAMPO 'A'	1.39	-14.59
AXIATA GROUP	1.17	-14.78
SINGAPORE TELECOM	1.49	-10.54
NOVARTIS 'R'	3.03	-5.14
AIA GROUP	1.19	-12.04
COMFORTDELGRO CORPORATION	1.40	-10.13
LEGAL & GENERAL	1.44	-8.77
CONTRIBUTION		
VODAFONE GROUP	0.24	-0.30
WOOLWORTHS GROUP	0.22	-0.24
NESTLE 'R'	0.18	-0.22
TAIWAN SEMICON.MNFG.	0.18	-0.20
ZURICH INSURANCE GROUP	0.15	-0.17
KONINKLIJKE VOPAK	0.15	-0.16
SSE	0.13	-0.14
NIHON KOHDEN	0.13	-0.14
GLAXOSMITHKLINE	0.12	-0.14
SANOFI	0.11	-0.13

Unclassified sector allocation includes cash allocations.

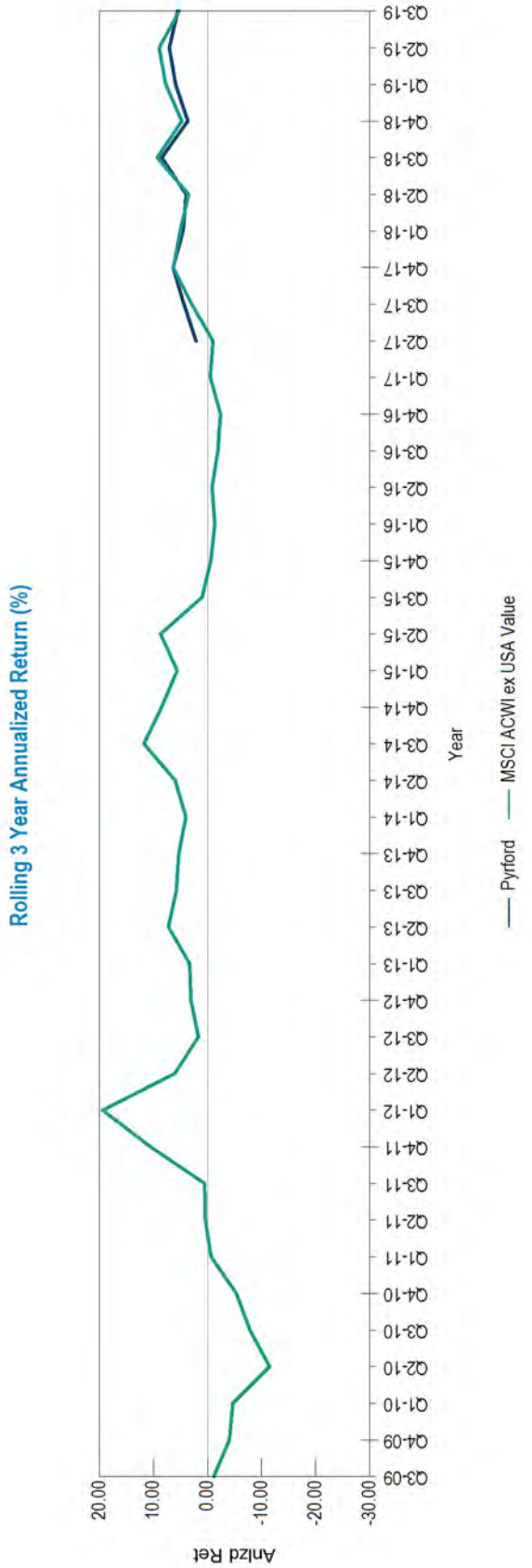
Pyrford vs. eV ACWI ex-US Value Equity Gross Universe



Return (Rank)

5th Percentile	0.9	3.0	8.9	6.4	8.8	-10.2	38.8	22.3	8.7	4.9
25th Percentile	-1.0	0.2	6.8	3.1	6.6	-13.4	28.8	10.2	2.5	-1.4
Median	-1.9	-4.2	5.1	2.4	4.9	-15.2	26.0	6.2	-1.6	-5.7
75th Percentile	-2.7	-8.7	3.6	1.0	3.8	-17.9	23.0	3.3	-4.3	-7.4
95th Percentile	-4.3	-13.0	-0.8	-0.1	3.2	-21.9	15.0	-0.1	-11.6	-10.4
# of Portfolios	55	55	52	46	28	54	56	55	45	37
● Pyrford	-1.0 (25)	1.9 (6)	5.5 (41)	3.6 (20)	-- (-)	-10.1 (5)	19.8 (84)	3.4 (74)	-2.9 (59)	-- (-)
▲ MSCI ACWI ex USA Value	-2.8 (79)	-4.5 (53)	5.2 (47)	0.9 (78)	3.1 (97)	-14.0 (32)	22.7 (77)	8.9 (35)	-10.1 (93)	-5.1 (49)

Pyrford
 Manager Performance - Rolling 3 Year (Gross of Fees) Period Ending: September 30, 2019

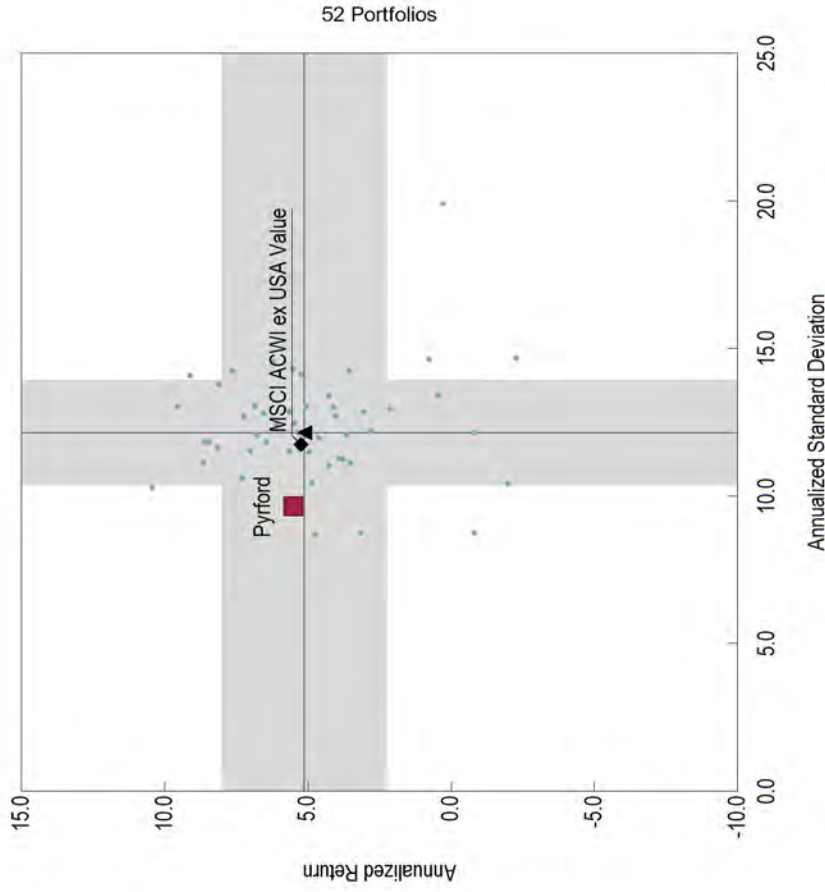


Pyrford

Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2019

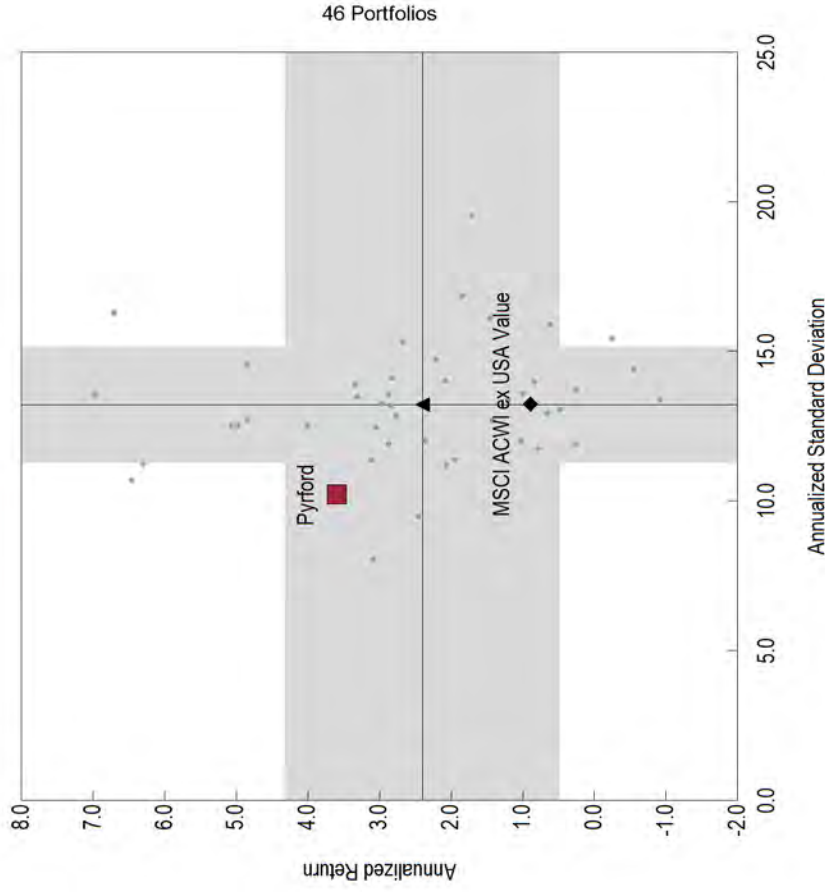
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	5.5%	9.6%	0.4
MSCI ACWI ex USA Value	5.2%	11.7%	0.3
eV ACWI ex-US Value Equity Gross Median	5.1%	12.1%	0.3

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Pyrford	3.6%	10.2%	0.3
MSCI ACWI ex USA Value	0.9%	13.2%	0.0
eV ACWI ex-US Value Equity Gross Median	2.4%	13.2%	0.1

William Blair Manager Portfolio Overview

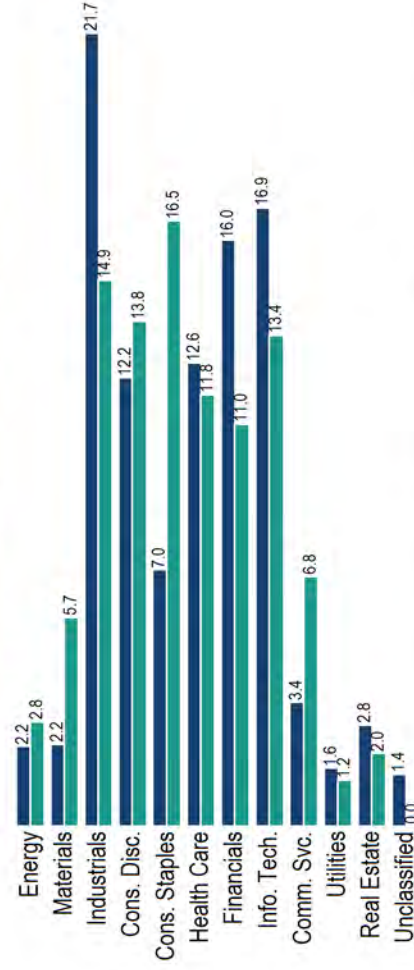
Period Ending: September 30, 2019

International equity growth portfolio of non-US companies with high growth rates constructed from the security level. Primary personnel include Simon Fennell and Jeffrey Urbina.

Characteristics

	Portfolio	MSCI ACWI ex USA Growth
Number of Holdings	199	1,151
Weighted Avg. Market Cap. (\$B)	61.44	78.40
Median Market Cap. (\$B)	10.35	7.70
Price To Earnings	25.26	20.79
Price To Book	4.35	3.14
Price To Sales	2.52	1.76
Return on Equity (%)	22.28	18.76
Yield (%)	1.58	2.01
Beta	1.09	1.00

Sector Allocation (%) vs MSCI ACWI ex USA Growth



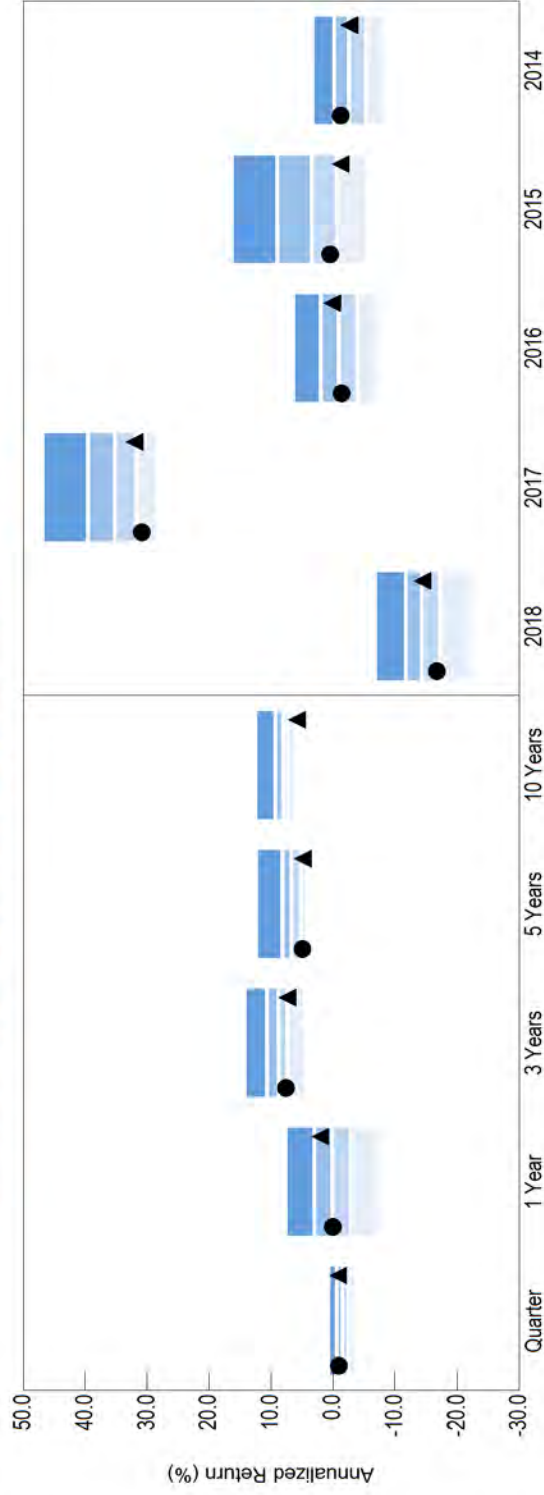
Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals	82.7%	74.0%
Developed	16.0%	26.0%
Top 10 Largest Countries	13.7%	7.3%
United Kingdom	11.5%	16.3%
Japan	10.9%	8.1%
France	6.6%	9.0%
Switzerland	6.0%	8.5%
China*	5.5%	2.5%
Hong Kong	5.2%	4.0%
Netherlands	5.1%	6.8%
Canada	4.8%	5.7%
Germany	4.6%	2.1%
Denmark	4.6%	2.1%
Total-Top 10 Largest Countries	74.0%	70.3%

	Top Contributors			Bottom Contributors		
	Avg Wgt	Return	Contribution	Avg Wgt	Return	Contribution
TAIWAN	1.33	19.51	0.26	AIA GROUP	1.96	-12.04
SEMICON.SP.N.ADR 1:5				SAP	1.48	-14.09
LONDON STOCK EX.GROUP	0.75	29.36	0.22	TENCENT HOLDINGS	2.05	-6.67
ASML HOLDING	1.19	18.40	0.22	AIRBUS	1.61	-8.47
BROOKFIELD ASSET MAN.'A' (NYS)	1.22	11.46	0.14	KERING	0.97	-13.94
COMPASS GROUP	1.61	7.40	0.12	SIKA	0.92	-14.31
MTU AERO ENGINES HLDG.	1.03	11.35	0.12	AMADEUS IT GROUP	1.29	-9.00
SMC	0.66	14.41	0.10	ROYAL DUTCH SHELL A	1.28	-8.77
SAFRAN	1.28	7.32	0.09	QIAGEN	0.57	-18.69
LINING	0.42	21.73	0.09	LVMH	1.44	-6.74
KWEICHOW MOUTAI 'A'	0.65	12.45	0.08			

Unclassified sector allocation includes cash allocations.

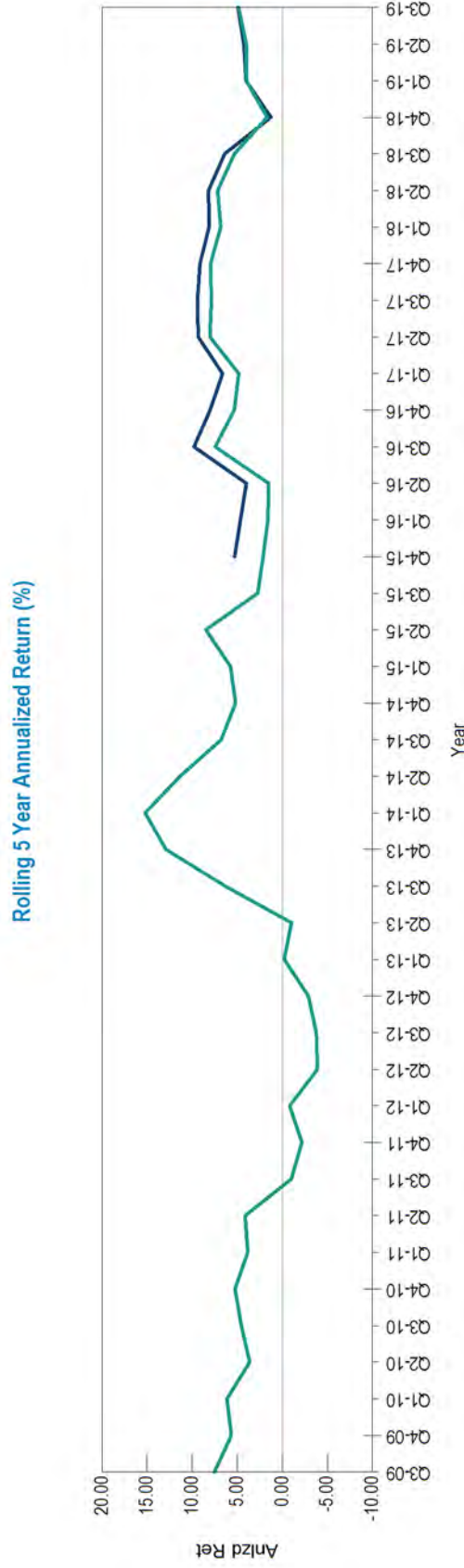
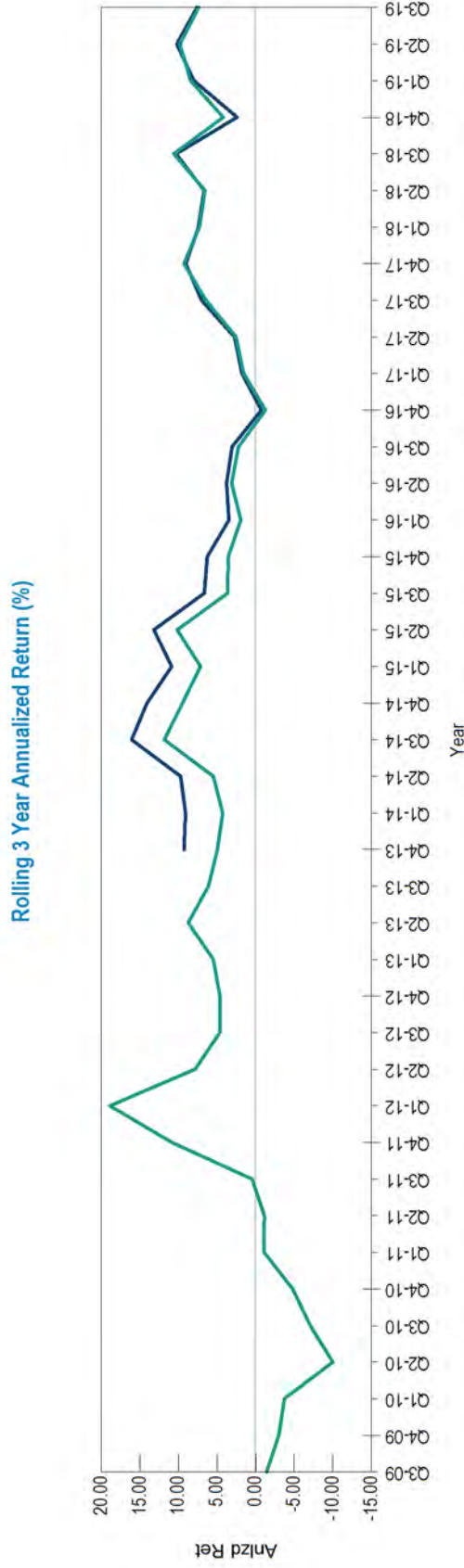
William Blair vs. eV ACWI ex-US Growth Equity Gross Universe



Return (Rank)

5th Percentile	0.6	14.2	12.3	12.4	46.8	6.3	16.3	3.2
25th Percentile	-0.6	10.7	8.2	9.4	39.6	2.0	9.0	-0.1
Median	-1.5	8.8	6.8	8.1	35.3	-0.9	3.5	-2.5
75th Percentile	-2.4	7.4	5.2	7.4	31.8	-3.9	-0.5	-5.3
95th Percentile	-3.5	4.6	4.3	6.1	28.3	-7.4	-5.4	-8.2
# of Portfolios	89	86	77	54	94	90	70	50
● William Blair	-1.0 (32)	7.6 (67)	4.9 (84)	-- (-)	30.9 (81)	-1.4 (55)	0.5 (69)	-1.2 (37)
▲ MSCI ACWI ex USA Growth	-0.8 (30)	7.4 (75)	4.9 (86)	5.8 (99)	32.0 (75)	0.1 (45)	-1.3 (83)	-2.6 (53)

William Blair
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019



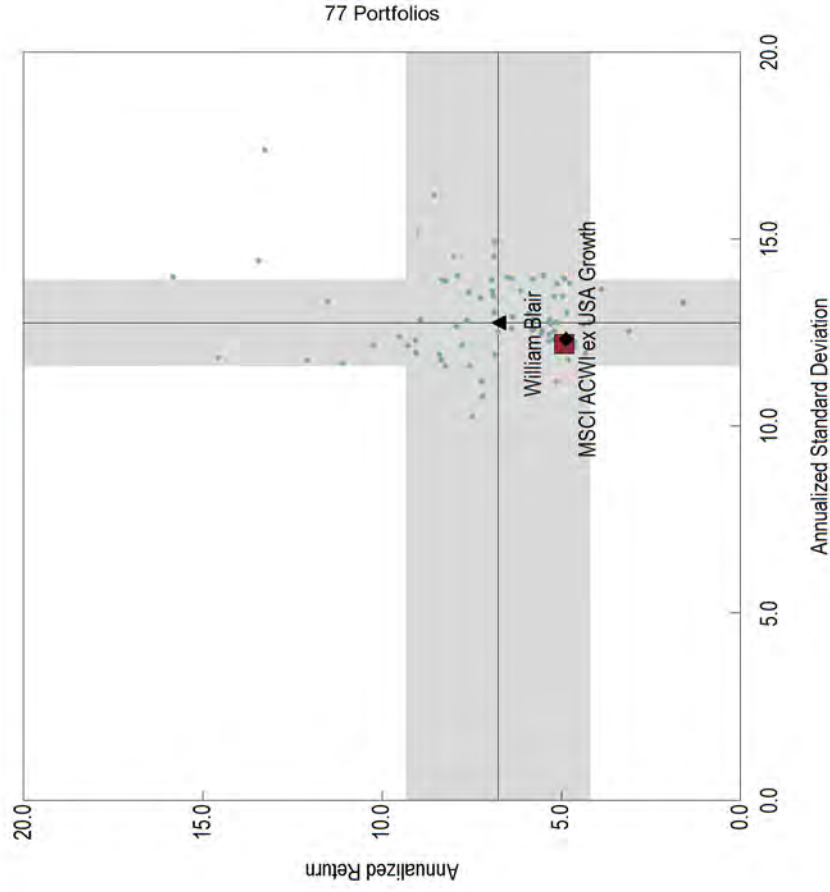
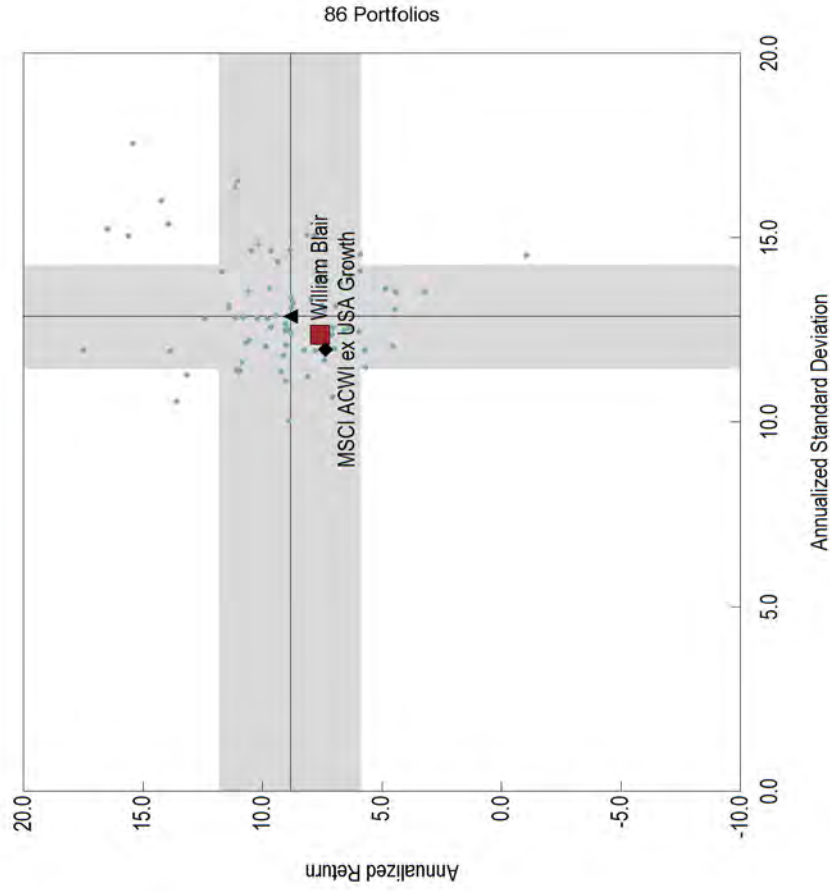
William Blair

Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2019

3 Years

5 Years



3 Years

5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	7.6%	12.4%	0.5
MSCI ACWI ex USA Growth	7.4%	12.0%	0.5
eV ACWI ex-US Growth Equity Gross Median	8.8%	12.9%	0.6

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
William Blair	4.9%	12.2%	0.3
MSCI ACWI ex USA Growth	4.9%	12.3%	0.3
eV ACWI ex-US Growth Equity Gross Median	6.8%	12.8%	0.4

PIMCO RAE Emerging Markets Manager Portfolio Overview

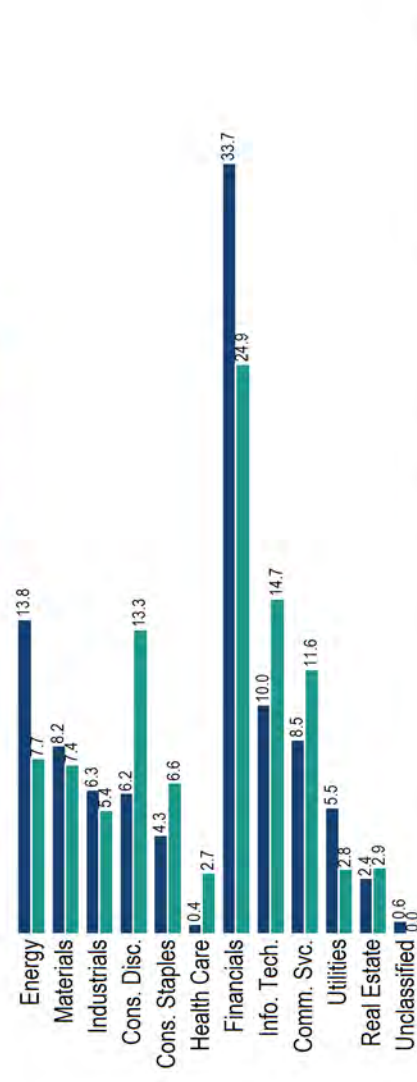
Period Ending: September 30, 2019

The PIMCO RAE Emerging Markets seeks to invest 80% of its assets in investments that are economically tied to emerging market countries. The portfolio is sub-advised by Research Affiliates, LLC.

Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	627	1,194
Weighted Avg. Market Cap. (\$B)	35.70	80.18
Median Market Cap. (\$B)	3.47	5.31
Price To Earnings	8.24	13.55
Price To Book	1.66	2.42
Price To Sales	0.52	1.26
Return on Equity (%)	10.90	16.77
Yield (%)	4.37	3.10
Beta		1.00

Sector Allocation (%) vs MSCI Emerging Markets



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	8.0%	0.0%
Emerging*	91.4%	100.0%
Top 10 Largest Countries		
China*	17.2%	32.7%
Korea*	16.7%	12.0%
Russia*	11.6%	4.0%
Taiwan*	10.3%	11.2%
Brazil*	8.7%	7.5%
Hong Kong	7.5%	0.0%
India*	5.6%	8.3%
Turkey*	4.7%	0.6%
South Africa*	4.7%	5.2%
Mexico*	2.7%	2.4%
Total-Top 10 Largest Countries	89.7%	83.9%

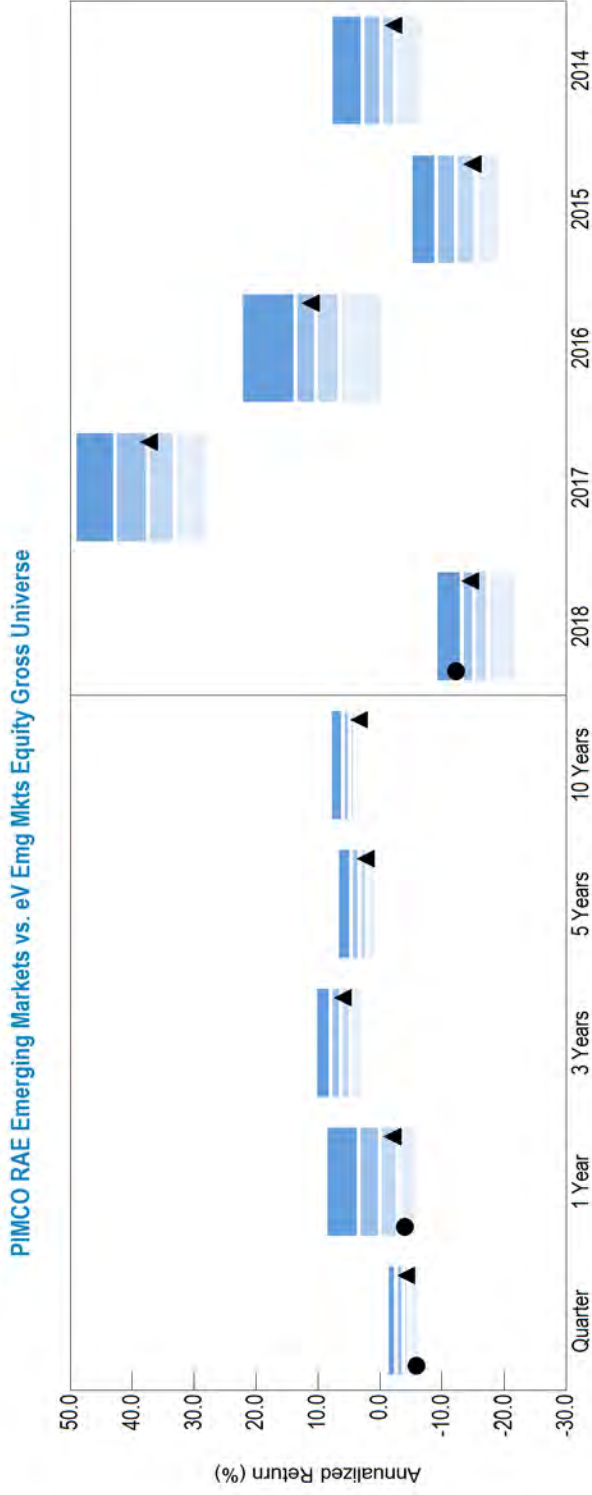
Country Allocation

	PIMCO RAE Emerging Markets	MSCI Emerging Markets	
Top Contributors			
	End Weight	Return	Contribution
SURGUTNEFTGAS PUBLIC JOINT ADR 1:10	0.92	33.76	0.31
JBS ON	0.67	42.18	0.28
TAIWAN SEMICON.SPN.ADR 1:5	0.83	19.51	0.16
AKBANK	0.44	22.32	0.10
MARFRIG FRIGORIFICOS ON	0.15	61.20	0.09
HACI OMER SABANCI HLDG.	0.58	14.12	0.08
TKI.VAKIFLAR BANKASI	0.28	26.64	0.07
TURKIYE HALK BANKASI	0.42	17.07	0.07
PJSC GAZPROM ADR CDI 1:2	5.09	1.41	0.07
TKI.GARANTI.BKSI.	0.47	14.93	0.07
Bottom Contributors			
	End Weight	Return	Contribution
CHINA CON.BANK 'H'	3.58	-6.64	-0.24
INDL.&COML.BOC.'H'	2.25	-8.21	-0.18
BANCO DO BRASIL ON	0.71	-21.28	-0.15
TATA MOTORS	0.50	-29.62	-0.15
SASOL	0.44	-32.80	-0.15
BANK OF CHINA 'H'	2.03	-6.99	-0.14
BNC.BRADESCO PF.SPN.ADR 1:1	0.82	-16.54	-0.14
MTN GROUP	0.81	-14.49	-0.12
LG DISPLAY	0.48	-23.48	-0.11
CHINA MOBILE	1.27	-7.04	-0.09

Unclassified sector allocation includes cash allocations.

PIMCO RAE Emerging Markets
 Manager Performance Comparisons (Gross of Fees)

Period Ending: September 30, 2019



	Quarter	1 Year	3 Years	5 Years	10 Years	2014	2015	2016	2017	2018
Return (Rank)										
5th Percentile	-1.2	8.7	10.4	6.9	8.0	-9.0	-5.0	22.4	49.2	-9.0
25th Percentile	-2.5	3.4	8.0	4.7	6.1	-13.2	-9.0	13.7	42.8	-13.2
Median	-3.8	0.0	6.3	3.4	4.9	-15.2	-12.2	10.4	37.6	-15.2
75th Percentile	-4.6	-2.8	4.8	2.2	4.0	-17.4	-15.3	6.6	33.2	-17.4
95th Percentile	-6.3	-5.9	2.7	0.6	3.2	-21.8	-19.2	-0.6	27.8	-21.8
# of Portfolios	360	359	336	296	142	355	337	337	343	355
● PIMCO RAE Emerging Markets	-5.9 (93)	-4.0 (86)	-- (-)	-- (-)	-- (-)	-12.3 (19)	-- (-)	-- (-)	-- (-)	-12.3 (19)
▲ MSCI Emerging Markets	-4.2 (62)	-2.0 (69)	6.0 (56)	2.3 (71)	3.4 (92)	-14.6 (43)	-14.9 (70)	11.2 (45)	37.3 (53)	-14.6 (43)

TT Emerging Markets Manager Portfolio Overview

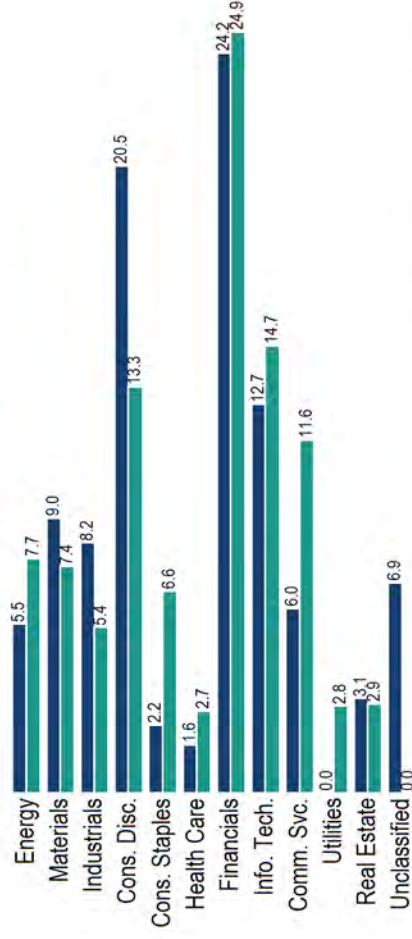
Period Ending: September 30, 2019

The Emerging Markets Unconstrained strategy aims to outperform its benchmark, MSCI Emerging Markets Index by 5% per annum over a three-year rolling period. It targets high returns and long term capital growth by investing in a focused portfolio of primarily equity and equity-related securities traded in the Emerging Markets.

Characteristics

	Portfolio	MSCI Emerging Markets
Number of Holdings	71	1,194
Weighted Avg. Market Cap. (\$B)	67.55	80.18
Median Market Cap. (\$B)	9.53	5.31
Price To Earnings	13.06	13.55
Price To Book	2.30	2.42
Price To Sales	1.21	1.26
Return on Equity (%)	16.23	16.77
Yield (%)	2.29	3.10
Beta		1.00

Sector Allocation (%) vs MSCI Emerging Markets



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	23.5%	0.0%
Emerging*	73.9%	100.0%
Frontier**	0.8%	0.0%
Top 10 Largest Countries		
China*	15.4%	32.7%
India*	14.7%	8.3%
Korea*	13.2%	12.0%
Brazil*	10.9%	7.5%
Hong Kong	8.8%	0.0%
Netherlands	5.4%	0.0%
Russia*	5.4%	4.0%
Taiwan*	4.3%	11.2%
South Africa*	3.8%	5.2%
United Kingdom	3.3%	0.0%
Total-Top 10 Largest Countries	85.3%	80.9%

Unclassified sector allocation includes cash allocations.

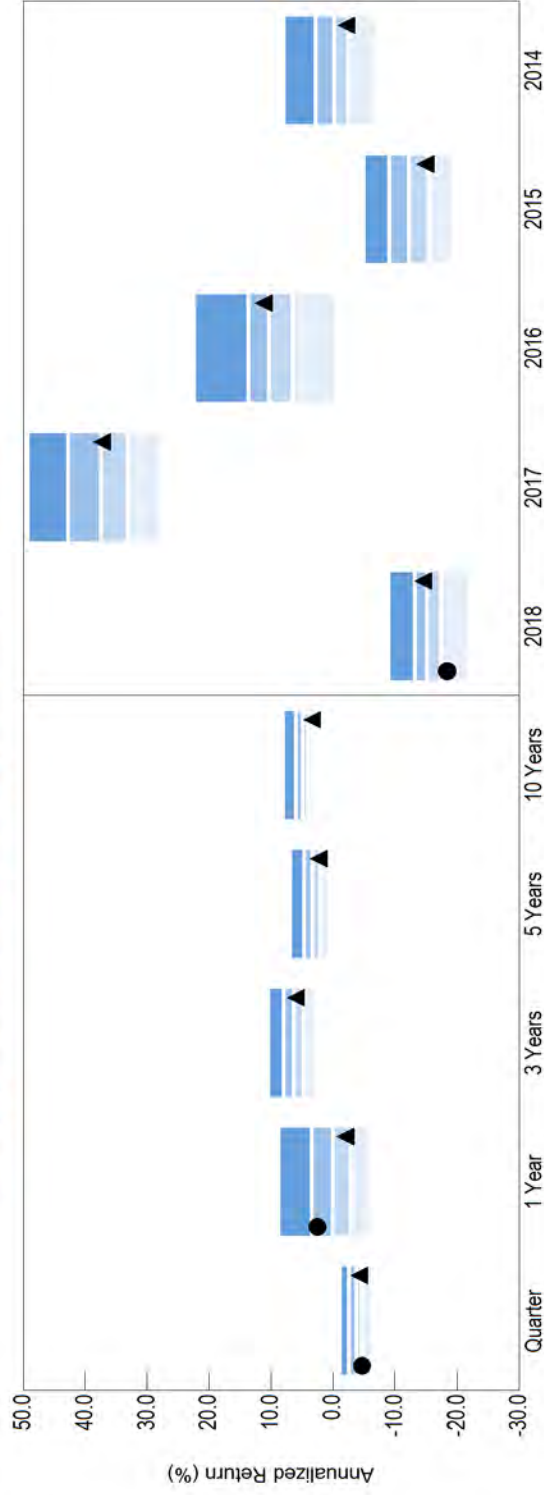
Top Contributors

	End Weight	Return	Contribution
PUBLIC JOINT STOCK POLYUS GDR	1.37	24.89	0.34
LARGAN PRECISION	1.75	17.62	0.31
ESTACIO PARTICIPACOES ON	1.13	14.47	0.16
WONIK IPS	0.86	16.48	0.14
PHOENIX MILLS	1.61	7.32	0.12
IRB BRASIL RESSEGUROS ON	1.95	5.54	0.11
MEDICLINIC INTERNATIONAL	1.57	5.18	0.08
PARADE TECHNOLOGIES	0.61	4.73	0.03
EMBASSY OFFICE PARKS REIT UNITS	0.34	8.03	0.03
LUKOIL OAO SPN.ADR 1:1	1.70	1.34	0.02

Bottom Contributors

	End Weight	Return	Contribution
BANCO DO BRASIL ON	1.92	-21.28	-0.41
TRIP COM GROUP ADR 8:1	1.62	-20.64	-0.33
NASPERS	3.83	-8.20	-0.31
VALE ON ADR 1:1	2.12	-14.43	-0.31
FUTURE RETAIL	1.26	-23.52	-0.30
LG	2.40	-12.13	-0.29
PRUDENTIAL	1.74	-15.78	-0.28
CHINA EVERBRIGHT (HSC) INTERNATIONAL	1.69	-14.24	-0.24
LOMA NEGRA SPN.ADR 1:5	0.46	-50.85	-0.23
OCI	1.62	-14.10	-0.23

TT Emerging Markets vs. eV Emg Mkts Equity Gross Universe



Return (Rank)

5th Percentile	-1.2	10.4	6.9	8.0	49.2	22.4	-5.0	8.0
25th Percentile	-2.5	8.0	4.7	6.1	42.8	13.7	-9.0	2.9
Median	-3.8	6.3	3.4	4.9	37.6	10.4	-12.2	-0.1
75th Percentile	-4.6	4.8	2.2	4.0	33.2	6.6	-15.3	-2.4
95th Percentile	-6.3	2.7	0.6	3.2	27.8	-0.6	-19.2	-7.0
# of Portfolios	360	336	296	142	343	337	273	251
● TT Emerging Markets	-4.7 (77)	2.5 (31)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)
▲ MSCI Emerging Markets	-4.2 (62)	6.0 (69)	2.3 (71)	3.4 (92)	37.3 (53)	11.2 (45)	-14.9 (70)	-2.2 (74)

Global Equity Managers

Artisan Partners Manager Portfolio Overview

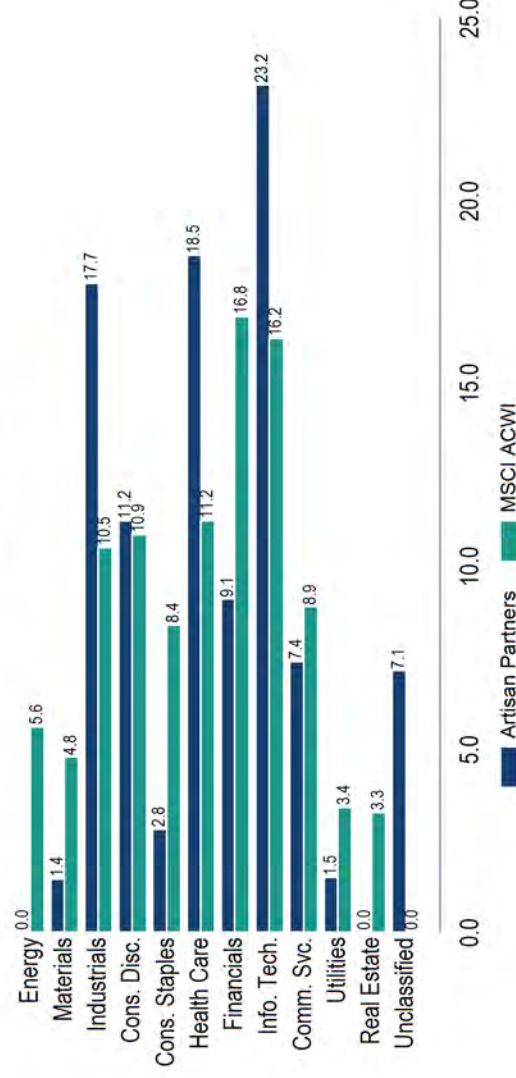
Period Ending: September 30, 2019

Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation. Primary personnel include James Hamel, Craig Cepukenas, and Matthew Kamm.

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	46	2,843
Weighted Avg. Market Cap. (\$B)	125.23	150.53
Median Market Cap. (\$B)	31.01	9.01
Price To Earnings	30.77	17.63
Price To Book	5.16	2.95
Price To Sales	3.04	1.54
Return on Equity (%)	22.59	19.71
Yield (%)	0.84	2.52
Beta	1.24	1.00

Sector Allocation (%) vs MSCI ACWI



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	92.2%	88.3%
Emerging*	1.1%	11.7%
Top 10 Largest Countries		
United States	58.6%	55.8%
Cash	6.6%	0.0%
Hong Kong	6.4%	1.1%
United Kingdom	6.3%	4.8%
Denmark	5.2%	0.5%
Switzerland	4.6%	2.7%
Japan	2.9%	7.3%
Netherlands	2.2%	1.1%
Spain	2.1%	0.8%
Germany	2.0%	2.5%
Total-Top 10 Largest Countries	97.4%	76.7%

Top Contributors

	Avg Wgt	Return	Contribution
LONDON STOCK EX.GROUP	2.38	29.36	0.70
ASTRAZENECA	3.92	10.32	0.41
WORLDPAY A	3.40	10.16	0.34
IHS MARKIT	6.39	4.96	0.32
L3HARRIS TECHNOLOGIES	2.93	10.71	0.31
ALPHABET A	2.26	12.78	0.29
PAGSEGURO DIGITAL A	1.43	18.83	0.27
GENMAB	2.48	10.25	0.25
TREASURY WINE ESTATES	1.17	20.90	0.24
LOWE'S COMPANIES	2.28	9.55	0.22

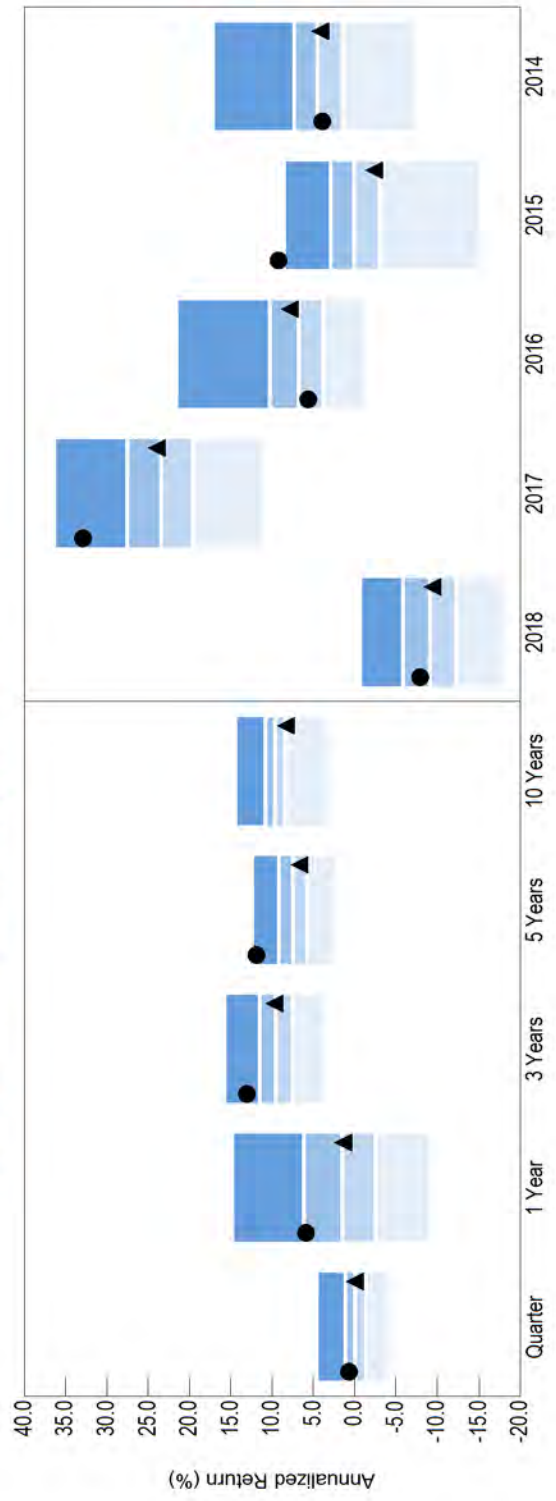
Bottom Contributors

	Avg Wgt	Return	Contribution
ALEXION PHARMS.	2.28	-25.23	-0.57
ANTHEM	2.53	-14.65	-0.37
TECHTRONIC INDS.	4.11	-8.34	-0.34
FORTIVE	1.73	-15.81	-0.27
HDFC BANK ADR 1:3	2.19	-12.09	-0.26
VESTAS WINDSYSTEMS	2.02	-10.24	-0.21
TENCENT HOLDINGS	2.65	-6.67	-0.18
CREE	1.35	-12.78	-0.17
TEMENOS N	2.37	-6.50	-0.15
BOSTON SCIENTIFIC	2.81	-5.33	-0.15

Unclassified sector allocation includes cash allocations.

Artisan Partners
 Manager Performance Comparisons (Gross of Fees) Period Ending: September 30, 2019

Artisan Partners vs. eV All Global Equity Gross Universe

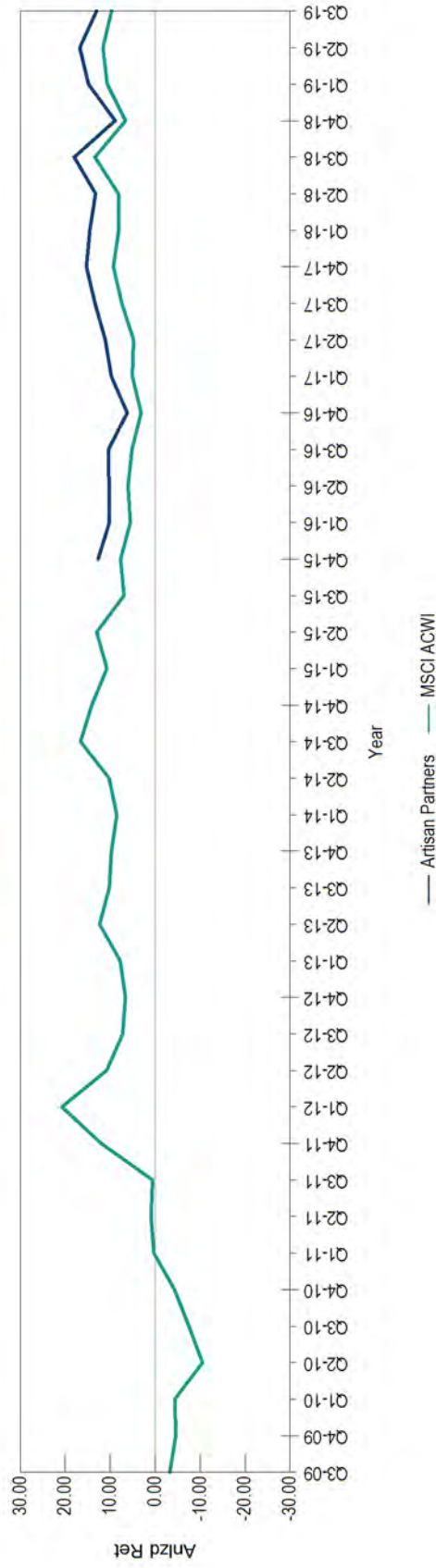


Return (Rank)	Quarter	1 Year	3 Years	5 Years	10 Years	2014	2015	2016	2017	2018
4.6	14.8	15.7	12.4	14.4	14.4	36.3	8.5	21.5	36.3	-0.7
1.2	6.2	11.5	9.2	10.9	10.9	27.6	3.0	10.3	27.6	-5.8
0.0	1.5	9.6	7.5	9.7	9.7	23.5	0.1	6.8	23.5	-9.1
-1.3	-2.5	7.5	5.8	8.5	8.5	19.6	-2.9	3.9	19.6	-12.2
-4.4	-9.2	3.7	2.3	3.1	3.1	11.0	-15.1	-1.4	11.0	-18.1
920	918	860	747	478	478	880	692	842	880	920
0.7 (34)	5.9 (27)	13.0 (14)	11.9 (7)	--	--	32.9 (11)	9.2 (4)	5.6 (61)	32.9 (11)	-7.9 (40)
0.0 (51)	1.4 (52)	9.7 (49)	6.7 (65)	8.3 (78)	8.3 (78)	24.0 (47)	-2.4 (73)	7.9 (42)	24.0 (47)	-9.4 (53)

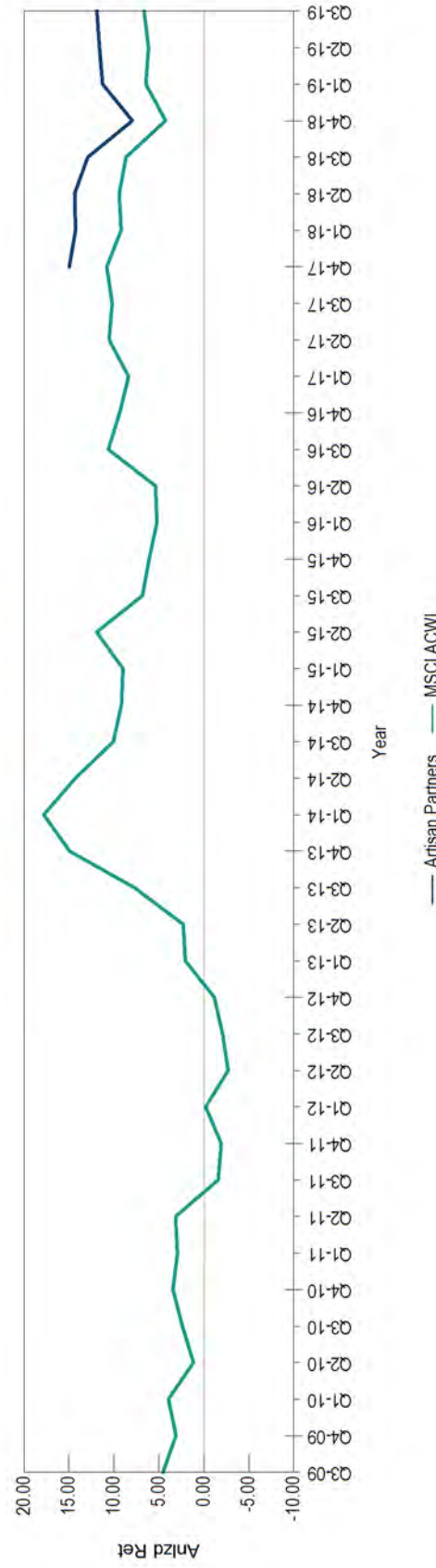
● Artisan Partners
 ▲ MSCIACWI

Artisan Partners
 Manager Performance - Rolling 3 Year (Gross of Fees) Period Ending: September 30, 2019

Rolling 3 Year Annualized Return (%)

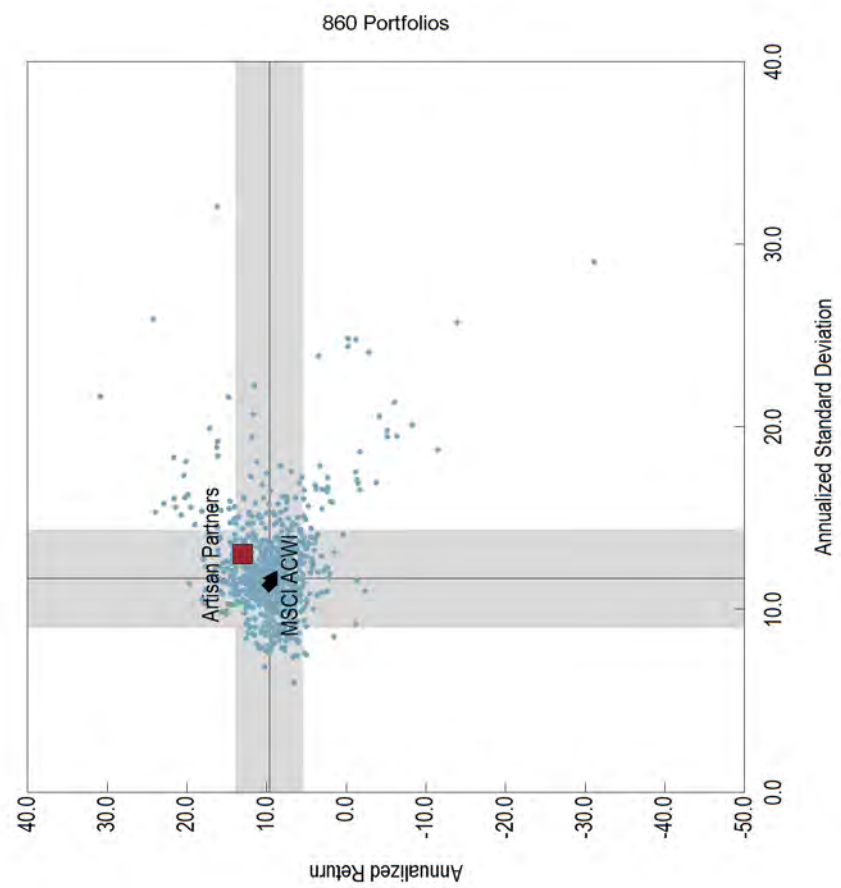


Rolling 5 Year Annualized Return (%)



Artisan Partners
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019

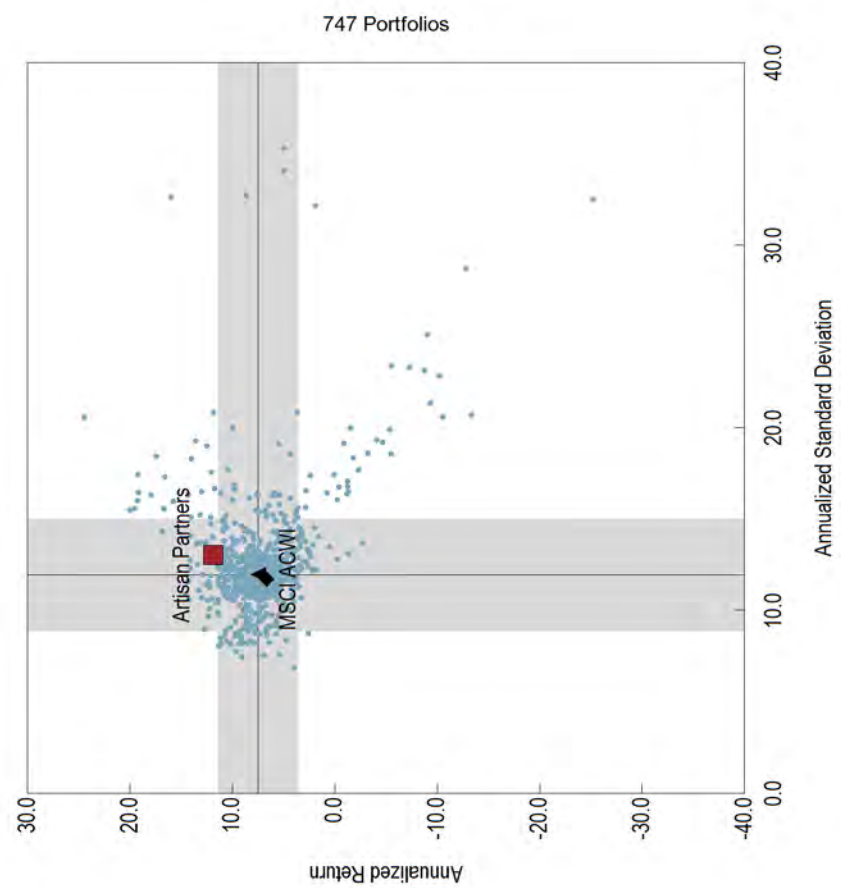
3 Years



3 Years

	Artisan Partners	MSCI ACWI	eV All Global Equity Gross Median
Annualized Return	13.0%	9.7%	9.6%
Annualized Standard Deviation	13.0%	11.3%	11.7%
Sharpe Ratio	0.9	0.7	0.7

5 Years



5 Years

	Artisan Partners	MSCI ACWI	eV All Global Equity Gross Median
Annualized Return	11.9%	6.7%	7.5%
Annualized Standard Deviation	13.0%	11.7%	12.0%
Sharpe Ratio	0.8	0.5	0.6

First Eagle Manager Portfolio Overview

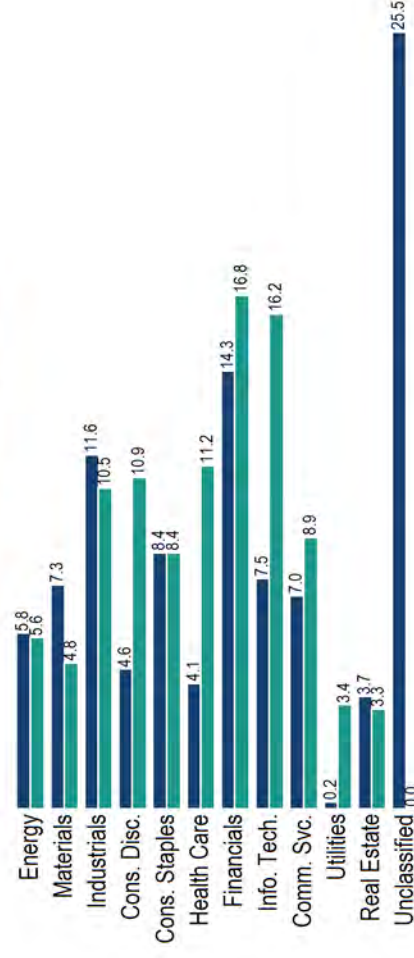
Period Ending: September 30, 2019

Global equity portfolio that is benchmark agnostic comprised of companies with low valuations. Primary personnel include Matt McLennan and Kimball Brooker.

Characteristics

	Portfolio	MSCI ACWI
Number of Holdings	140	2,843
Weighted Avg. Market Cap. (\$B)	76.72	150.53
Median Market Cap. (\$B)	20.96	9.01
Price To Earnings	17.01	17.63
Price To Book	2.25	2.95
Price To Sales	1.46	1.54
Return on Equity (%)	14.60	19.71
Yield (%)	2.35	2.52
Beta	0.70	1.00

Sector Allocation (%) vs MSCI ACWI



Country Allocation

	Manager Ending Allocation (USD)	Index Ending Allocation (USD)
Totals		
Developed	80.7%	88.3%
Emerging*	3.8%	11.7%
Cash	15.5%	
Top 10 Largest Countries		
United States	46.7%	55.8%
Cash	15.5%	0.0%
Japan	12.2%	7.3%
France	5.4%	3.3%
United Kingdom	4.8%	4.8%
Canada	3.4%	3.1%
Switzerland	2.1%	2.7%
Korea*	2.0%	1.4%
Singapore	1.5%	0.4%
Sweden	1.0%	0.8%
Total-Top 10 Largest Countries	94.6%	79.6%

Top Contributors

	Avg Wgt	Return	Contribution	End Weight	Return	Contribution
SPDR GOLD SHARES	2.99	4.26	0.13	1.42	-12.66	-0.18
COMCAST A	0.65	7.14	0.05	1.84	-6.70	-0.12
SOMPO HOLDINGS	0.41	10.00	0.04	0.76	-14.42	-0.11
WEYERHAEUSER	0.50	6.51	0.03	0.68	-13.53	-0.09
ALLEGHANY	0.17	17.13	0.03	0.53	-14.65	-0.08
NTT DOCOMO INC	0.23	11.60	0.03	0.73	-10.50	-0.08
BRITISH AMERICAN TOBACCO	0.45	5.93	0.03	2.46	-3.01	-0.07
TAIWAN SEMICON SPN ADR	0.14	19.51	0.03	0.67	-11.00	-0.07
BB&T	0.27	9.88	0.03	0.63	-11.24	-0.07
UNIVERSAL HEALTH SVS.'B'	0.18	14.24	0.03	1.19	-5.85	-0.07

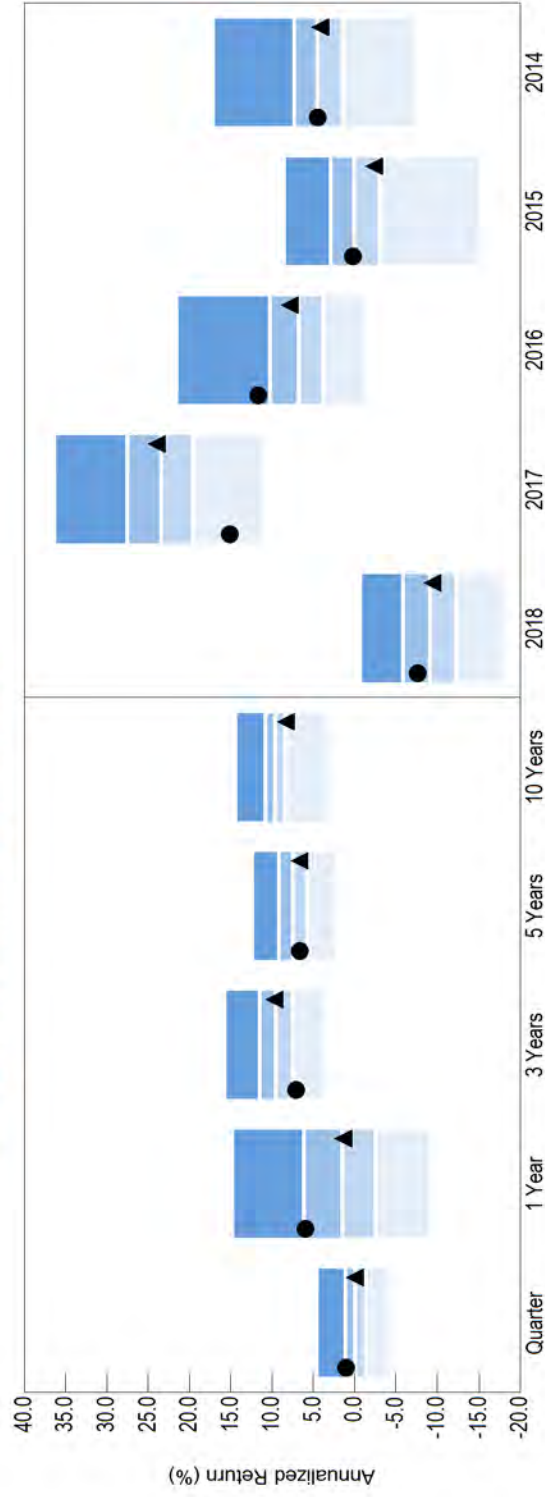
Bottom Contributors

	Avg Wgt	Return	Contribution	End Weight	Return	Contribution
SPDR GOLD SHARES	2.99	4.26	0.13	1.42	-12.66	-0.18
COMCAST A	0.65	7.14	0.05	1.84	-6.70	-0.12
SOMPO HOLDINGS	0.41	10.00	0.04	0.76	-14.42	-0.11
WEYERHAEUSER	0.50	6.51	0.03	0.68	-13.53	-0.09
ALLEGHANY	0.17	17.13	0.03	0.53	-14.65	-0.08
NTT DOCOMO INC	0.23	11.60	0.03	0.73	-10.50	-0.08
BRITISH AMERICAN TOBACCO	0.45	5.93	0.03	2.46	-3.01	-0.07
TAIWAN SEMICON SPN ADR	0.14	19.51	0.03	0.67	-11.00	-0.07
BB&T	0.27	9.88	0.03	0.63	-11.24	-0.07
UNIVERSAL HEALTH SVS.'B'	0.18	14.24	0.03	1.19	-5.85	-0.07

Unclassified sector allocation includes cash allocations and Gold allocations (9.1% as of 9/30/2019).

First Eagle
 Manager Performance Comparisons (Gross of Fees) Period Ending: September 30, 2019

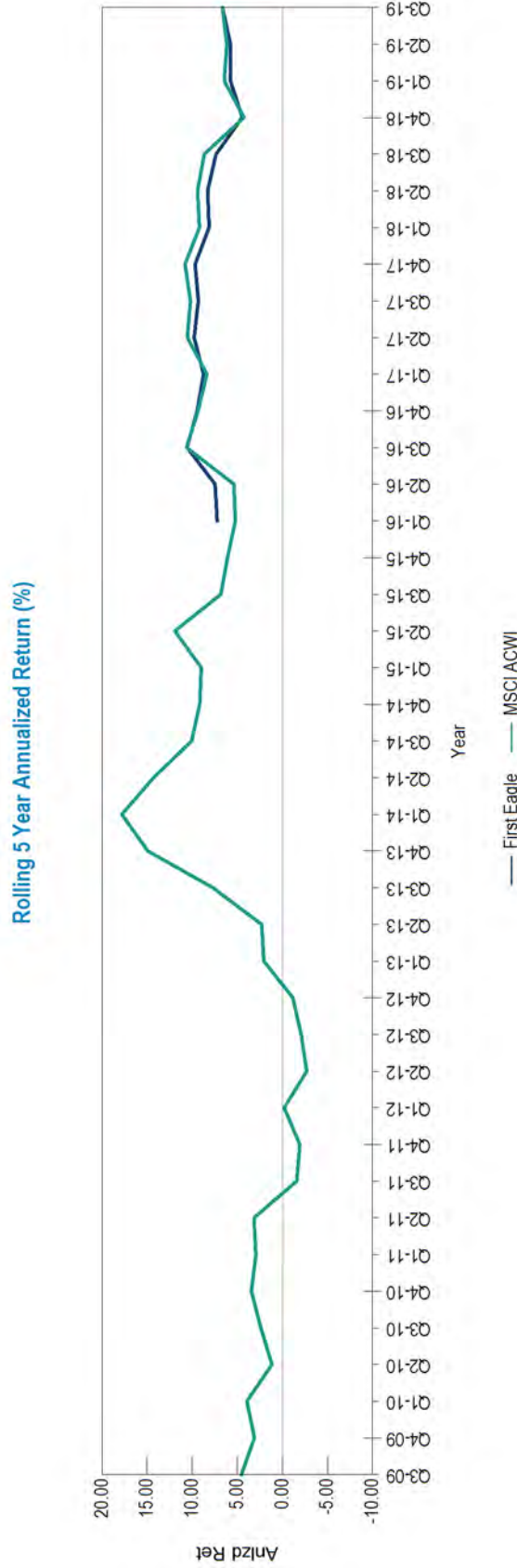
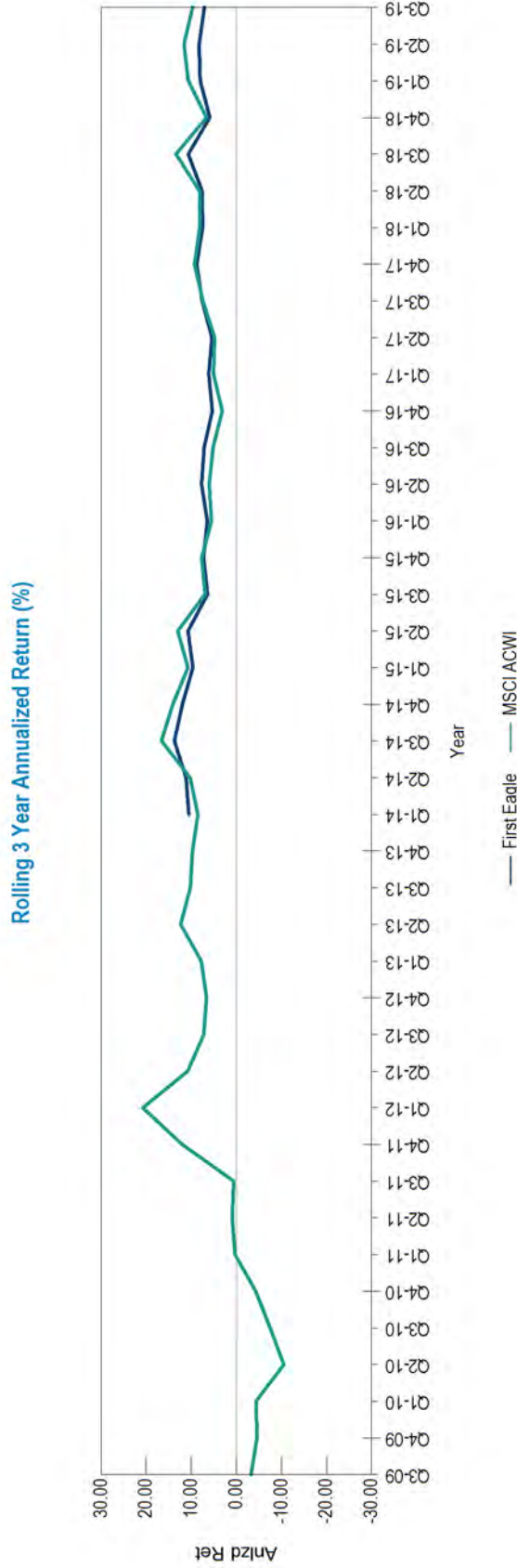
First Eagle vs. eV All Global Equity Gross Universe



Return (Rank)

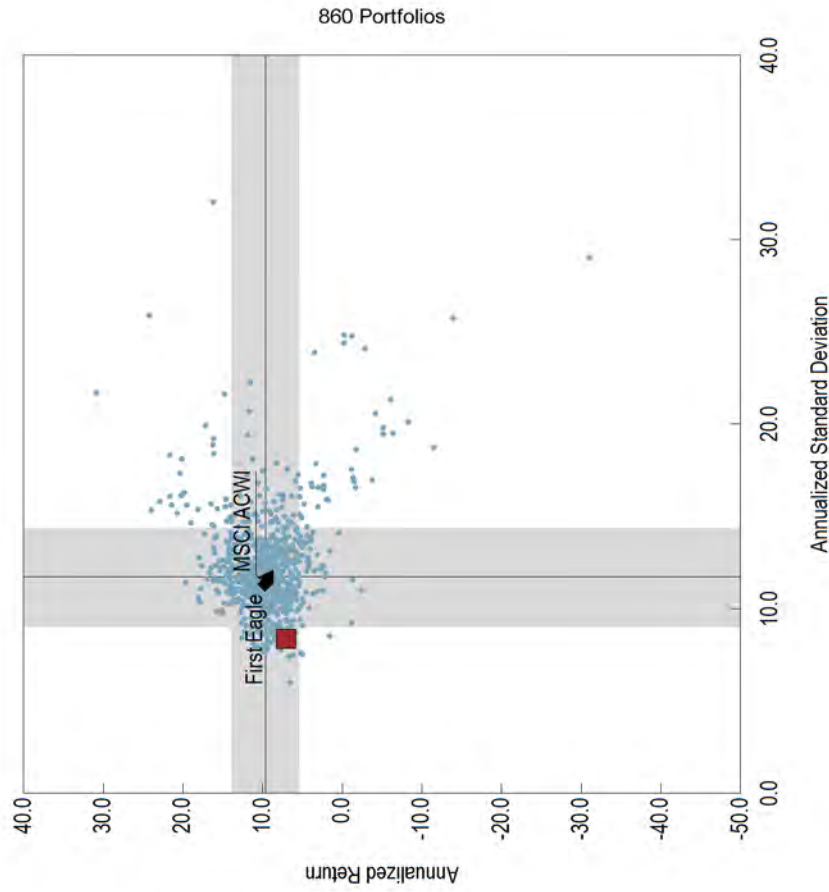
5th Percentile	4.6	14.8	15.7	12.4	14.4	36.3	21.5	8.5	17.1
25th Percentile	1.2	6.2	11.5	9.2	10.9	27.6	10.3	3.0	7.4
Median	0.0	1.5	9.6	7.5	9.7	23.5	6.8	0.1	4.6
75th Percentile	-1.3	-2.5	7.5	5.8	8.5	19.6	3.9	-2.9	1.5
95th Percentile	-4.4	-9.2	3.7	2.3	3.1	11.0	-1.4	-15.1	-7.4
# of Portfolios	920	918	860	747	478	880	842	692	609
● First Eagle	1.0 (28)	5.9 (27)	7.1 (79)	6.6 (66)	-- (-)	15.1 (89)	11.7 (19)	0.2 (49)	4.5 (51)
▲ MSCIACWI	0.0 (51)	1.4 (52)	9.7 (49)	6.7 (65)	8.3 (78)	24.0 (47)	7.9 (42)	-2.4 (73)	4.2 (54)

First Eagle
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019



First Eagle
 Risk vs. Return 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019

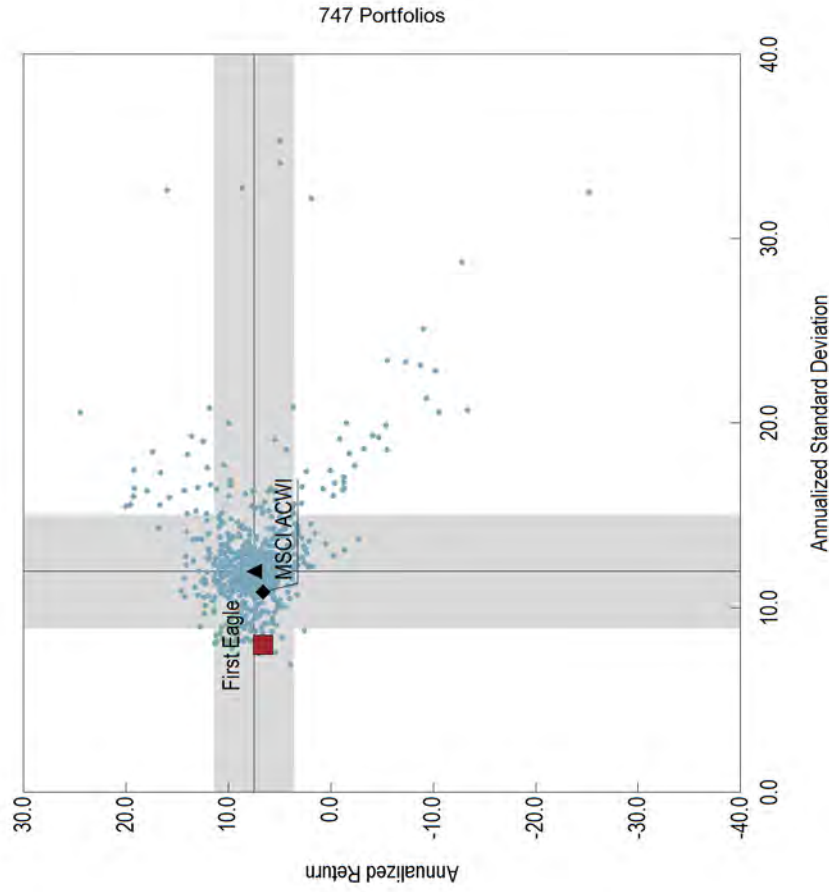
3 Years



3 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
First Eagle	7.1%	8.4%	0.7
MSCI ACWI	9.7%	11.3%	0.7
eV All Global Equity Gross Median	9.6%	11.7%	0.7

5 Years



5 Years

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
First Eagle	6.6%	8.5%	0.7
MSCI ACWI	6.7%	11.7%	0.5
eV All Global Equity Gross Median	7.5%	12.0%	0.6

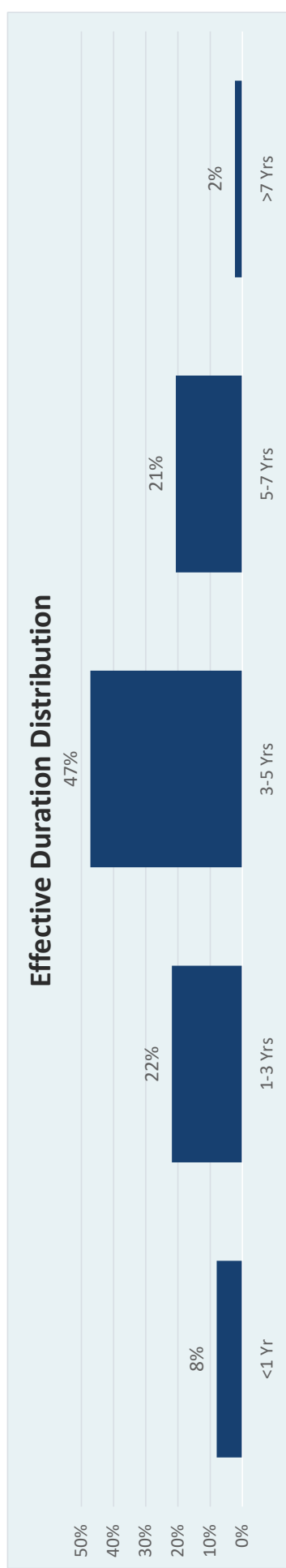
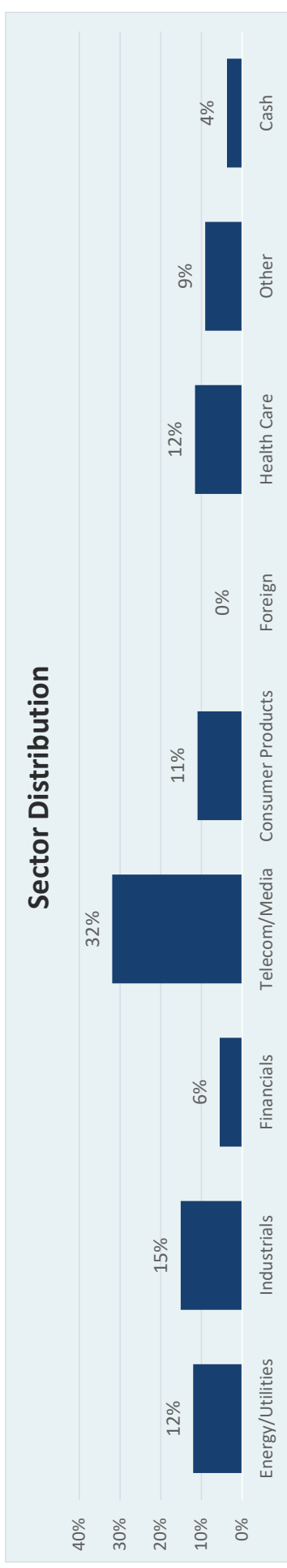
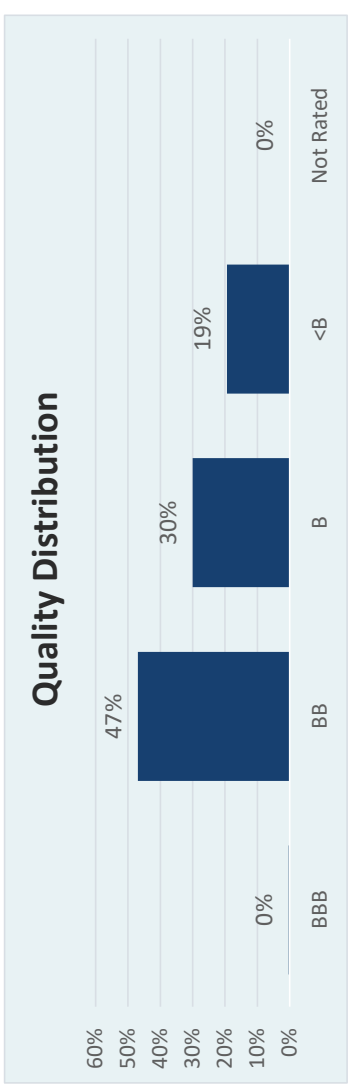
High Yield Managers

Allianz Global Investors Manager Portfolio Overview

Period Ending: September 30, 2019

Domestic high yield fixed income portfolio with a focus on security selection. Primary personnel include Douglas Forsyth, Justin Kass, William Stickney, and Michael Yee.

	Allianz	ICE BofAML HY Master II
Effective Duration	3.50	3.40
Yield to Maturity	5.90	6.40
Average Quality	B1	B1
Average Coupon	6.5%	6.4%

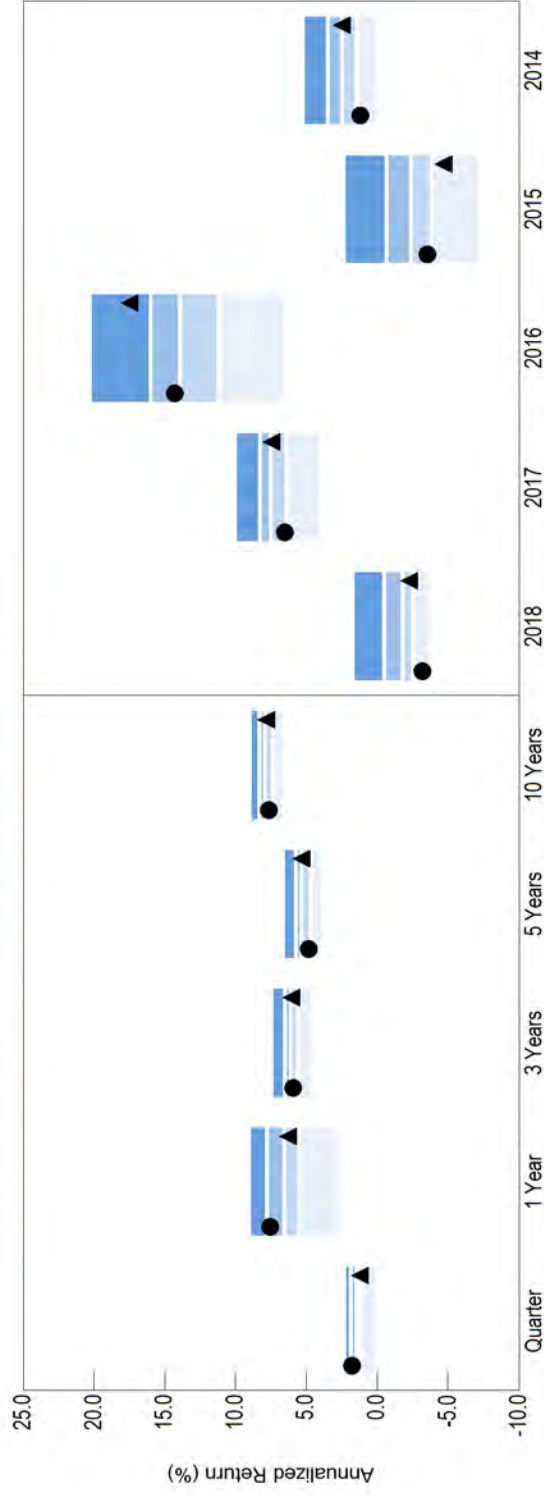


Quality distribution excludes cash.



Allianz Global Investors
 Manager Performance Comparisons (Gross of Fees) Period Ending: September 30, 2019

Allianz Global Investors vs. eV US High Yield Fixed Inc Gross Universe

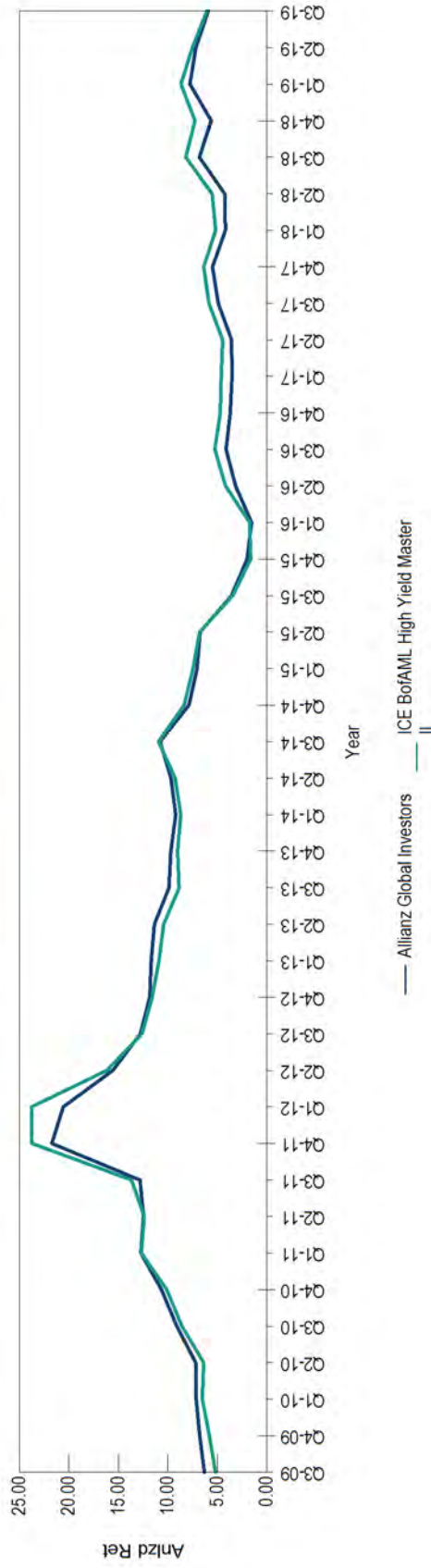


Return (Rank)

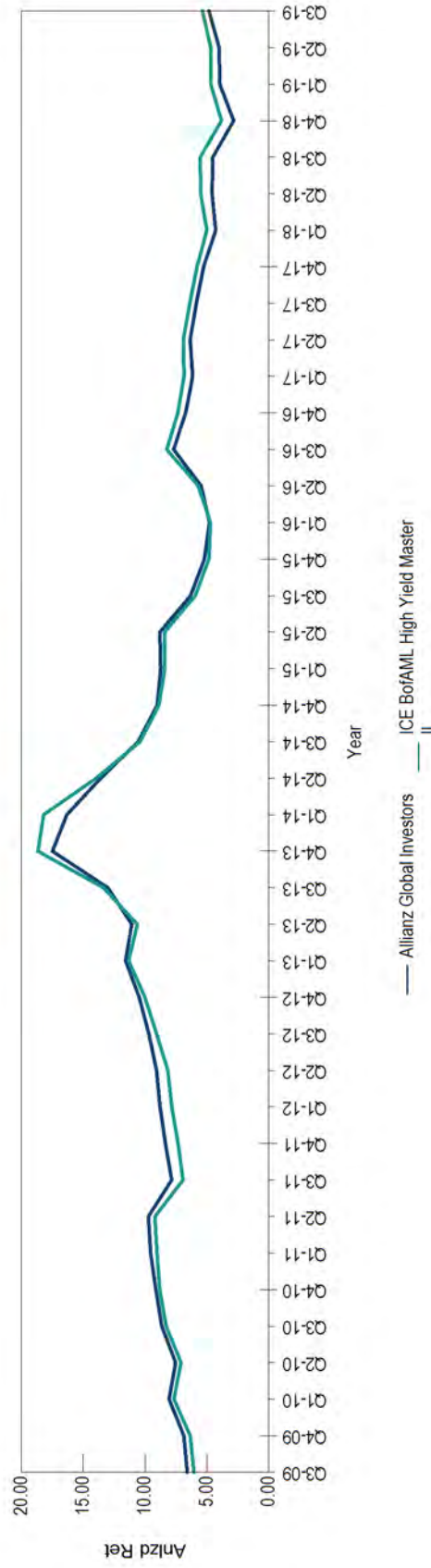
5th Percentile	2.3	7.4	6.6	9.0	1.7	10.0	20.3	2.3	5.2
25th Percentile	1.9	6.5	5.8	8.3	-0.5	8.3	16.0	-0.7	3.5
Median	1.5	6.1	5.4	7.9	-1.8	7.5	14.0	-2.4	2.5
75th Percentile	1.2	5.6	4.7	7.4	-2.5	6.5	11.3	-3.8	1.5
95th Percentile	0.1	4.5	3.9	6.6	-3.8	4.0	6.6	-7.2	0.0
# of Portfolios	203	193	181	127	210	198	183	155	141
● Allianz Global Investors	1.8 (34)	5.9 (63)	4.8 (72)	7.7 (67)	-3.2 (88)	6.5 (74)	14.3 (47)	-3.5 (68)	1.2 (83)
▲ ICE BofAML High Yield Master II	1.2 (74)	6.1 (55)	5.4 (51)	7.9 (56)	-2.3 (69)	7.5 (53)	17.5 (14)	-4.6 (83)	2.5 (50)

Allianz Global Investors
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019

Rolling 3 Year Annualized Return (%)



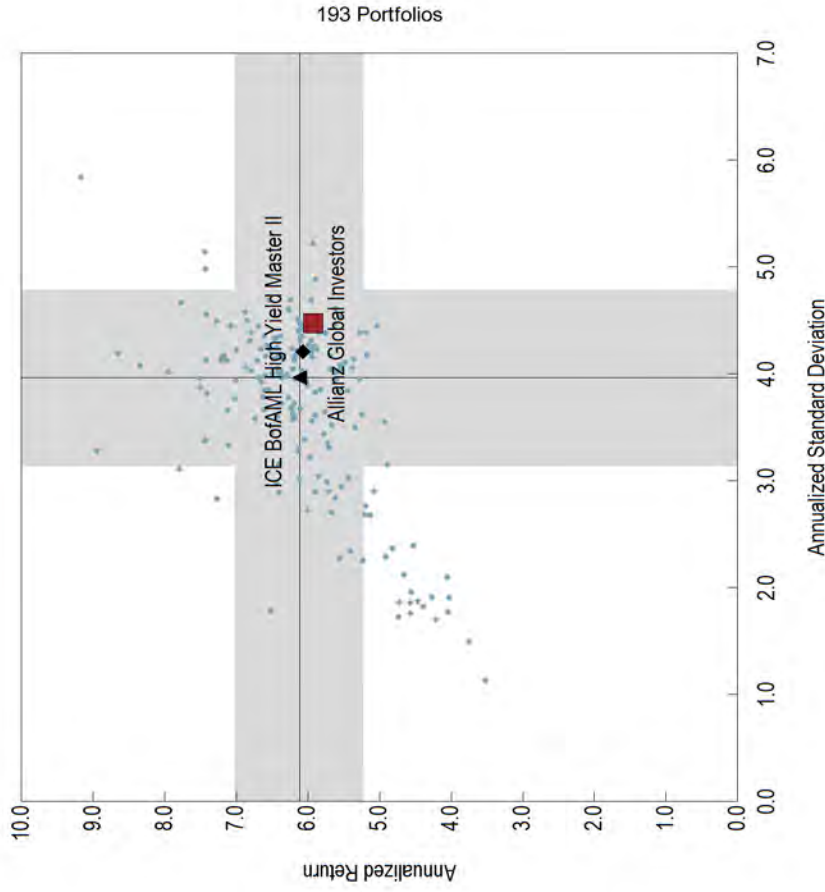
Rolling 5 Year Annualized Return (%)



Allianz Global Investors
 Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2019

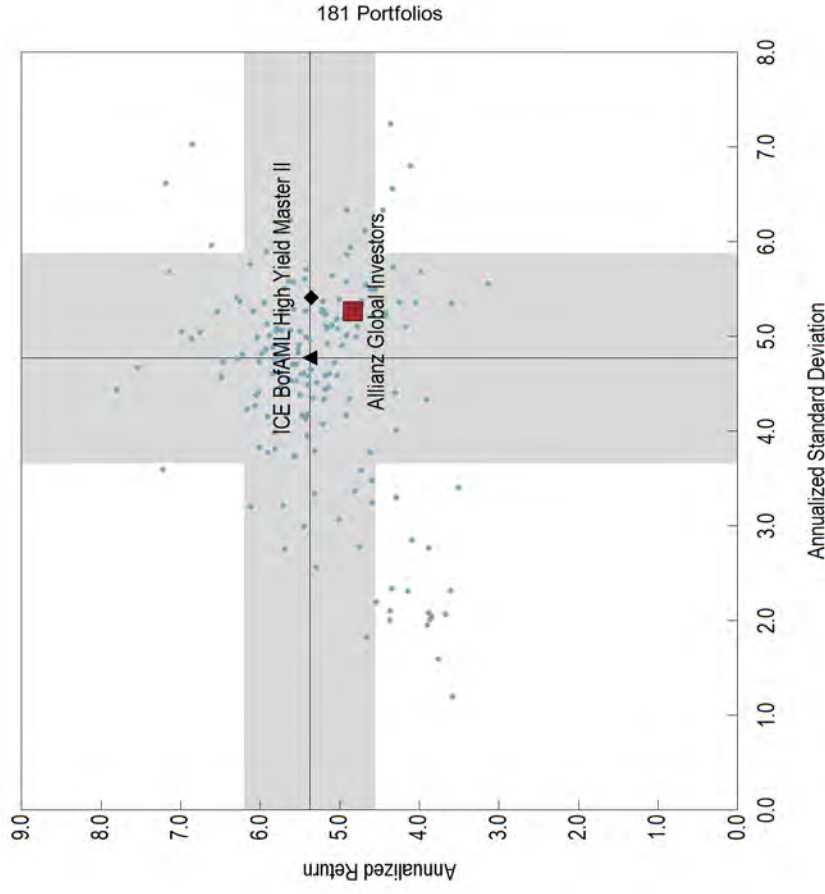
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	5.9%	4.5%	1.0
ICE BofAML High Yield Master II	6.1%	4.2%	1.1
eV US High Yield Fixed Inc Gross Median	6.1%	4.0%	1.2

5 Years



5 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
Allianz Global Investors	4.8%	5.3%	0.7
ICE BofAML High Yield Master II	5.4%	5.4%	0.8
eV US High Yield Fixed Inc Gross Median	5.4%	4.8%	1.0

Real Estate Managers

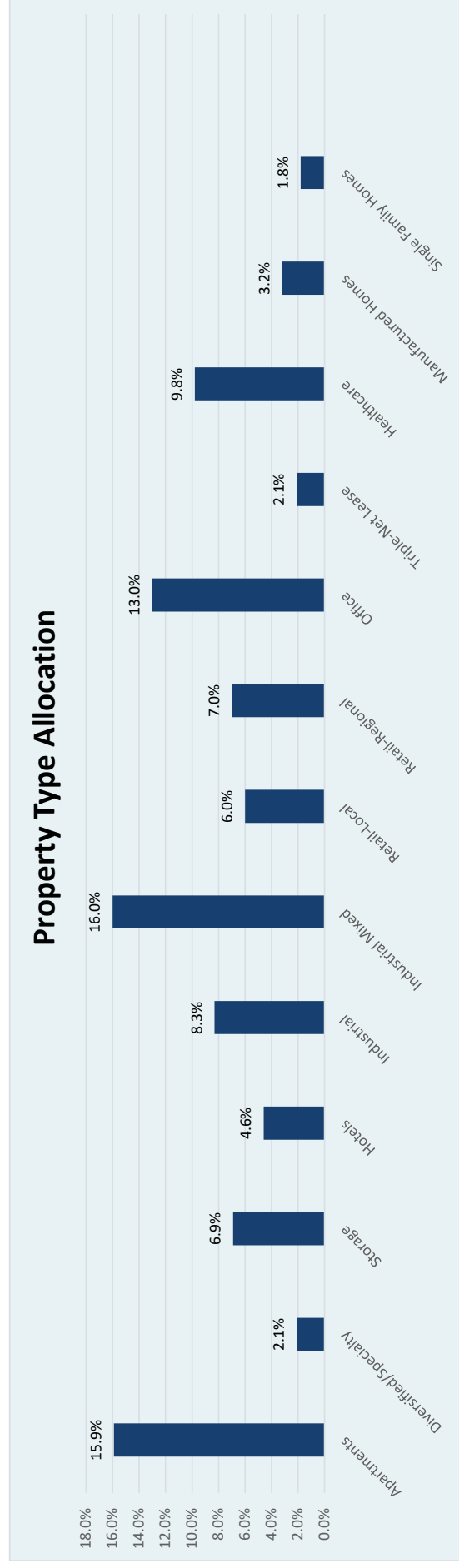
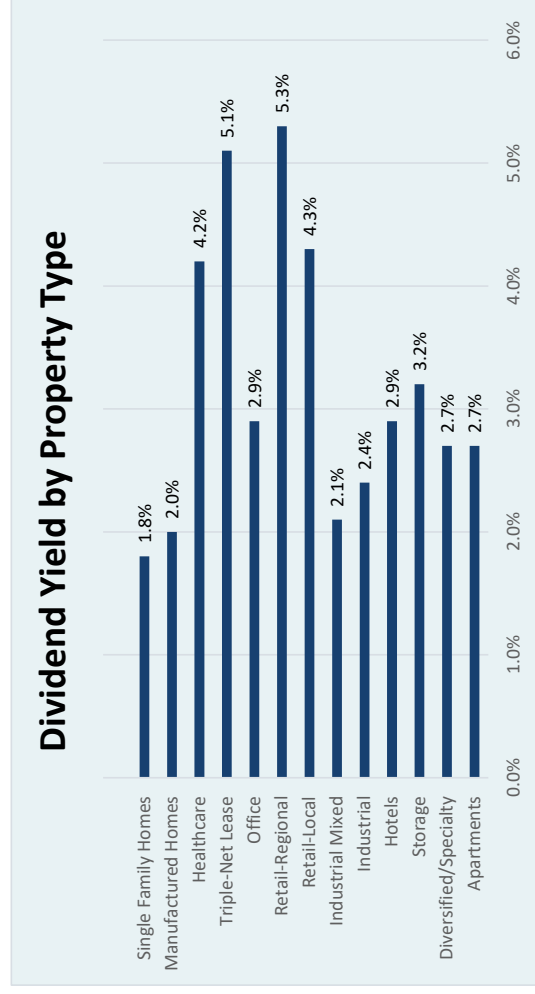
Adelante Manager Portfolio Overview

Period Ending: September 30, 2019

Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets

Top Five Holdings

Company	Property Type	Allocation
ProLogis Inc.	Industrial	7.0%
Simon Property Group, Inc.	Regional Retail	5.3%
Equinix Inc	Industrial Mixed	6.7%
Equity Residential	Apartments	6.2%
HCP Inc.	Healthcare	4.6%



3.5% is allocated to Cash and Cash Equivalents.

Diversifying Fixed Income Managers

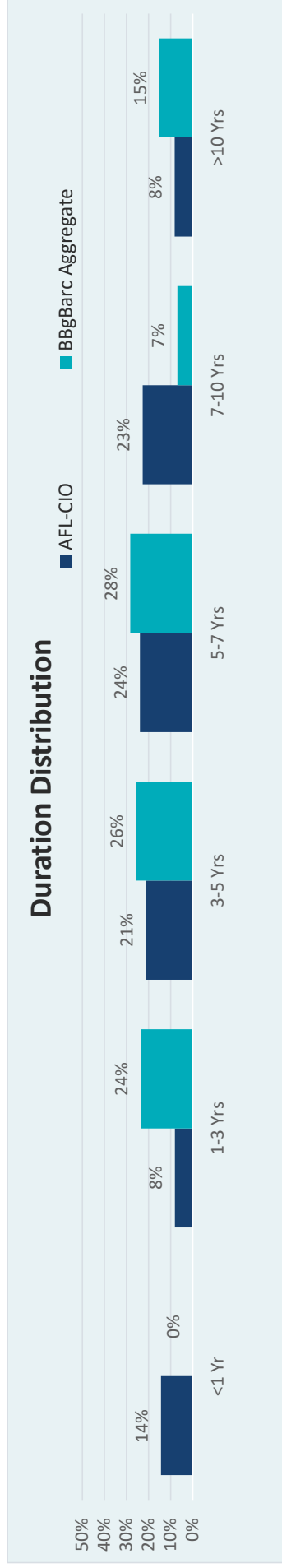
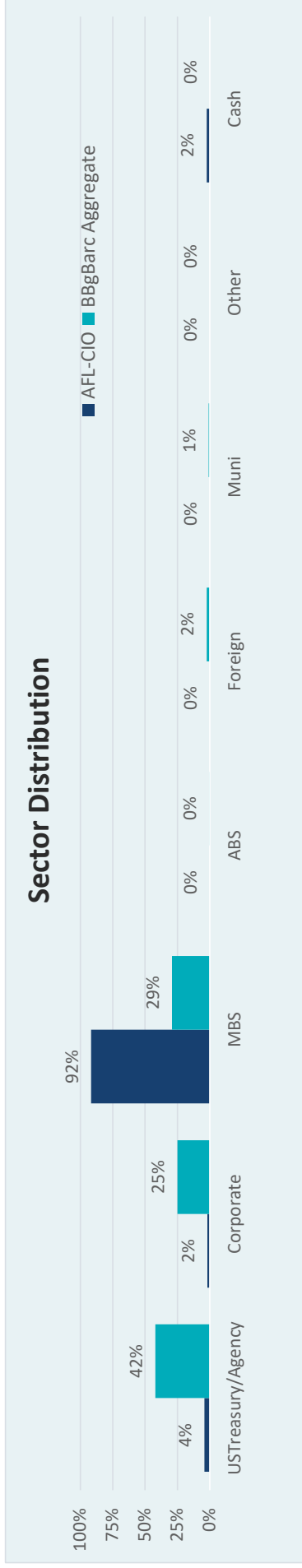
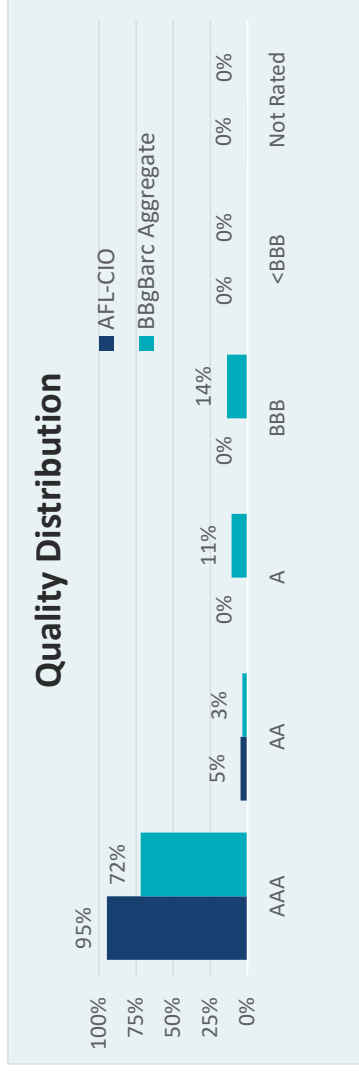
AFL-CIO

Manager Portfolio Overview

Period Ending: September 30, 2019

Domestic core fixed income portfolio with an exclusive focus on mortgage-related securities. Primary personnel include Stephen Coyle and Chang Su.

	AFL-CIO	BBgBarc Aggregate
Effective Duration	5.50	5.85
Yield to Maturity	3.15	3.01
Average Quality	AAA	AA
Average Coupon	3.3%	3.3%



Duration and Quality distributions exclude cash.

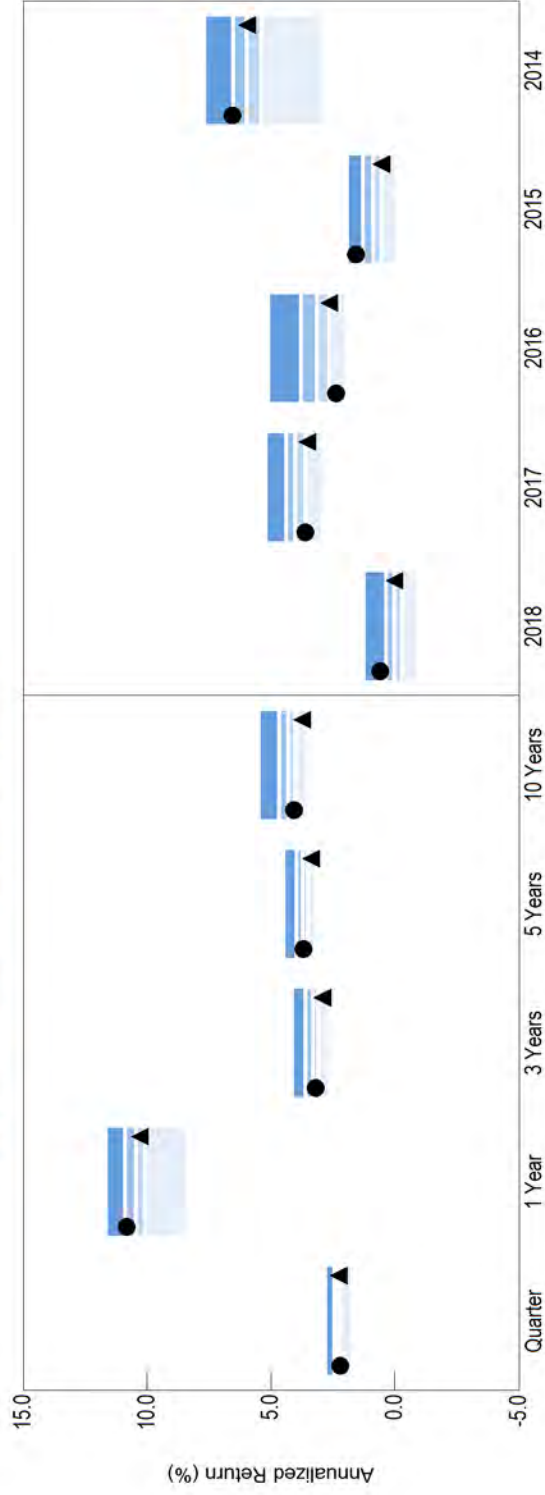


AFL-CIO

Manager Performance Comparisons (Gross of Fees)

Period Ending: September 30, 2019

AFL-CIO vs. eV US Core Fixed Inc Gross Universe

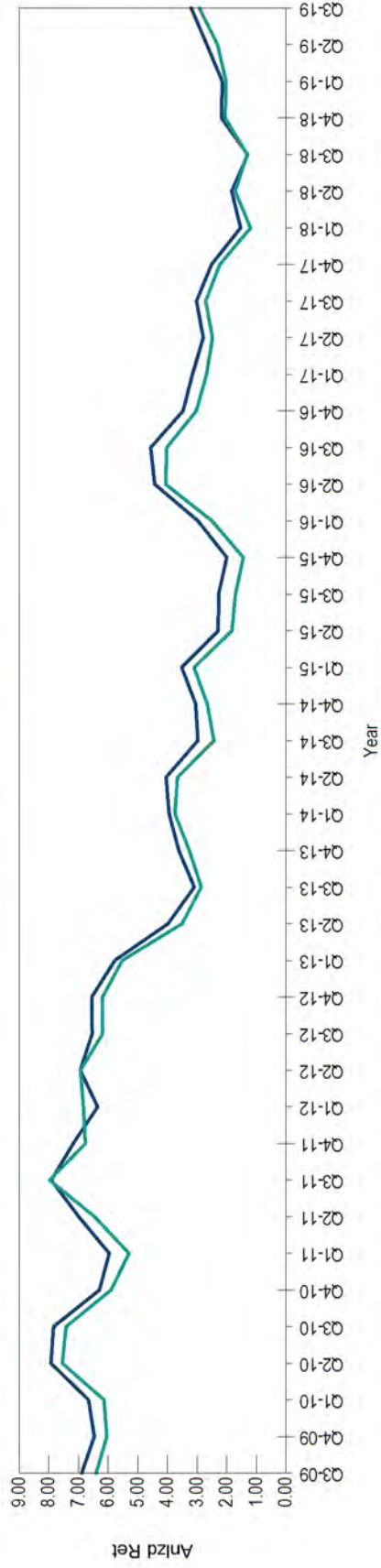


Return (Rank)

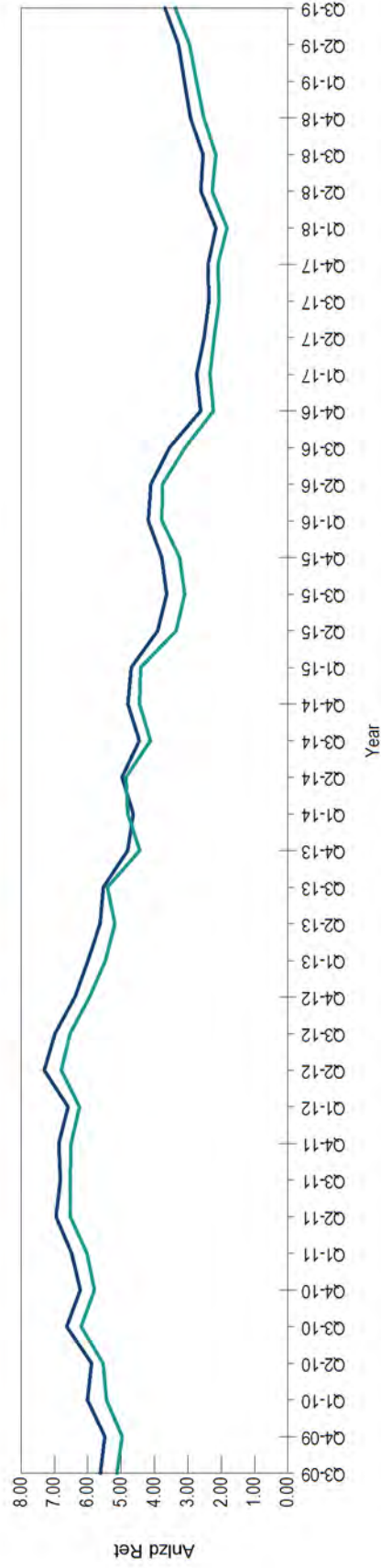
5th Percentile	2.8	4.1	4.5	5.5	5.2	5.1	1.9	7.7
25th Percentile	2.5	3.6	4.0	4.7	4.4	3.8	1.3	6.5
Median	2.3	3.3	3.7	4.3	4.0	3.2	0.9	6.0
75th Percentile	2.2	3.1	3.5	4.0	3.6	2.7	0.5	5.4
95th Percentile	1.7	2.7	3.2	3.5	2.9	2.0	-0.1	2.9
# of Portfolios	216	214	211	195	233	223	196	213
● AFL-CIO	2.2 (78)	3.2 (64)	3.7 (57)	4.1 (74)	3.6 (76)	2.4 (87)	1.6 (15)	6.6 (25)
▲ BgBarc US Aggregate TR	2.3 (69)	2.9 (91)	3.4 (87)	3.7 (92)	3.5 (79)	2.6 (77)	0.6 (75)	6.0 (52)

AFL-CIO
 Manager Performance - Rolling 3 & 5 Year (Gross of Fees) Period Ending: September 30, 2019

Rolling 3 Year Annualized Return (%)



Rolling 5 Year Annualized Return (%)

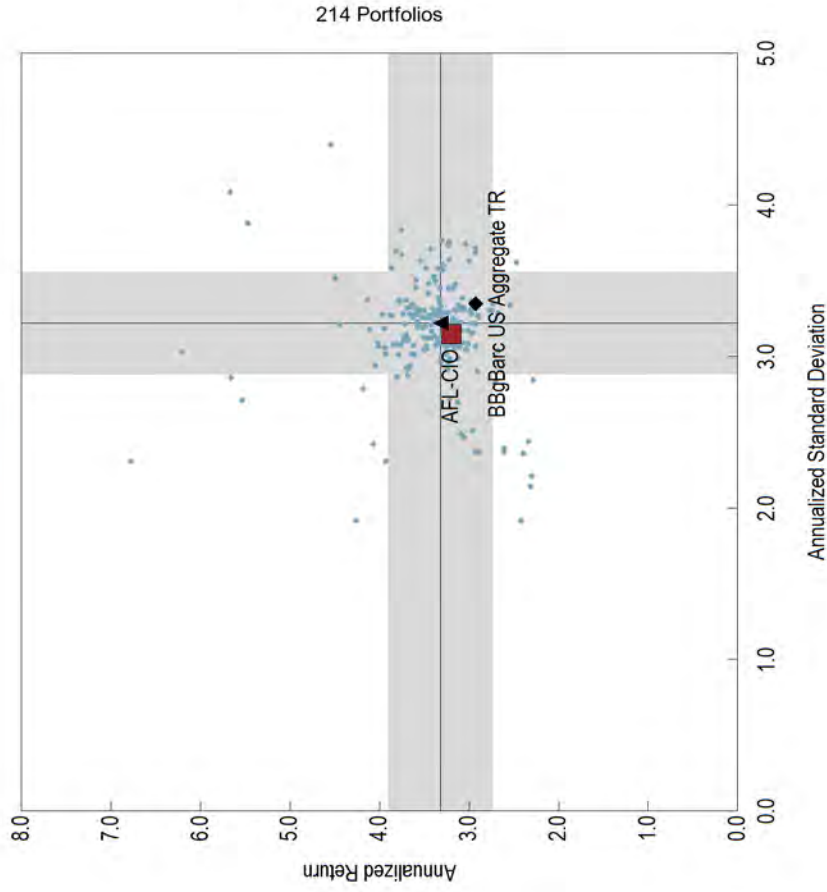


AFL-CIO

Risk vs. Return 3 & 5 Year (Gross of Fees)

Period Ending: September 30, 2019

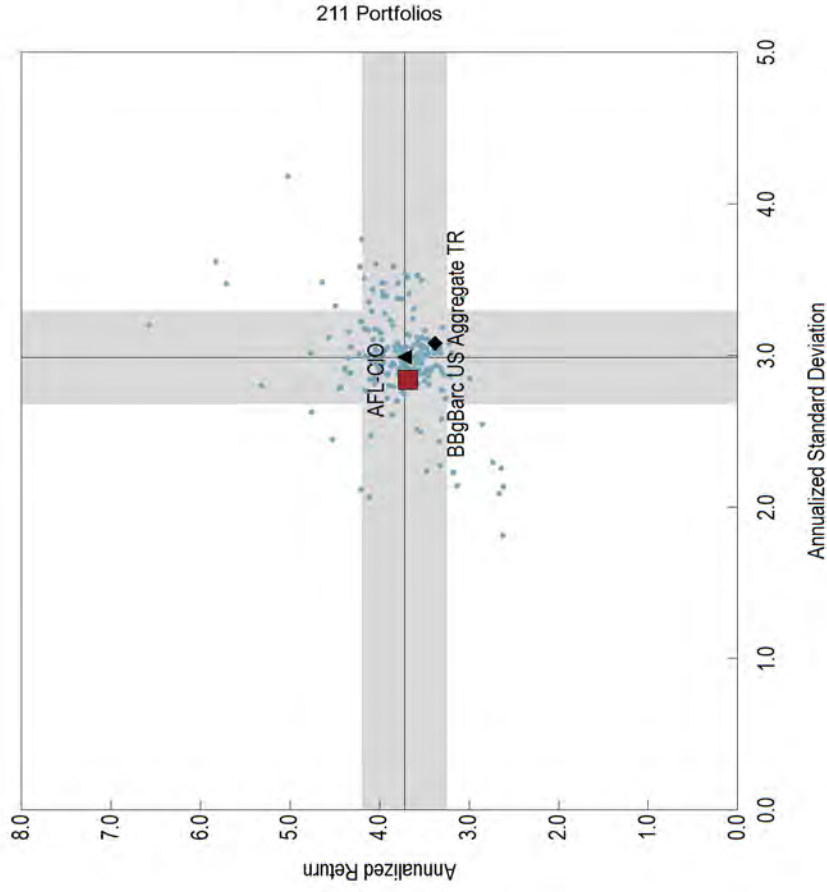
3 Years



3 Years

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
AFL-CIO	3.2%	3.1%	0.5
BBgBarc US Aggregate TR	2.9%	3.3%	0.4
eV US Core Fixed Inc Gross Median	3.3%	3.2%	0.6

5 Years



5 Years

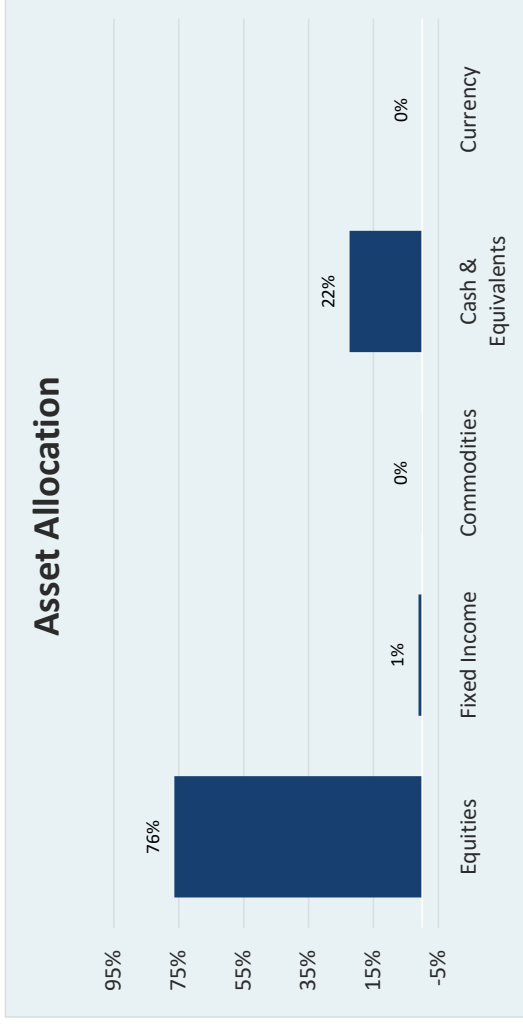
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio
AFL-CIO	3.7%	2.8%	1.0
BBgBarc US Aggregate TR	3.4%	3.1%	0.8
eV US Core Fixed Inc Gross Median	3.7%	3.0%	0.9

Wellington Total Return Manager Portfolio Overview

Period Ending: September 30, 2019

Tactical multi-asset class real return strategy with a focus on managing risk of active strategies used to gain exposure to attractive assets of markets.

	Wellington Total Return
Number of Equity Holdings	915
Number of Commodity Holdings	112
Effective Duration (Years)	5.60



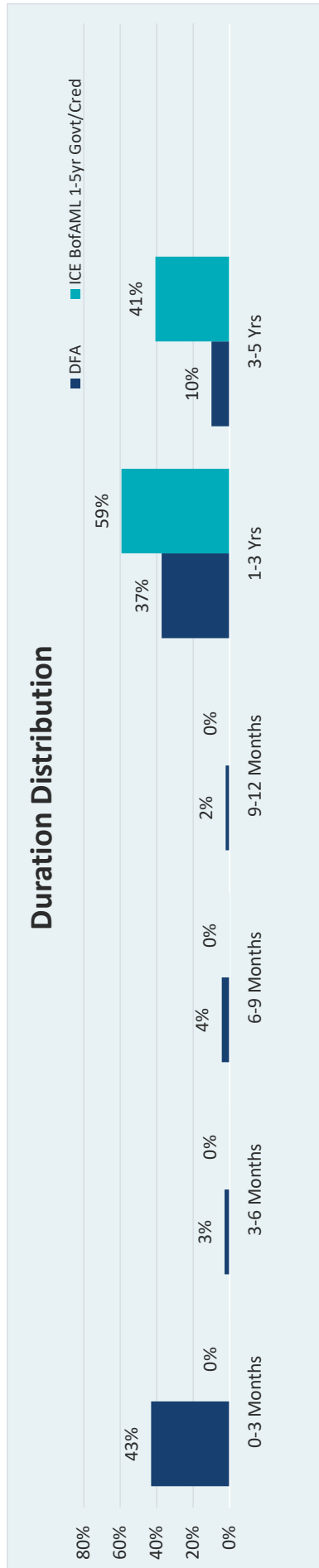
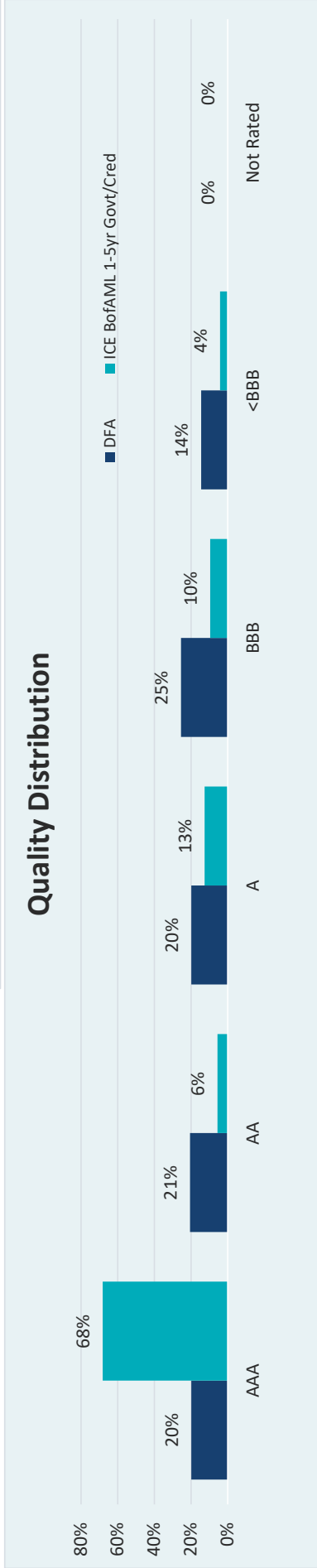
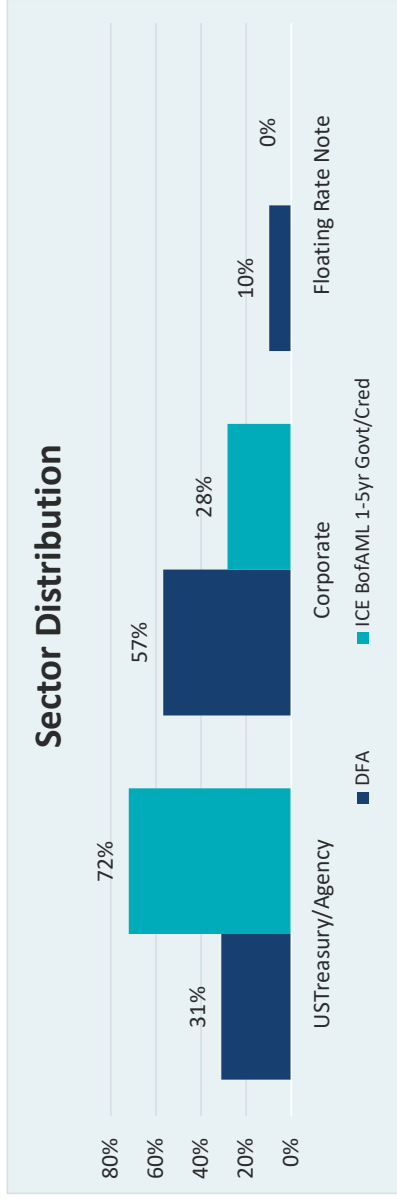
Liquidity Managers

DFA Short Credit Manager Portfolio Overview

Period Ending: September 30, 2019

Domestic short term US credit fixed income portfolio that maximizes total return through income and capital appreciation. Primary personnel include Dave Plecha and Joseph Kolerich.

	DFA	ICE BofAML 1-5yr Govt/Cred
Effective Duration	1.15	2.61
Yield to Maturity	2.29	1.88
Average Quality	A+	Aa1
Average Coupon	2.60%	2.63%

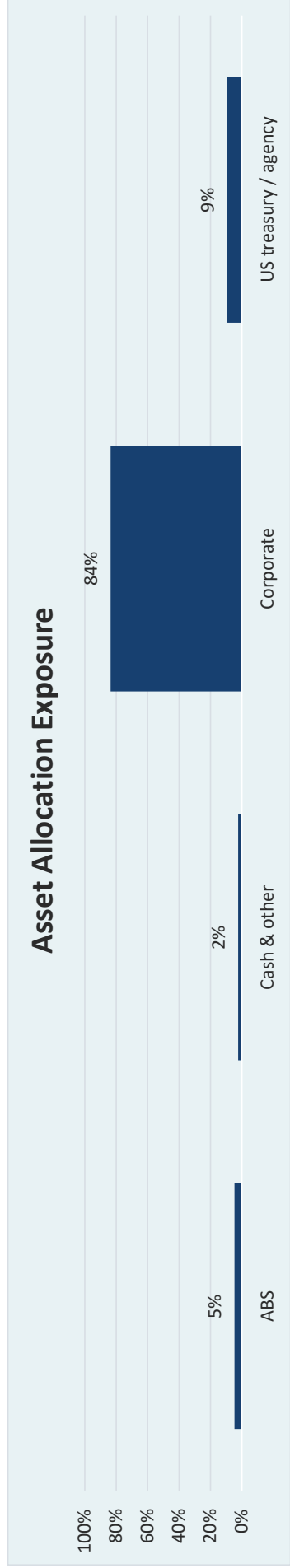
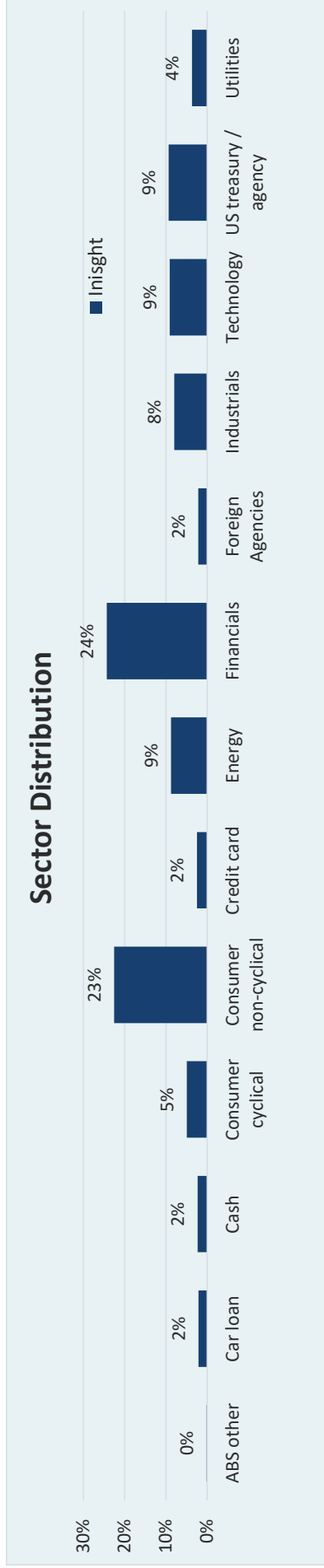
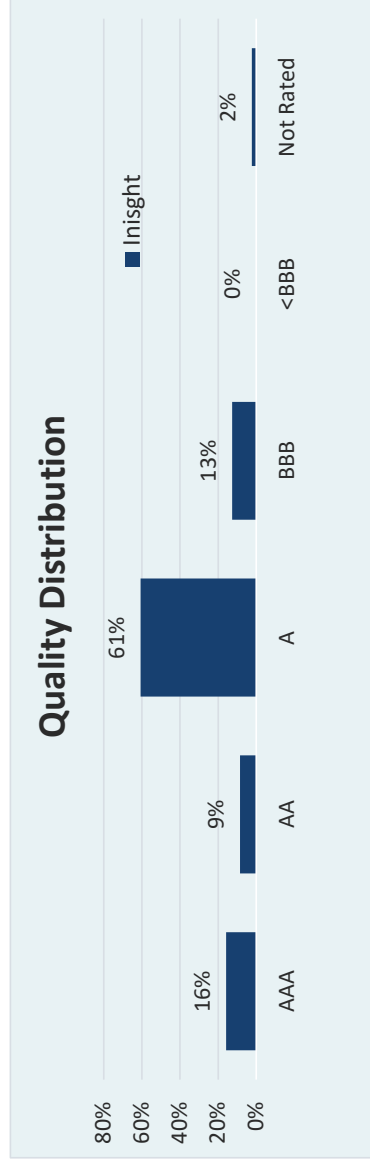


Insight Short Duration Manager Portfolio Overview

Period Ending: September 30, 2019

High quality, short duration multi-sector fixed income portfolio comprised of Treasuries, Agencies, investment grade corporates, and ABS designed specifically to meet CCCERA's liabilities. Key personnel include Gerard Berrigan and Jesse Fogarty.

	Insight	BBgBarc 1-3yr Govt
Effective Duration	1.64	1.89
Yield to Maturity	2.15	1.70
Average Quality	A+	AAA
Average Coupon	2.63%	2.07%

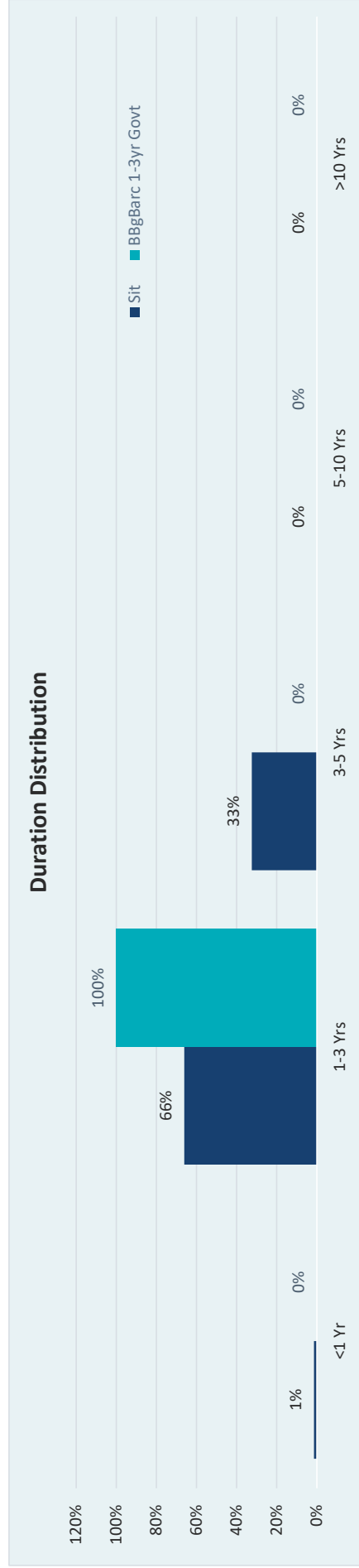
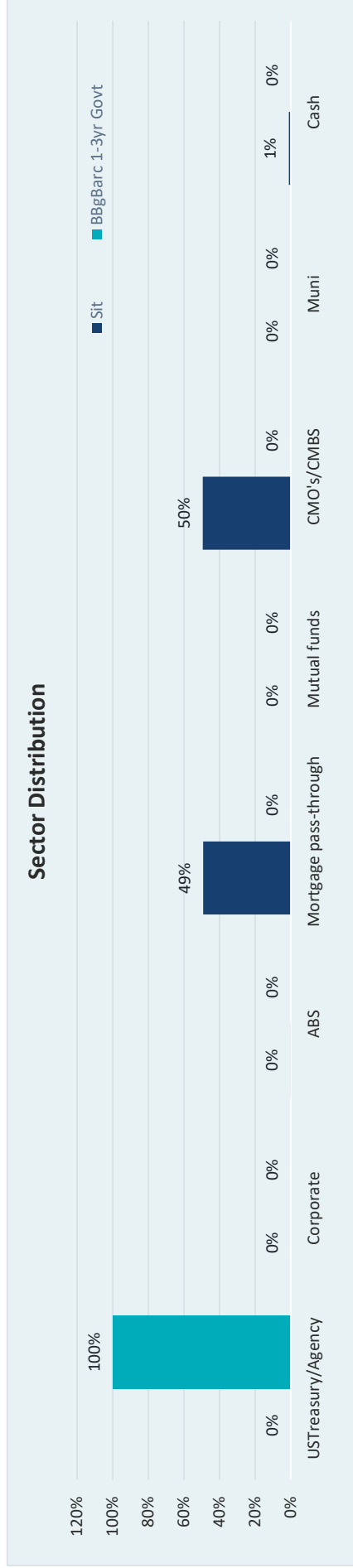
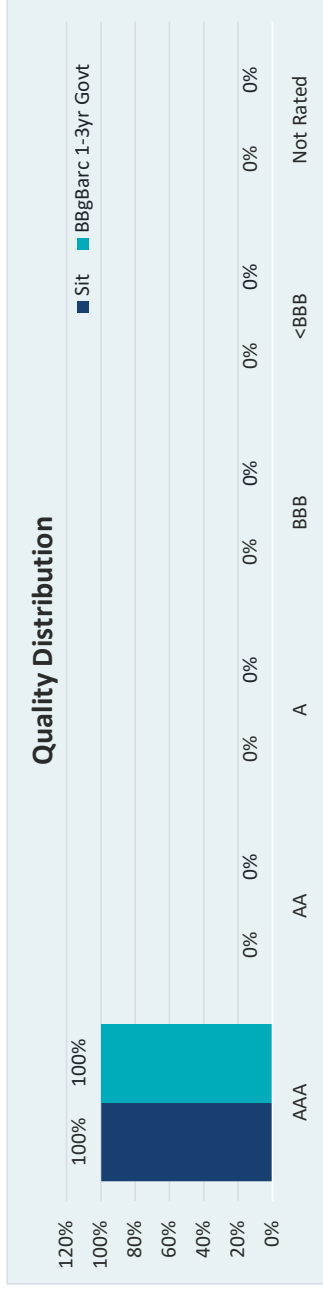


Sit Short Duration Manager Portfolio Overview

Period Ending: September 30, 2019

Short duration fixed income portfolio with a focus on earning high levels of interest income. Primary personnel include Bryce Doty, Paul Jungquist and Michael Brilley.

	Sit	BBgBarc 1-3yr Govt
Adjusted Duration	2.70	1.90
Yield to Maturity	2.50	1.70
Average Quality	AAA	AAA
Average Coupon	6.50%	2.07%



Performance Return Calculations

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Policy & Custom Index Composition

Policy Index (7/1/2019 - present)	10% Russell 3000, 18% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2% CPI + 4%, 11% S&P 500 +4% (Lagged), 5% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 24% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (7/1/2018 - 6/30/2019)	11% Russell 3000, 19% MSCI ACWI ex-US (Gross), 11% MSCI ACWI (Net), 1% Wilshire REIT, 1.8% NCREIF Property Index, 7.2% NCREIF ODCE Index, 2% CPI + 4%, 10% S&P 500 +4% (Lagged), 4% ICE BofAML High Yield Master II +2%, 2% ICE BofAML High Yield Master II, 23% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate, 2% BBgBarc Global Aggregate, 2.5% HFRI EH Equity Market Neutral.
Policy Index (10/1/2017 - 6/30/2018)	16.3% Russell 3000, 18.8% MSCI ACWI ex-US (Gross), 8.6% MSCI ACWI (Net), 1% Wilshire REIT, 1.6% NCREIF Property Index, 6.4% NCREIF ODCE Index, 2.5% CPI + 4%, 10.1% S&P 500 +4% (Lagged), 1.9% ICE BofAML High Yield Master II +2%, 4.3% ICE BofAML High Yield Master II, 25% BBgBarc 1-3 Yr Gov/Credit, 3.5% BBgBarc US Aggregate.
Policy Index (1/1/2017 - 9/30/2017)	22.9% Russell 3000, 11% MSCI ACWI ex-US (Gross), 10.9% MSCI ACWI (Net), 1% Wilshire REIT, 1.7% NCREIF Property Index, 6.8% NCREIF ODCE Index, 3.6% CPI + 4%, 8.1% S&P 500 +4% (Lagged), 1.7% ICE BofAML High Yield Master II +2%, 5.1% ICE BofAML High Yield Master II, 22.4% BBgBarc 1-3 Yr Gov/Credit, 3.2% BBgBarc US Aggregate, 1.6% 91-Day T-Bills.
Policy Index (4/1/2012-12/31/2016)	27.7% Russell 3000, 10.6% MSCI ACWI ex-US (Gross), 12.3% MSCI ACWI (Net), 19.6% BBgBarc U.S. Aggregate, 5% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 13.5% Real Estate Benchmark, 6.6% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2011-3/31/2012)	31% Russell 3000, 10.4% MSCI EAFE (Gross), 9.6% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (4/1/2010-3/31/2011)	35.6% Russell 3000, 10.4% MSCI EAFE (Gross), 5% MSCI ACWI (Net), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Policy Index (7/1/2009-3/31/2010)	40.6% Russell 3000, 10.4% MSCI EAFE (Gross), 25% BBgBarc U.S. Aggregate, 3% ICE BofAML High Yield Master II, 4% BBgBarc Global Aggregate, 8.4% DJ Wilshire REIT, 3.1% NCREIF, 5% S&P 500 +4% (Lagged), 0.5% 91-Day T-Bills.
Custom Growth Benchmark (7/1/2019 - present)	14.7% Russell 3000, 26.4% MSCI ACWI ex-US (Gross), 16.2% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.4% NCREIF Property Index, 9.4% NCREIF ODCE Index, 16.2% S&P 500 +4% (Lagged), 7.4% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% BBgBarc Global Bond
Custom Growth Benchmark (7/1/2018 - 6/30/2019)	16.0% Russell 3000, 27.5% MSCI ACWI ex-US (Gross), 15.9% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.6% NCREIF Property Index, 10.4% NCREIF ODCE Index, 14.5% S&P 500 +4% (Lagged), 5.8% ICE BofAML High Yield Master II +2%, 2.9% ICE BofAML High Yield Master II, 2.9% BBgBarc Global Bond
Custom Growth Benchmark (9/30/2017-6/30/2018)	23.6% Russell 3000, 27.2% MSCI ACWI ex-US (Gross), 12.5% MSCI ACWI (Net), 1.5% Wilshire REIT, 2.3% NCREIF Property Index, 9.3% NCREIF ODCE Index, 14.6% S&P 500 +4% (Lagged), 2.8% ICE BofAML High Yield Master II +2%, 6.2% ICE BofAML High Yield Master II
Custom Growth Benchmark (1/1/2017-9/30/2017)	32.6% Russell 3000, 15.7% MSCI ACWI ex-US (Gross), 15.5% MSCI ACWI (Net), 1.4% Wilshire REIT, 2.4% NCREIF Property Index, 9.6% NCREIF ODCE Index, 1.6% CPI +4%, 11.5% S&P 500 +4% (Lagged), 2.4% ICE BofAML High Yield Master II +2%, 7.3% ICE BofAML High Yield Master II
Custom Growth Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite
Custom Diversifying Benchmark (7/1/2018 - present)	43.75% BBgBarc US Aggregate, 25% CPI + 4%, 31.25% HFRI EH Equity Market Neutral
Custom Diversifying Benchmark (10/1/2017 - 6/30/2018)	58.33% BBgBarc US Aggregate, 41.67% CPI + 4%
Custom Diversifying Benchmark (1/1/2017 - 9/30/2017)	56.1% BBgBarc US Aggregate, 43.9% CPI + 4%
Custom Diversifying Benchmark (Prior to 1/1/2017)	Weighted-average of the benchmarks of the sub-composites that make up the composite.
Real Estate Benchmark (current)	11% Wilshire REIT, 18% NCREIF Property Index, 71% NCREIF ODCE Index
Real Estate Benchmark (4/1/2012-11/30/2016)	40% Wilshire REIT, 50% NCREIF Property Index, 10% FTSE/EPRR NAREIT Developed ex-US

Manager Line Up		Inception Date	Data Source	Manager	Inception Date	Data Source
BlackRock Russell 1000 Index	4/20/2017	BlackRock	Invesco Real Estate IV	6/30/2014	Invesco	
Jackson Square Partners	5/1/2005	Northern Trust	Invesco Real Estate V	2/20/2019	Invesco	
Boston Partners	6/1/1995	Northern Trust	Oaktree REOF V	12/31/2011	Oaktree	
Emerald Advisors	4/7/2003	Northern Trust	Oaktree REOF VI	9/30/2013	Oaktree	
Ceredex	11/6/2011	Northern Trust	Oaktree REOF VII	4/1/2015	Oaktree	
Pyford	4/25/2014	State Street	Siguler Guff DREOF	1/25/2012	Siguler Guff	
William Blair	10/29/2010	William Blair	Siguler Guff DREOF II	8/31/2013	Siguler Guff	
PIMCO RAE Emerging Markets	2/28/2017	State Street	Siguler Guff DREOF II Co-Inv	1/27/2016	Siguler Guff	
TT Emerging Markets	7/27/2017	TT	Paulson Real Estate Fund II	11/10/2013	Paulson	
Artisan Partners	10/1/2012	SEI Trust	AE Industrial Partners Fund II	4/8/2019	StepStone Group	
First Eagle	1/18/2011	Northern Trust	Adams Street Partners	3/18/1996	StepStone Group	
Allianz Global Investors	4/25/2000	Northern Trust	Adams Street Partners II	1/16/2009	StepStone Group	
Adelante	9/30/2001	Northern Trust	Adams Street Partners Venture	4/28/2017	StepStone Group	
AQR Global Risk Premium - EL	1/18/2019	AQR	Adams Street Partners - BFP	1/18/1996	StepStone Group	
Panagora Risk Parity Multi Asset	3/15/2019	Panagora	Adams Street Partners - Fund 5	9/21/2012	StepStone Group	
AFL-CIO	6/30/1991	AFL-CIO	Aether Real Assets IV	3/16/2016	StepStone Group	
Wellington Real Total Return	2/26/2013	Northern Trust	Aether Real Assets III	11/27/2013	StepStone Group	
Parametric Defensive Equity	7/23/2018	Northern Trust	Aether Real Assets III Surplus	11/30/2013	StepStone Group	
Sit Short Duration	11/2/2016	Northern Trust	Bay Area Equity Fund	6/14/2004	StepStone Group	
DFA Short Credit	11/21/2016	Northern Trust	Bay Area Equity Fund II	12/7/2009	StepStone Group	
Insight Short Duration	11/18/2016	Northern Trust	Commonfund	6/28/2013	StepStone Group	
Parametric Overlay	3/29/2017	Northern Trust	EIF US Power Fund II	8/16/2005	StepStone Group	
Cash	-	Northern Trust	EIF US Power Fund III	5/30/2007	StepStone Group	
Angelo Gordon Energy Credit Opp	9/24/2015	StepStone Group	EIF US Power Fund IV	11/28/2011	StepStone Group	
StepStone CC Opportunities Fund	2/1/2018	StepStone Group	EIF US Power Fund V	11/28/2016	StepStone Group	
Torchlight II	9/30/2006	StepStone Group	Genstar Capital Partners IX, L.P.	2/21/2019	StepStone Group	
Torchlight IV	7/1/2012	StepStone Group	Oaktree PIF 2009	2/28/2010	StepStone Group	
Torchlight V	7/1/2012	StepStone Group	Paladin III	11/30/2007	StepStone Group	
Angelo Gordon Realty Fund VIII	1/23/2012	Angelo Gordon	Ocean Avenue Fund II	6/11/2014	StepStone Group	
Angelo Gordon Realty Fund IX	12/8/2014	Angelo Gordon	Ocean Avenue Fund III	4/15/2016	StepStone Group	
DLJ RECP III	6/23/2005	DLJ	Pathway 6	5/24/2011	StepStone Group	
DLJ RECP IV	2/11/2008	DLJ	Pathway 7	2/17/2013	StepStone Group	
DLJ RECP V	7/1/2014	DLJ	Pathway 8	11/23/2015	StepStone Group	
DLJ RECP VI	3/19/2019	DLJ	Pathway	11/9/1998	StepStone Group	
LaSalle Income & Growth VI	7/16/2013	LaSalle	Pathway 2008	12/26/2008	StepStone Group	
LaSalle Income & Growth VII	2/28/2017	LaSalle	Siguler Guff CCCERA Opps	6/3/2014	StepStone Group	
Hearthstone II	6/17/1998	Hearthstone	Siguler Guff Secondary Opps	11/30/2016	StepStone Group	
Long Wharf Fund IV	7/3/2013	Long Wharf	Siris Partners IV	3/15/2019	StepStone Group	
Long Wharf Fund V	9/30/2016	Long Wharf	TPG Healthcare Partners, L.P.	6/28/2019	StepStone Group	
Invesco Real Estate II	11/26/2007	Invesco	Trident VIII, L.P.	5/24/2019	StepStone Group	
Invesco Real Estate III	6/30/2013	Invesco	Wastewater Opp. Fund	12/8/2015	StepStone Group	

Other Disclosures

All data prior to 12/31/2014 was provided by previous consultant. As of 7/1/2018 all Private Equity and Private Credit data is provided by StepStone Group.

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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Verus receives universe data from InvMetrics, eVestment Alliance, and Morningstar. We believe this data to be robust and appropriate for peer comparison. Nevertheless, these universes may not be comprehensive of all peer investors/managers but rather of the investors/managers that comprise that database. The resulting universe composition is not static and will change over time. Returns are annualized when they cover more than one year. Investment managers may revise their data after report distribution. Verus will make the appropriate correction to the client account but may or may not disclose the change to the client based on the materiality of the change.



Meeting Date
11/20/19
Agenda Item
#4b.

MEMORANDUM

Date: November 20, 2019
To: CCCERA Board of Retirement
From: Timothy Price, Chief Investment Officer
Subject: Investment Staff Report – Q3 2019

Overview

On a quarterly basis CCCERA's Board receives a report which details critical elements of CCCERA's Functionally Focused Portfolio's sub-portfolios. The purpose of the report is to highlight elements of the sub-portfolios which are good indicators to the Board of the program's efficient and effective operation.

Summary

CCCERA's Total Fund is performing as expected, exhibiting returns above expectations for the amount of risk taken. This is measured by the Sharpe Ratio (risk-adjusted return), and a comparison to the Simple Target Index. The Simple Target Index is the most basic index which could replicate CCCERA's Total Fund, and is made up of 68% MSCI ACWI, 24% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills (please see the Total Fund pages in the appendix for additional details). CCCERA's portfolio is much more complex, especially as it relates to allocations to private equity, private credit, and real estate.

CCCERA has been rewarded for implementing a more complex portfolio, and has outperformed the Simple Target Index over the trailing five years, while experiencing less risk (volatility). Details on performance relative to this index are included in the appendix. It is worth noting that CCCERA's Total Fund return is an aggregate of the performance of the Liquidity, Growth, and Risk Diversifying sub-portfolios.

1) Liquidity

The purpose of the liquidity program is to match four years of benefit payments with high credit quality, low duration assets. The liquidity sub-portfolio is made up of three fixed income managers, all of whom pursue a high quality, low duration investment approach. Through the third quarter of 2019, all managers held high quality portfolios (as measured by credit ratings),

low duration portfolios. The average credit quality for the entire liquidity program is AA- (AAA is the highest rating), and the duration is 1.8 years, which is considered short.

2) Growth

The Growth portfolio is designed to take advantage of capital appreciation and income opportunities globally. To achieve this, the Growth portfolio includes a variety of assets, from stocks and growth oriented bonds to private equity, real estate, and private credit. In the third quarter, CCCERA's Growth portfolio returned 0.2% during a quarter that experienced significant volatility without a clear positive or negative market trend.

3) Risk Diversifying

The Risk Diversifying mandate holds assets that are expected to diversify the growth portfolio's volatility while offering moderate growth. The mandate as a whole seeks to be highly liquid, have a low beta to the growth market, and produce positive real returns. In the third quarter, the Risk Diversifying mandate fulfilled two of these goals. The entire mandate is able to be liquidated within 90 days, meeting the requirement of high liquidity. The correlation of the mandate to growth markets is 0.5, which shows good diversification. The trailing real (net of inflation) returns over the past five years is -0.8%, an improvement from last quarter's -1.2%, but remains below expectations. We continue to explore additional mandates that can strengthen this sub-portfolio.

The Liquidity, Growth, and Risk Diversifying sub-portfolios are largely functioning well and within expectations. The product teams and asset managers are stable, and at this time we see few causes of organizational concern at our investment managers. CCCERA's Total Fund in aggregate is performing in line with expectations, having a higher return and a lower level of volatility compared to the Simple Target Index. Enclosed are additional details on CCCERA's Total Fund, sub-portfolios, and individual investment strategies.

CCCERA Portfolio Report Card

Below we have itemized those elements of each of CCCERA’s sub-portfolios and Total Fund which we believe the Board should pay particular attention to. Additional details on each of the sub-portfolios are available in the appendix.

Liquidity

Objective	Measurement	Current Period Data	Status
High Quality	Credit Quality	AA-	Meeting Expectations
Low Risk	Duration	1.80 years	Meeting Expectations
Appropriately Sized	Months of Benefit Payments Invested	46 Months	Meeting Expectations

Growth

Objective	Measurement	Current Period Data	Status
Growth of Plan Assets	Absolute Returns	Trailing 5yr return of 7.6%	Meeting Expectations
	Benchmark Relative Returns	1.0% over ACWI over trailing 5 years	Meeting Expectations
Efficient Capital Deployment	Sharpe Ratio	CCCERA: 1.0 MSCI ACWI: 0.5 (over trailing 5 years)	Meeting Expectations

Risk Diversifying

Objective	Measurement	Current Period Data	Status
Offset Volatility in Growth Portfolio	Correlation	0.5 over trailing 5 years	Meeting Expectations
Positive Real Returns	Returns	Trailing 5yr real return of -0.8%	Below Expectations
High Liquidity	% of Portfolio that can be liquidated within 90 days	100%	Meeting Expectations

Total Fund

Objective	Component/Measurement	Status
Store 4 Years of Benefit Payments	Liquidity Sub-portfolio	Meeting Expectations
Participate in Growth Opportunities	Growth Sub-portfolio	Meeting Expectations
Provide an offset to Growth volatility	Risk Diversifying Sub-portfolio	Meeting Expectations
Produce superior risk adjusted returns	Total Fund Sharpe Ratio	Meeting Expectations

Appendix – Liquidity Sub-Portfolio

Manager Reviews

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Insight	Good	-2%	4%	N
Sit	Good	5%	-2%	N
DFA	Good	13%	-3%	N

Performance

	Portfolio Average Credit Quality	Portfolio Average Duration	Portfolio Average Yield	1 Year Total Return
Insight	A+	1.6	2.2	4.8%
Sit	AAA	2.7	2.5	6.6%
DFA	A+	1.2	2.3	5.2%

Manager Notes:

None

Manager Theses:

The Liquidity Portfolio is a combination of three managers which work together to match four years of CCCERA’s liabilities. The portfolio is refreshed every year during the annual funding plan.

Insight: Insight plays a completion role in the liquidity program, matching out liabilities with short duration government and corporate fixed income securities.

DFA: Dimensional Fund Advisors runs a strategy that focuses on obtaining fixed income exposures via the most liquid securities available. DFA contributes to the Liquidity Program by selling securities at regular intervals to pay a portion of CCCERA’s monthly benefit payment.

Sit: Sit invests in high yielding government backed mortgages. The cash flow from these securities is harvested monthly to make up a portion of CCCERA’s monthly benefit payment.

Appendix – Growth Sub-Portfolio

Manager Reviews

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Boston Partners	Good	2%	-8%	N
Jackson Square	Good	-6%	2%	N
BlackRock Index Fund	Good	7%	9%	N
Emerald Advisors	Good	-2%	-8%	N
Ceredex	Good	-20%	-8%	N
Pyrford (BMO)	Good	11%	14%	N
William Blair	Good	-11%	-9%	N
First Eagle	Good	-9%	-10%	N
Artisan Global	Good	7%	0%	N
PIMCO/RAE EM	Good	35%	8%	N
TT EM	Good	27%	16%	N
Adelante	Good	12%	12%	N
Allianz	Good	-2%	1%	N
AQR	Good	-7%	-14%	N
PanAgora	Good	3%	-10%	N
Private Equity	Good	--	--	N
Private Credit	Good	--	--	N
Real Estate	Good	--	--	N

Performance

	Trailing 1 Year Return	Trailing 5 Year Return	Performance in Line with Expectations?
Boston Partners	-1%	8%	Y
Jackson Square	4%	10%	Y
BlackRock Index Fund	4%	11%	Y
Emerald Advisors	-10%	11%	Y
Ceredex	-4%	9%	Y
Pyrford (BMO)	1%	3%	Y
William Blair	-1%	4%	Y
First Eagle	5%	6%	Y
Artisan Global	5%	11%	Y
PIMCO/RAE EM	-5%	2%	Y
TT EM	2%	6%	Y
Adelante	20%	10%	Y
Allianz	6%	4%	Y
AQR	11%	4%	Y
PanAgora	17%	8%	Y
	1Yr Premium	5 Year Premium	
Private Equity	7%	3%	Y
Private Credit	9%	3%	Y
Real Estate	6%	3%	Y

Manager Notes:

TT announced that they will be acquired by Sumitomo Mitsui Financial Group. All emerging markets team members are expected to remain with the firm for at least the next several years. The transaction is expected to close in the first half of 2020.

Manager Theses:

The growth portfolio includes all managers in public and private equity, real estate, and private credit. These managers grow CCCERA's assets for future benefit payments (beyond the four years already covered by the Liquidity program).

Boston Partners: Large cap domestic equity which follows a value discipline. Boston Partners will buy out of favor companies and sell them when their intrinsic values are reflected in the market. Expected to outperform in flat to falling markets.

Jackson Square: Domestic equity large cap growth portfolio concentrated in companies with sustainable long-term growth characteristics. This portfolio should outperform in rapidly rising markets.

BlackRock Index Fund: Large cap domestic equity portfolio which should follow the Russell 1000 Index.

Emerald Advisors: Small cap growth equity seeking companies with high growth rates. Expected to produce strong returns in rising markets, and weak returns in falling markets.

Ceredex: Domestic equity small cap value portfolio of companies with dividend yields and low valuations. This portfolio should outperform flat markets.

Pyrford (BMO): International equity value portfolio of non-US companies with low valuations at the country and stock level. This portfolio should outperform in flat markets.

William Blair: International equity growth portfolio of non-US companies with high growth rates constructed from the security level. This portfolio should outperform in rapidly rising markets.

First Eagle: Global equity portfolio that is benchmark agnostic comprised of companies with low valuations.

Artisan Global Opportunities: Global equity portfolio of companies that is benchmark agnostic with accelerating profit cycles and a focus on capital allocation.

PIMCO/RAE Emerging Markets: Quantitative equity with a value orientation. This portfolio follows the fundamental indexing approach (ranking companies by metrics other than market capitalization), resulting in a diversified, low turnover portfolio. This portfolio underperforms in momentum driven markets.

TT International Emerging Markets: Concentrated, growth oriented manager which invests in small and mid-cap emerging market companies. TT employs both a top-down and a bottom-up research approach, and seeks to outperform by identifying companies that have a catalyst to drive future growth.

Adelante: Diversified portfolio of U.S. REITs with a focus on the underlying real estate assets. Adelante is a public market proxy of the core real estate market.

Allianz High Yield Fixed Income: Domestic high yield fixed income portfolio with a focus on security selection. Allianz will focus on the higher quality segment of the high yield universe. Allianz should provide a steady income stream, and provide downside protection in falling markets.

Private Equity: CCCERA invests in private equity to generate returns above those available in the public equity markets.

Private Credit: CCCERA invests in private credit to generate cash flow streams above those available in the public debt markets.

Real Estate: CCCERA invests in value-add, distressed, and opportunistic real estate to generate returns from the capital appreciation and cash flow associated with commercial real estate investment.

Risk Parity: Multi-asset approach that strives for balanced contributions to total portfolio risk from multiple asset classes.

Appendix – Risk Diversifying Sub-Portfolio

Organizational Stability

	Portfolio Management Assessment	1 Year Product Asset Growth	1 Year Firm Asset Growth	Regulatory Action in Last Year?
Wellington	Satisfactory	-64%	1%	N
AFL-CIO	Good	13%	13%	N
Parametric	Good	18%	88%	N

Performance

	Trailing 1 Year Correlation to Growth	Trailing 3 Year Correlation to Growth	1 Year Return	5 Year Return	% of Portfolio Liquid in 30 Days
Wellington	1.0	0.9	3%	-1%	100%
AFL-CIO	0.6	0.1	10%	3%	100%
Parametric	1.0	0.9	2%	7%	100%

Manager Notes:

None.

Manager Theses:

Managers in the risk diversifying allocation seek to have a low correlation with the growth portfolio, positive returns in flat and falling equity markets, and a high degree of liquidity. These managers work together to offset some of the risks in the growth portfolio.

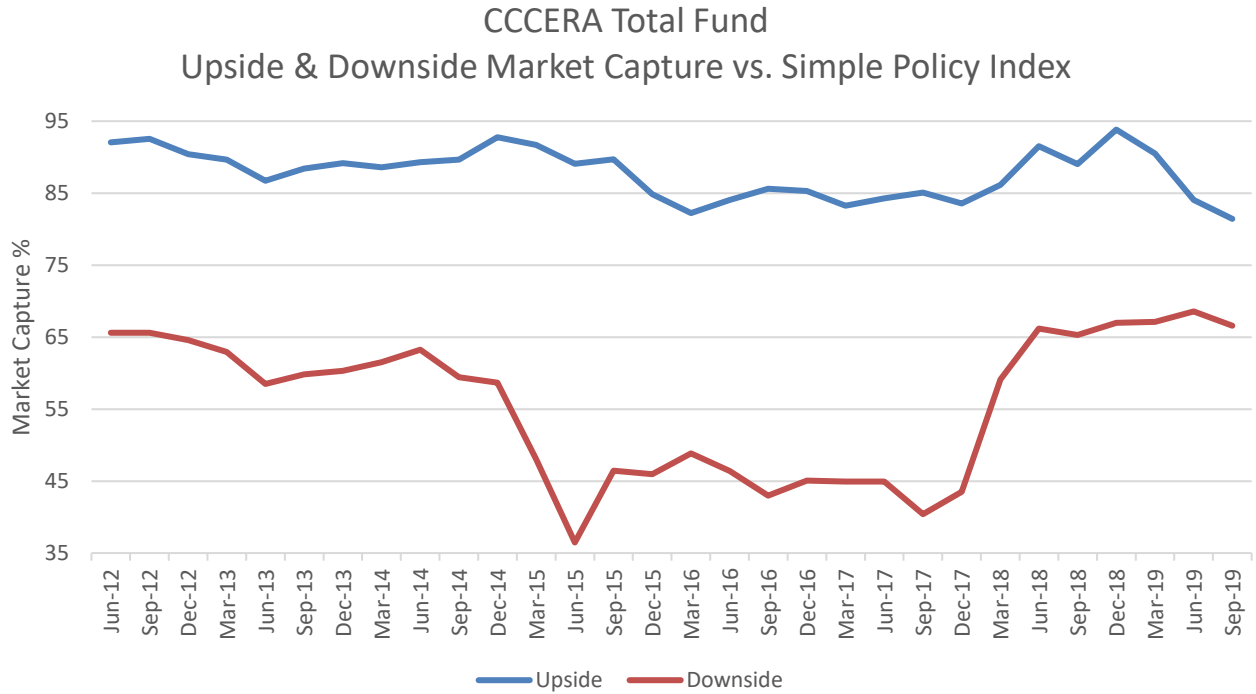
AFL-CIO: Portfolio of domestic, high quality fixed income securities which are backed by commercial and residential mortgages.

Parametric: Portfolio of paired options selling intended to collect insurance premiums by selling puts and calls on the S&P 500 with collateral invested in US Treasury portfolio.

Wellington: Multi-strategy fund which tactically rotates between assets to produce returns. Approximately 50% of underlying strategies pursue an inflation-hedging goal.

Appendix Data – Total Fund

Rolling 3-Year Total Fund Upside/Downside Market Capture



*The composition of the Simple Target Index has mirrored changes in CCCERA’s asset allocation over time: from 2008 to 2012 the benchmark was 73% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 4% 3-Month Treasury Bills. From 2012 to 2016 the composition was 74% MSCI ACWI, 18% Bloomberg 1-3 Year Gov/Credit, and 9% 3-Month Treasury Bills. From 2016 to 2017 the composition was 63% MSCI ACWI, 25% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, from 2017 to June 2018 the composition was 61% MSCI ACWI, 27% Bloomberg 1-3 Year Gov/Credit, and 12% 3-Month Treasury Bills, from July 2018 to June 2019 the composition is 69% MSCI ACWI, 23% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills, and from July 2019 to the present the composition is 68% MSCI ACWI, 24% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bills.

Total Fund Quarterly Attribution

	CCCERA Total Fund			Simple Target Index			Analysis		
	Allocation	Return	Contribution	Allocation	Return	Contribution	Allocation Difference	Return Difference	Total Effect
Liquidity	19%	0.8%	0.2%	24%	0.7%	0.2%	-4.9%	0.2%	0.0%
Growth	73%	0.2%	0.2%	68%	0.0%	0.0%	4.8%	0.3%	0.2%
Risk Diversifying	8%	1.8%	0.1%	8%	0.6%	0.0%	0.1%	1.2%	0.1%
Total Fund	100%		0.5%	100%		0.2%	-0.1%		0.3%

CCCERA Total Fund Performance vs. Simple Target Index

	One Year		Three Years		Five Years		Ten Years	
	CCCERA	STI	CCCERA	STI	CCCERA	STI	CCCERA	STI
Return	4.4	2.6	7.0	6.8	6.4	4.7	8.5	6.3
Volatility	9.8	14.3	5.7	8.1	5.3	7.4	7.2	9.4
Sharpe	0.2	0.0	1.0	0.6	1.0	0.5	1.1	0.6

The Simple Target Index is made up of 68% MSCI ACWI, 24% Bloomberg 1-3 Year Gov/Credit, and 8% 3-Month Treasury Bill. This purpose of this index is to examine whether or not CCCERA is being rewarded for pursuing a more nuanced portfolio versus a very simple representative portfolio.

CCCERA's Total Fund has produced strong risk adjusted returns over most trailing periods. Additionally, the CCCERA Portfolio has exceeded the Simple Target Index over all trailing periods. This would indicate that CCCERA has been rewarded for engaging in more complex investments which target outperformance versus investing passively in the publicly traded market.

The Sharpe ratio is a measure of risk adjusted returns which shows the amount of return a portfolio earns above the risk free rate per unit of volatility. Over all trailing periods, the Total Fund has produced a better Sharpe ratio relative to the Simple Target Index, indicating that CCCERA is being favorably rewarded for the risk taken in the portfolio.



CCCERA Board Presentation
Private Equity Update

NOVEMBER 2019

Meeting Date
11/20/19
Agenda Item
#5

Disclosure



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All data as of September 2019 unless otherwise noted.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. ACTUAL PERFORMANCE MAY VARY.

Biographies



TOM KECK, PARTNER, LA JOLLA

Mr. Keck leads StepStone’s global research activities and the development of SPI. He is also involved in the Firm’s ESG and risk management initiatives.

Prior to co-founding StepStone, Mr. Keck was a managing director at Pacific Corporate Group, a private equity investment firm that oversaw over US\$15 billion of private equity commitments for institutional investors. Before that he was a principal with Blue Capital, a middle-market buyout firm.

Mr. Keck graduated cum laude with a BA from the George Washington University and received his MBA with high honors from the University of Chicago Booth School of Business. He served in the US Navy as a Naval Flight Officer, receiving numerous decorations flying EA-6Bs off the USS Nimitz (CVN-68).

NATALIE WALKER, MANAGING DIRECTOR, LA JOLLA



Ms. Walker is a member of the private equity team, focusing on US-based small-market managers and secondary investments.

Prior to StepStone, Ms. Walker was a research analyst at Oppenheimer & Co., a leading national investment bank and full-service investment firm offering investment banking, financial advisory services, capital markets services, asset management, wealth management, and related products and services worldwide. Ms. Walker was a member of Oppenheimer’s private equity team, where she conducted due diligence and research on private equity funds, secondary investments and co-investments. Before that she worked for a private equity backed start-up and Women-owned Business Enterprise, Sundance Energy.

Ms. Walker received her BA from Georgetown University McDonough School of Business.

Overview



- I. Private Equity Market Update
- II. Review of Private Equity Program
- III. Private Equity Portfolio Performance

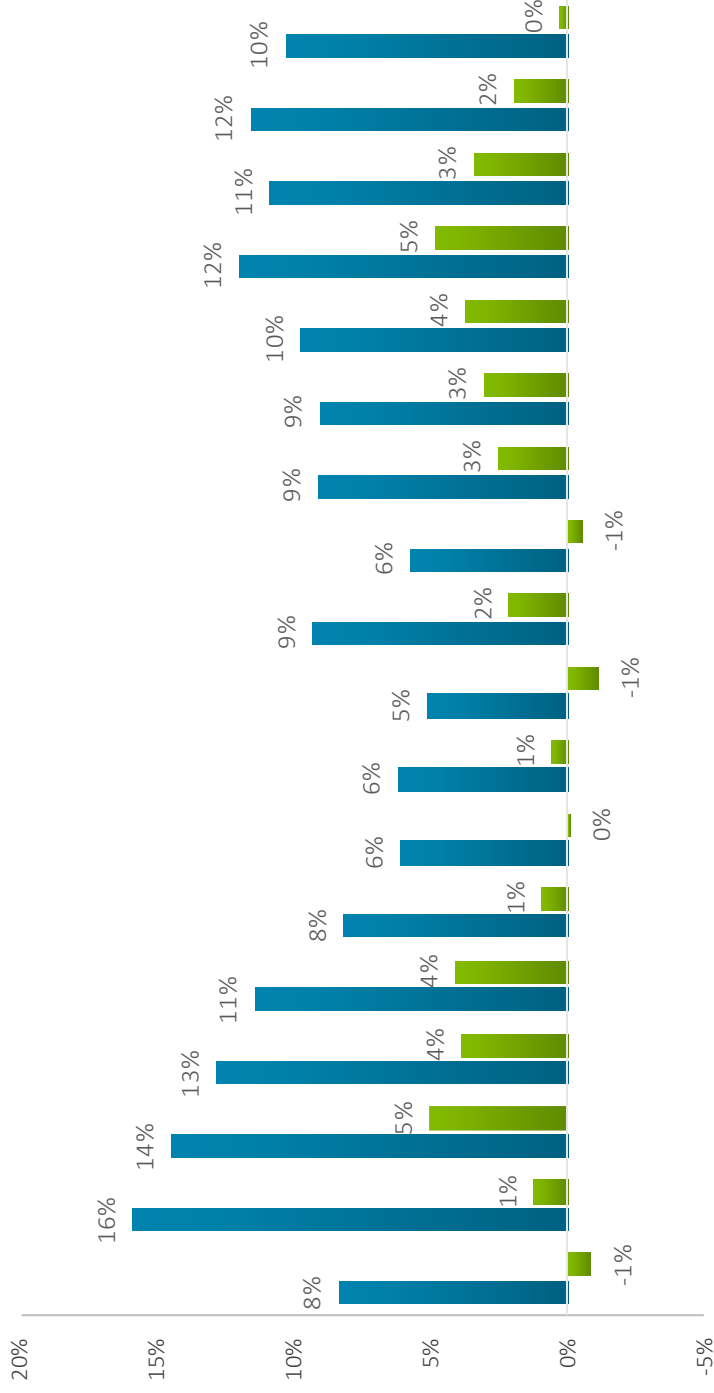
I. PRIVATE EQUITY MARKET UPDATE

Market Overview



PRIVATE EQUITY HAS DELIVERED ALPHA RELATIVE TO THE PUBLIC MARKETS

PRIVATE EQUITY DIRECT ALPHA



- Historically, Top Quartile Private Equity has outperformed public equities in each of the past 18 vintage years.
- More recently, Median private equity returns from 2009-2014 have performed well relative to public markets averaging 260 bps above the public market. StepStone reviewed the performance of 2009-2014 vintage funds that are past their investment period and in harvest mode.

2009-14 ARITHMETIC AVERAGE			
AS OF	TOP Q.	MEDIAN Q.	
2Q19	9.2%	2.6%	
2Q18	6.3%	0.2%	
Change in bps:		289 bps	240 bps

- Institutional investors continue to include private markets as part of their allocation to diversify and enhance overall returns.

Private IQ, as of 6/30/19; PE Returns includes Generalists, Equity, and Distressed Funds. The Direct Alpha method formalizes the calculation of the exact alpha (in a continuous time log-return sense) that a PE portfolio has generated relative to the chosen reference benchmark; Data for 2018-2019 not considered relevant given early nature of those vintage years; The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

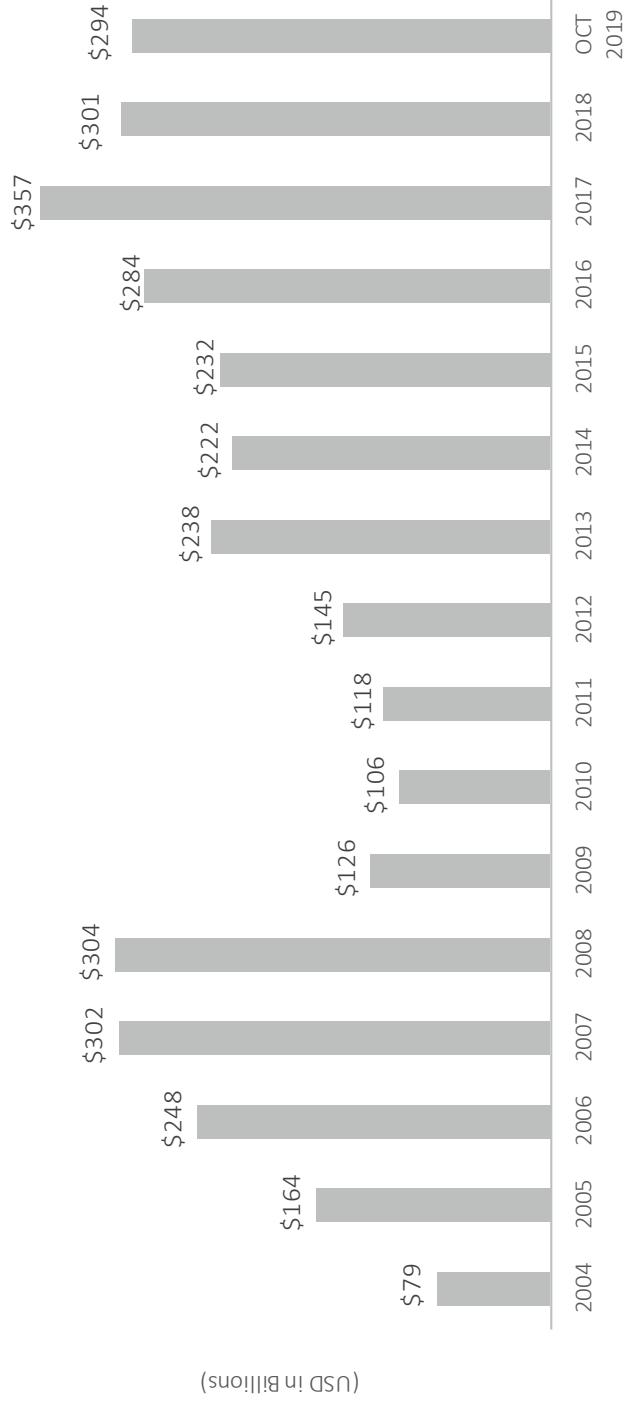
Market Overview



PRIVATE EQUITY BUYOUT FUNDRAISING IS ON PACE FOR ~\$350-400 BILLION IN 2019

GLOBAL PRIVATE EQUITY BUYOUT FUNDRAISING

- Global PE Buyout funds have raised nearly \$300 billion through mid-October; fundraising activity is typically high in Q4 as funds look to close before year-end.
- The fundraising market has become much more GP-friendly, with funds becoming oversubscribed in very little time.
- This environment is impacting fund sizes as well as terms – more GPs have been looking to change terms on new funds to be more GP favorable.

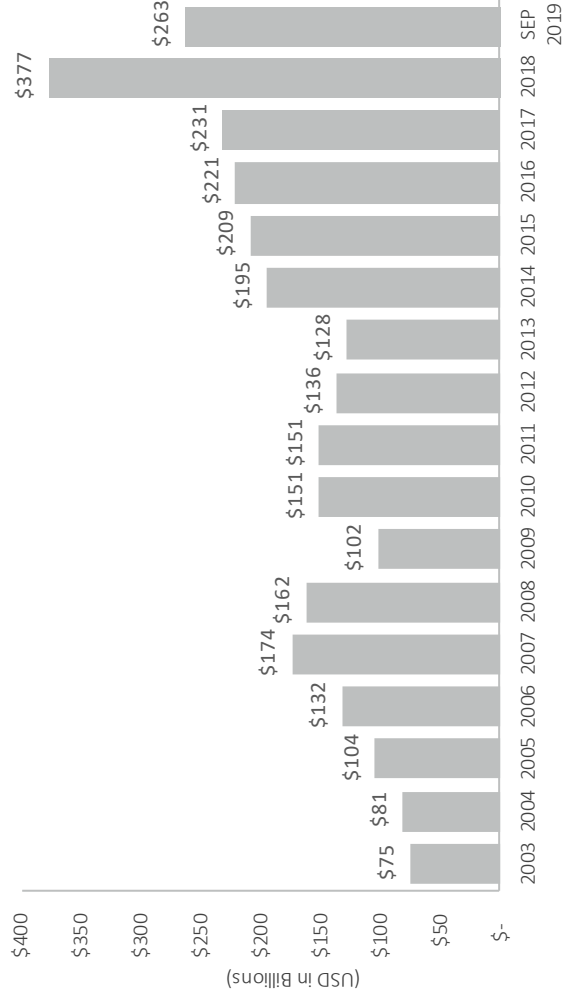


Market Overview

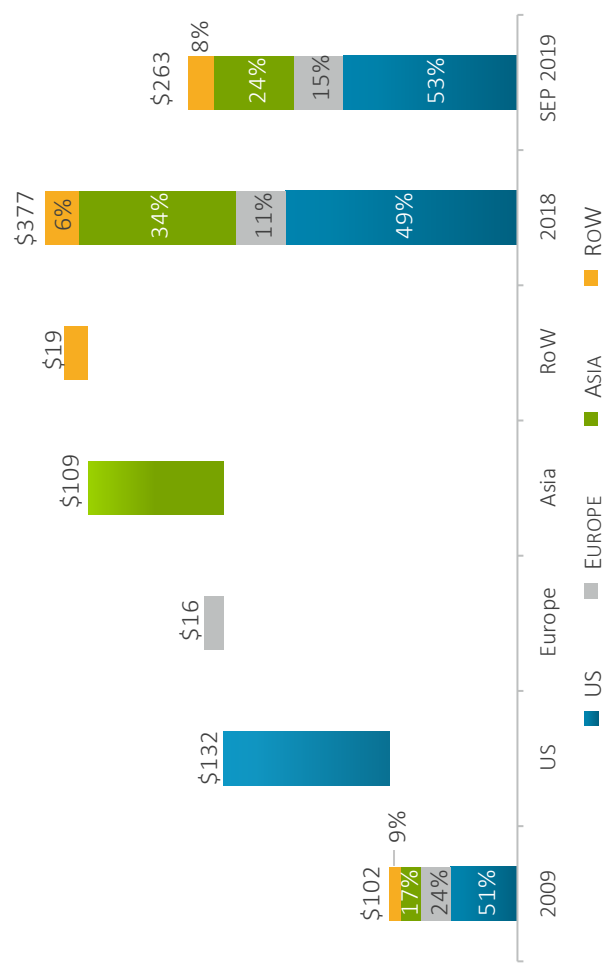


2018 WAS A RECORD INVESTMENT YEAR AND 2019 IS ON PACE TO SURPASS \$300 BILLION

GLOBAL EQUITY INVESTED BY YEAR



EQUITY INVESTED BY REGION BRIDGE

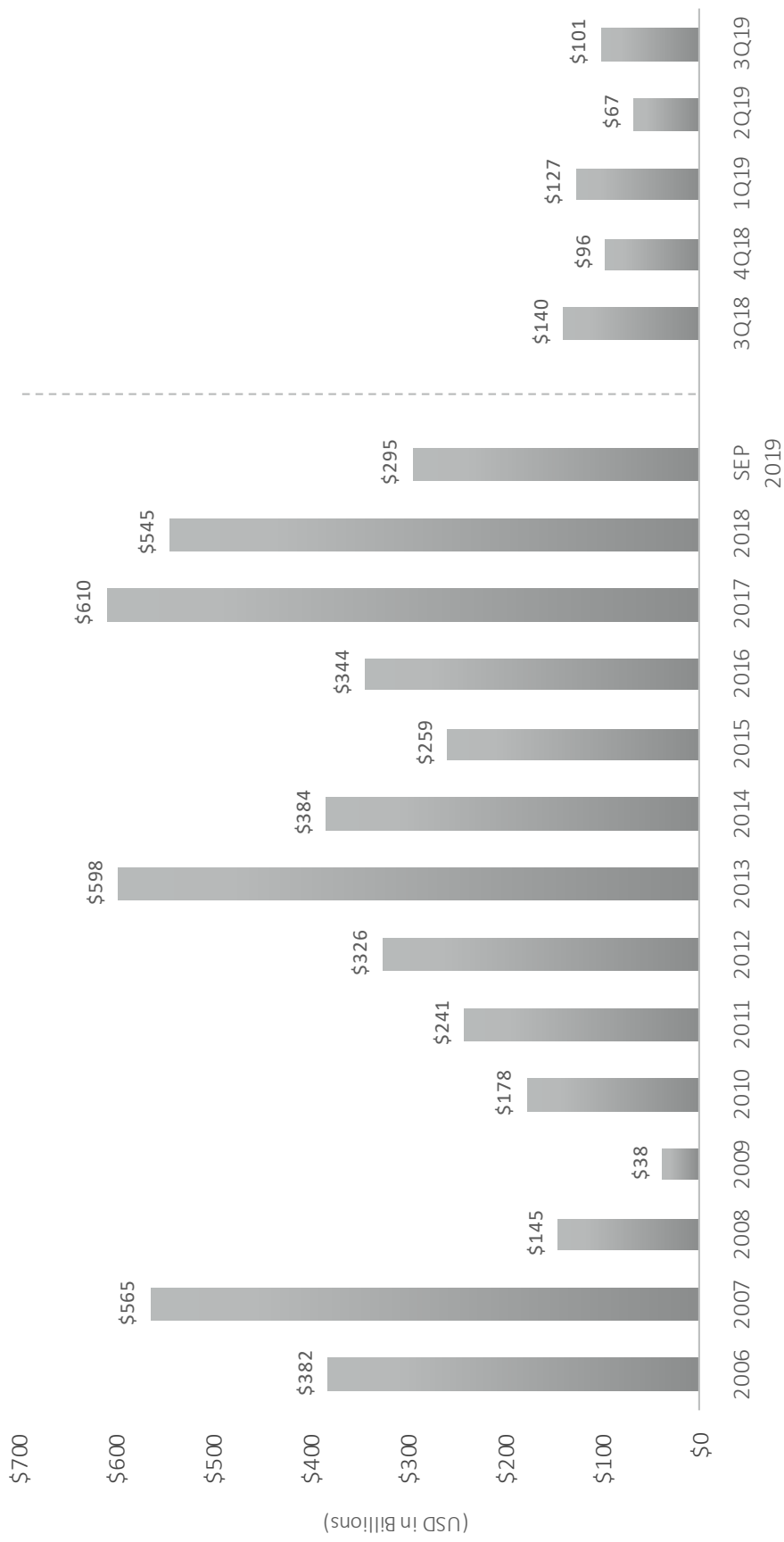


Transaction Volume



U.S. TRANSACTION VOLUME IS ON PACE FOR ~\$350-400 BILLION IN 2019

U.S. SPONSORED TRANSACTION VOLUME BY YEAR



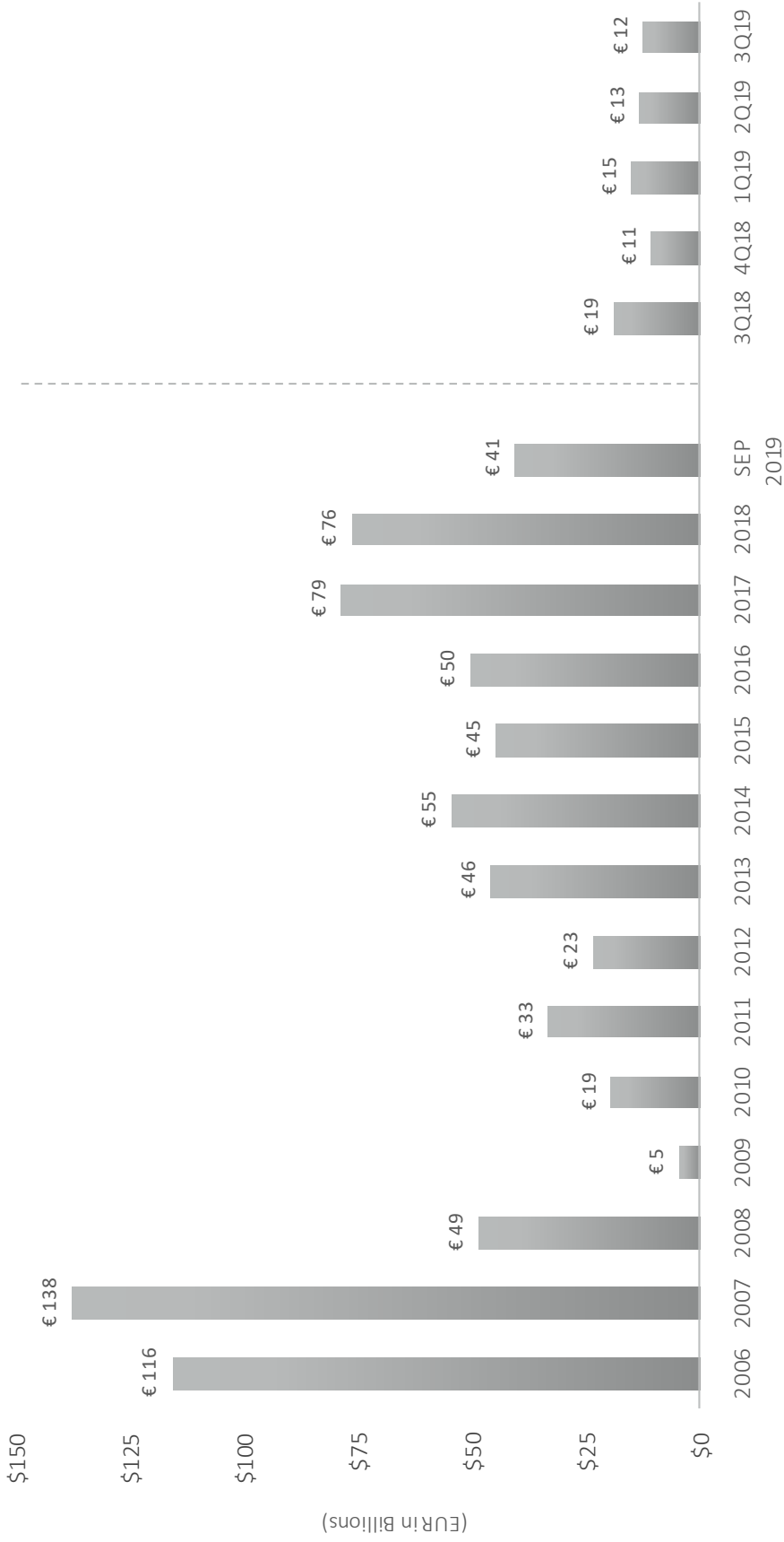
Q3 2019 S&P LBO Review; S&P updates data and historical amounts are subject to change; Volume on this page includes all Total Sources (loans, secured debt, unsecured debt, sub debt, and equity) involved in any sponsored transaction, regardless of purpose.

Transaction Volume



EUROPEAN TRANSACTION VOLUME HAS GROWN, BUT IS STILL BELOW 2006-07

EUROPEAN SPONSORED TRANSACTION VOLUME BY YEAR



• European transaction volume year-to-date September 2019 has slowed compared to 2017-2018.

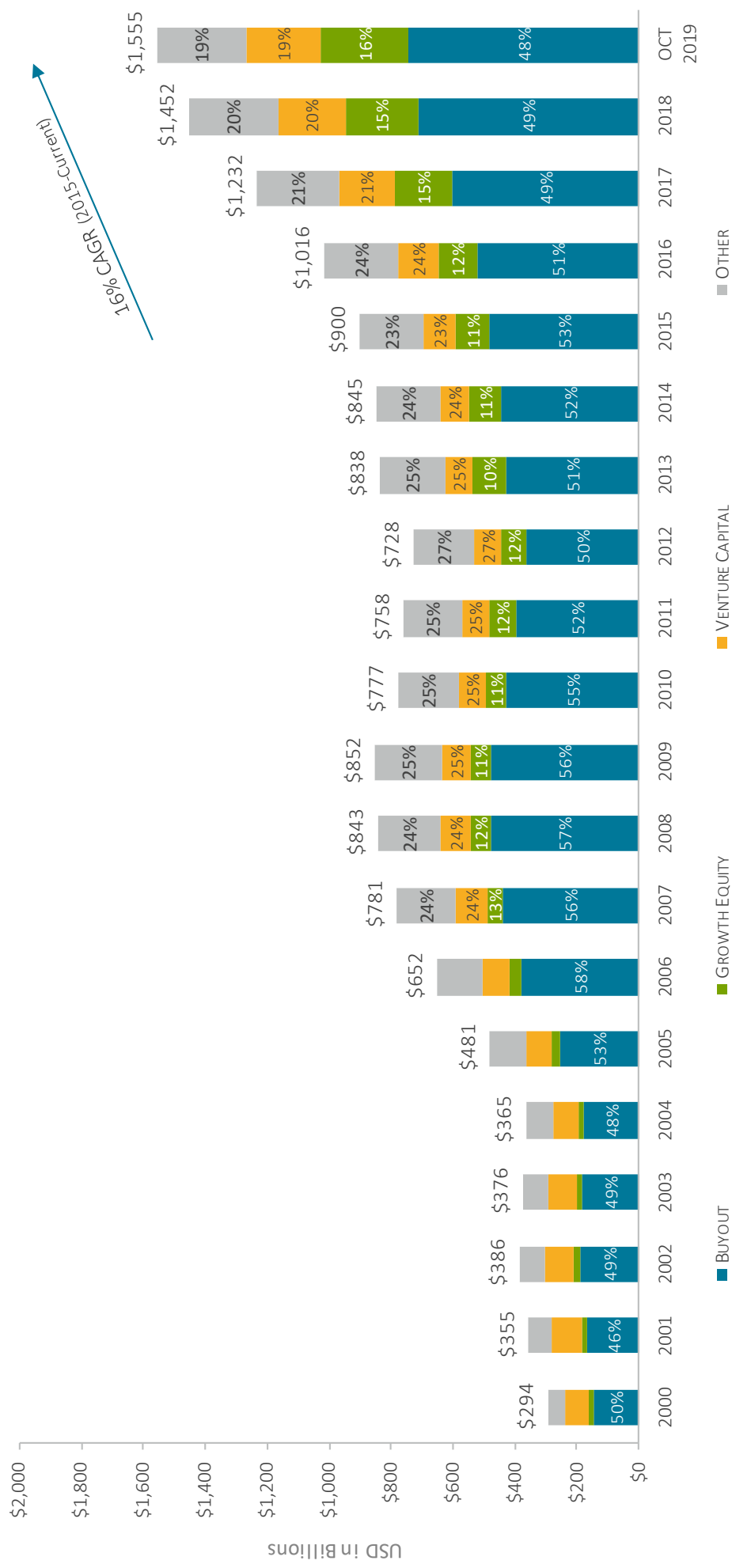
• Low growth expectations are making it hard for LBO firms to identify attractive opportunities, thereby increasing competition – and prices – for quality assets.

Dry Powder



CAPITAL RAISED BUT NOT YET INVESTED (“DRY POWDER”) HAS INCREASED 73% SINCE YEAR-END 2015

PRIVATE EQUITY DRY POWDER – BY STRATEGY

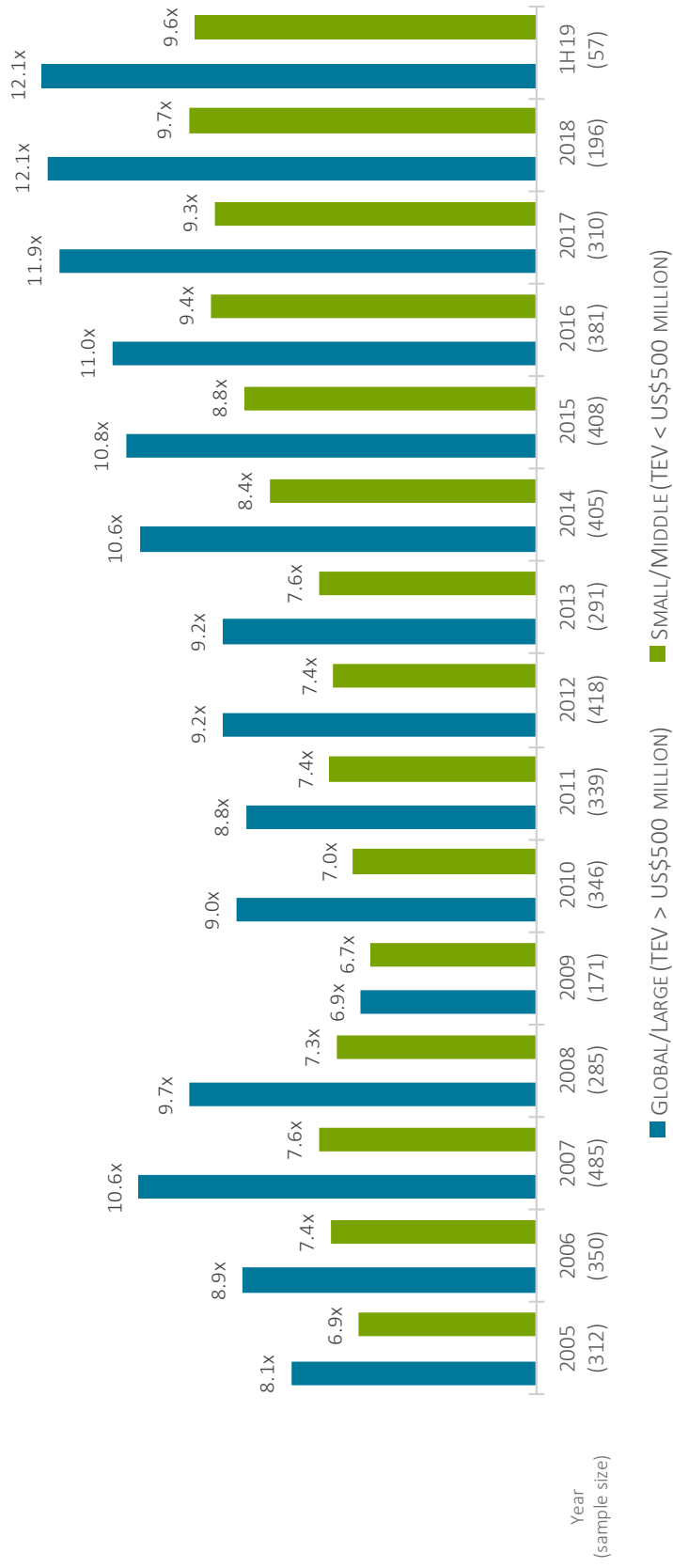


Purchase Price Multiples



IN THE U.S., PRICES REMAIN AT HISTORICALLY HIGH LEVELS

U.S. PURCHASE PRICE MULTIPLES



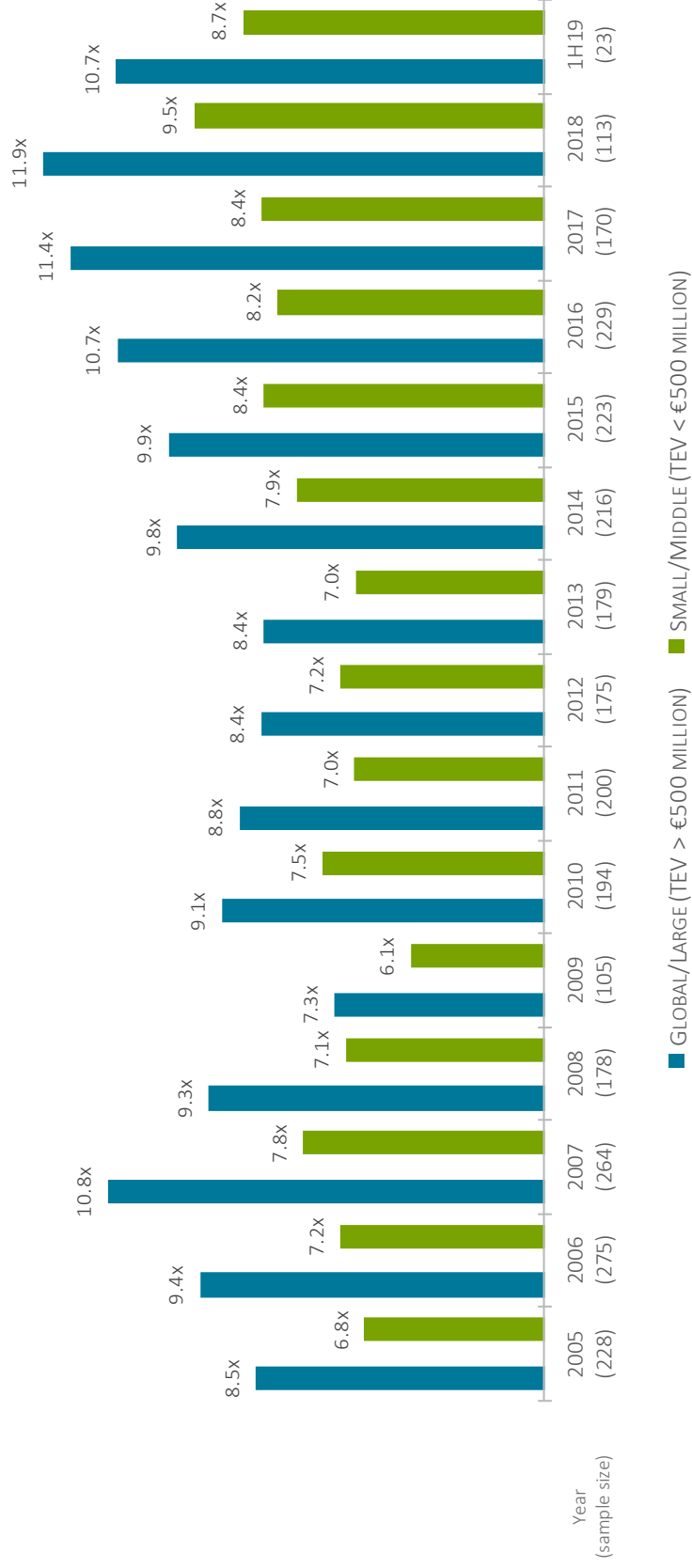
- Low interest rates and high growth expectations explain the high prices.
- StepStone would expect prices to moderate over the next fund cycle.

Purchase Price Multiples



PURCHASE PRICES IN EUROPE HAVE EXHIBITED THE SAME BEHAVIOR AS IN NORTH AMERICA

EUROPEAN PURCHASE PRICE MULTIPLES



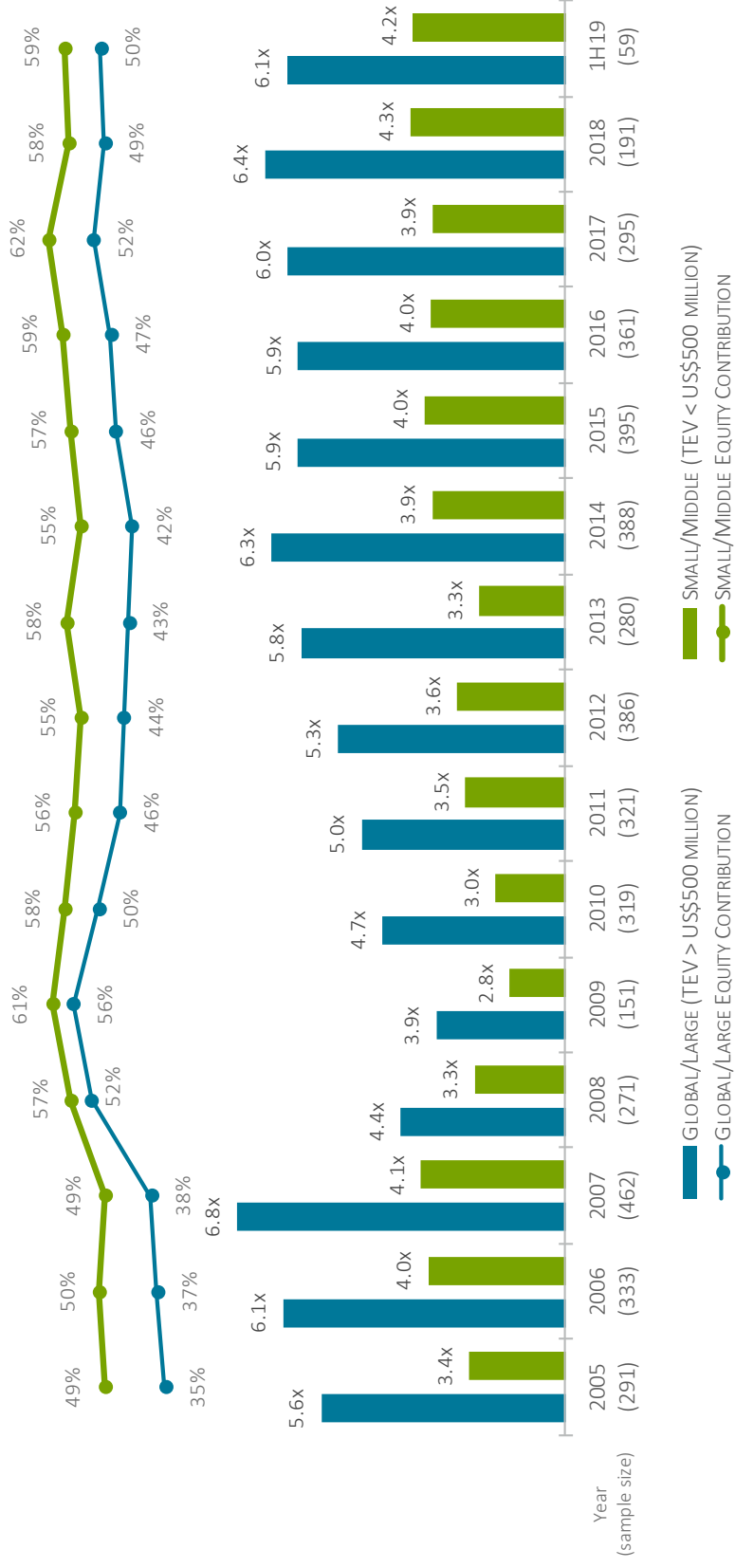
- H1 2019 purchase prices have come down from 2017-18 but are still high relative to historic levels.

Leverage Multiples



EQUITY CONTRIBUTION HAS REMAINED WELL ABOVE PRE-RECESSION LEVELS AS PRICES HAVE INCREASED

U.S. LEVERAGE MULTIPLES



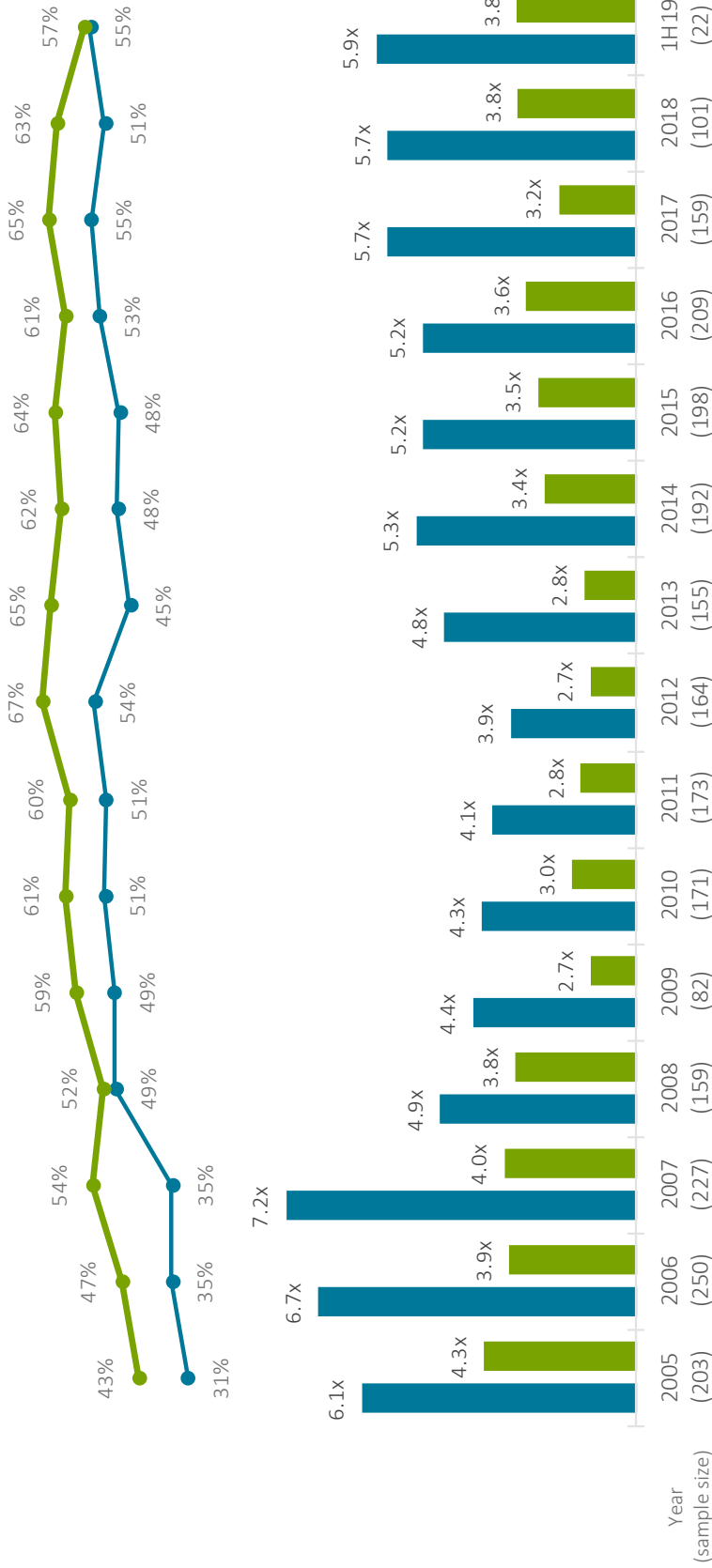
- Leverage multiples in the Global/Large market remain at ~6x.
- Prices are higher, but capital structures should be more durable as the equity contributions continue to remain at a healthier level than pre-GFC.

Leverage Multiples



IN EUROPE, LEVERAGE MULTIPLES REMAIN BELOW 2005-2007 IN THE GLOBAL/LARGE MARKET

EUROPEAN LEVERAGE MULTIPLES

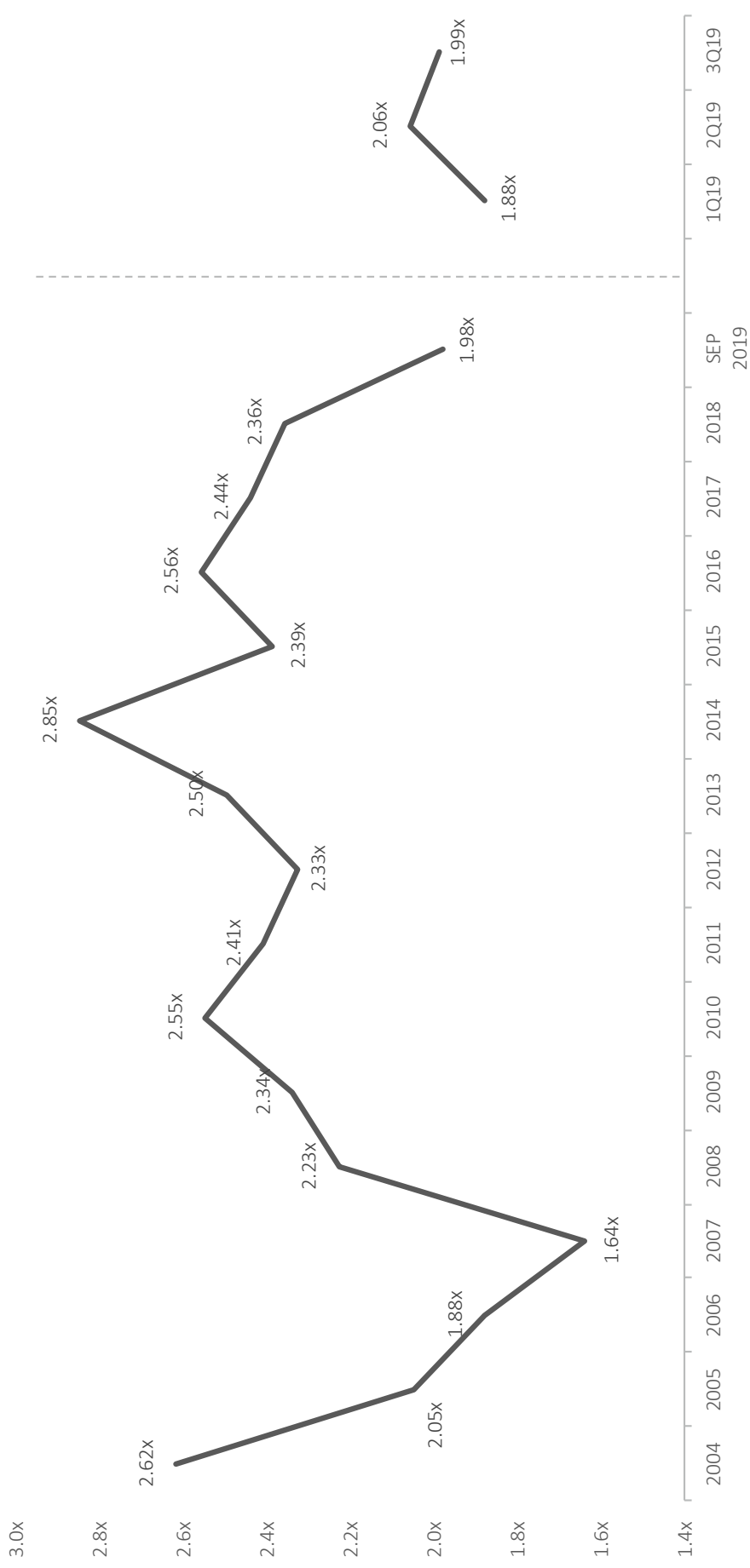


Debt Markets



INTEREST COVERAGE IN 2019 IS BELOW 2.0X

INTEREST COVERAGE RATIO FOR U.S. LARGE CORPORATE LBOS



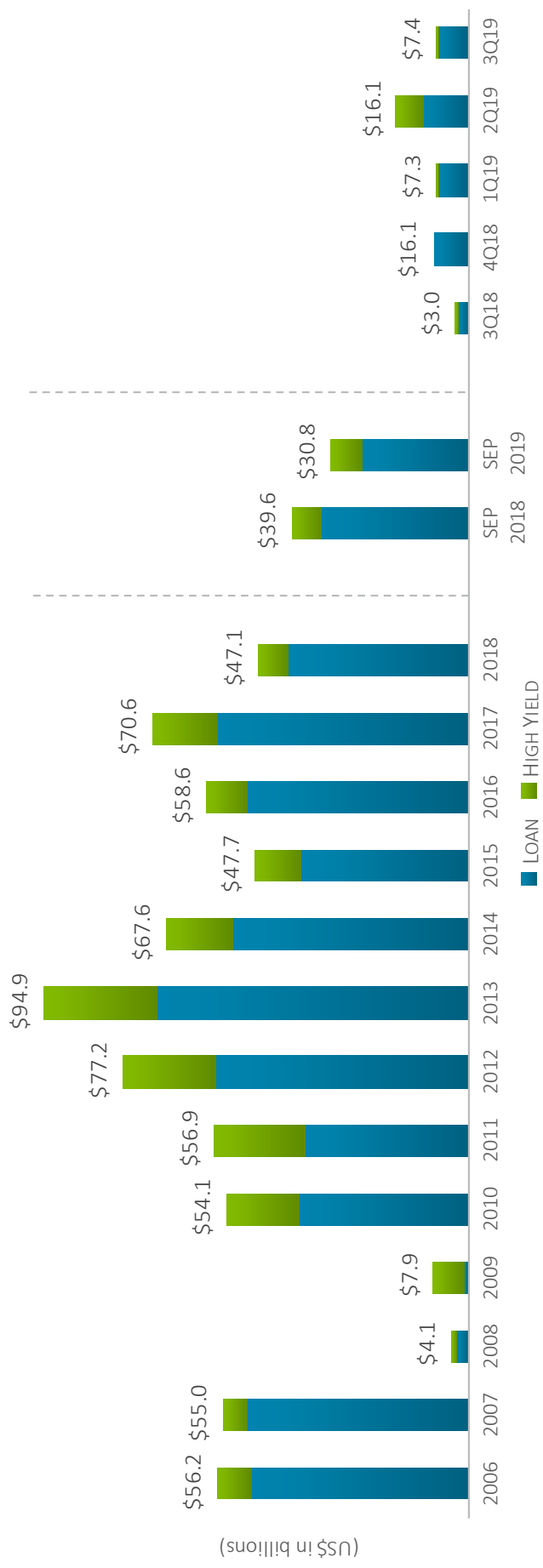
- Since 2008, no full calendar year has been below 2.3x. If 2019 finishes below 2.0x, it would mark a stark reversal of that trend.

Debt Markets



DIVIDEND ACTIVITY IS IN-LINE FOR ITS SMALLEST YEAR SINCE 2009

DIVIDEND/STOCK REPURCHASE VOLUME



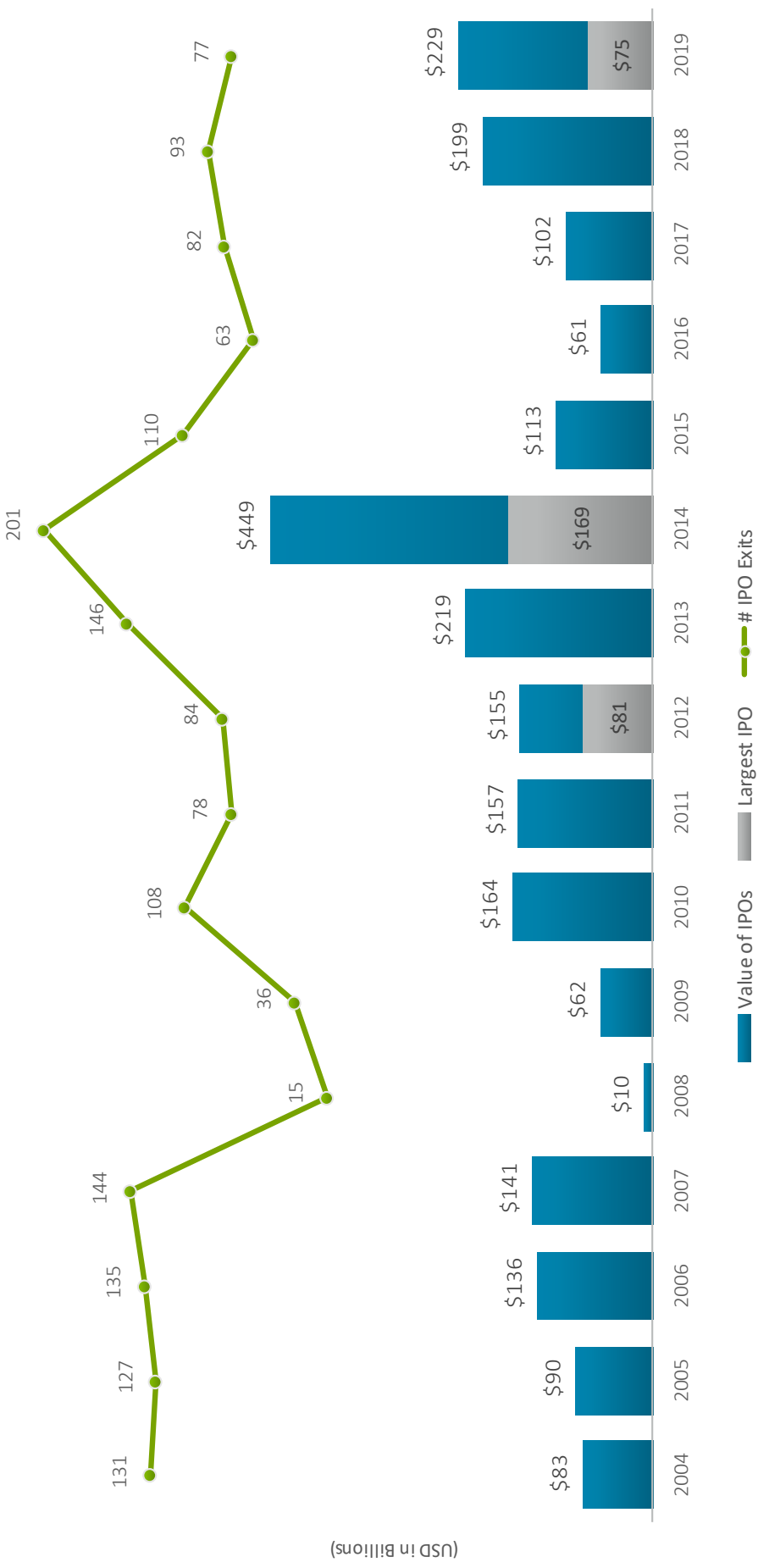
- New issue volume in syndicated loans has been muted so far in 2019.
- In absolute / dollar terms, year-to-date volume for such transactions are still materially lower than in 2018.

IPO Market



2019 IS THE SECOND MOST FRUITFUL IPO MARKET BEHIND 2014 IN TERMS OF DOLLARS RAISED

IPO ACTIVITY BY YEAR

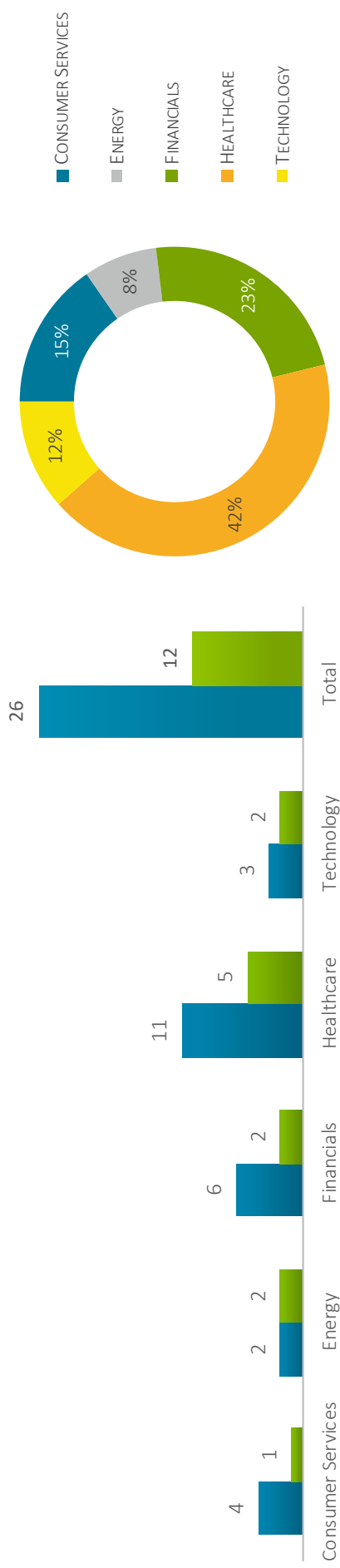


- The largest IPOs during 2019 were Uber (\$75.2b), Lyft (\$20.8b), and Pinterest (\$11.7b).
- 2019 IPO value down 10% since listing driven by Uber and Lyft, which represented 42% of 2019 issuances collectively.
- Excluding Uber and Lyft, market cap has increased by 4%.

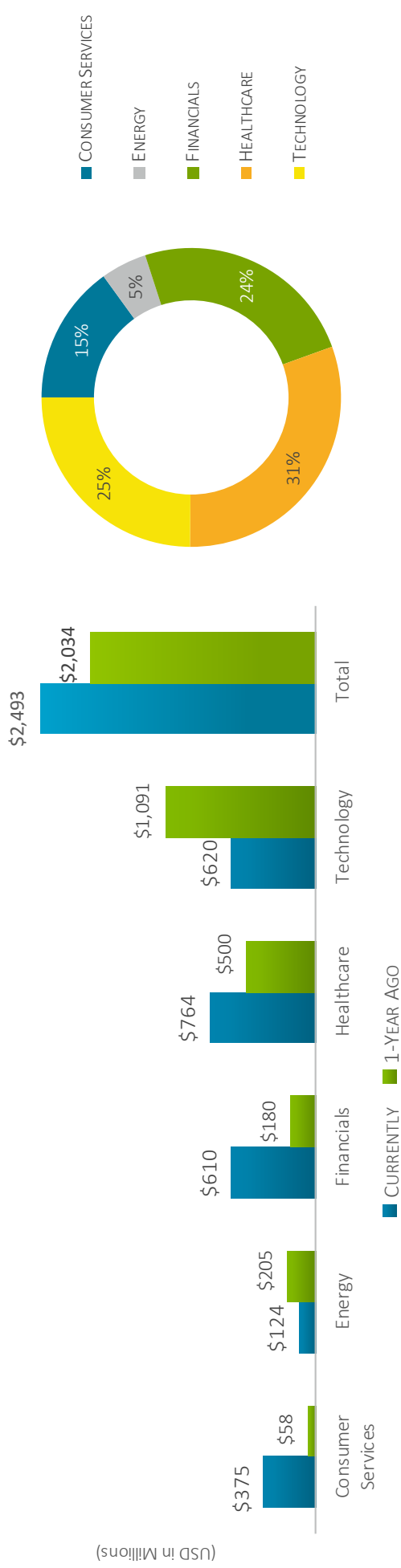
Source: ThomsonOne as of Q3 2019; StepStone Analysis
 In 2012, the grey bar represents the IPO of Facebook (NASDAQ: FB)
 In 2014, the grey bar represents the IPO of Alibaba (NYSE: BABA)
 In 2019, the grey bar represents the IPO of Uber (NYSE: UBER)

IPO BACKLOG

NUMBER OF PROPOSED DEALS BY SECTOR



VALUE OF PROPOSED DEALS BY SECTOR

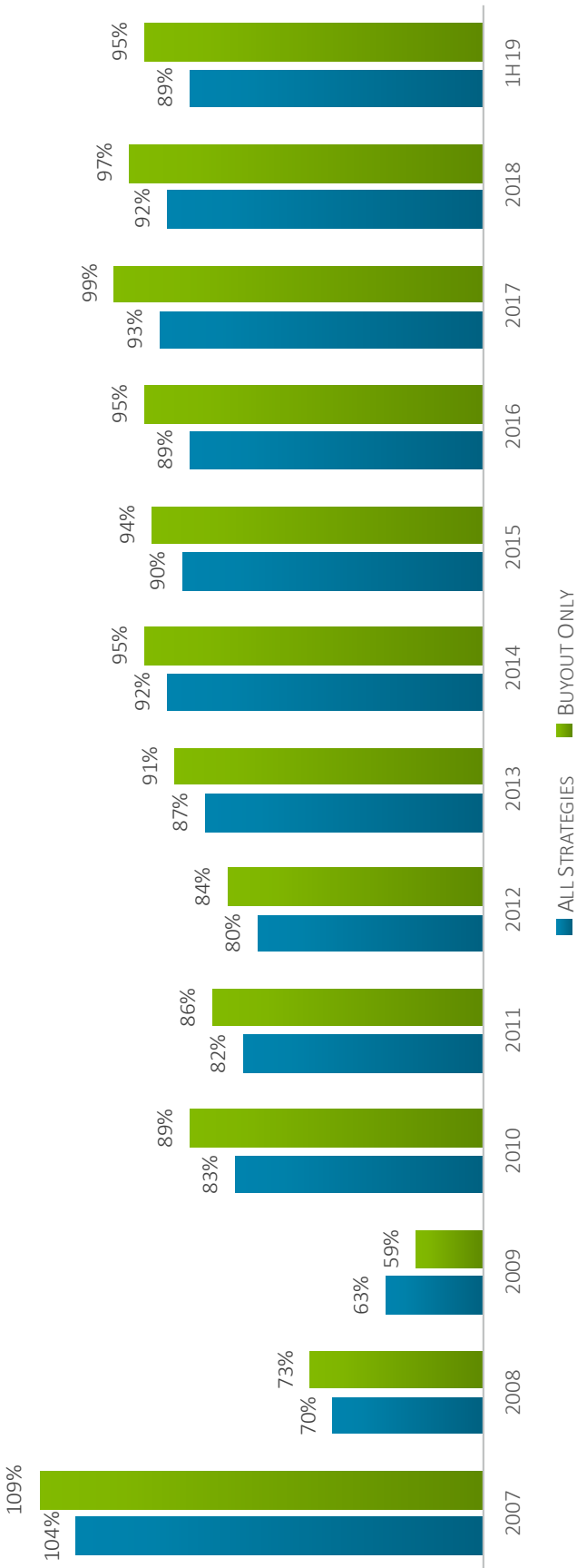


Secondary Market Overview

CURRENT INVESTMENT ENVIRONMENT

- Secondary market in mature phase of development.
- Conditions exist for continued efficient pricing.
- Outperformance necessitates a distinct strategy and platform advantages.

MARKET SECONDARY PURCHASE PRICE AS A % OF NAV



OFF-MARKET TRANSACTIONS, QUALITY ASSETS ARE KEY TO RETURNS IN THE CURRENT ENVIRONMENT

II. REVIEW OF PRIVATE EQUITY PROGRAM

Private Equity Team



CCCERA BOARD



PORTFOLIO MANAGERS



Tom Keck, Partner, Head of Research
La Jolla
22 yrs. investment experience
PCG, Blue Capital, McKinsey



Natalie Walker, Managing Director
La Jolla
13 yrs. investment experience
Oppenheimer & Co.



Qi Liu, CFA, Senior Associate
La Jolla
12 yrs. investment experience
TorreyCove, Macquarie Group

- **150+** investment professionals cover **12** sectors across primaries, secondaries and co-investments
- Sought after allocator of **\$37+ bn** annually¹
- Highly networked team attends **3,700+** GP meetings annually²
- Senior team averages **17** yrs. investment experience

INVESTOR RELATIONS



Jose Fernandez, Partner, Co-COO
La Jolla
22 yrs. investment experience
PCG, Latham & Watkins LLP

- **110+** professionals provide monitoring and reporting and investor relations services
- Monitor and analyze **3,700+** investments comprising **40,000+** companies across **1,370+** GPs
- Senior team averages **15** yrs. relevant experience

LEGAL/STRUCTURING



Kirsty McGuire, General Counsel
New York
15 yrs. relevant experience
Orrick, Herrington & Sutcliffe, Credit Suisse Securities

- **15+** professionals negotiate transaction documents and execute fund structuring solutions
- Senior team averages **14** yrs. relevant experience
- **5** additional legal and compliance professionals focus on private debt and real estate activities

RESEARCH CAPABILITIES

- Strategic Advice
- Manager Selection
- Market Research
- Portfolio Planning

CUSTOMIZED SEPARATE ACCOUNTS

- Separate Accounts
- Targeted Commingled Funds
 - Co-Investments – Venture Capital
 - Secondaries – Private Debt
 - Real Estate

THOROUGH ACCOUNT ADMINISTRATION

- Investment Monitoring
- Performance & Analytics
- Fund Administration
- Replacement Manager Capabilities
- Portfolio & Risk Management

1. StepStone deployed over US\$37 billion in 2018
2. LTM ended September 30, 2018.

Private Equity Investment Objectives

CCCERA Investment Strategy: Help build a top performing global private equity portfolio by leveraging StepStone's research-intensive approach to invest opportunistically in high quality managers with a long-term view of making capital gains on investments

- Target Asset Allocation: 11.0% of Total Portfolio FMV
- Eligible Asset Classes: Private Equity & Real Assets
- Sub-Asset Class Ranges: Buyout 60-75.0%
Special Situations 5-15.0%
VC / Growth Equity 5-15.0%
Real Assets / Natural Resources 0-10.0%
Secondaries 0-10.0%
- Geographic Preference: Global (weighted towards North America)
- Implementation: Primary Mandate

Private Equity Investment Process



StepStone and Staff collaboration throughout the portfolio planning, investment and reporting process



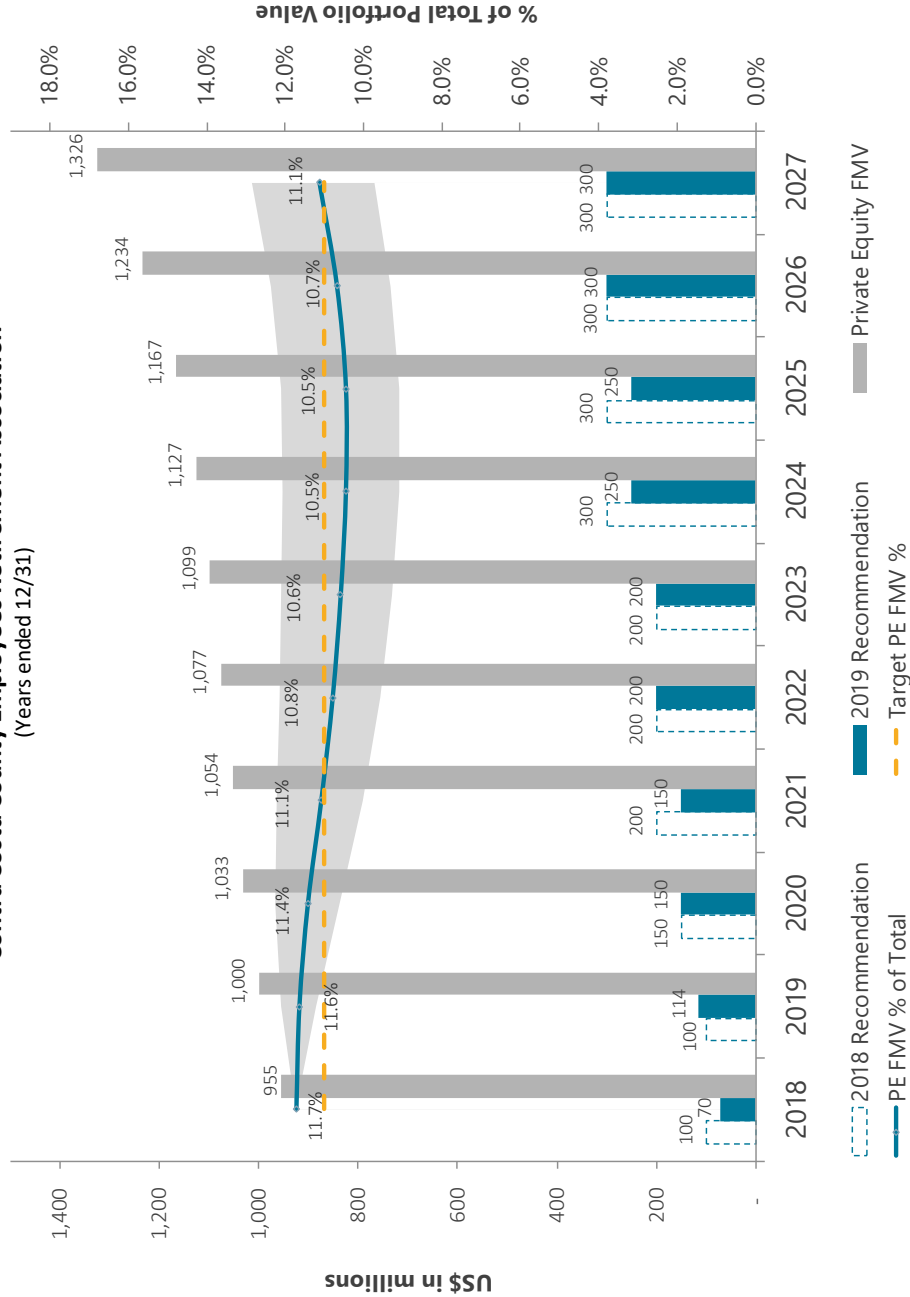
PE Primary Investment Process:

- PE Primary pipeline flagged and discussed at beginning of each year
- Interim pipeline calls to highlight pipeline updates and provide diligence feedback
- Timely delivery of StepStone’s primary fund investment memo for recommended investments
- Quarterly reports and annual presentation on progress of existing investments

CCCERA Pacing Analysis



Contra Costa County Employees Retirement Association (Years ended 12/31)



Note: While Stepstone currently believes that the assumptions on which the analysis are based are reasonable under the circumstances, there is no guarantee that the conditions on which such assumptions are based will materialize or otherwise be applicable. Plan level projections provided by CCCERA.

Target returns are hypothetical and are neither guarantees nor predictions or projections of future performance. Future performance indications and financial market scenarios are no guarantee of current or future performance. There can be no assurance that such target net IRRs will be achieved or that the investment will be able to implement its investment strategy, achieve its investment objectives or avoid substantial losses. Further information regarding target net IRR calculations is available upon request.

- StepStone updated its pacing analysis for CCCERA's private equity and real assets portfolio based on a starting total portfolio FMV of \$8.1 billion and a private equity and real assets FMV of \$954.8 million, as of December 31, 2018
- To achieve an 11.0% target allocation over 10 years, StepStone recommends:
 - Committing \$100-200 million per annum over the next four years and gradually increasing thereafter
 - At the \$100-300 million annual commitment level, StepStone recommends making 3-5 commitments per annum (\$30-100 million per commitment)
 - Making annual tactical adjustments to pacing program assumptions and deployment pace
- Assumed average portfolio growth of 4.3% per annum and weighted average return on private equity and real assets portfolio of 12.4% target Net IRR
- Sub-asset Class Allocations:
 - Buyout 70.0%
 - Special Situations 10.0%
 - VC / Growth Equity 10.0%
 - Real Assets / Natural Resources 10.0%

CCCERA PE Program – 2019 Pacing



- Commit approximately \$25-50.0 million per fund across 2-4 primary fund relationships
 - Overview of 2019 vintage, as of November, 2019:
 - ✓ US Large Buyout, February 2019 => \$50.0 million commitment to Genstar Capital Partners IX
 - ✓ US Large Buyout, May 2019 => \$40.0 million commitment to Trident VIII
 - ✓ US Large Buyout, June 2019 => \$24.0 million commitment to TPG Healthcare Partners

2020 Tactical Plan



2020 TILTS

SECTOR	VENTURE		GROWTH EQUITY	BUYOUTS			RESTRUCTURE/ DISTRESSED	SECONDARIES	CO-INVESTMENT
	EARLY	LATE		GLOBAL \$6B+	LARGE/ MEDIUM \$1-6B	SMALL <\$1B			
GEOGRAPHY	Americas	Unfavorable	Americas	Americas	Americas	Americas	Americas	Americas	Americas
	Favorable	Europe	Europe	Europe	Europe	Europe	Europe	Europe	Europe
	Favorable	Asia & RoW	Asia & RoW	Asia & RoW	Asia & RoW	Unfavorable	Unfavorable	Asia & RoW	Asia & RoW

■ Favorable
 ■ Neutral
 ■ Unfavorable

For illustrative purposes only. The opinions expressed herein reflect the current opinions of Stepstone as of the date appearing in this material only. There can be no assurance that views and opinions expressed in this document will come to pass.

2020 Priorities



- Commit approximately \$30-50 million per fund across 3-5 primary fund relationships
 - Preliminary thoughts on 2020 vintage:
 - ✓ North America Distressed & Restructuring
 - ✓ US Medium Buyout
 - ✓ US Large Buyout

III. PRIVATE EQUITY PORTFOLIO PERFORMANCE

Performance Summary



- CCCERA private equity and real asset portfolio includes \$1.8 billion in commitments to 59 primary and fund-of-funds investments.
- Over the twelve-month period ended June 30, 2019, the portfolio drew \$141.9 million and received \$174.5 million in distributions.
- The portfolio generated a net gain of \$87.4 million year-over-year, leading to a 1-year IRR of 9.3%.
- The portfolio generated since-inception¹ IRR of 9.4% as of June 30, 2019.

US\$ in millions

	INCEPTION TO JUNE 30, 2019	INCEPTION TO JUNE 30, 2018	ANNUAL CHANGE
Number of Managers	19	16	3
Number of Investments	59	56	3
Committed Capital	\$1,833.6	\$1,719.6	\$114.0
Contributed Capital ²	1,478.0	1,336.0	141.9
Distributed Capital	1,102.9	928.4	174.5
Market Value	1,010.8	956.0	54.8
Total Value	\$2,113.7	\$1,884.4	\$229.4
Total Gain/(Loss)	635.8	548.3	87.4
Unfunded Commitment	486.0	487.3	(1.3)
Total Exposure	1,496.8	1,443.3	53.5
DPI ³	0.7x	0.7x	0.1x
TVPI ⁴	1.4x	1.4x	0.0x
IRR ⁵	9.4%	9.4%	-1 bps

1. Inception represents date of first capital call on 1/25/1996.

2. Total Gross Contributed represents total contributions to underlying investments including capitalized legal and other transaction fees and expenses.

3. Distributions to Paid-in Capital (DPI) represents total gross distributions received by the Fund from underlying investments (including distributions used to offset drawdowns for investments) divided by total gross contributions.

4. Total Value to Paid-in Multiple (TVPI) is net of management fees and expenses related to the underlying investments, and represent the aggregate net asset value of underlying investments plus gross distributions received by the Fund from those investments, divided by total gross contributions.

5. Internal Rate of Return (IRR) is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of manager's fees, expenses and carried interest, but not net of StepStone Advisory fees. IRR net of StepStone fees is 9.4% since inception.

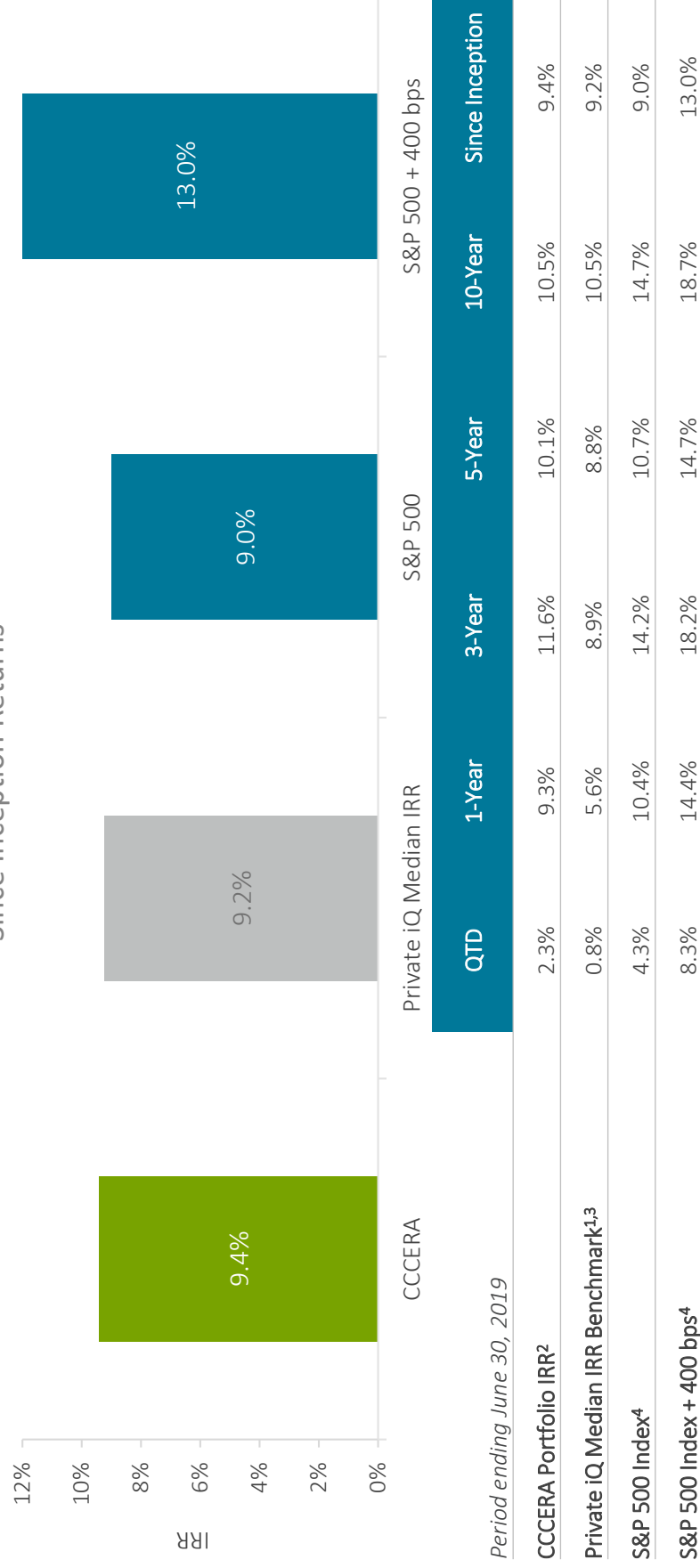
Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve its objectives or avoid substantial losses

Performance versus Benchmarks



- Portfolio performance is measured against private and public benchmarks: (i) Burgiss Private iQ and (ii) the S&P 500 index. Historically, CCCERA's commitments have been weighted towards fund of funds, which have an added layer of fees compared to primary funds. The Burgiss Private iQ benchmark is weighted towards primary funds, which have one less layer of fees than fund of funds.
 - The Portfolio's overall since inception IRR of 9.4% is 18 basis points above the Private iQ Median IRR.
 - Since inception, the Portfolio has outperformed the S&P 500 index benchmark by 42 basis points. The following graph illustrates the Portfolio's IRR performance versus benchmarks as of June 30, 2019.

Since Inception Returns¹



1. Primary fund benchmark data includes CCCERA specific vintage years and strategies. Please note that CCCERA's Fund-of-Funds include a double layer of fees and compose a majority of commitments CCCERA has made to date.

2. IRR Performance is net of underlying partnership fees.

3. Published by Burgiss Private iQ, All Private Equity Median IRRs for Vintages 1996-2005, 2007-2009, & 2011-2019, as of June 30, 2019. This benchmark data is continuously updated and therefore subject to change.

4. The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented. Returns under one year are unannualized.

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

Valuation Bridge

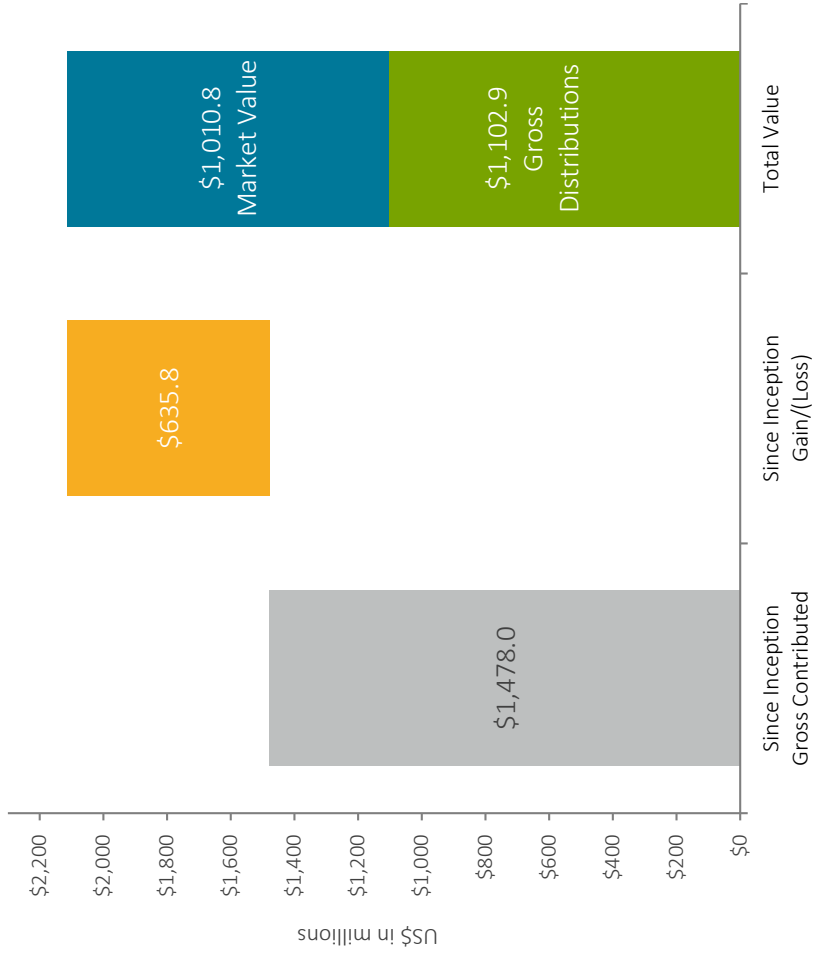


- The Portfolio experienced a gain of \$87.4 million year-over-year, generating a 1-year IRR of 9.3%.
- Since-inception net gain through June 30, 2019 is \$635.8 million.

ANNUAL CHANGE IN MARKET VALUE



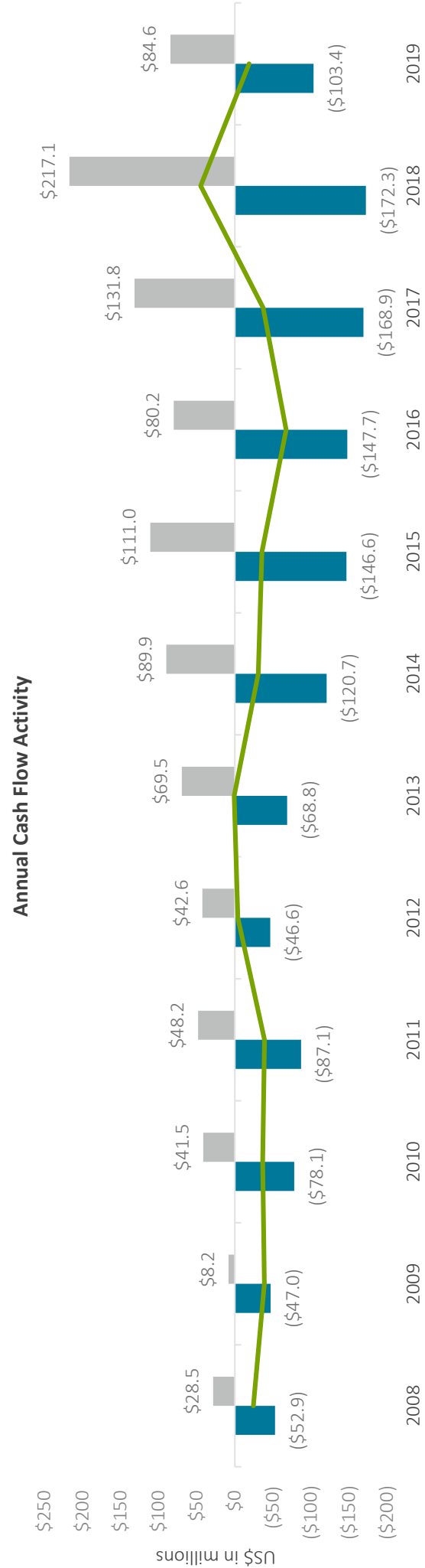
TOTAL FUNDED TO TOTAL VALUE



Cash Flow Analysis

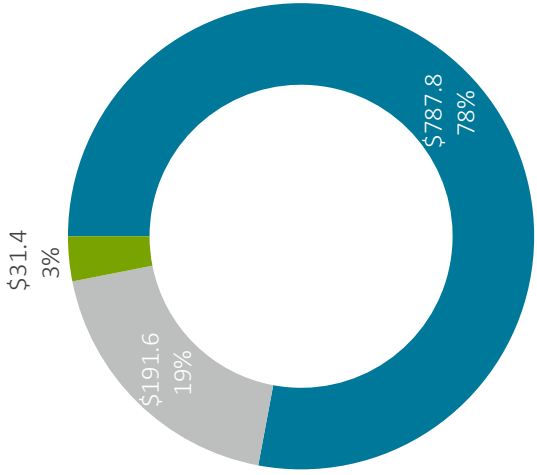


- As of Q3 2019, CCCERA has received \$84.6 million in distributions, and made \$103.4 million in contributions



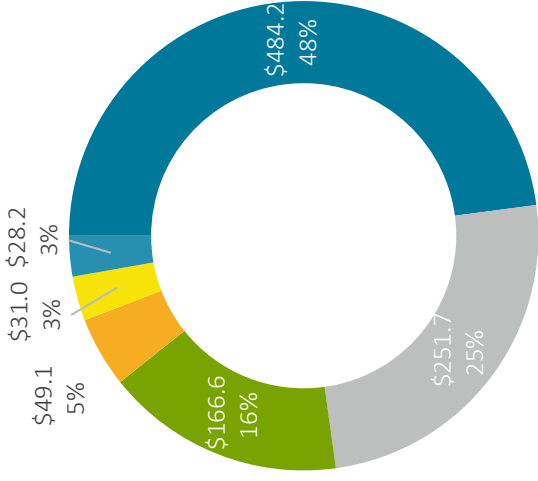
Diversification¹

By Fund Type



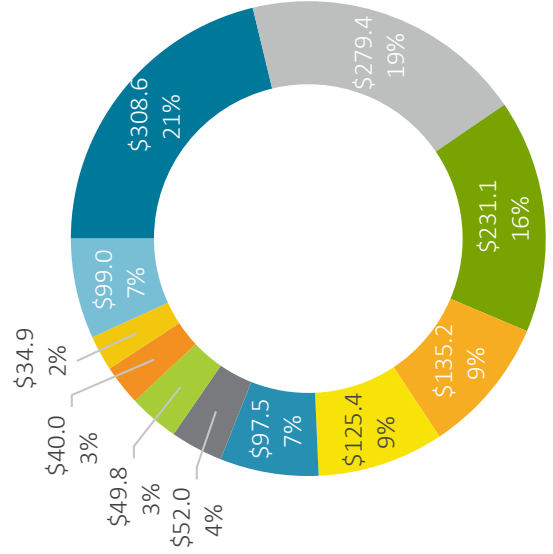
- Fund of Funds
- Primary
- Secondaries

By Strategy



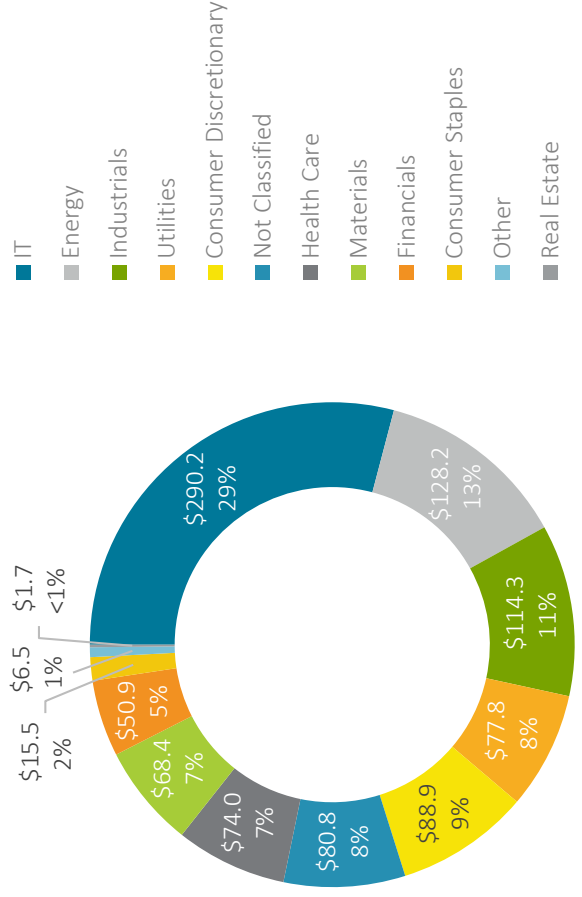
- Buyout
- Real Assets
- Venture Capital
- Special Situations
- Growth Equity
- Other

By Investment Manager



- Adams Street Partners
- Siguler, Guff & Co. LLC
- Pathway Capital
- Aether Investment Partners
- Ares Management
- Ocean Avenue Capital Partners
- Commonfund Capital
- Genstar Capital Partners
- Stone Point Capital, LLC
- Siris Capital Group
- Nine Remaining Managers

By Industry²



- IT
- Energy
- Industrials
- Utilities
- Consumer Discretionary
- Not Classified
- Health Care
- Materials
- Financials
- Consumer Staples
- Other
- Real Estate

1. Based on exposure (in millions) calculated as market value plus unfunded commitment. Strategy includes look through of Fund of Funds to underlying strategies (Fund of Funds includes Adams Street Partners - BPF and Adams Street Partners (CCERA), as underlying strategies are not available). Other includes Co-investment, Private Debt and Real Estate strategies.
 2. Represents CCERA's exposed market value.

Risks and Other Considerations



Risks Associated with Investments. Identifying attractive investment opportunities and the right underlying fund managers is difficult and involves a high degree of uncertainty. There is no assurance that the investments will be profitable and there is a substantial risk that losses and expenses will exceed income and gains.

Restrictions on Transfer and Withdrawal; Illiquidity of Interests; Interests Not Registered. The investment is highly illiquid and subject to transfer restrictions and should only be acquired by an investor able to commit its funds for a significant period of time and to bear the risk inherent in such investment, with no certainty of return. Interests in the investment have not been and will not be registered under the laws of any jurisdiction. Investment has not been recommended by any securities commission or regulatory authority. Furthermore, the aforementioned authorities have not confirmed the accuracy or determined the adequacy of this document.

Limited Diversification of Investments. The investment opportunity does not have fixed guidelines for diversification and may make a limited number of investments.

Reliance on Third Parties. StepStone will require, and rely upon, the services of a variety of third parties, including but not limited to attorneys, accountants, brokers, custodians, consultants and other agents and failure by any of these third parties to perform their duties could have a material adverse effect on the investment.

Reliance on Managers. The investment will be highly dependent on the capabilities of the managers.

Risk Associated with Portfolio Companies. The environment in which the investors directly or indirectly invest will sometimes involve a high degree of business and financial risk. StepStone generally will not seek control over the management of the portfolio companies in which investments are made, and the success of each investment generally will depend on the ability and success of the management of the portfolio company.

Taxation. An investment involves numerous tax risks. Please consult with your independent tax advisor.

Conflicts of Interest. Conflicts of interest may arise between StepStone and investors. Certain potential conflicts of interest are described below; however, they are by no means exhaustive. There can be no assurance that any particular conflict of interest will be resolved in favor of an investor.

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CCCERA Board Presentation
Private Debt Update

November 2019

Meeting Date
11/20/19
Agenda Item
#6

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All data as of June 30, 2019 unless otherwise noted.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. ACTUAL PERFORMANCE MAY VARY.

Agenda



- I. Private Debt Market Update
 - II. Review of Private Debt Program
 - III. Private Debt Performance
- Appendix

I. PRIVATE DEBT MARKET UPDATE

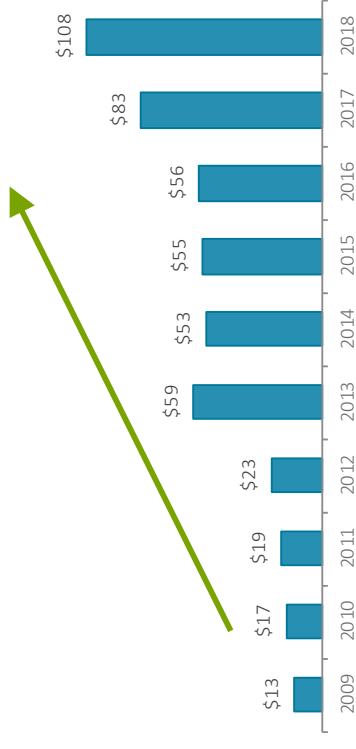
LATE CYCLE INVESTING

Late Cycle Investing



MORE CAPITAL....

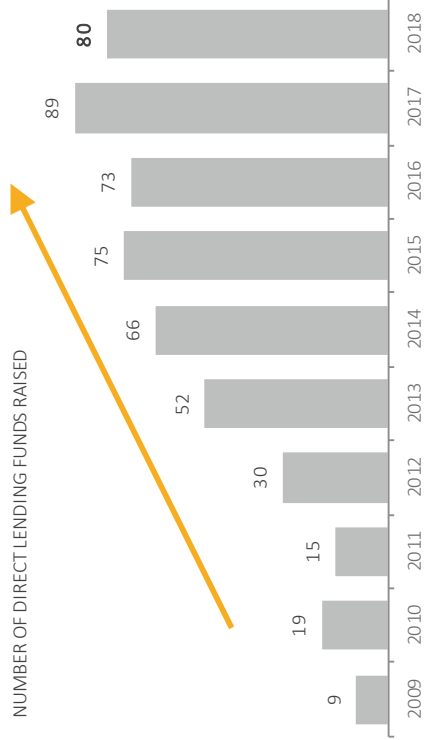
DIRECT LENDING DRY POWDER (US\$ IN BN)



Source: Preqin Fundraising Data as of April 10, 2019.
Note: 2018 fundraising levels are likely to increase as further information on 2018 fundraising information becomes available and backfilled into the Preqin database.

MORE FUNDS....

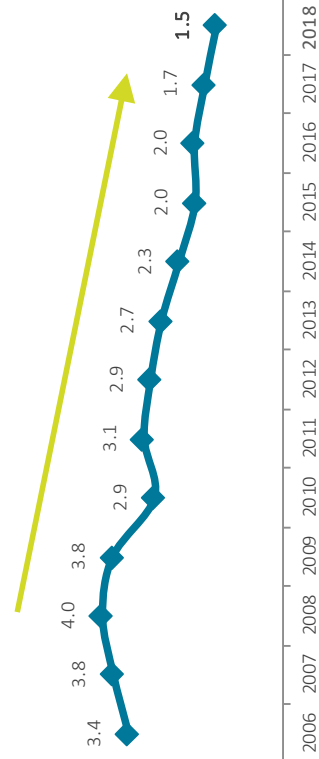
NUMBER OF DIRECT LENDING FUNDS RAISED



Source: Preqin Fundraising Data as of April 10, 2019.

DETERIORATING COVENANT PROTECTION

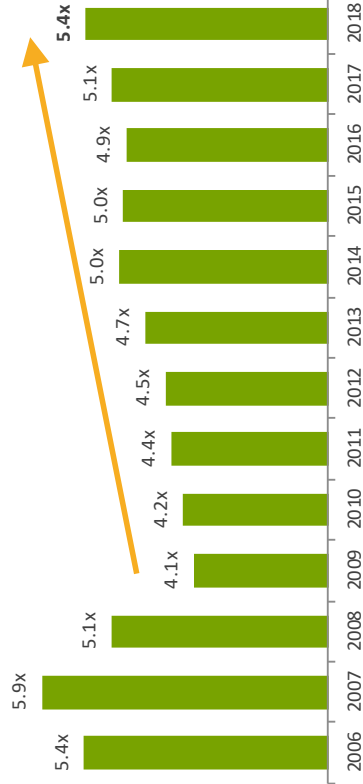
WEIGHTED AVERAGE NUMBER OF COVENANTS FOR FIRST LIEN CREDIT



Source: StepStone proprietary AIDA database of over 8000 tranches of first lien debt, attributable to direct lending transactions executed by 13 European Direct Lending Managers and 45 North American Direct Lending Managers.

INCREASING LEVERAGE

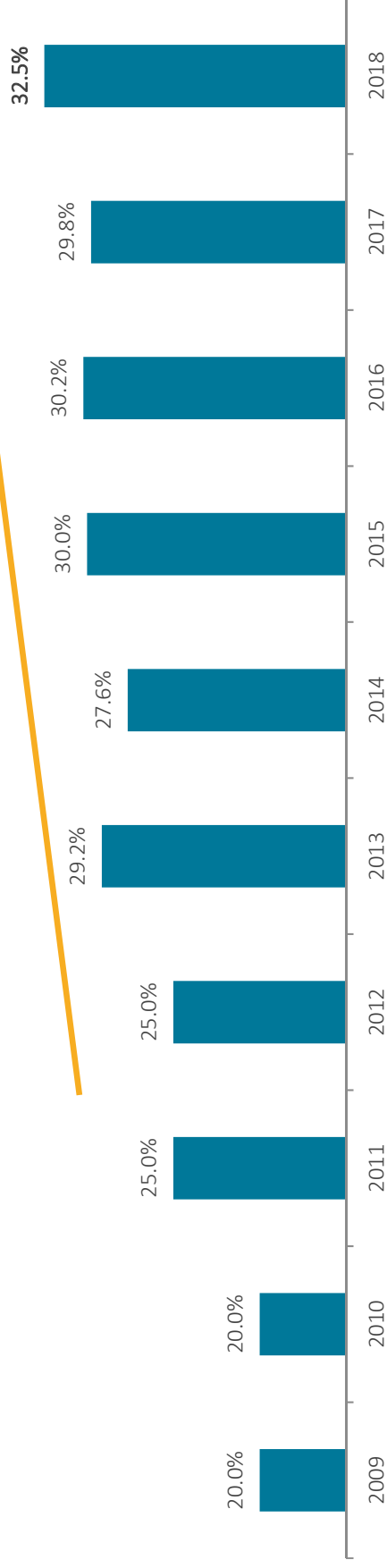
ANNUAL AVERAGE EUROPEAN DEBT TO EBITDA



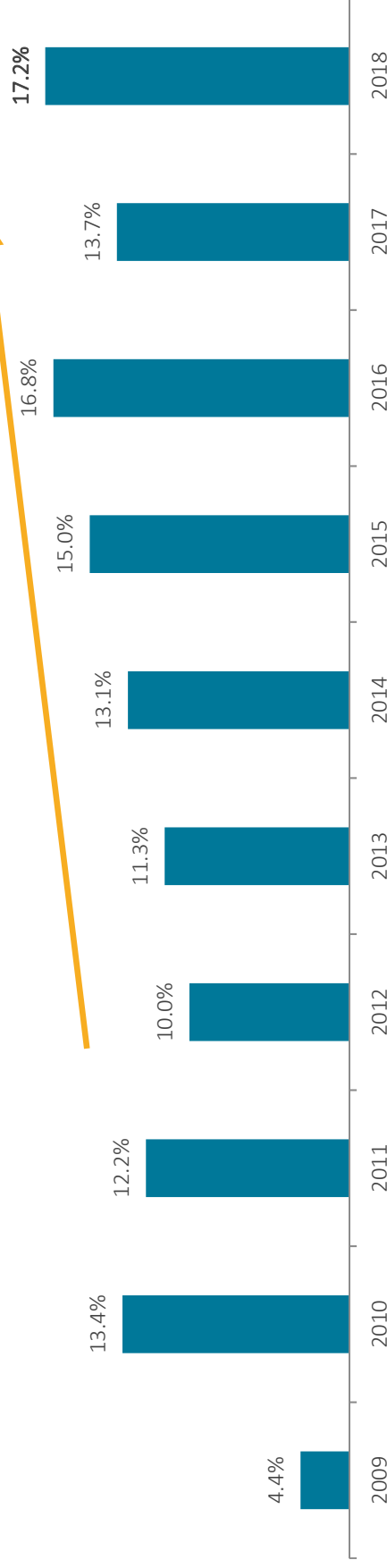
...And Underwriting Leniency



AVERAGE COVENANT HEADROOM FOR FIRST LIEN DIRECT LENDING DEALS



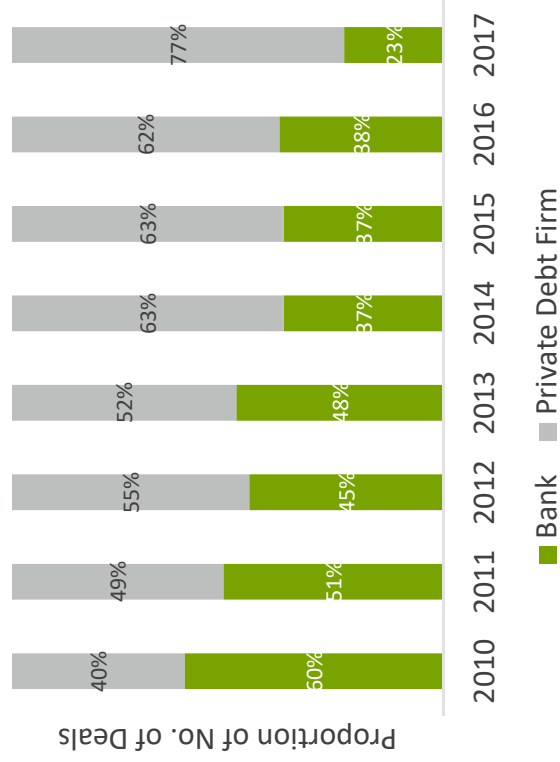
AVERAGE EBITDA ADJUSTMENTS - FIRST LIEN DIRECT LENDING



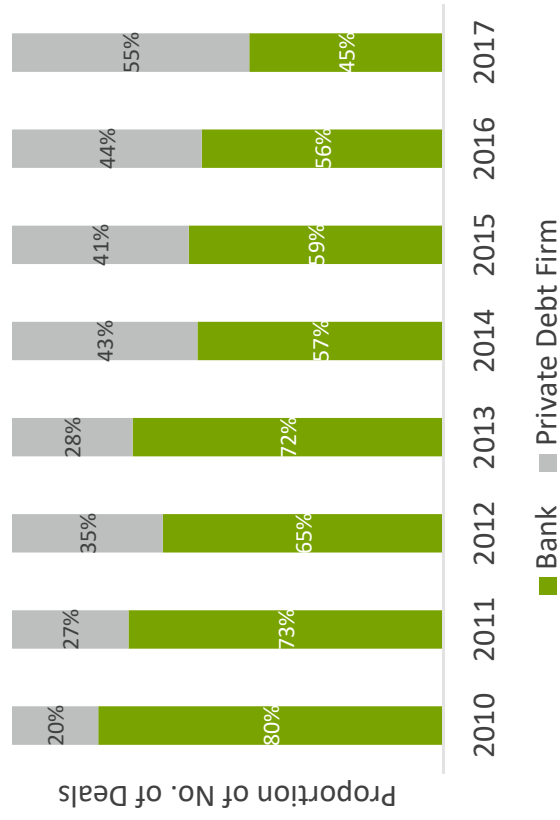
Disintermediation of Banks



NUMBER OF GLOBAL PRIVATE DEBT-BACKED DEALS: BANKS vs. PRIVATE DEBT FIRMS, 2010 - 2017



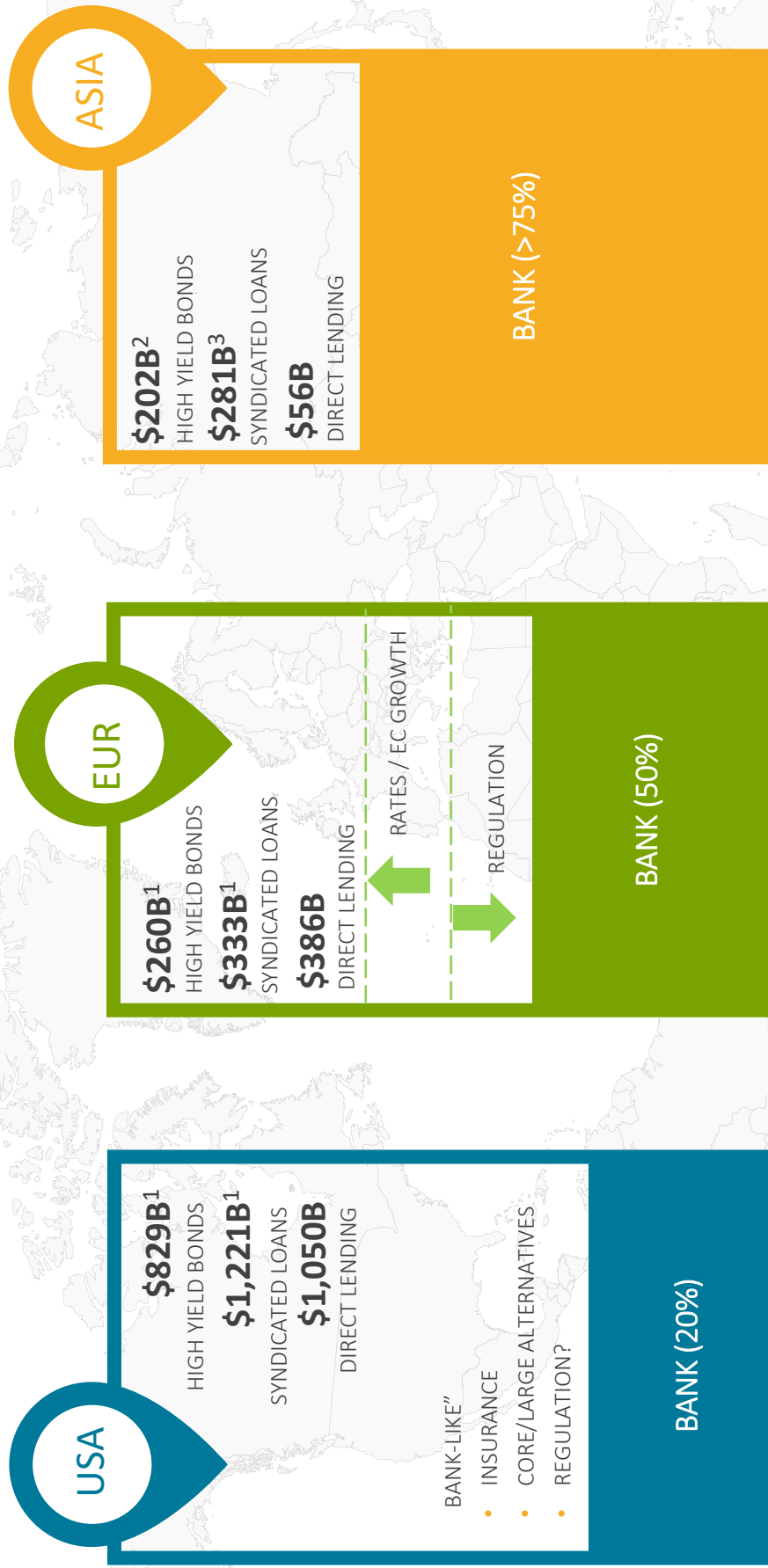
NUMBER OF EUROPEAN PRIVATE DEBT-BACKED DEALS: BANKS vs. PRIVATE DEBT FIRMS, 2010 - 2017



Middle Market Opportunity Expanding



Bank retrenchment globally is creating the opportunity for non-bank lenders



Total Market Size for US Direct Lending based on Reuters data SSG estimations. European Direct Lending data based on Ares Global Direct Lending Annual Meeting May 2019. Market Size for Asia Direct Lending SSG Estimation.

¹ Source: Credit Suisse as of October 2019; Data for Europe only includes Western Europe.

² Source: Bloomberg; Barclays Asia High Yield Index as of October 2019.

³ Source: Reuters as of September 2019.

For illustrative purposes.

WHAT DO WE DO?

Strong Protection of Principal



Equity headroom levels are 12% higher than they were in 2006 leading up to the GFC

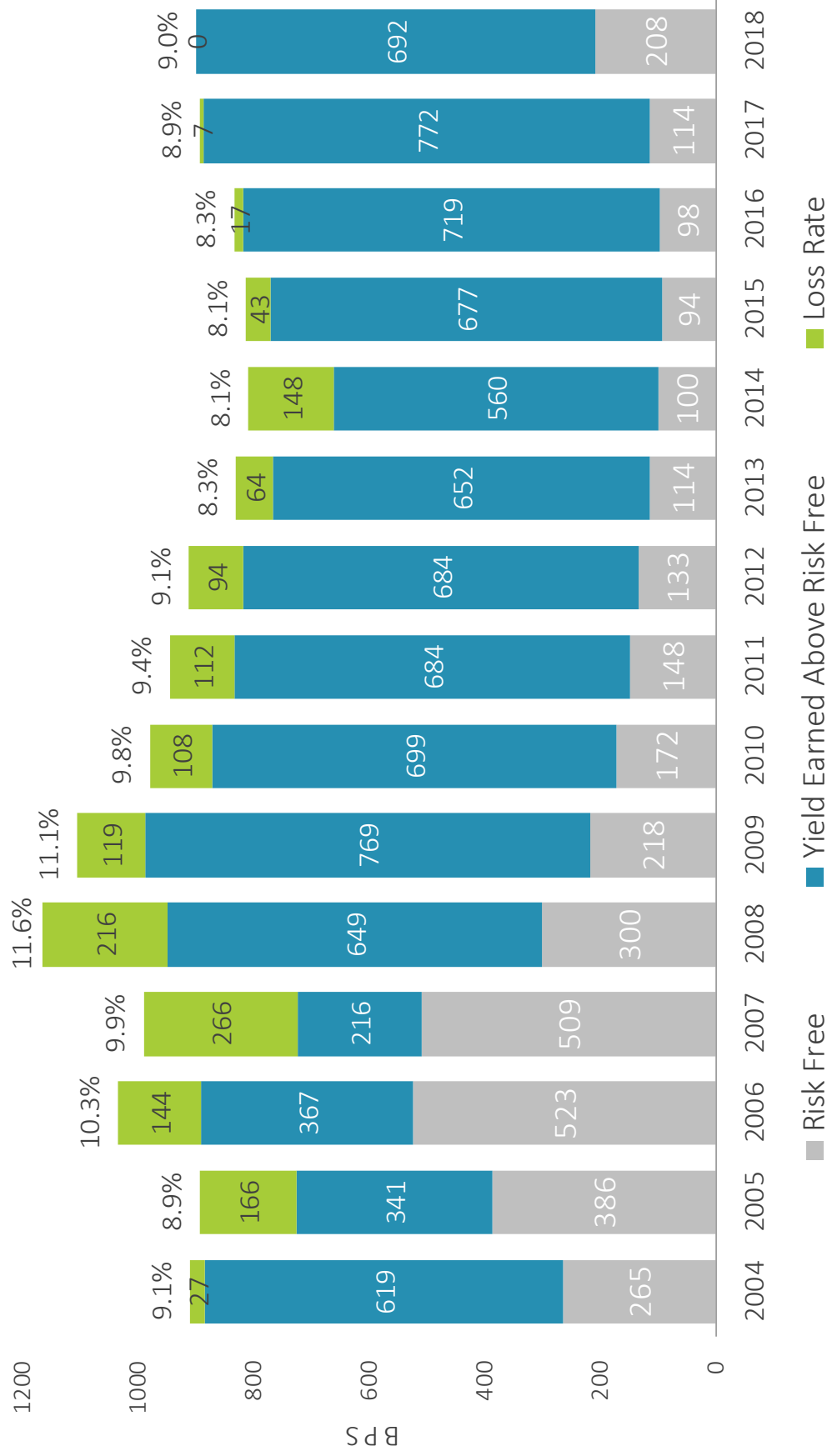
MEDIAN IMPLIED EQUITY HEADROOM % FOR ALL BUYOUT TRANSACTIONS (2005-2018)



Persistent Returns Through the Cycle



Risk-adjusted direct lending yields remained attractive through the cycle



Source: StepStone Global, Internal Database, US First Lien Deals (more than 5,550 transactions and \$173bn of invested capital). Risk free presents the weighted average of max(LIBOR, LIBOR Floor) of the deals originated within the respective vintages, where the 3 month LIBOR is used as reference rate. Yield include the cash coupon as well as OID and Arrangement Fees and assumes 3-year expected life. Loss Rates present the annualized vintage loss rates and takes into account any principal loss as well as any interest foregone. One large loss in 2018 was excluded from the analysis since it distorts the analysis.

Limiting Risk Through Quality Credits

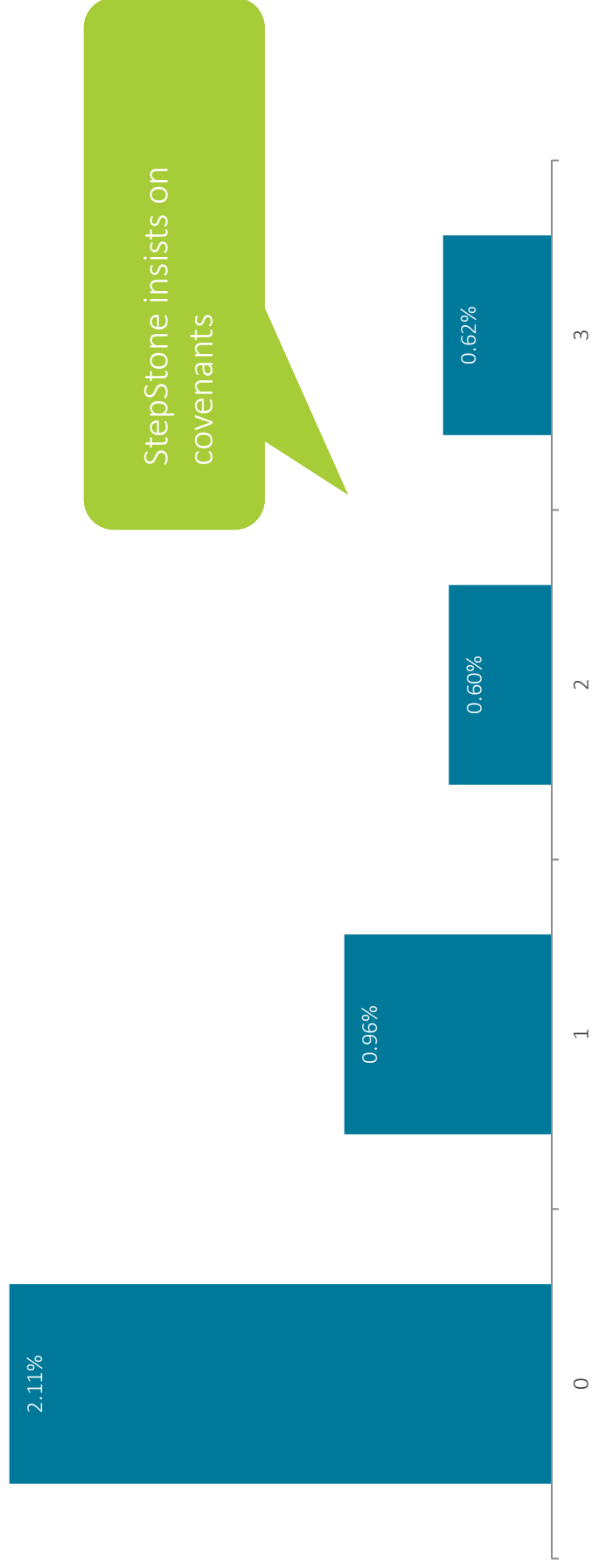


Source: StepStone internal database. Analysis based on 11,168 deals (10,070 First lien loans and 1,098 Second Lien Loans) from Vintages 2006 to 2019 originated by 58 Managers (Market) and 4,427 Senior First Lien deals with Leverage below 5x and LTV below 65% from Vintages 2006 to 2019 originated by 22 Managers selected by SSG (Deals by GPs selected by SSG within investment Guidelines).

The Importance of Covenant Protection



AVERAGE LOSS RATE BY NUMBER OF COVENANTS FOR FIRST LIEN TRANSACTIONS (2006-2015)



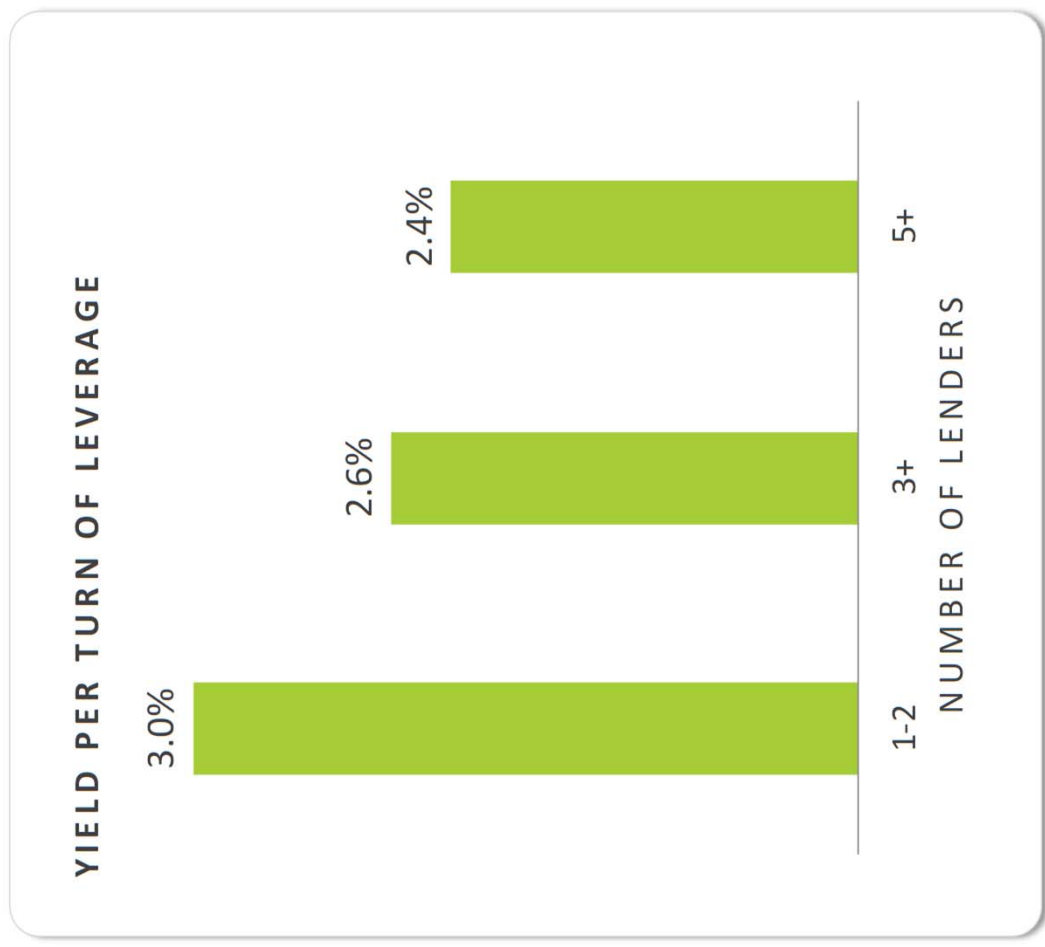
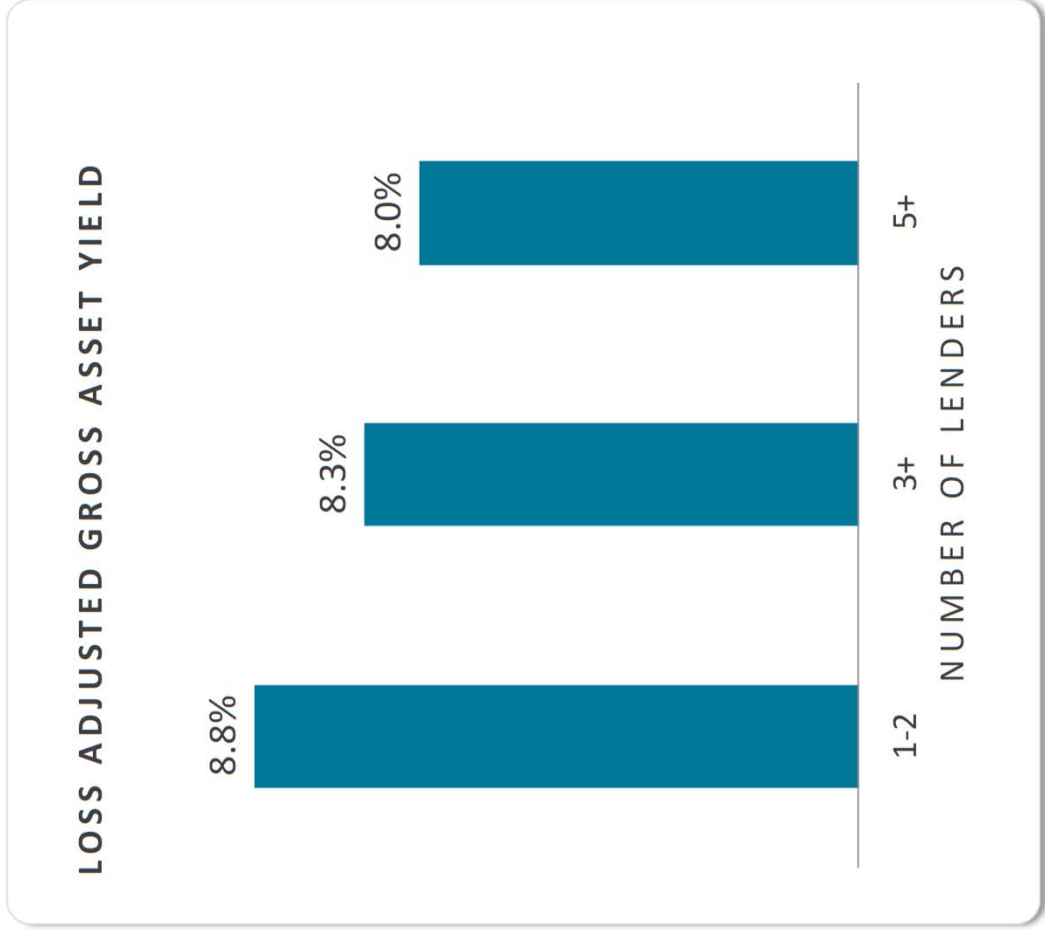
Source: StepStone proprietary AIDA database of over 8,000 tranches of first-lien debt attributable to direct lending transactions executed by 13 European Direct Lending Managers and 45 North American Direct Lending Managers.

Note: Please see slide 36 for further detail on StepStone's proprietary AIDA dataset.

Premium Through Control

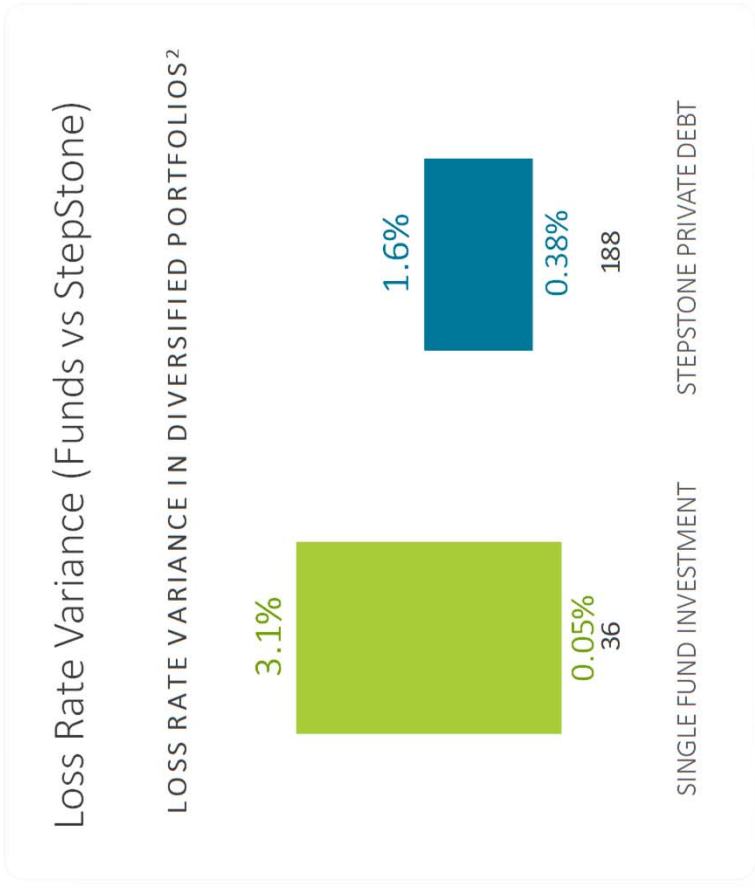
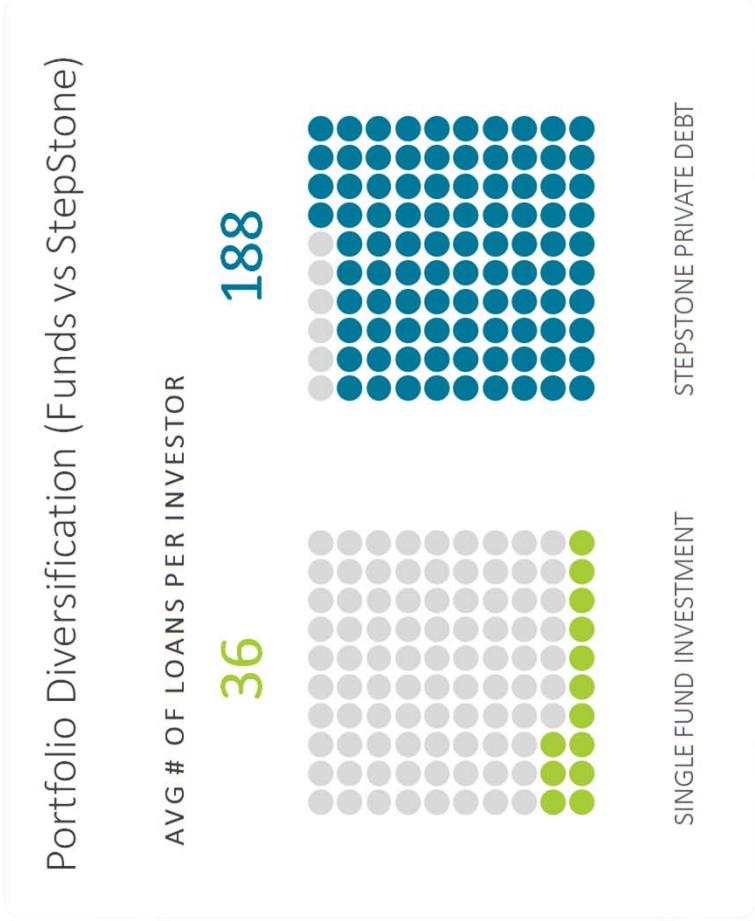


More lenders = lower loss adjusted yield & lower yield per turn of leverage



Source: StepStone proprietary AIDA database of over 8,000 tranches of first-lien debt attributable to direct lending transactions executed by 13 European Direct Lending Managers and 45 North American Direct Lending Managers.

Seeking Diversification to Remain Defensive



1)Source: StepStone Research; Average number of investments for Direct Lending Funds in StepStone’s SPI Database; Average number of credits StepStone Private Debt Platform clients are exposed to.
 2) Source: StepStone AIDA database.
 Note: Results obtained by randomly sampling with replacement 100,000 times the respective size portfolios and calculating loss distributions accordingly. The above represents the 99th percentile results for each portfolio size.

Lessons Learned



II. REVIEW OF PRIVATE DEBT PROGRAM

Summary

WHAT HAS BEEN DONE SO FAR

- In **April 2017** the CCCERA Board **approved a Private Debt mandate** and selected **StepStone** as implementation partner
- StepStone and CCCERA management **worked closely to establish investment guidelines** and the implementation of the mandate **started in H2 2017**
- During bi-weekly calls and regular in-person meetings, investment opportunities are discussed and an exchange of observations and market information is facilitated
- Ramp up speed has remained largely unchanged with a target of 3-4 years. The first milestone for co-investments of US\$75m will be reached soon and release of additional allocation to co-investments is under discussion
- To date, the portfolio has been invested in line with the agreed upon investment guidelines: **US\$600m has been committed to Core managers, US\$145m has been committed to Satellite funds and US\$57m has been funded to co-investments**. Total funded investments are US\$486m as of September 30, 2019
- StepStone provided further insights and proposals to topics such as **regulatory capital, specialty finance** and other opportunities

OUTLOOK 2020

- We intend to continue the implementation as defined in close coordination with the CIO and investment team
- Potentially a 4th core SMA will be implemented during 1H 2020
- 2 additional primary fund commitments are planned during 2020
- Co-investments have been limited to US\$75m and are expected to be fully deployed in Q4 2019; StepStone will continue to recycle capital as investments are repaid

Private Debt Investment Objectives



CCCERA INVESTMENT STRATEGY

Help build a top performing global private debt portfolio by leveraging StepStone’s research-intensive approach to invest opportunistically in high quality managers with long-term view of earning a 10% yield on investments over a cycle

CONTRA COSTA COUNTY ERA’S (CCCERA) INVESTMENT OBJECTIVES

TARGET ASSET ALLOCATION	Up to 12% of CCCERA’s total AuM
ELIGIBLE ASSET CLASSES	Mainly corporate debt but other asset classes such as real estate debt are not excluded
SUB ASSET CLASSES	Non-first lien debt: Max US\$300m Non-corporate debt: Max US\$300m
RETURN OBJECTIVES	Target net IRR of approximately 10% over a cycle
CASH YIELD / DISTRIBUTION	Not primary focus, but welcomed
GEOGRAPHIC PREFERENCE	Global (weighted towards North America)
IMPLEMENTATION	SMA, primaries, co-investment and secondaries
FLEXIBILITY	Retain flexibility to control and steer allocations over time, especially through or post down cycles

Target returns are hypothetical and are neither guarantees nor predictions or projections of future performance. Future performance indications and financial market scenarios are no guarantee of current or future performance. There can be no assurance that such target IRRs will be achieved or that the fund will be able to implement its investment strategy, achieve its investment objectives or avoid substantial losses. Further information regarding target net IRR calculation is available upon request.

Corporate Private Debt Team



INVESTMENT TEAM PARTNERS



Marcel Schindler
Zurich



Urs von Buren
Zurich



Meinrad Wyser
Zurich



John Bohill
Dublin & London



Stephen Penney
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Marc-André Mittermayer
Zurich



Aiyu Nicholson*
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Matthias Erb
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Managing Director, Zurich

Fabian Körzendörfer
Director, Zurich

Alesia Dawidowicz
Director, Zurich

Ariel Goldblatt
Director, New York

Orla Walsh
Director, London

Rachida Chati
Director, Dublin

Srdjan Vlaski
Director, Zurich

Jovan Samardzic
Vice President, Zurich

Sophie Aslan
Vice President, London

Mark Tsang
Vice President, London

Bryan O'Dowd
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Kenneth McLaughlin
Sr. Associate, Dublin

Edward Panarese*
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Gary Gipkhin
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Jared Root
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Brian Delpit*
Associate, La Jolla

Barry Trueick
Associate, Dublin

Kristijan De Lucca
Sr. Analyst, Zurich

Andrew Tinger
Sr. Analyst, London

Tamara Milosevic
Analyst, Zurich

Martin Progin
Analyst, Zurich

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Managing Director, Zurich

Clemens Schreiber
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Vice President, Zurich

Selin Pinarci
Vice President, Zurich

Paula Hartnett
Vice President, Dublin

Luca Hänni
Senior Associate, Zurich

Suna Sen
Senior Associate, Zurich

Michael Wator
Senior Associate, Zurich

+9 INFRASTRUCTURE & REAL ASSETS

+ 14 REAL ESTATE

GLOBAL INTEGRATED PLATFORM
OVER 160 PROFESSIONALS

MONITORING & REPORTING

COMPLIANCE, TAX & LEGAL

MARKETING & CLIENT SERVICES

FINANCE & ADMINISTRATION

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Global

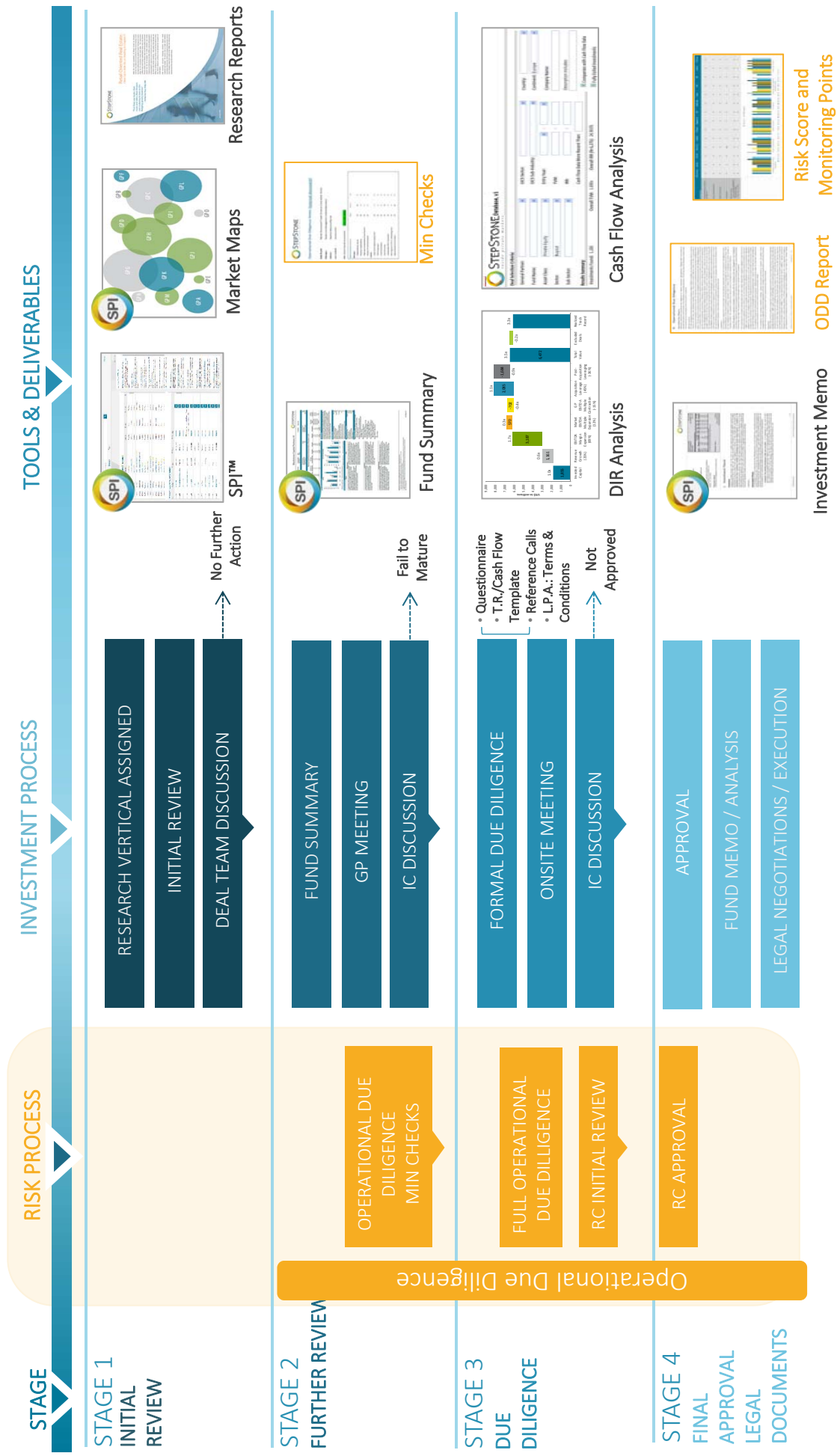
US Manager Selection

EU Manager Selection

Private Debt Investment Process



StepStone fully utilizes the power of its global platform, extensive research, and database-enabled analysis to support the investment process

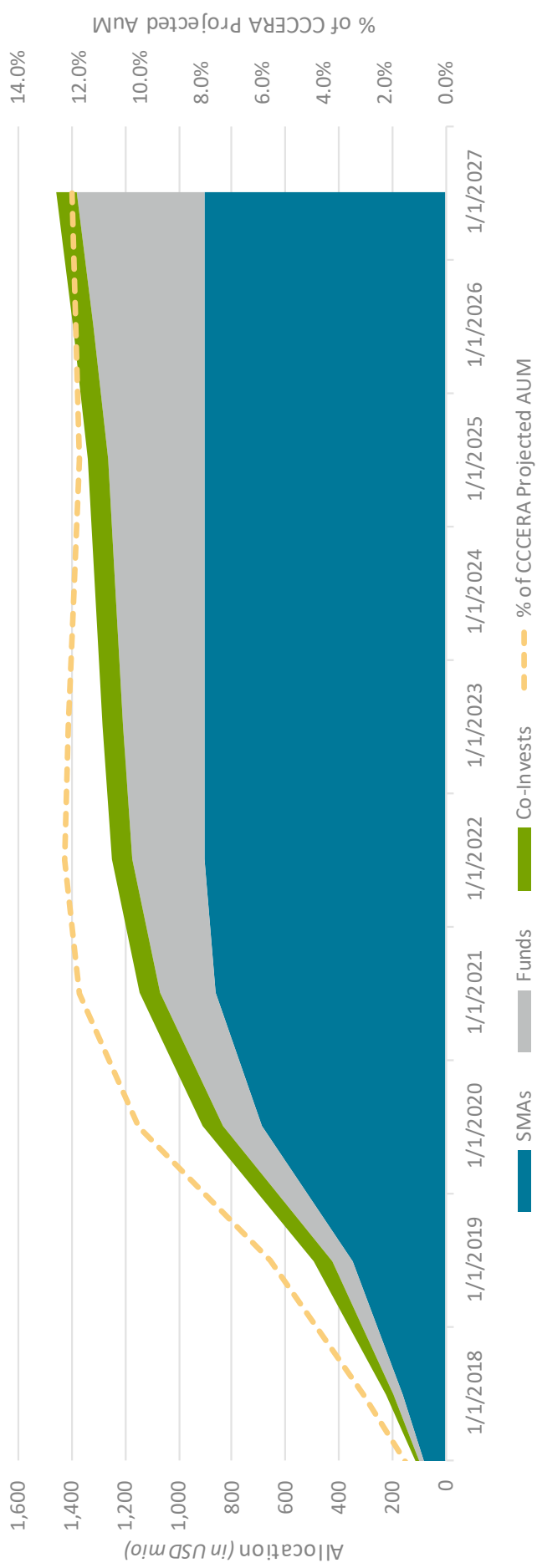


For illustrative purposes only and does not constitute investment recommendations; process may differ by strategy.

CCCERA Pacing Analysis



Investment Pacing



2020 Priorities

- Commit approximately US\$150-200m to 1 new SMA
- Commit approximately US\$60-80m to 2 new primary funds
- Continue co-investment strategy to reach US\$75m target and then either re-invest proceeds or increase towards US\$200m

Activity Report



Close coordination has been achieved through:

- Bi-weekly progress and coordination calls
- 6 in-person meetings at CCCERA offices discussing portfolio construction
- Various ad-hoc discussions on specific topics

Core	Satellite	Co-invest / Secondaries	❖ Other
<ul style="list-style-type: none"> • Arranged and co-hosted 20 DD visits to pre-selected GPs • Close interaction on investment guidelines and investment restrictions for individual SMAs • Close interaction in the determination of service providers (SEI as administrator and PwC as auditor) • Sign-off on legal documentation involving CCCERA third-party counsel 	<ul style="list-style-type: none"> • Reviewed 22 different opportunities in 12 different asset classes • This resulted in 4 Primary Fund investments as of September 30, 2019 • Arranged and co-hosted various due diligence meetings for CCCERA team members 	<ul style="list-style-type: none"> • Reviewed 123 single co-investment opportunities since initiation of the mandate • Invested in 15 co-investments as of September 30, 2019 	<ul style="list-style-type: none"> • Introduced regulatory capital investment opportunity • Provided thoughts on transition options from High Yield to Private Debt • Provided advice with regards to an amendment request proposal on a legacy investment • Followed-up on a number of investment ideas brought up by the CCCERA team

III. PRIVATE DEBT PORTFOLIO PERFORMANCE

Private Debt Performance Summary



- CCCERA's private debt portfolio includes US\$655m in commitments to 18 investments: 2 SMAs (a third started in Q3 2019), 4 Primary Funds and 12 unrealized Co-Investments
- For the twelve month period ended June 30, 2019, the portfolio drew US\$223m and received US\$31m in distributions
- The portfolio generated a net gain of US\$26m year-over-year, leading to a 1-year Gross IRR of 12.7% and Net IRR of 11.6%
- Since inception, Gross IRR has increased 259bps year-over-year to 12.5% as of June 30, 2019

US\$ in millions	June 30, 2019	June 30, 2018	Yearly Change
Performance Statistics			
Number of Managers	15	6	9
Number of Borrowers ¹	145	19	126
Committed Capital	\$655	\$365	\$290
NAV	\$340	\$123	\$218
Target Gross IRR	> 10.0%	> 10.0%	NM
Gross IRR ²	12.5%	10.0%	2.6%
Portfolio Statistics			
Leverage ¹	4.2x	3.7x	0.5x
EBITDA ¹	\$34.0	\$40.7	-\$6.8
Traditional 1 st Lien and Unitranche ¹	99.9%	100.0%	-0.1%
2 nd Lien / Mezzanine ¹	0.1%	0.0%	0.1%
% of closed deals w/ one or more Covenants ³	97.3%	100.0%	-2.7%

1. Data excludes investments in Real Estate Credit and Regulatory Capital. Co-investment portfolio data only includes current active investments.

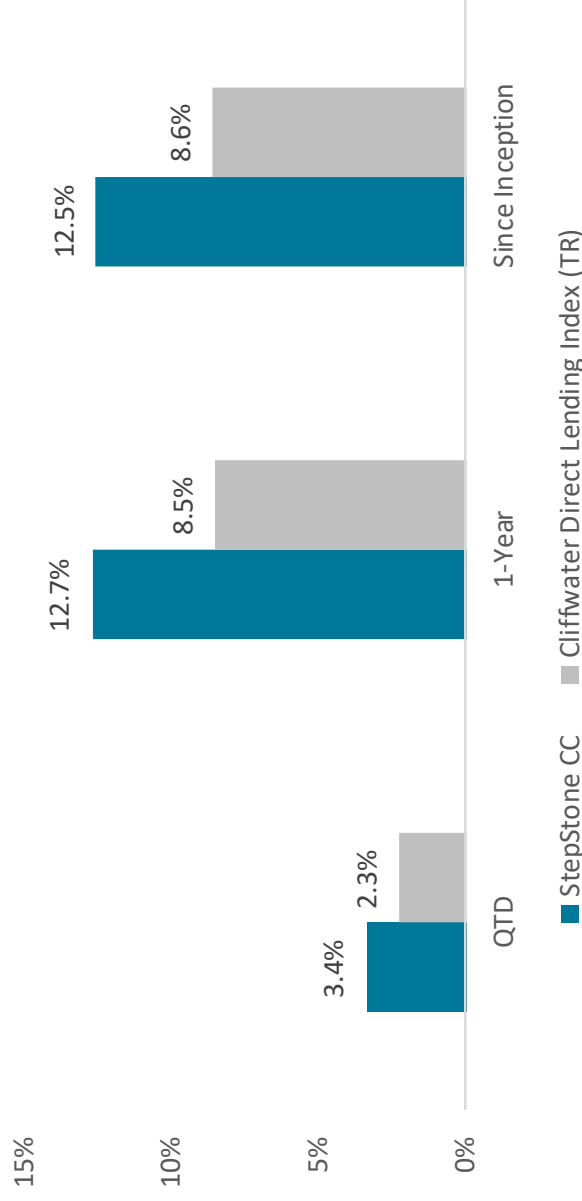
2. Since inception (as of 2/12/2018) Net LP IRR as of June 30, 2019 is 10.4%.

3. 141 out of 145 borrowers have at least one covenant for the June 30, 2019 period.

Performance versus Benchmarks

- Portfolio performance is measured against the Cliffwater Direct Lending Index (TR) benchmark
- StepStone CC portfolio is outperforming the Cliffwater Direct Lending Index (TR) benchmark for each time period

Benchmark Comparison



Period ending June 30, 2019

QTD¹ 1-Year Since Inception²

StepStone CC IRR³

3.4% 12.7% 12.5%

Cliffwater Direct Lending Index (TR)⁴

2.3% 8.5% 8.6%

1. QTR IRR is not annualized.

2. Inception represents date of first capital call on 2/12/2018.

3. StepStone CC IRR is net of underlying fund and investment fees, but not net of StepStone Advisory fees.

4. Cliffwater Direct Lending Index (TR) index is shown for general market comparison and is not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented. Returns under one year are unannualized.

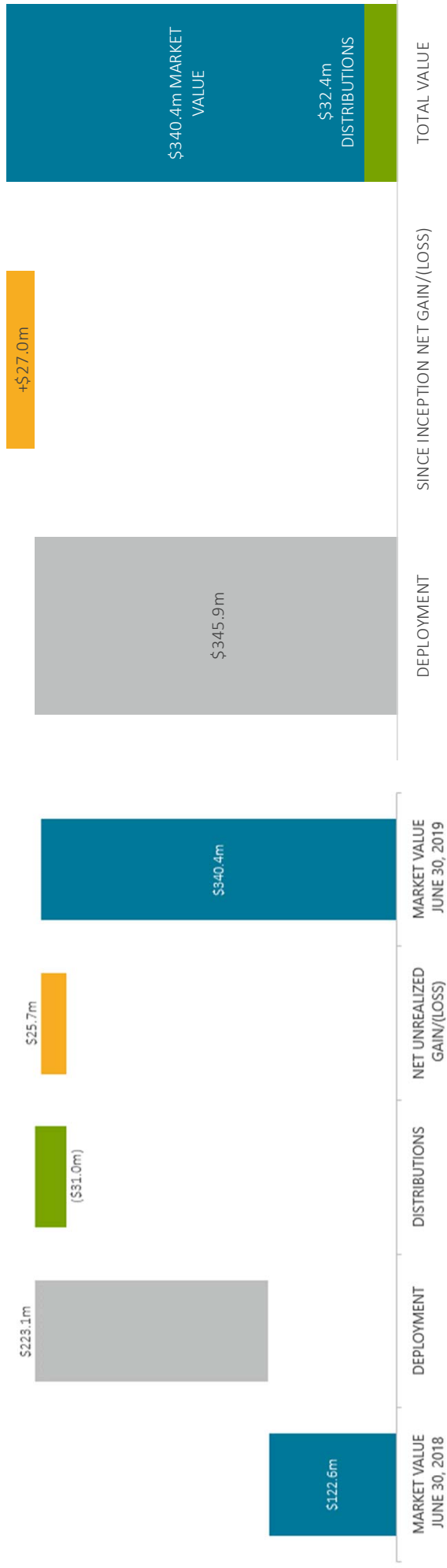
Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

Valuation Bridge – Fund Level

- The Fund's net gain of US\$25.7m year-over-year was driven by Manager B (+US\$12.8m), Manager A (+US\$6.0m), 4 Primary Funds (+US\$3.5m) and 12 Co-Investments (+US\$3.4m)

Year-over-Year Change in Market Value

Total Funded to Total Value

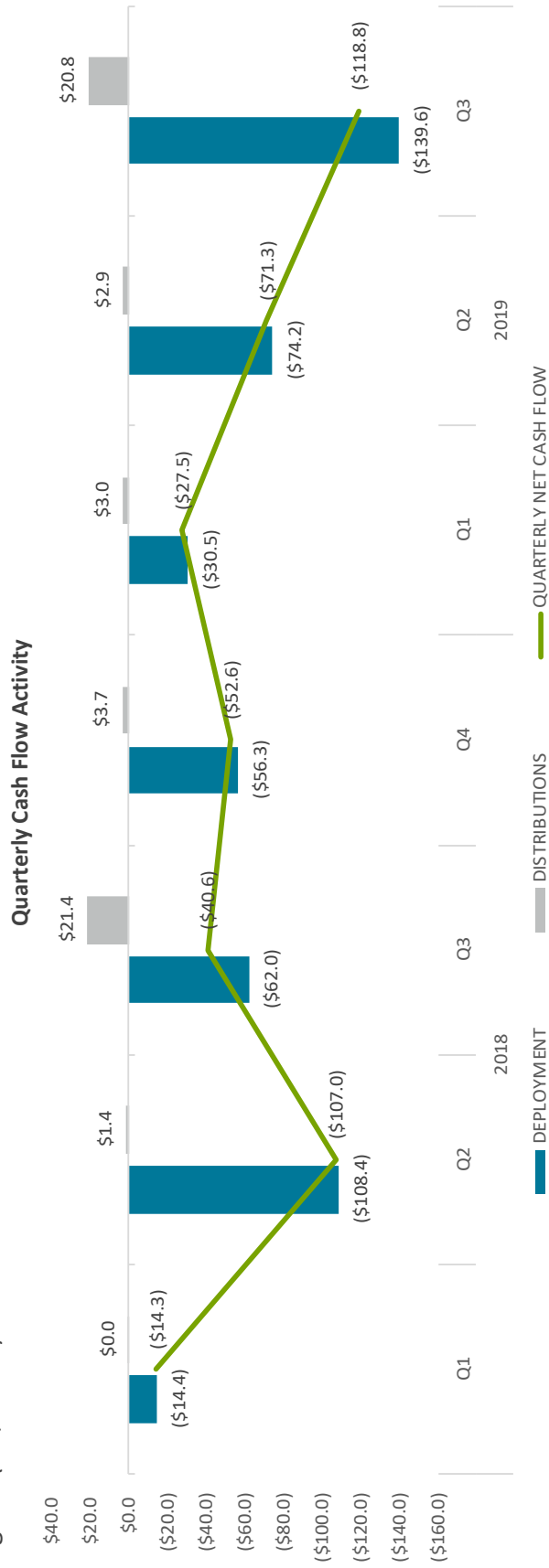


Note: Between July 1, 2019 and September 30, 2019 an additional US\$140m was deployed.

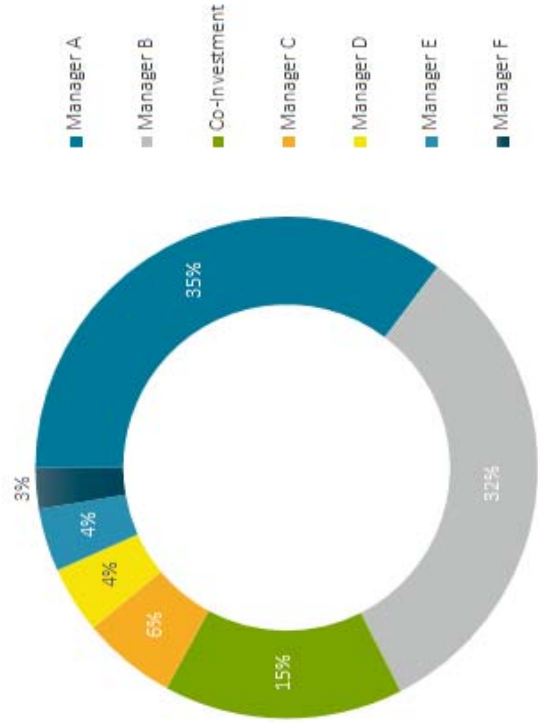
Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

Cash Flow Analysis – Fund Level

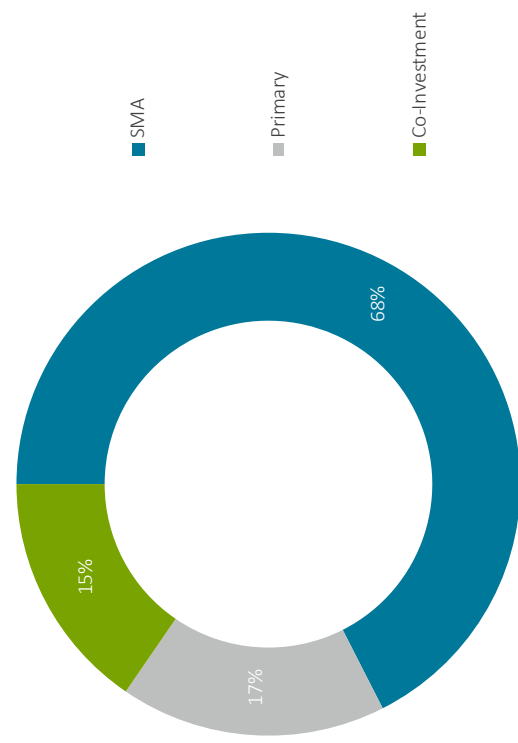
- Year-to-date as of September 30, 2019, the Fund deployed US\$244.4m to underlying investments, primarily to Manager B (US\$107.0m) and Manager A (US\$47.5m)



Since Inception¹: Deployment by Manager



Since Inception¹: Deployment by Investment Structure Type



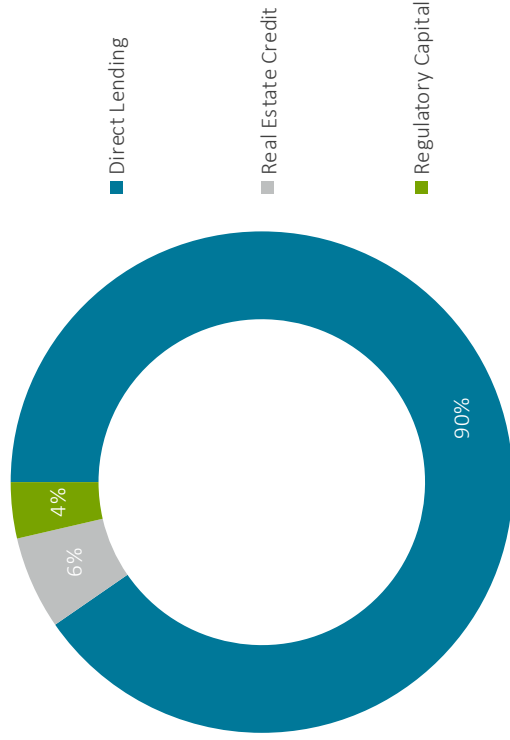
1. Inception represents date of first capital call on 2/12/2018.

Portfolio Composition and Exposure¹

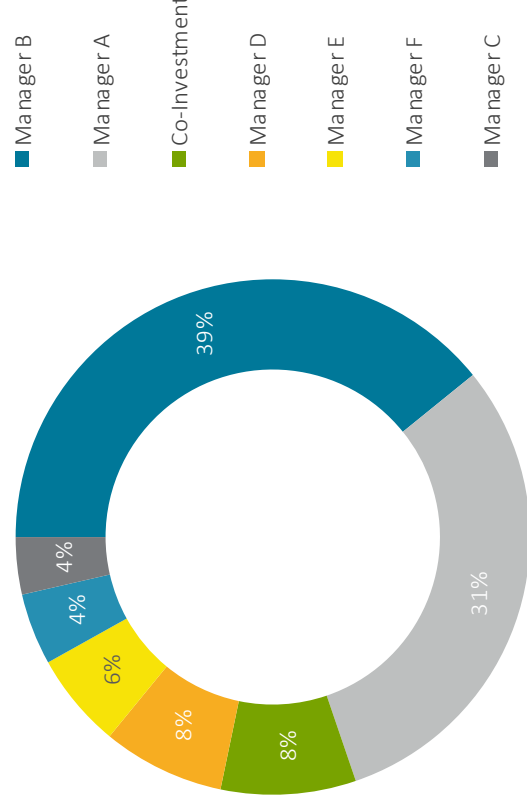


Fund Level Exposure

By Strategy

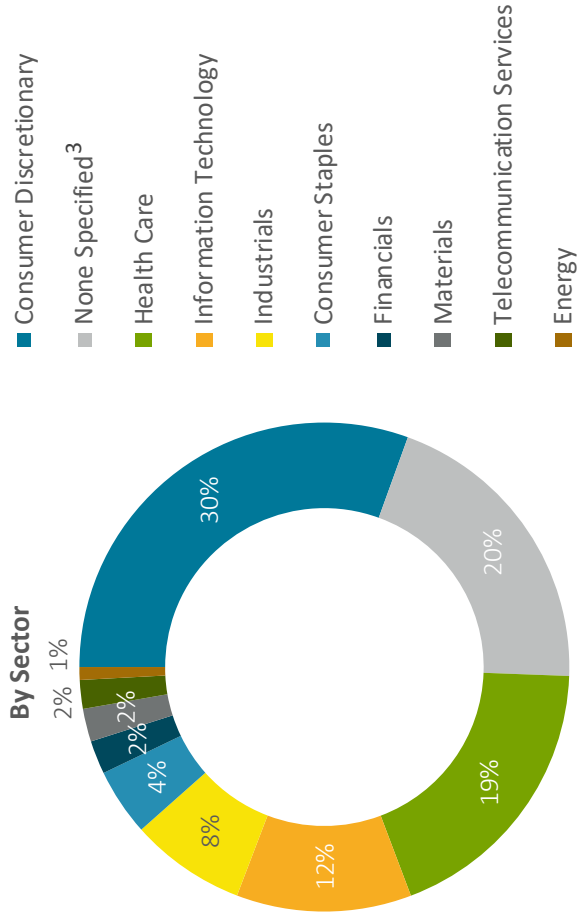


By Manager²

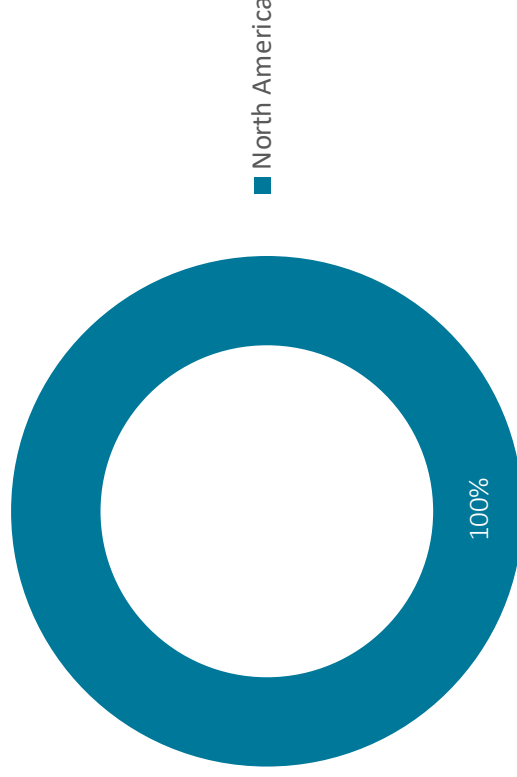


Underlying Look-Through Exposure

By Sector



By Geography



1. Exposure represents the sum of the (i) unfunded balance and the (ii) fair market value as provided by the general partner.
 2. Managers represented for co-investments have brought their respective deals forward.
 3. None Specified consists of Other and Diversified assets not specified by the underlying managers.

APPENDIX

Risks and Other Considerations



Risks Associated with Investments. Identifying attractive investment opportunities and the right underlying fund managers is difficult and involves a high degree of uncertainty. There is no assurance that the investments will be profitable and there is a substantial risk that losses and expenses will exceed income and gains.

Restrictions on Transfer and Withdrawal; Illiquidity of Interests; Interests Not Registered. The investment is highly illiquid and subject to transfer restrictions and should only be acquired by an investor able to commit its funds for a significant period of time and to bear the risk inherent in such investment, with no certainty of return. Interests in the investment have not been and will not be registered under the laws of any jurisdiction. Investment has not been recommended by any securities commission or regulatory authority. Furthermore, the aforementioned authorities have not confirmed the accuracy or determined the adequacy of this document.

Limited Diversification of Investments. The investment opportunity does not have fixed guidelines for diversification and may make a limited number of investments.

Reliance on Third Parties. StepStone will require, and rely upon, the services of a variety of third parties, including but not limited to attorneys, accountants, brokers, custodians, consultants and other agents and failure by any of these third parties to perform their duties could have a material adverse effect on the investment.

Reliance on Managers. The investment will be highly dependent on the capabilities of the managers.

Risk Associated with Portfolio Companies. The environment in which the investors directly or indirectly invests will sometimes involve a high degree of business and financial risk. StepStone generally will not seek control over the management of the portfolio companies in which investments are made, and the success of each investment generally will depend on the ability and success of the management of the portfolio company.

Taxation. An investment involves numerous tax risks. Please consult with your independent tax advisor.

Conflicts of Interest. Conflicts of interest may arise between StepStone and investors. Certain potential conflicts of interest are described below; however, they are by no means exhaustive. There can be no assurance that any particular conflict of interest will be resolved in favor of an investor.

Allocation of Investment Opportunities. StepStone currently makes investments, and in the future will make investments, for separate accounts having overlapping investment objectives. In making investments for separate accounts, these accounts may be in competition for investment opportunities.

Existing Relationships. StepStone and its principals have long-term relationships with many private equity managers. StepStone clients may seek to invest in the pooled investment vehicles and/or the portfolio companies managed by those managers.

Carried Interest. In those instances where StepStone and/or the underlying portfolio fund managers receive carried interest over and above their basic management fees, receipt of carried interest could create an incentive for StepStone and the portfolio fund managers to make investments that are riskier or more speculative than would otherwise be the case. StepStone does not receive any carried interest with respect to advice provided to, or investments made on behalf, of its advisory clients.

Other Activities. Employees of StepStone are not required to devote all of their time to the investment and may spend a substantial portion of their time on matters other than the investment.

Material, Non-Public Information. From time to time, StepStone may come into possession of material, non-public information that would limit their ability to buy and sell investments.

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Meeting Date
11/20/19
Agenda Item
#7

MEMORANDUM

Date: November 20, 2019
To: CCCERA Board of Retirement
From: Rishi Garbharran, Investment Officer
Subject: Alternative Investment Fees and Expense Report Pursuant to Government Code Section 7514.7

Overview

California Assembly Bill 2833 was enacted in 2016 and became effective January 1, 2017 as California Government Code Section 7514.7 (the "Code"). This Code requires California public pension plans to obtain and publicly disclose certain fee and expense data and information on an annual basis in a public meeting.

The law applies to any private fund that is an alternative investment vehicle whose contract with a California plan was entered into on or after January 1, 2017, or for any existing contract as of December 31, 2016 for which an additional capital commitment is made on or after January 1, 2017. The law also requires California public pension funds to use best efforts to obtain this information from funds entered into prior to January 2017.

The intent of the legislation is to increase transparency of the cost of private investment vehicles that are used by public funds.

Code Section 7514.7 Disclosure Requirements

1. The fees and expenses that the California plan pays directly to the alternative investment vehicle, the fund manager, or related parties.
(See Columns E, G, H on the following pages)
2. The California plan's pro rata share of fees and expenses not included in paragraph (1) that are paid from the alternative investment vehicle to the fund manager or related parties. The California plan may independently calculate this information based on information contractually required to be provided by the alternative investment vehicle to the public investment fund. If the California plan independently calculates this information, then the alternative investment vehicle shall not be required to provide the information identified in this paragraph.
(Column I)

3. The California plan's pro rata share of carried interest distributed to the fund manager or related parties.
(Column F)
4. The California plan's pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
(Column J)
5. Any additional information described in subdivision (b) of Section 6254.26 of the Code.
(Columns K-V)

Methodology

Beginning in early 2017, we asked all Alternative Investment Managers to use the Institutional Limited Partners Association (ILPA) template to report fees and expenses to CCCERA on a quarterly basis. Though not required for funds where a contract was entered into prior to January 1, 2017, most managers voluntarily provided information using the ILPA template.

This report displays the available data for alternative investment vehicles in which CCCERA was invested as of December 31, 2018. CCCERA Investment Staff will issue a similar report in 2020 when complete data for 2019 is available.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Equity
Calendar Year 2018**

A	B	C	D	E	F	G	H	I	J
Private Equity Fund	Address	Funding Commitment	Remaining Value as of 12/31/2018	Management Fees	Carried Interest Paid	Partnership Expenses	2018 Offsets	Other Expenses	Fees Paid by Portfolio Companies
Adams Street Partners (CCCERA)	Chicago, IL	210,000,000	148,536,283	1,477,987	368,899	69,691	-	550	N/A
Adams Street Partners - Brinson Partnership Fund	Chicago, IL	59,565,614	2,263,761	-	-	7,120	-	-	N/A
Adams Street Global Opportunities Secondary Fund II, L.P.	Chicago, IL	30,000,000	8,692,137	210,000	383,393	8,862	-	-	N/A
Adams Street Global Opportunities Secondary Fund V LP	Chicago, IL	40,000,000	22,486,488	304,500	-	9,430	-	-	N/A
Adams Street Venture Innovation Fund LP	Chicago, IL	75,000,000	27,175,603	684,026	-	47,086	-	234,449	N/A
AE Industrial Partners Fund II, LP	Boca Raton, FL	35,000,000	(61,035)	166,250	-	55,367	143,671	25,005	N/A
Bay Area Equity Fund	San Francisco, CA	10,000,000	3,112,874	-	-	12,099	-	-	N/A
Bay Area Equity Fund II	San Francisco, CA	10,000,000	10,928,292	133,389	-	15,515	-	-	N/A
Carpenter Community BancFund	Irvine, CA	30,000,000	-	-	1,339,032	-	-	-	N/A
Oaktree Private Investment Fund 2009, L.P.	Los Angeles, CA	40,000,000	8,799,120	-	-	27,973	-	-	N/A
Ocean Avenue Fund II	Santa Monica, CA	30,000,000	29,981,755	126,452	-	25,171	-	60,096	N/A
Ocean Avenue Fund III	Santa Monica, CA	50,000,000	38,594,451	185,959	-	36,404	-	67,045	N/A
Paladin III, L.P.	Washington, DC	25,000,000	27,628,653	383,245	-	80,244	-	-	N/A
Pathway Private Equity Fund, LLC	Irvine, CA	125,000,000	20,542,460	299,775	-	149,625	-	-	N/A
Pathway Private Equity Fund 2008	Irvine, CA	30,000,000	21,227,986	215,560	-	14,062	-	-	N/A
Pathway Private Equity Fund 6	Irvine, CA	40,000,000	36,975,104	360,000	-	22,083	-	-	N/A
Pathway Private Equity Fund 7	Irvine, CA	70,000,000	66,776,857	630,000	-	32,360	-	-	N/A
Pathway Private Equity Fund 8	Irvine, CA	50,000,000	38,323,436	372,251	-	20,259	-	-	N/A
Siguler Guff CCCERA Opportunities Fund, LP	New York, NY	200,000,000	159,504,729	902,470	-	-	402,381	196,926	N/A
Siguler Guff Secondary Opportunities Fund	New York, NY	50,000,000	4,691,272	500,000	-	188,423	-	91,074	N/A
Siris Partners IV, L.P.	New York, NY	35,000,000	(232,078)	-	-	-	-	-	N/A
United States Power Fund	Los Angeles, CA	30,000,000	-	-	-	2,061	-	-	N/A
USPF II Institutional Fund, L.P.	Los Angeles, CA	50,000,000	19,581,457	210,930	-	116,872	-	-	N/A
United States Power Fund III, L.P.	Los Angeles, CA	65,000,000	19,279,646	291,877	-	65,539	-	649,101	N/A
Energy Investor Funds USPF IV	Los Angeles, CA	50,000,000	43,159,208	596,396	-	5,720	-	1,425,238	N/A
Ares EIF V	Los Angeles, CA	50,000,000	39,909,259	700,000	-	495,603	-	252,425	N/A
Real Assets									
Aether III	Denver, CO	25,000,000	20,488,832	209,469	-	27,662	-	3,607	N/A
Aether III Surplus	Denver, CO	50,000,000	52,384,932	295,720	-	55,085	-	4,658	N/A
Aether IV	Denver, CO	50,000,000	26,376,917	424,984	-	70,522	-	83,225	N/A
Commonfund Capital Natural Resources IX	Wilton, CT	50,000,000	43,657,543	324,998	-	31,570	-	4,995	N/A
Wastewater Opportunity Fund	Portland, OR	25,000,000	14,062,679	491,687	-	58,718	-	8,268	N/A

N/A: This information was not available or not provided by the manager.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Equity
Calendar Year 2018**

K	L	M	N	O	P	Q	R	S	T	U	V
Private Equity Fund	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Value as of 12/31/2018	Total Value as of 12/31/2018	Distributed/ Paid in	Total Value/ Paid in	Since Inception Gross IRR	Since Inception Net IRR
Adams Street Partners (CCERA)	Chicago, IL	12/22/1995	210,000,000	181,783,125	133,120,055	148,536,283	281,656,338	0.73x	1.55x	12.6%	10.1%
Adams Street Partners - Brinson Partnership Fund	Chicago, IL	1/18/1996	59,565,614	57,517,409	102,238,497	2,263,761	104,502,258	1.78x	1.82x	14.3%	11.6%
Adams Street Global Opportunities Secondary Fund II, L.P.	Chicago, IL	12/31/2008	30,000,000	28,365,000	39,234,007	8,692,137	47,926,144	1.38x	1.69x	18.2%	14.6%
Adams Street Global Opportunities Secondary Fund V LP	Chicago, IL	10/31/2012	40,000,000	30,611,900	14,184,722	22,486,488	36,671,210	0.46x	1.20x	9.1%	6.4%
Adams Street Venture Innovation Fund LP	Chicago, IL	3/9/2016	75,000,000	25,162,500	-	27,175,603	27,175,603	0.00x	1.08x	23.3%	13.0%
AE Industrial Partners Fund II, LP	Boca Raton, FL	5/18/2018	35,000,000	-	-	(61,035)	(61,035)	0.00x	NM	NM	NM
Bay Area Equity Fund	San Francisco, CA	4/30/2004	10,000,000	10,000,000	36,331,243	3,112,874	39,444,117	3.63x	3.94x	25.8%	23.4%
Bay Area Equity Fund II	San Francisco, CA	6/29/2009	10,000,000	10,000,000	2,026,313	10,928,292	12,954,605	0.20x	1.30x	5.4%	4.4%
Carpenter Community Banc Fund	Irvine, CA	10/31/2009	30,000,000	29,314,657	49,128,304	-	49,128,304	1.68x	1.68x	10.4%	8.0%
Oaktree Private Investment Fund 2009, L.P.	Los Angeles, CA	2/28/2010	40,000,000	34,812,448	39,187,764	8,799,120	47,986,884	1.13x	1.38x	7.2%	7.0%
Ocean Avenue Fund II	Santa Monica, CA	5/7/2014	30,000,000	25,200,000	10,040,744	29,981,755	40,022,499	0.40x	1.59x	17.7%	16.6%
Ocean Avenue Fund III	Santa Monica, CA	12/9/2015	50,000,000	28,000,000	5,500,000	38,594,451	44,094,451	0.20x	1.57x	47.2%	40.8%
Paladin III, L.P.	Washington, DC	8/15/2008	25,000,000	33,058,868	23,594,952	27,628,653	51,223,605	0.71x	1.55x	16.9%	9.2%
Pathway Private Equity Fund, LLC	Irvine, CA	11/9/1998	125,000,000	124,513,501	166,957,494	20,542,460	187,499,954	1.34x	1.51x	10.2%	8.4%
Pathway Private Equity Fund 2008	Irvine, CA	12/26/2008	30,000,000	28,664,294	24,699,218	21,227,986	45,927,204	0.86x	1.60x	14.6%	12.0%
Pathway Private Equity Fund 6	Irvine, CA	5/24/2011	40,000,000	36,930,846	18,678,543	36,975,104	55,653,647	0.51x	1.51x	15.7%	13.1%
Pathway Private Equity Fund 7	Irvine, CA	2/7/2013	70,000,000	60,663,445	13,948,271	66,776,857	80,725,128	0.23x	1.33x	14.8%	11.9%
Pathway Private Equity Fund 8	Irvine, CA	11/23/2015	50,000,000	32,083,722	3,658,641	38,323,436	41,982,077	0.11x	1.31x	20.8%	19.0%
Siguler Guff CCCERA Opportunities Fund, LP	New York, NY	6/3/2014	200,000,000	139,152,500	41,905,281	159,504,729	201,410,010	0.30x	1.45x	21.6%	18.3%
Siguler Guff Secondary Opportunities Fund	New York, NY	12/31/2016	50,000,000	29,999,802	38,291,418	4,691,272	42,982,690	1.28x	1.43x	120.0%	76.4%
Siris Partners IV, L.P.	New York, NY	5/18/2018	35,000,000	-	-	(232,078)	(232,078)	0.00x	NM	NM	NM
United States Power Fund	Los Angeles, CA	11/8/2002	30,000,000	38,960,280	64,468,378	-	64,468,378	1.65x	1.65x	34.7%	28.3%
USPF II Institutional Fund, L.P.	Los Angeles, CA	6/15/2005	50,000,000	65,029,556	61,648,296	19,581,457	81,229,753	0.95x	1.25x	6.2%	3.6%
United States Power Fund III, L.P.	Los Angeles, CA	2/28/2007	65,000,000	71,409,097	71,755,741	19,279,646	91,035,387	1.00x	1.27x	7.4%	4.1%
Energy Investor Funds USPF IV	Los Angeles, CA	6/28/2010	50,000,000	59,625,588	25,225,856	43,159,208	68,385,064	0.42x	1.15x	9.5%	4.5%
Ares EIF V	Los Angeles, CA	11/28/2016	50,000,000	44,311,703	6,032,213	39,909,259	45,941,472	0.14x	1.04x	14.0%	5.5%
Real Assets											
Aether III	Denver, CO	11/30/2013	25,000,000	20,975,964	2,103,276	20,488,832	22,592,108	0.10x	1.08x	5.6%	2.9%
Aether III Surplus	Denver, CO	11/30/2013	50,000,000	46,891,321	3,885,504	52,384,932	56,270,436	0.08x	1.20x	8.0%	6.5%
Aether IV	Denver, CO	1/1/2016	50,000,000	25,189,265	1,529,981	26,376,917	27,906,898	0.06x	1.11x	12.8%	7.6%
Commonfund Capital Natural Resources IX	Wilton, CT	6/30/2013	50,000,000	42,774,995	7,107,576	43,657,543	50,765,119	0.17x	1.19x	8.2%	5.9%
Wastewater Opportunity Fund	Portland, OR	12/31/2015	25,000,000	16,375,956	2,031,922	14,062,679	16,094,601	0.12x	0.98x	8.7%	-1.6%

NM: This data is not yet meaningful for partnerships where capital had been deployed for less than one year.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Private Credit
Calendar Year 2018**

A	B	C	D	E	F	G	H	I	J
Private Credit Fund	Address	Funding Commitment	Remaining Value as of 12/31/2018	Management Fees	Carried Interest Paid	Partnership Expenses	2018 Offsets	Other Expenses	Fees Paid by Portfolio Companies
Angelo Gordon Energy Credit Opportunities Fund	New York, NY	16,500,000	5,754,214	158,467	406,996	66,519	-	-	N/A
StepStone CC Opportunities Fund, LLC - All Series	La Jolla, CA	650,000,000	224,376,050	2,250,000	-	555,712	-	560,365	N/A
Torchlight Debt Opportunity Fund II	New York, NY	128,000,000	4,582,942	60,944	-	130,001	-	-	N/A
Torchlight Debt Opportunity Fund III	New York, NY	75,000,000	-	17,597	-	23,876	-	-	N/A
Torchlight Debt Opportunity Fund IV	New York, NY	60,000,000	23,552,031	336,512	-	211,063	-	-	N/A
Torchlight Debt Opportunity Fund V	New York, NY	75,000,000	53,104,453	900,000	-	217,069	-	-	N/A

N/A: This information was not available or not provided by the manager.

**Contra Costa County Employees' Retirement Association
 Government Code Section 7514.7 Disclosure: Private Credit
 Calendar Year 2018**

K	L	M	N	O	P	Q	R	S	T	U	V
Private Credit Fund	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Value as of 12/31/2018	Total Value as of 12/31/2018	Distributed/ Paid In	Total Value/ Paid In	Since Inception Gross IRR	Since Inception Net IRR
Angelo Gordon Energy Credit Opportunities Fund	New York, NY	8/14/2015	16,500,000	18,750,000	18,128,316	5,754,214	23,882,530	0.97x	1.27x	18.2%	12.1%
StepStone CC Opportunities Fund, LLC - All Series	La Jolla, CA	12/18/2017	650,000,000	221,972,123	3,932,336	224,376,050	228,308,386	0.02x	1.03x	10.7%	6.68%
Torchlight Debt Opportunity Fund II	New York, NY	7/1/2006	128,000,000	218,238,292	204,245,825	4,582,942	208,828,767	0.94x	0.96x	0.2%	(1.0%)
Torchlight Debt Opportunity Fund III	New York, NY	12/12/2008	75,000,000	83,825,058	124,835,174	-	124,835,174	1.49x	1.49x	16.2%	13.8%
Torchlight Debt Opportunity Fund IV	New York, NY	8/1/2012	60,000,000	84,469,432	90,626,591	23,552,031	114,178,622	1.07x	1.35x	14.0%	11.2%
Torchlight Debt Opportunity Fund V	New York, NY	3/12/2015	75,000,000	45,000,000	4,739,774	53,104,453	57,844,227	0.11x	1.29x	20.8%	13.4%

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Real Estate
Calendar Year 2018**

A	B	C	D	E	F	G	H	I	J
Real Estate Fund	Address	Funding Commitment	Remaining Value as of 12/31/2018	Management Fees	Carried Interest Paid	Partnership Expenses	2018 Offsets	Other Expenses	Fees Paid by Portfolio Companies
AG Realty Fund VIII, L.P.	New York, NY	80,000,000	25,963,270	378,285	1,011,517	128,771	-	-	N/A
AG Realty Fund IX (A), L.P.	New York, NY	65,000,000	59,726,864	902,825	-	207,627	-	-	N/A
DIJ RECP Fund III, L.P.	New York, NY	75,000,000	21,349,088	258,216	-	80,560	-	8,457	N/A
DIJ RECP Fund IV, L.P.	New York, NY	100,000,000	93,647,227	752,798	-	191,491	-	45,958	N/A
DIJ RECP Fund V, L.P.	New York, NY	75,000,000	53,682,128	453,476	-	698,019	-	487,961	N/A
DIJ RECP Fund VI, L.P.	New York, NY	50,000,000	-	-	-	-	-	-	N/A
Invesco Real Estate Fund II	Dallas, TX	85,000,000	425,670	-	-	624	-	-	N/A
Invesco U.S. Value-Add Fund III	Dallas, TX	35,000,000	12,774,765	168,752	-	33,320	-	-	N/A
Invesco U.S. Value-Add Fund IV	Dallas, TX	35,000,000	26,805,973	339,752	-	44,229	-	-	N/A
Invesco U.S. Value-Add Fund V	Dallas, TX	75,000,000	(444,519)	168,340	-	224,176	-	-	N/A
LaSalle Income & Growth Fund VI	Chicago, IL	75,000,000	28,349,719	338,994	-	34,148	-	-	N/A
LaSalle Income & Growth Fund VII	Chicago, IL	75,000,000	53,658,280	685,176	-	94,800	-	-	N/A
Long Wharf Real Estate Partners IV L.P.	Boston, MA	25,000,000	12,101,592	221,132	-	56,272	-	-	N/A
Long Wharf Real Estate Partners V L.P.	Boston, MA	50,000,000	49,447,742	750,000	-	244,427	-	-	N/A
Oaktree Real Estate Opportunities Fund V, LP	Los Angeles, CA	50,000,000	5,216,833	78,483	815,981	39,882	(21,621)	-	N/A
Oaktree Real Estate Opportunities Fund VI, LP	Los Angeles, CA	80,000,000	39,385,683	653,955	1,206,436	651,416	-	-	N/A
Oaktree Real Estate Opportunities Fund VII, LP	Los Angeles, CA	65,000,000	34,158,375	975,000	-	242,817	-	-	N/A
Paulson Real Estate Fund II LP	New York, NY	20,000,000	26,473,448	238,272	-	64,026	-	-	N/A
Signular Guff Distressed Real Estate Opportunities Fund, LP	New York, NY	75,000,000	33,050,192	331,139	106,077	62,220	-	-	N/A
Signular Guff Distressed Real Estate Opportunities Fund II (T), LP	New York, NY	70,000,000	50,253,933	540,000	786,458	79,627	-	-	N/A
Signular Guff DREOF II Co-Investment Fund (T), LP	New York, NY	25,000,000	25,989,992	215,319	-	56,392	-	-	N/A

N/A: This information was not available or not provided by the manager.

**Contra Costa County Employees' Retirement Association
Government Code Section 7514.7 Disclosure: Real Estate
Calendar Year 2018**

	K	L	M	N	O	P	Q	R	S	T	U	V
Real Estate Fund	Address	Inception Date	Funding Commitment	Since Inception Contributions	Since Inception Distributions	Remaining Value as of 12/31/2017	Total Value as of 12/31/2018	Distributed/ Paid in	Total Value/ Paid in	Since Inception Gross IRR	Since Inception Net IRR	
AG Realty Fund VIII, L.P.	New York, NY	12/13/2010	80,000,000	75,401,855	95,367,757	25,963,270	121,331,027	1.26x	1.61x	20.8%	15.6%	
AG Realty Fund IX (A), L.P.	New York, NY	12/8/2014	65,000,000	55,575,000	8,775,000	59,726,864	68,501,864	0.16x	1.23x	18.9%	12.2%	
DUI RECP Fund III, L.P.	New York, NY	6/6/2005	75,000,000	100,321,989	69,918,318	21,349,088	91,267,406.00	0.70x	0.91x	0.2%	-1.9%	
DUI RECP Fund IV, L.P.	New York, NY	12/26/2007	100,000,000	123,809,297	67,449,404	93,647,227	161,096,631.00	0.54x	1.30x	6.6%	4.0%	
DUI RECP Fund V, L.P.	New York, NY	7/18/2013	75,000,000	71,086,593	38,681,237	53,682,128	92,363,365.00	0.54x	1.30x	26.3%	14.5%	
DUI RECP Fund VI, L.P.	New York, NY	11/20/2018	50,000,000	-	-	-	-	NM	NM	NM	NM	
Invesco Real Estate Fund II	Dallas, TX	5/17/2007	85,000,000	78,202,813	100,620,489	425,670	101,046,159	1.29x	1.29x	8.2%	6.8%	
Invesco U.S. Value-Add Fund III	Dallas, TX	12/2/2011	35,000,000	32,386,424	32,987,219	12,774,765	45,761,984	1.02x	1.41x	17.2%	13.6%	
Invesco U.S. Value-Add Fund IV	Dallas, TX	6/30/2014	35,000,000	29,808,739	9,376,527	26,805,973	36,182,500	0.31x	1.21x	17.9%	13.1%	
Invesco U.S. Value-Add Fund V	Dallas, TX	9/11/2018	75,000,000	-	-	(444,519)	(444,519)	NM	NM	NM	NM	
LaSalle Income & Growth Fund VI	Chicago, IL	1/20/2012	75,000,000	71,428,571	78,332,171	28,349,719	106,681,889	1.10x	1.49x	15.7%	13.0%	
LaSalle Income & Growth Fund VII	Chicago, IL	10/30/2015	75,000,000	53,506,116	12,113,858	53,658,280	65,772,137	0.23x	1.23x	16.4%	13.1%	
Long Wharf Real Estate Partners IV L.P.	Boston, MA	11/13/2012	25,000,000	25,000,000	23,485,895	12,101,592	35,587,487	0.94x	1.42x	17.2%	12.4%	
Long Wharf Real Estate Partners V L.P.	Boston, MA	11/20/2015	50,000,000	50,000,000	6,969,039	49,447,742	56,416,781	0.14x	1.13x	16.1%	10.2%	
Oaktree Real Estate Opportunities Fund V, LP	Los Angeles, CA	2/23/2011	50,000,000	50,000,000	74,668,955	5,216,833	79,885,788	1.49x	1.60x	17.0%	12.6%	
Oaktree Real Estate Opportunities Fund VI, LP	Los Angeles, CA	9/20/2012	80,000,000	80,000,000	73,719,611	39,385,683	113,105,294	0.92x	1.41x	14.9%	10.0%	
Oaktree Real Estate Opportunities Fund VII, LP	Los Angeles, CA	4/1/2015	65,000,000	30,745,000	4,615,000	34,158,375	38,773,375	0.15x	1.26x	73.7%	39.7%	
Paulson Real Estate Fund II LP	New York, NY	12/31/2013	20,000,000	19,345,623	4,786,104	26,473,448	31,259,552	0.25x	1.62x	19.0%	13.1%	
Siguler Guff Distressed Real Estate Opportunities Fund, LP	New York, NY	7/30/2010	75,000,000	69,375,000	89,705,668	33,050,192	122,755,860	1.29x	1.77x	17.3%	14.1%	
Siguler Guff Distressed Real Estate Opportunities Fund II (T), LP	New York, NY	8/30/2013	70,000,000	58,485,000	30,973,107	50,253,933	81,227,040	0.53x	1.39x	13.3%	10.9%	
Siguler Guff DREOF II Co-Investment Fund (T), LP	New York, NY	10/30/2015	25,000,000	20,537,862	972,301	25,989,992	26,962,293	0.05x	1.31x	17.1%	13.4%	

NM: This data is not yet meaningful for partnerships where capital had been deployed for less than one year.

BOARD MEETINGS 2020

Meeting Date
11/20/19
 Agenda Item
#8

JANUARY						
Su	Mo	Tu	We	Th	Fr	Sa
			H	2	3	4
5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	H	21	B	23	24	25
26	27	28	29	30		

1 - New Year's Day Observed
 20 - Martin Luther King Jr. Day

FEBRUARY						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	B	13	14	15
16	H	18	19	20	21	22
23	24	25	B	27	28	29

17 - Presidents' Day

MARCH						
Su	Mo	Tu	We	Th	Fr	Sa
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C	C	C	B	12	13	14
15	16	17	18	19	20	21
22	23	24	B	26	27	28
29	30	31				

APRIL						
Su	Mo	Tu	We	Th	Fr	Sa
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5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	20	21	B	23	24	25
26	27	28	29	30		

MAY						
Su	Mo	Tu	We	Th	Fr	Sa
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3	4	5	B	7	8	9
10	11	S	S	S	S	16
17	18	19	20	21	22	23
24	H	26	B	28	29	30
31						

25 - Memorial Day

JUNE						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	B	11	12	13
14	15	16	17	18	19	20
21	22	23	B	25	26	27
28	29	30				

JULY						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	H	4
5	6	7	B	9	10	11
12	13	14	15	16	17	18
19	20	21	B	23	24	25
26	27	28	29	30	31	

3 - Independence Day

AUGUST						
Su	Mo	Tu	We	Th	Fr	Sa
						1
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9	10	11	B	13	14	15
16	17	18	19	20	21	22
23	24	25	B	27	28	29
30	31					

SEPTEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	H	8	B	10	11	12
13	14	15	16	17	18	19
20	21	22	B	24	25	26
27	28	29	30			

7 - Labor Day

OCTOBER						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	B	15	16	17
18	19	20	21	22	23	24
25	26	27	B	29	30	31

NOVEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	B	5	6	7
8	9	S	S	S	S	14
15	16	17	B	19	20	21
22	23	24	25	H	H	28
29	30					

11 - Veterans Day
 26 and 27 - Thanksgiving

DECEMBER						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	B	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	H	26
27	28	29	30	31		

25 - Christmas Day

B Board Meeting

S SACRS

C CALAPRS - General Assembly



ADVOCACY

RESEARCH

EDUCATION

Meeting Date
11/20/19
Agenda Item
#9a.

2020 Legislative Conference

January 26–28, 2020
Capital Hilton Hotel | Washington, DC

**Policy Day
January 28**

Early-Bird Registration Deadline: January 8

Follow Us on Twitter  #LegConf20

ABOUT THIS CONFERENCE

The NCPERS Legislative Conference directs the public pension industry's advocacy effort and legislative strategy to Congress and the Administration by offering sessions with Hill staff, Administration officials, and Washington opinion makers on key issues on Capitol Hill and in federal regulatory agencies that affect pension funds today.

WHO SHOULD ATTEND

Pension trustees, union officials, administrators, pension staff members, and companies that provide products and services to the public pension community should attend this conference.

WHY YOU SHOULD ATTEND

The Legislative Conference provides you with a great opportunity to learn about the critical legislative and regulatory issues that affect your fund. It will equip you with the tools needed to deal with the political and legislative challenges that face your pension funds.

KEYNOTE SPEAKER

DOMENICO MONTANARO

Domenico Montanaro is NPR's lead political editor and appears regularly on-air on NPR's *Morning Edition*, *All Things Considered*, and NPR podcasts, where he delivers nonpartisan analysis on national politics, ranging from the Trump Administration to key legislation. He has also appeared on CNN, MSNBC, NBC *Nightly News* and PBS *NewsHour*.

Based in Washington, D.C., he directs political coverage across the network's broadcast and digital platforms, covering the White House and Capitol Hill. He's been responsible for helping adapt and transform the political coverage of one of the most trusted legacy brands to meet the needs of ever-changing audience demands and consumption patterns.

Before joining NPR in 2015, Montanaro served as political director and senior producer for politics and law at PBS *NewsHour*. There, he led domestic political and legal coverage, which included the 2014 midterm elections; the Supreme Court; and the unrest in Ferguson, Missouri. Prior to his time at *NewsHour*, Montanaro spent seven years at NBC News, where he was a reporter and deputy political editor under Chuck Todd. There, he covered two presidential elections and reported and edited for the network's must-read morning political note, *First Read*.

He's well versed in polling and data, having worked in the CBS News polling unit. Montanaro has also worked at ABC News and the *Asbury Park Press* in New Jersey, and has taught high school English. Montanaro earned a bachelor's degree in English from the University of Delaware and a master's degree in journalism from Columbia University.

Join us as Montanaro discusses the current 2020 national election and shares his knowledge and understanding of polling and data and how they apply to presidential and congressional campaigns. Hear, firsthand his reporting from inside the Trump White House and analysis of the latest legislative movements and the electoral landscape.

DAY 1

On day one of the Legislative Conference, hear from experts on the critical issues related to pension funds and the current policies affecting them. Connect with other fund professionals and industry service providers to glean practical information and build lasting peer relationships.

DAY 2

On the second day of the conference, meet face-to-face with your elected leaders to discuss the legislative issues affecting your fund. Meeting with your members of Congress is the most important part of the Legislative Conference.



PRELIMINARY AGENDA

Agenda is subject to change.

SUNDAY, JANUARY 26

3:00 PM – 6:00 PM Registration

5:00 PM – 6:00 PM Networking Reception

MONDAY, JANUARY 27

7:00 AM – 4:30 PM Registration

7:00 AM – 8:00 AM Breakfast

8:00 AM – 12:00 PM General Session I

- Preview of the 2020 National Election
- 2020 Agenda of the U.S. Congress
- Senate Finance Committee Retirement & Healthcare Agenda
- House Ways & Means Committee Retirement & Healthcare Agenda
- NCPERS 2020 Federal Policy Agenda

12:00 PM – 1:00 PM Lunch

1:00 PM – 5:00 PM General Session II

- 2019 Policymaker of the Year Award
- Update on Federal Healthcare Policies
- The Department of the Treasury's Pension Activities for 2020
- State Pension Outlook: State-by-State Analysis
- Prep for Tuesday's Policy Day

QUESTIONS? Contact NCPERS at 202-624-1456 or registration@NCPERS.org.

POLICY DAY

Separate registration is required

TUESDAY, JANUARY 28

- 8:00 AM – 9:00 AM **Policy Day Breakfast**
Congressional speaker TBD
- 9:00 AM – 5:00 PM **Meetings with Congressional Staff**
NCPERS scheduled meetings with the Ways and Means Committee and the Senate Special Committee on Aging
- 9:30 AM – 5:00 PM **Policy Day Lounge / Debriefing Room Open**
Location: 444 North Capitol Street, NW, Suite 233
- 12:00 PM – 1:00 PM **Policy Day Lunch**
Location: 444 North Capitol Street, NW, Suite 233
- 4:00 PM – 6:00 PM **Policy Day Closing Happy Hour**
Location: 444 North Capitol Street, NW, Suite 233



POLICY DAY ON CAPITOL HILL

How It Works...

1

Sign up for Policy Day on Capitol Hill when you register for the Legislative Conference.

When making your travel plans for the Legislative Conference, please keep in mind that Policy Day is a full day of activities and you should schedule your travel plans accordingly.

2

NCPERS schedules meetings with various congressional committees.

Our scheduling process is finalized in early January due to Congress's schedule. In mid-January, we will send you an e-mail detailing who, when, and where you will be meeting. Please keep in mind that these meetings can change at any time.

3

Participate in our Policy Day webinar.

Get ready for your meeting on Capitol Hill before you arrive in Washington. Join us for a webinar that previews the issues at play, our positions, and what you need to know to have an effective meeting with congressional staff.

4

Prepare to bring your stories to Washington.

Congressional staff respond best when constituents can quickly identify common ground. Identify a story from your district or state that will resonate with them.



QUESTIONS? Contact NCPERS at 202-624-1456 or registration@NCPERS.org.

HOTEL INFORMATION



Capital Hilton Hotel | 1001 16th Street, NW | Washington, DC 20036 | 202-393-1000

Combining style, historical character, and an enviable location, the Capital Hilton is the place to stay when visiting Washington, D.C. Located just blocks from the capital's best attractions, including the White House, the National Mall, and a multitude of museums. With comfortable meeting rooms and state-of-the-art technology, the hotel offers all you need for an unforgettable educational program in D.C.

Book your hotel room at the Capital Hilton, official location of the Legislative Conference. The NCPERS discounted room rate is subject to availability of group block. This rate is not guaranteed if you plan to arrive early or depart at a later date.

ROOM RATE

\$285 single/double occupancy per night

BOOKING DEADLINE

Wednesday, January 8

PHONE RESERVATIONS

1-800-HILTONS (or 1-800-445-8667) and mention NCPERS Legislative Conference

ONLINE RESERVATIONS

Go to www.NCPERS.org and click on the hotel link.

TRANSPORTATION

Airports

5 miles from Ronald Reagan Washington National Airport (DCA)

Type	Typical Minimum Charge
Super Shuttle	\$14.00
Subway/Rail	\$2.50
Taxi	\$20.00

25 miles from Washington Dulles International Airport (IAD)

Type	Typical Minimum Charge
Super Shuttle	\$29.00
Taxi	\$55.00

30 miles from Baltimore/Washington International Airport (BWI)

Type	Typical Minimum Charge
Super Shuttle	\$40.00
Subway/Rail	\$25.00
Taxi	\$85.00



QUESTIONS? Contact NCPERS at 202-624-1456 or registration@NCPERS.org.

GENERAL CONFERENCE INFORMATION

NCPERS MEMBERSHIP

The Legislative Conference is a members-only conference. Your organization must be a current member of NCPERS in order for your registration to be processed.

To verify your organization's membership status, please e-mail your inquiry to membership@NCPERS.org.

WHO SHOULD ATTEND

Professionals from the public pension industry, including trustees, executive directors, administrators, pension staff members, union officials, attorneys, accountants, actuaries, investment managers, benefit design consultants, state and local officials, financial consultants, and regulators from across the United States and Canada.

WHO ARE SERVICE PROVIDERS

NCPERS classifies all companies and organizations that provide products and services to pension plans and the larger public pension community as service providers. This includes, but is not limited to, law firms, banks, investment consultants, actuaries, asset managers, and insurance companies.

GUEST REGISTRATION

A guest refers to a spouse or personal friend, **not a business associate, staff member, or colleague**. All guests must be registered to attend NCPERS events. No admittance will be given to guests without a registration name badge.

The guest fee includes access to the following functions:

- Breakfast (valued at \$35 per person)
- Refreshment break (valued at \$15 per person)
- Lunch (valued at \$40 per person)
- Reception (valued at \$60 per person)

REGISTRATION DEADLINE

Register by **Wednesday, January 8**, to receive the early-bird conference rates and be included in the preliminary attendee list (this list is used by our Service Providers to send invitations to their client events). You may still register for the conference after this date, but higher conference fees will apply.

REGISTRATION FEES

The Legislative Conference registration fees include (unless otherwise noted) the following:

- Conference materials
- Legislative Conference breakfast
- Refreshment break
- Networking reception

There is an additional registration fee for Policy Day activities.

SPEAKER REGISTRATION FEE

CorPERS members will receive one (1) complimentary speaker at the conference as part of their enhanced membership level.

NCPERS charges speaker registration fees to our service provider members to cover the cost of conference materials, food and beverage, and facility/audio visual usage. We understand that some speakers may be only attending for one day, but this is difficult to monitor.

REGISTRATION CHANGES

All registration changes must be received in writing. Please e-mail all registration changes to registration@NCPERS.org or fax to 202-624-1439.

ATTENDEE LISTS

The preliminary attendee list will be available after the January 8 early-bird registration deadline. The list will be e-mailed to all registered attendees. To request a copy of the list, e-mail registration@ncpers.org. To be included on this list, please register BEFORE January 8.

The final attendee list will be available on Sunday, January 26.

MEMBER EVENT/INVITATIONS

Service providers should not schedule/ host client events during any NCPERS activities.

NCPERS does not publish the e-mail addresses of its members. If you would like your event invitation e-mailed to attendees, please contact Cassandra Smoot at 202-624-1469 or cassandra@NCPERS.org.

REGISTRATION METHODS



Submit your registration online at www.NCPERS.org. You will need your individual username and password to register online.



E-mail your completed registration form to registration@NCPERS.org.



Fax your completed registration form to 202-624-1439.



Mail your completed registration form to:

NCPERS
444 North Capitol Street, NW
Suite 630
Washington, DC 20001

2020 LEGISLATIVE CONFERENCE REGISTRATION FORM

January 26–28 Washington, D.C.

	Early-Bird Registration Rate (Through January 8)	Late Registration Rate (After January 8)
Fund Member/Stakeholder	<input type="checkbox"/> \$515	<input type="checkbox"/> \$615
Service Provider	<input type="checkbox"/> \$825	<input type="checkbox"/> \$925
Spouse/Guest	<input type="checkbox"/> \$50	<input type="checkbox"/> \$100

POLICY DAY REGISTRATION REQUIRED (FEE \$50)

Please RSVP for each activity you plan to attend. Please RSVP as accurately as possible, as advance planning is required for Policy Day activities. **These events are not open to spouse/guest(s).**

- Policy Day breakfast with speaker
 Policy Day meetings with congressional staff
 Policy Day lunch
 Policy Day closing happy hour

ATTENDEE REGISTRATION

First Name: _____ Last Name: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____

E-mail Address*: _____

***Please provide your e-mail address for conference updates and registration confirmation.**

GUEST REGISTRATION

Guest refers to a spouse or personal friend, not a business associate or staff colleague. All guests must be registered to attend the conference events. No admittance without a registration badge. The registration fee covers breakfast, lunch, and the reception.

Guest Name: _____

Guest Name: _____

REGISTRATION SUMMARY

Legislative Conference Registration: \$ _____

Policy Day Registration: \$ _____

Guest Registration: \$ _____

GRAND TOTAL: \$ _____

PAYMENT METHODS (All payments must be in U.S. funds)

ONLINE at www.NCPERS.org. You will need your username and password to log in.

E-MAIL your completed registration form to registration@NCPERS.org.

FAX your completed registration form to 202-624-1439.

CHECK made payable to NCPERS can be sent with your completed registration form to:

NCPERS | 444 North Capitol Street, NW | Suite 630 | Washington, DC 20001

CREDIT CARD:

American Express  MasterCard  Visa 

Account Number: _____

Expiration Date: _____ CC Verification Code: _____

Name (on the card): _____

Billing Address: _____

City: _____ State: _____ Zip Code: _____

Total Amount Charged: \$ _____

Cardholder Signature (REQUIRED): _____

CANCELLATION POLICY

All cancellations must be received in writing by **January 8** and will be subject to a \$50 administrative fee for fund and service provider registrations. **No refunds after January 8.** Please e-mail your cancellation request to registration@NCPERS.org.

QUESTIONS? Contact NCPERS at 202-624-1456 or registration@NCPERS.org.

commonfund

FORUM2020 TRANSFORMATION

March 8-10
Orlando, Florida

Meeting Date
11/20/19
Agenda Item
#9b.

Secure Your Spot Today

Forum will be held March 8-10th at the JW Marriott Orlando Grande Lakes in Orlando, Florida, where legendary service is married with cutting-edge technologies and meeting space. Reserve your spot by registering today!

A unique conference experience designed exclusively for sophisticated institutional investors representing endowments and foundations, healthcare systems, pension funds, charities and other long-term investors. This year's conference provides you the opportunity to:



INVEST



LEARN



TRANSFORM



EXECUTE

Forum offers breakout sessions, networking breakfasts, keynote addresses and general sessions that provide you with the opportunity to engage in discussion with both faculty and peers, while also presenting useful content that can be implemented within your institution. New this year: a special two-part Governance Workshop will be offered on Sunday afternoon. [Preview the agenda now](#) for more details.

FEATURED SPEAKERS



Darren Walker

PRESIDENT
FORD FOUNDATION



Fareed Zakaria

HOST, FAREED
ZAKARIA GPS
CNN WORLDWIDE



Diane Swonk

CHIEF ECONOMIST
GRANT THORNTON



Claire McCaskill

U.S. SENATOR
MISSOURI
(2007-2018)

Are you a golfer? The Ritz-Carlton Golf Club at the JW Marriott is a par-72 course designed by golf icon Greg Norman. On Saturday, March 7th, Commonfund invites you to join your industry peers and Commonfund staff at 1:00 p.m. EST for a Scramble Tournament. Be sure to sign-up when you register today.

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[CONTACT](#)



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