Verus



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

PERIOD ENDING: MARCH 31, 2025

Investment Performance Review for

Kern County Employees' Retirement Association

Table of Contents

Investment Landscape TAB I

Investment Performance Review TAB II

Verus

VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484


Verus
PERSPECTIVES
THAT DRIVE
ENTERPRISE
SUCCESS
2ND QUARTER 2025
Investment Landscape

Verus business update

Since our last Investment Landscape webinar:

— Verus hired Jenny Herring as RFP Manager and Dimitri Natsis as Portfolio Manager.

— In March, **Evan Benedict** and **JC Faubion** were promoted to Consultants, **Lukas Seeley** was promoted to Senior Consulting Associate, **Colleen Flannery** was promoted to Senior Associate Director | Public Markets, **Kyle Jangard** was promoted to Associate Director | Public Markets, **Sneha Pendyala** was promoted to Senior Markets Research Analyst, **Matt Foppiano** was promoted to Senior Private Markets Research Analyst, **Phillip Thomas** was promoted to Associate Director | Investment Analytics, **Lamine Kaba** and **Cholo Villanueva** were promoted to Senior Investment Analysts, and **Nico Caballero** is being promoted to Private Markets Research Analyst.

— The 2025 Active Management Environment was released.

— Recent research, found at *verusinvestments.com/research:*

- ***LDI for Public Sponsors***
- ***So, What Now?***
- ***This Matters, and This Doesn't***
- ***Driving OCIO Governance Through Risk***

Table of contents

Economic environment 9

Fixed income rates & credit 22

Equity 27

Other assets 38

Appendix 40

Verus

VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

Recent Verus research

Visit: verusinvestments.com/research

Thought leadership

LDI FOR PUBLIC SPONSORS

We explore the dichotomy in LDI adoption between sponsor types. We discuss the characteristics of pension plans that make LDI strategies beneficial. We assess the current environment, to illustrate why LDI may appear relatively attractive today.

THIS MATTERS, AND THIS DOESN'T

We offer a few perspectives regarding what we watch out for to acknowledge or even avoid biases where possible. Deciding what matters most to the portfolio by ensuring a balanced set of information sources, keeping a watchful eye for biases and carefully thinking about incentives, and also determining what doesn't matter.

SO, WHAT NOW?

Our CIO examines the current market environment after global tariffs are released by the U.S. government.

DRIVING OCIO GOVERNANCE THROUGH RISK

We examine active risk, which plays a large role in determining portfolio outcomes and success relative to that policy, and the elements that make up active risk.

1st quarter summary

THE ECONOMY

— The threat and implementation of tariffs by the U.S. administration has been more aggressive than expected. A string of weak economic data, along with these policy decisions, have triggered a greater likelihood of recession. So far, the core aspects of the economy—employment, consumption, wage gains—remain fairly solid, while household and business sentiment has dropped substantially. It is not yet clear how souring sentiment will translate to the real economy.

— U.S. inflation drifted lower towards the Federal Reserve 2% target. Inflation was 2.4% YoY in March, and core inflation rose 2.8%. But tariffs implemented by the Trump administration and an escalating trade war with China may push inflation upward. Given recent moves by the U.S. administration, most investors appear to expect weaker economic growth in 2025 and moderately higher inflation. This puts the Fed in a difficult position.

EQUITY

— A change in tariff policy near the end of Q1 shocked markets and led to severe selloffs across global markets, with U.S. equities taking the worst of the losses. Growth stocks, notably the Magnificent 7, have led the market downward. Small capitalization stocks underperformed large caps. Businesses that have fully embraced globalization and outsourced supply chains may find themselves in a particularly difficult position due to the drastic shift in U.S. trade policy.

FIXED INCOME

— The 10-year U.S. Treasury yield fell from 4.55% to 4.23% during the quarter, reflecting somewhat of a reversal of the economic optimism of Q4.

— Credit spreads widened during the quarter, and lower quality spreads saw larger shifts. High yield bond spreads rose by 41bps to 3.53%, while investment grade spreads rose to 1.0%. Despite recent widening events, credit spreads across all ratings remain below long-term historical averages.

ASSET ALLOCATION ISSUES

— Sentiment quickly shifted in a negative direction in March as investors witnessed weaker-than-expected economic data in a variety of places and tariff standoffs between the U.S. and our largest trading partners flooded headlines. Many S&P 500 price targets have been adjusted lower due to fears of trade policy drag on the economy.

— Implied bond market volatility showed an extreme jump towards the end of Q1. Competing theories exist as to the cause, with some market participants attributing the move to fluctuations in foreign demand for U.S. dollars due to radical shifts in U.S. trade policy. Other investors believe these moves have been more driven by hedge fund trading and an unwinding of 'basis trades'—a levered trading strategy that tries to take advantage of differences between current Treasury price and the price reflected in futures contracts.

Tariff negotiations & weakness in certain economic data have led to fears of imminent recession

For now, core economic data-employment, spending, wages-are fairly solid

What drove the market in Q1?

"Rising fears of tariffs pummel U.S. consumer confidence to four-year low"

University of Michigan Consumer Sentiment

Oct '24	Nov '24	Dec '24	Jan '25	Feb '25	Mar '25
70.5	71.8	74.0	71.7	64.7	57.0

Article Source: Reuters, March 25th, 2025

"European stocks rise on defense spending pledge…"

EuroStoxx 50 outperformance over S&P 500 by month

Oct '24	Nov '24	Dec '24	Jan '25	Feb '25	Mar '25
-4.8%	-8.1%	0.0%	+4.7%	+4.9%	+5.2%

Article Source: World Economic Forum, March 6th, 2025

"Will Tariffs Drive the U.S. Into Recession?"

S&P 500 Price Level

Oct 31st	Nov 30th	Dec 31st	Jan 31st	Feb 28th	Mar 31st
5705	6032	5881	6040	5954	5611

Article Source: Bloomberg, March 31st, 2025

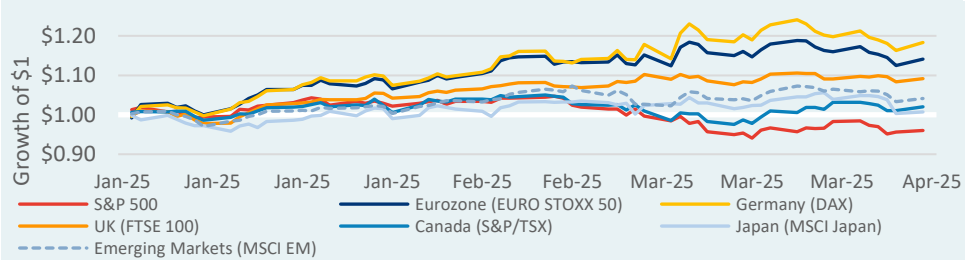
"Could Trump's New Tariffs Push More Countries to Ditch the Dollar?"

ICE U.S. Dollar Index

Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	March 25
104.0	105.7	108.5	108.5	107.6	104.2

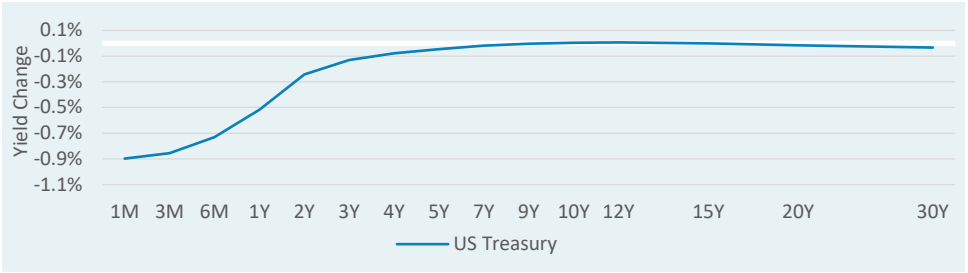
Article Source: Newsweek, April 9th, 2025

RELATIVE EQUITY PERFORMANCE



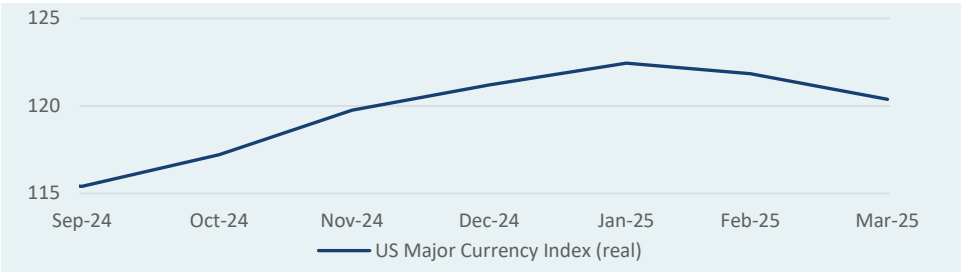
Source: Bloomberg, as of 3/31/25

EXPECTED YIELD CURVE MOVEMENT OVER NEXT 1 YEAR



Source: Bloomberg, as of 3/31/25

U.S. DOLLAR VALUE



Source: Bloomberg, as of 3/31/25

Economic environment

U.S. economics summary

— Real GDP growth was negative during Q1, falling from 2.4% to -0.3% quarter-over-quarter annualized. The slowdown was driven by a substantial increase in imports relative to exports. Less government spending contributed to the weak figure, a notable change from past years where higher spending was an ongoing support. Consumer spending also slowed down.

— Investors witnessed broadly weaker economic data. This, along with the multifront U.S. trade tariff war, casts a shadow over sentiment and may be affecting business behavior due to heightened uncertainty. While fear is high, the core fundamentals of the economy remain relatively good—solid employment, decent spending, and low household debt levels. Investors will be watching closely for the way in which souring sentiment impacts the economy.

— The Federal Reserve kept rates steady, but communicated that weaker economic growth and moderately higher inflation is likely in store, due to U.S. administration tariff and trade policy. Lower growth and rising inflation places the Fed in a very difficult position regarding rate policy.

— U.S. inflation fell during Q1 towards the Federal Reserve 2% target. Inflation came in at 2.4% year-over-year in March, and core inflation rose 2.8%. Shelter prices (housing) has been the largest contributor to inflation, but in March showed a lower price rise of 2.5% annualized.

— Labor market conditions were strong in Q1. Unemployment remained low at 4.2%. The reductions in government workforce will likely have an impact on labor data for many months into the future, but the size of planned cuts relative to the total U.S. workforce is not enough to change the overall picture.

— Sentiment reversed abruptly in Q1 as households and businesses expressed substantial fears around tariffs. The University of Michigan Sentiment Index is now -30% below November 2024 levels, while NFIB Small Business Sentiment is nearly back to pre-election levels.

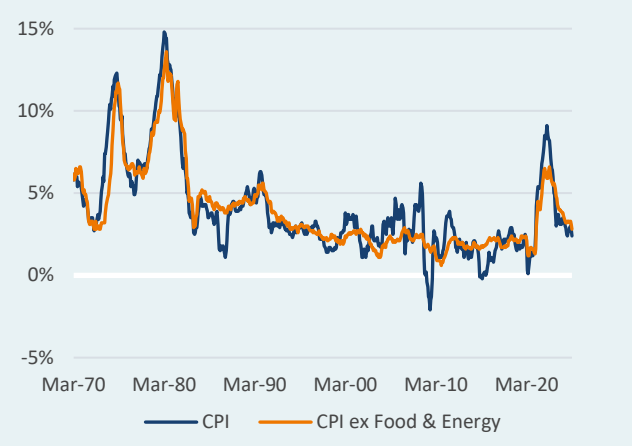
	Most Recent	12 Months Prior
Real GDP *(YoY)*	2.0% *3/31/25*	2.9% *3/31/24*
Inflation *(CPI YoY, Core)*	2.8% *3/31/25*	3.8% *3/31/24*
Expected Inflation *(5yr-5yr forward)*	2.6% *3/31/25*	2.4% *3/31/24*
Fed Funds Target Range	4.25–4.50% *3/31/25*	5.25–5.50% *3/31/24*
10-Year Rate	4.2% *3/31/25*	4.3% *3/31/24*
U-3 Unemployment	4.2% *3/31/25*	3.9% *3/31/24*
U-6 Unemployment	7.9% *3/31/25*	7.3% *3/31/24*

Inflation

U.S. inflation (CPI) drifted lower during the quarter towards the Federal Reserve 2% target. Inflation was 2.4% year-over-year in March, and core inflation (excluding food & energy) rose 2.8%. Shelter prices (housing) has been the largest contributor to inflation, but in March showed only a 2.5% annualized rise. If this marks a trend towards lower shelter price rises, it could help provide some downward relief. However, tariffs implemented by the Trump administration and an escalating trade war with China will most likely push inflation higher, perhaps materially so.

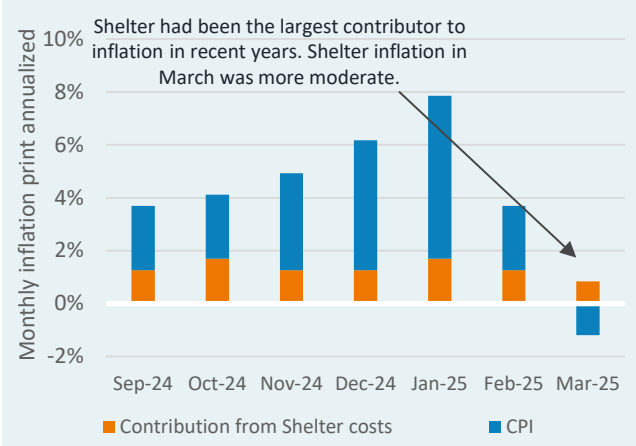
Given the change in environment and recent moves by the U.S. administration, most investors appear to expect weaker economic growth in 2025 and moderately higher inflation. It is difficult to estimate the direction of inflation in the near-term—a slowdown in the economy generally has a dampening effect on inflation, and the recent drop in energy prices and moderation of housing costs also helps, but substantially higher tariffs will likely push prices higher in a variety of areas. This puts the Federal Reserve in a particularly difficult position regarding rate policy choices.

U.S. CPI (YOY)



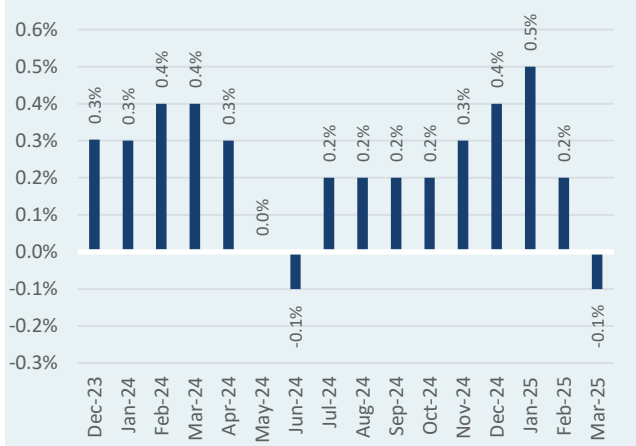
Source: BLS, as of 3/31/25

ANNUALIZED MONTHLY INFLATION



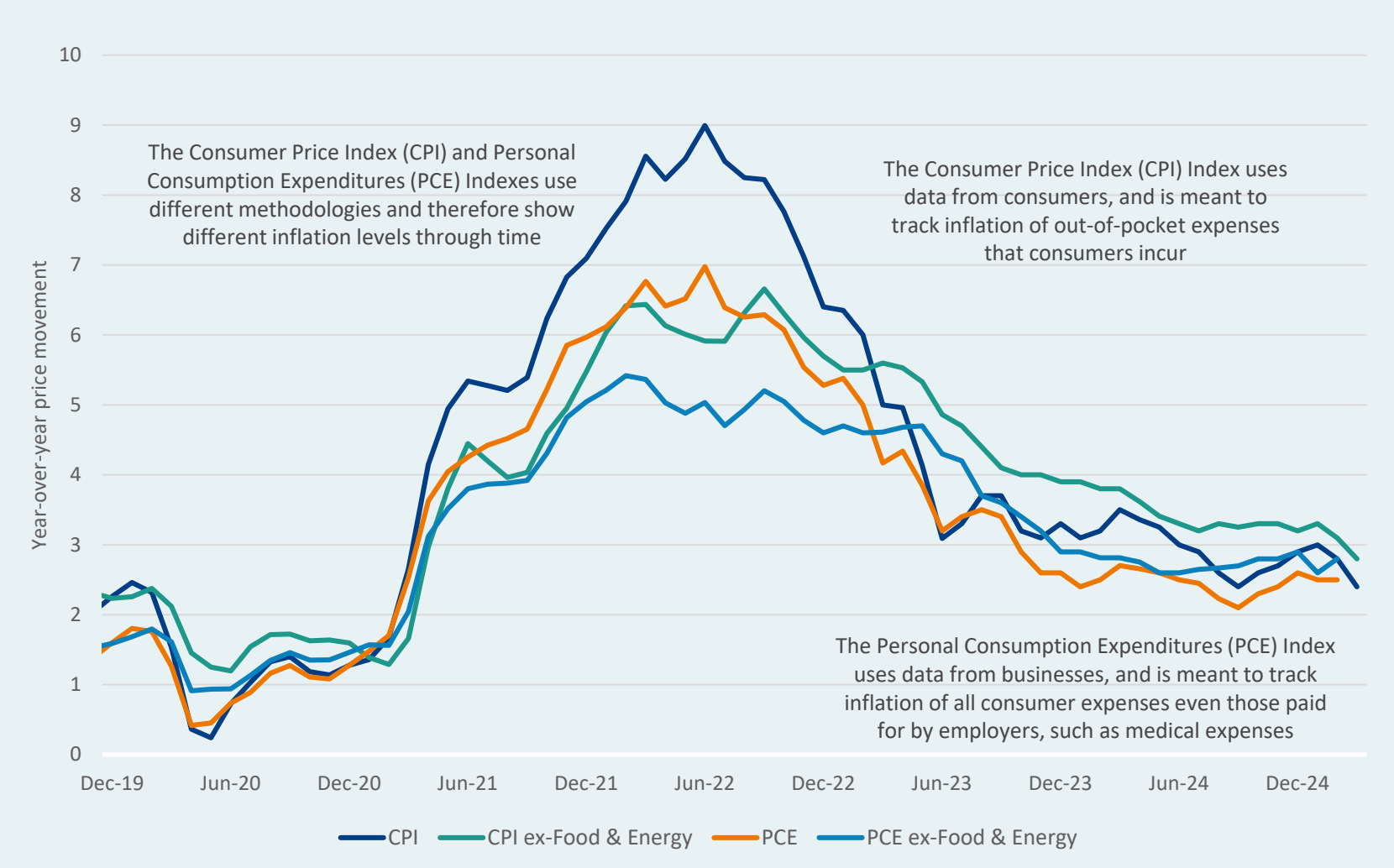
Source: BLS, Verus, of 3/31/25

MONTHLY PRICE MOVEMENT (CPI)



Source: BLS, as of 3/31/25

An (even more) uncertain inflation path



Tariffs pose an upside risk to inflation, but lower economic growth and falling commodity prices could provide dampening effects

Source: FRED, Verus, as of 3/31/25 – or most recent release

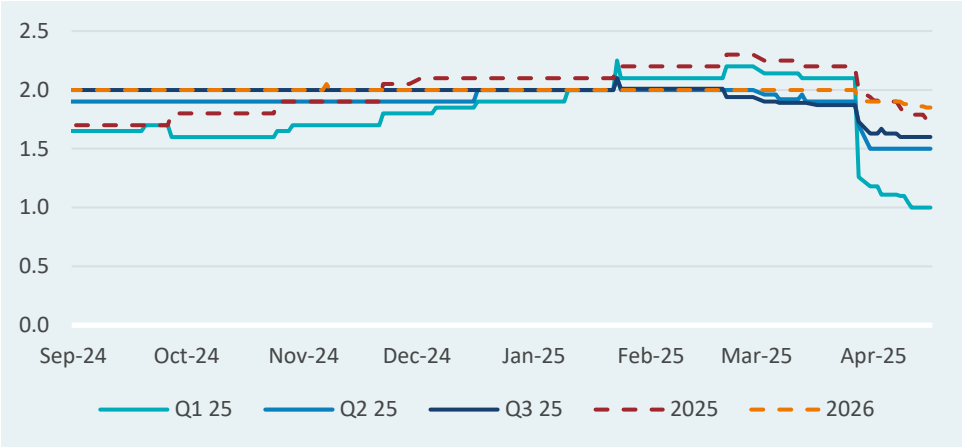
GDP growth

Real GDP growth was negative during Q1, falling from 2.4% to -0.3% quarter-over-quarter annualized (2.0% year-over-year). The slowdown was driven by a substantial increase in imports relative to exports, which means more foreign products were purchased to the detriment of American products. Lower government spending also contributed to the weak figure, a notable change from past years where higher government spending had been an ongoing support. Consumer spending slowed from prior quarters which is a concern. Investment activity jumped, providing a partial offset to negative growth, although this appears to have been affected by a surge in purchases as consumers and businesses rushed spending to avoid future tariffs.

In 2024 investors had already broadly expected the U.S. economy to slow in 2025. However, trade negotiations and tariff fears have led to concerns of a much steeper slowing than initially assumed, possibly recession. But it is important to note that economic conditions remain generally good. Employment is high, wages are rising faster than inflation, household debt service costs are relatively muted, and many households continue to sit on considerable gains in wealth due to the rally in markets and appreciation of residential homes. We believe this helps mitigate the chances of a deeper recession. But policy uncertainty will likely have a larger and larger effect if it persists on an ongoing basis.

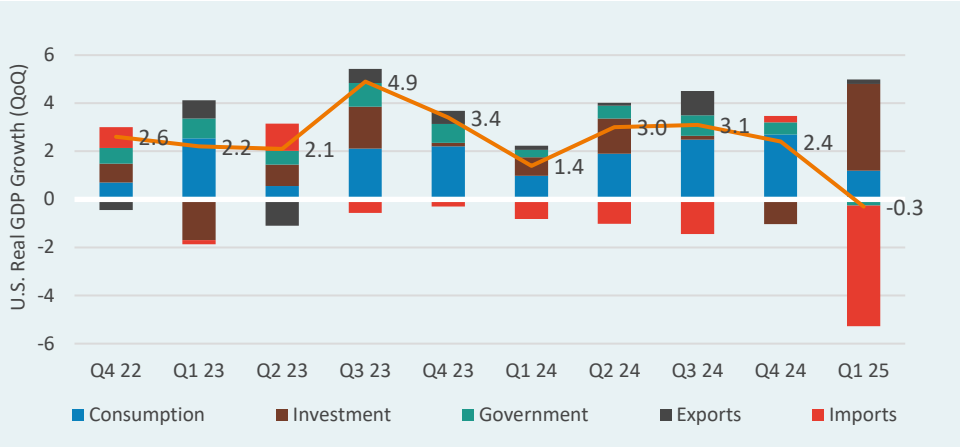
U.S. real GDP growth was negative during Q1 due to rising imports, less gov't spending, and slower consumer spending

U.S. GDP EXPECTATIONS



Source: Bloomberg, median value of economist estimates

U.S. REAL GDP COMPONENTS (QOQ)

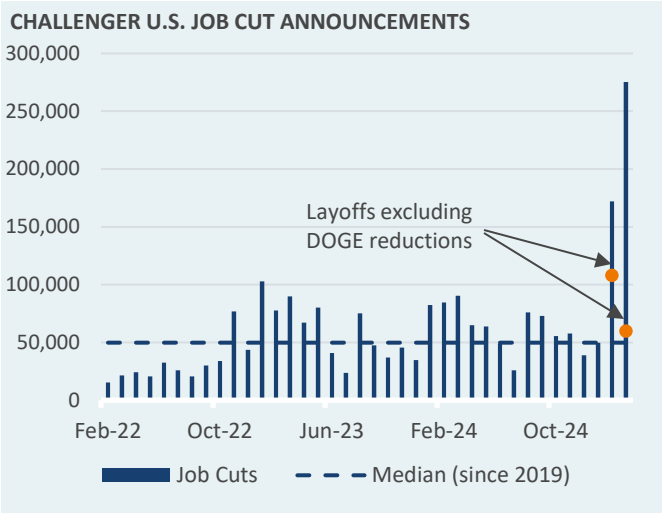


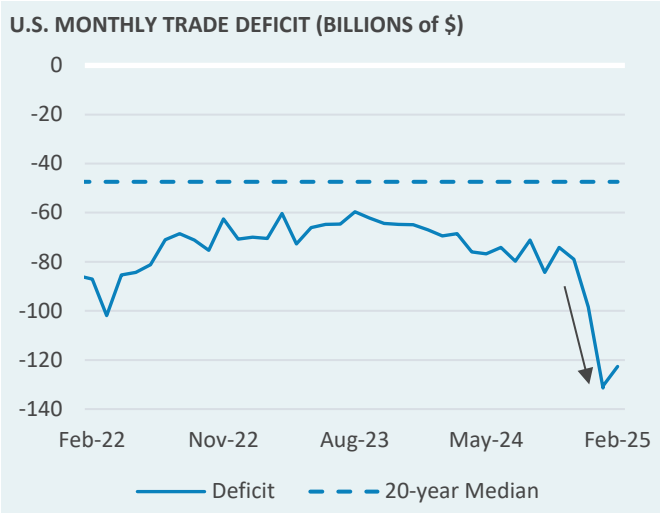
Source: FRED, as of 3/31/25

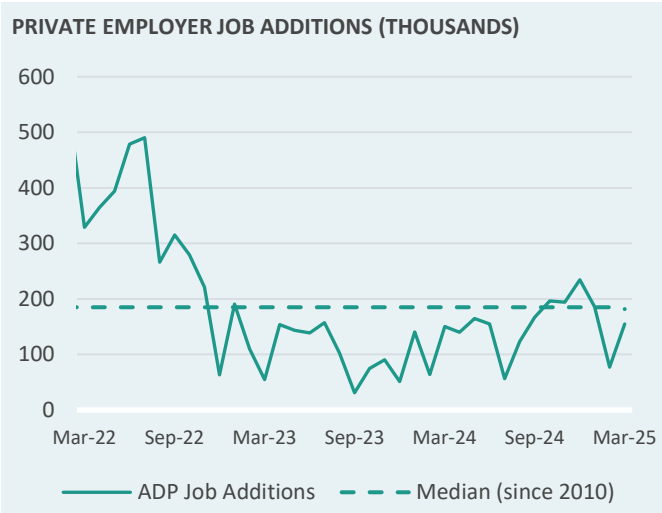
Signs of economic weakness

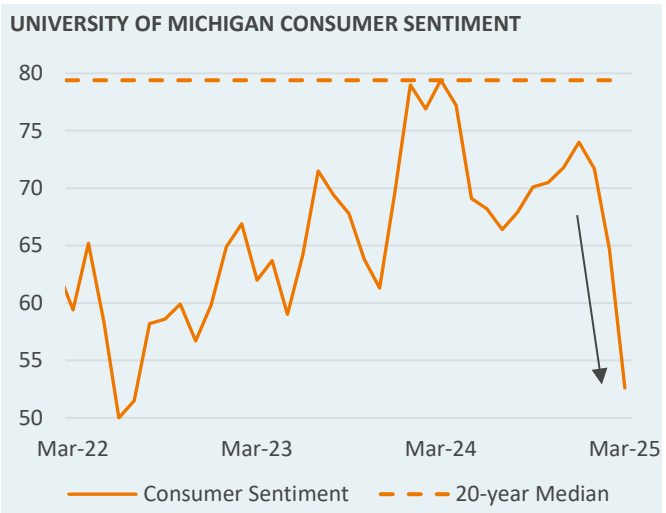
In February and March, economic data in a variety of places was weaker-than-expected. Household spending was strong in November and December but then fell suddenly in January—likely impacted by a cold winter season and California wildfires. Job gains showed a similar slowdown in the first two months of the year. The trade standoff between the U.S. and our largest trading partners, and fear of tariffs, appears to be casting a heavy shadow over consumer sentiment. These concerns may also be impacting business behavior due to uncertainty about future prices and conditions, and general pessimism. The longer that trade uncertainty persists, the larger the negative impact will likely be.

While weakness in the first quarter is concerning and notable, we continue to see the core fundamentals of the economy as relatively good—high levels of employment, decent consumer spending, manageable household debt levels, and the wealth effects from rising equity markets and home prices over the past decade could be supportive of positive economic growth in 2025.









Source: Challenger, ADP, University of Michigan as of 3/31/25, BEA as of 2/28/25

Labor market

Labor market conditions have remained broadly strong. Unemployment was low at 4.2% in March.

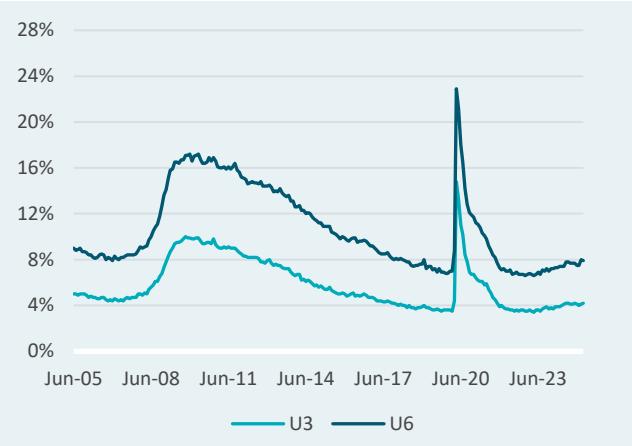
The reductions in government workforce will likely have an impact on labor data for future quarters, but the size of planned cuts relative to the total U.S. workforce is not enough to change the overall picture. We believe a larger risk to the economy would be a shift in business hiring/employment actions if the recent deterioration in business sentiment was to be sustained, though there do not seem to be signs of this so far.

The change in a country's population is a large determinant of the rate of economic growth. This means that a dramatic slowing in unlawful immigration over recent months will impact the labor market and total consumer spending, as well as other aspects of the economy. In specific industries, this shift will likely also affect wages, since undocumented immigrants are paid on average materially less than U.S. citizens. Tighter job markets in specific regions and across specific job types, with less supply of cheap labor, could lift wages for existing workers. Regardless of one's political leanings, we believe these impacts could be notable and will be important to watch and understand.

The job market remains relatively strong

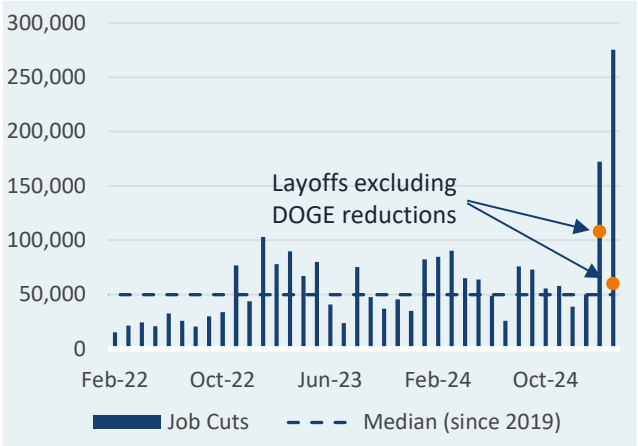
A reduced supply of cheap immigrant labor could lift wages in certain regions

U.S. UNEMPLOYMENT



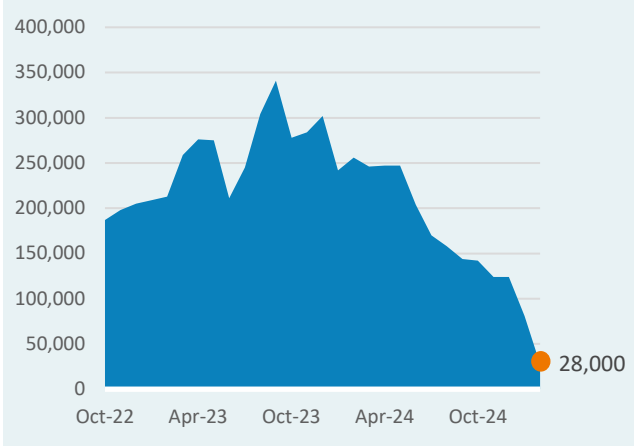
Source: FRED, as of 3/31/25

U.S. JOB CUT ANNOUNCEMENTS



Source: Challenger, Gray & Christmas, as of 3/31/25

U.S. BORDER ENCOUNTERS (MONTHLY)



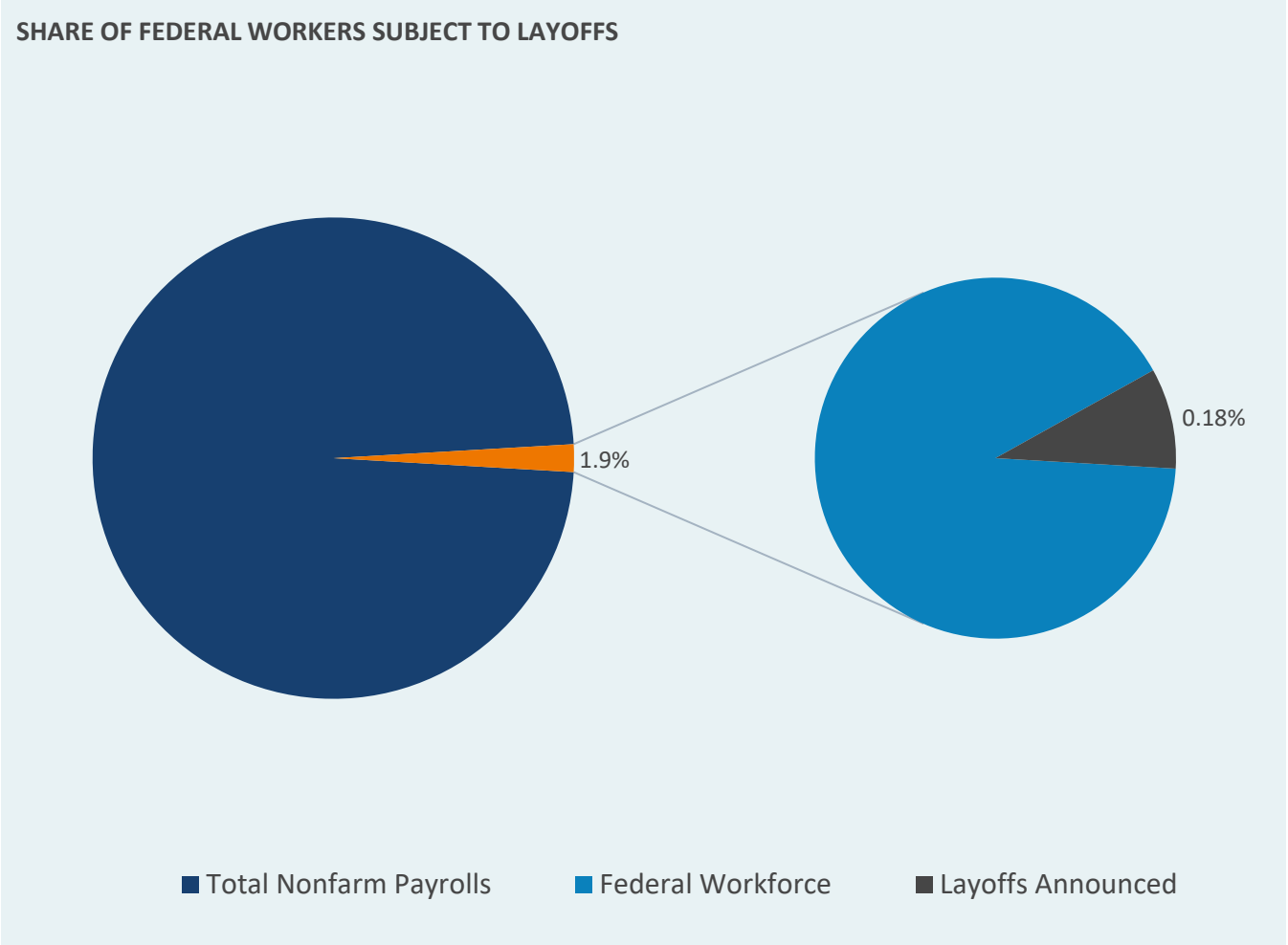
Source: U.S. Customs & Border Protection, as of February 2025

Impacts of DOGE job reductions

How might federal workforce reductions impact the labor market?

President Donald Trump and Elon Musk's Department of Government Efficiency (DOGE) has moved quickly to take an aggressive approach to cutting both spending and jobs. Unsurprisingly, given the speed of action and unique tactics, many initiatives are being challenged in court. It appears very likely that the Trump Administration will be at least somewhat successful in eliminating what it sees as wasteful spending, effectively reducing the size and scope of the Federal government.

With federal workers making up less than 2% of the overall labor force, a portion of layoffs within this group is unlikely to make big waves in the labor market and a spike in unemployment, although certain regions will see a bigger impact. DOGE actions led to a total of 280,000 layoffs in February and March (0.18% of the total workforce). While job losses are always unfortunate, the total impact may not be enough to change the direction of the economy.



Source: Verus, BLS, Challenger Survey, as of 3/31/25

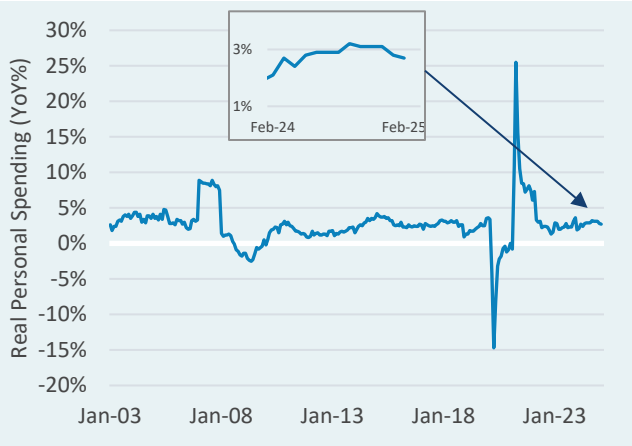
The consumer

Inflation-adjusted personal spending growth was 2.7% year-over-year in February, slower than the latter-half of 2024 but still at a moderately strong level that implies an average rate of overall economic growth. Spending in January was the weakest in nearly four years, although an exceptionally cold winter (which tends to dampen purchases) and California wildfires may have contributed to this effect.

It will be important to monitor whether slow winter spending turns into a sustained downturn, further fueled by a sharp downturn in sentiment and tariff fears. Automobile and apparel sales often see the greatest drop during an economic downturn, which suggests these sectors may provide a helpful barometer for the overall economy in 2025.

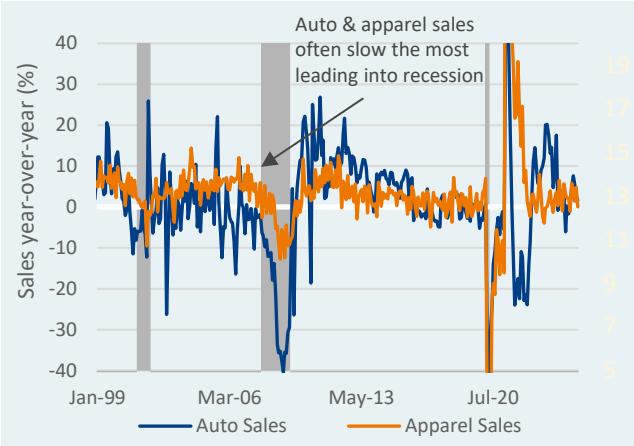
The average household savings rate improved from 3.3% to 4.6% during the quarter. Although weather effects also likely had an impact on these figures, we would assume that broad deterioration in consumer sentiment is contributing to greater savings due to economic uncertainty.

REAL PERSONAL SPENDING



Source: FRED, as of 2/28/25

AUTO & APPAREL SALES



Source: FRED, as of 2/28/25

PERSONAL SAVINGS RATE



Source: FRED, as of 2/28/25

Sentiment

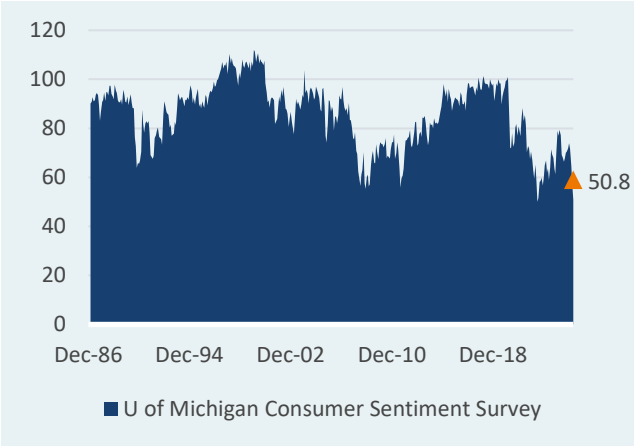
Sentiment reversed abruptly in Q1, as households and businesses expressed fears around tariff uncertainty. Changes in consumer sentiment became visible in multiple surveys, while imports jumped dramatically because businesses rushed to purchase foreign products to avoid possible future tariffs. Household forecasts of U.S. inflation over the next year rose to 6.7% (interestingly, republican voters expect 2% inflation while democratic voters expect nearly 10% inflation).

The University of Michigan Consumer Sentiment survey fell for four consecutive months. The partisan divide regarding expectations for the economy have reached extreme levels. While those survey respondents who identify as Republican feel fairly good about economic prospects, those who identify with the Democratic Party feel that conditions are worse than the 2008-2009 Global Financial Crisis. In such a hyperpartisan environment it may be useful to watch for political biases that exist in surveys. The Conference Board Consumer Confidence Index in March reflected a similar downward trend, reaching the poorest sentiment since 2021.

Small business sentiment deteriorated to 97.4 in March, nearly erasing the post-election enthusiasm for Republican pro-business policies. The net percent of business owners expecting better business conditions fell to 21%, the largest monthly decline since late-2020.

Sentiment dropped sharply during Q1 on tariff & inflation fears, as well as a greater chance of recession

CONSUMER SENTIMENT (UNIV. OF MICHIGAN)



Source: University of Michigan, as of 3/31/25

CONSUMER CONFIDENCE (CONFERENCE BOARD)



Source: Conference Board, as of 2/28/25

NFIB SMALL BUSINESS SENTIMENT



Source: NFIB, as of 3/31/25

Housing

The average 30-year mortgage rate fell from 6.9% to 6.7% during the quarter, as Treasury yields broadly trended lower. Home prices have increased 3.3% year-over-year as of January, according to CoreLogic.

The U.S. residential housing market seems to be rebalancing slightly in terms of supply and demand: rising inventories but very low sales activity. However, there are few indications that home affordability, which is at a record poor level, is set to improve in the near-term. One path to better affordability could result from further increases in inventory coming to market which pressures sellers to reduce prices in order to incentivize buyers who have more inventory to choose from. Another path to affordability would, of course, be lower mortgage interest rates, although a drop in interest rates historically has tended to result in a jump in home prices, which could counteract affordability gains.

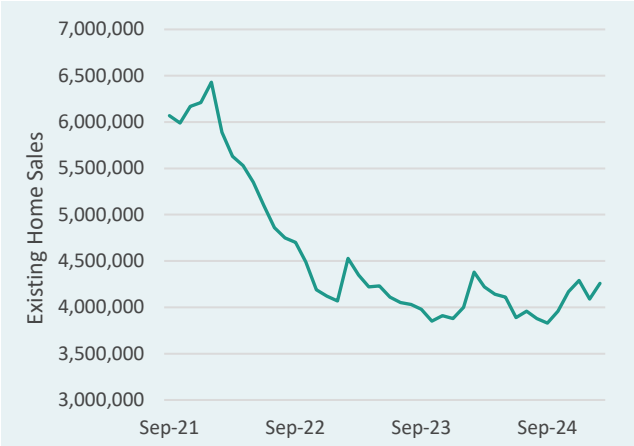
The nationwide average cost to rent continues to be generally flat (+0.3% in February YoY according to Redfin). As average hourly wages are growing at a 4% annual rate, a persistent trend of flat rent costs will help improve rental affordability for those who do not own a home. Substantial increases in multifamily supply have reportedly contributed to downward rent pressure, with the median asking rent price falling to $1.78 per square foot—the lowest level in nearly 4 years.

30-YEAR MORTGAGE RATE (%)



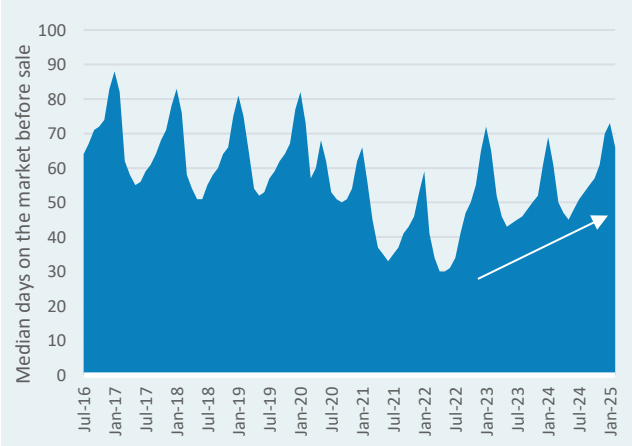
Source: Freddie Mac, as of 3/31/25

EXISTING HOME SALES



Source: National Association of Realtors, as of 2/28/25

AVERAGE DAYS ON THE MARKET



Source: FRED, as of 2/28/24

International economics summary

— Major economies around the world face acute risks of economic slowdown due to the imposed tariffs of the U.S. administration (this includes the U.S. economy, of course). That risk comes at a time when many countries already struggle with lower growth and structural headwinds. Outcomes of trade negotiations, and the time it takes for conclusions to be reached, will likely have a notable impact on near-term growth. In short, tariff outcomes will be hugely important.

— Eurozone economies grew only 1.2% YoY in Q4. Expectations are for continued very weak growth of 0.9% in 2025, according to ECB staff, as of March. This forecast aligns with the consensus economists forecast. Trade and geopolitical uncertainty may create an additional drag on the region since these forecasts assume U.S./China tariffs but no U.S./EU tariffs. A prolonged trade war between the U.S. and the Eurozone could mean even greater economic drag.

— German elections concluded with a win for the conservative Christian Democratic Union (CDU) and its alliance the Christian Social Union (CSU) with 28.6% of the vote. A two-way coalition with the runner-up Alternative for Germany (AFD) is unlikely to form despite its impressive rise in popularity.

— On February 5th, the Bank of England (BOE) decided with a seven-two vote to cut interest rates by 25bps to 4.5%. This marked the third consecutive cut over the past six months. The BOE cited cooler-than-expected December inflation as a main contributing factor.

— As the U.S. administration appears to be focusing maximum pressure on China regarding trade and business practices, the intense market volatility experienced in early April could be setting the stage for the remainder of 2025. Some estimates put China's economic growth rate this year at perhaps 4% or even 3%, below the 5% stated goal of the Chinese Communist Party.

Area	GDP (Real, YoY)	Inflation (CPI, YoY)	Unemployment
United States	2.0% *3/31/25*	2.4% *3/31/25*	4.2% *3/31/25*
Eurozone	1.2% 12/31/24	2.2% *3/31/25*	6.1% *2/28/25*
Japan	2.8% 12/31/24	3.7% *2/28/25*	2.4% *2/28/25*
Canada	1.5% 12/31/24	2.6% *2/28/25*	6.7% *3/31/25*
BRICS Nations	5.2% *12/31/24*	1.7% *3/31/25*	5.4% *3/31/25*
Brazil	3.4% 3/31/25	5.5% *3/31/25*	6.8% *2/28/25*
Russia	3.1% 9/30/24	10.3% *3/31/25*	2.4% *2/28/25*
India	6.2% 12/31/24	3.3% *3/31/25*	7.1% *12/31/24*
China	5.4% *12/31/24*	(0.1%) *3/31/25*	5.4% *2/28/25*

NOTE: India lacks reliable government unemployment data. Unemployment rate shown above is estimated from the Centre for Monitoring Indian Economy. The Chinese unemployment rate represents the monthly surveyed urban unemployment rate in China.

International economics

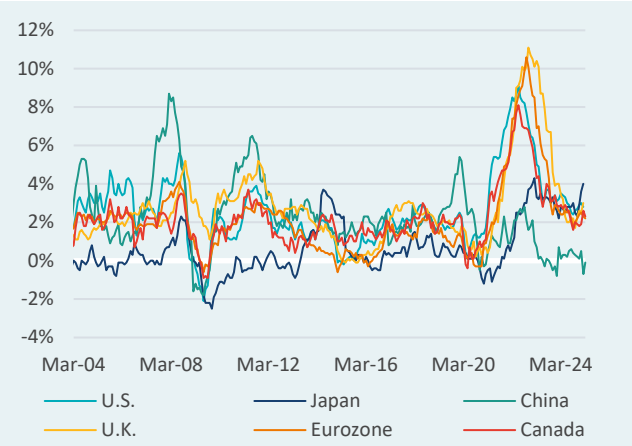
The Eurozone grew only 1.2% YoY Q4. Expectations are for continued weak growth of 0.9% in 2025. The ECB cut rates for the sixth consecutive time in Q1, citing the weak economic outlook and continued moderation of inflation as the main factors, with additional rate cuts expected in 2025. A prolonged trade war could lead to even greater economic drag and renewed inflationary pressures.

The U.S. announced a series of tariffs in 2025, initially including a 20% tariff on all Chinese imports and a 25% tariffs on certain imports from the EU, Canada, and Mexico. The U.S. followed up with expanded tariffs on "Liberation Day", including a 10% baseline rate and rates of 54% on China, 20% on the EU, and 25% on Canada and Mexico. The U.S. has generally cited goals of business operation onshoring, national defense, improving the trade deficit / foreign terms of trade, and immigration and drug control as intended outcomes of recent tariff policy.

The EU, Canada, and Mexico initially responded to "Liberation Day" with counter-tariffs on certain U.S. goods. Counter-measures were suspended after the U.S. announced a 90-day pause on tariff increases, bringing the EU, Mexico, and Canada to the baseline rate of 10%. We believe it is likely that the 10% baseline tariff stays in place for the long-term.

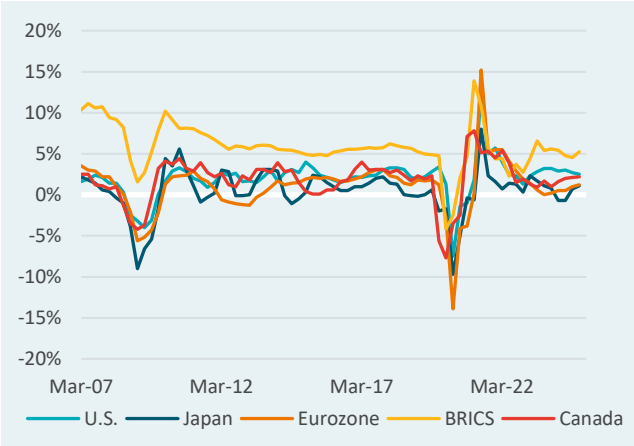
The U.S. China trade war continued to escalate following "Liberation Day", with tariff rates ultimately reaching 145% on Chinese goods and 125% on U.S. goods, halting many aspects of trade between the nations, as of mid-April. The tariff rate on Chinese goods was exempt from the U.S. 90-day pause.

INFLATION (CPI YEAR-OVER-YEAR)



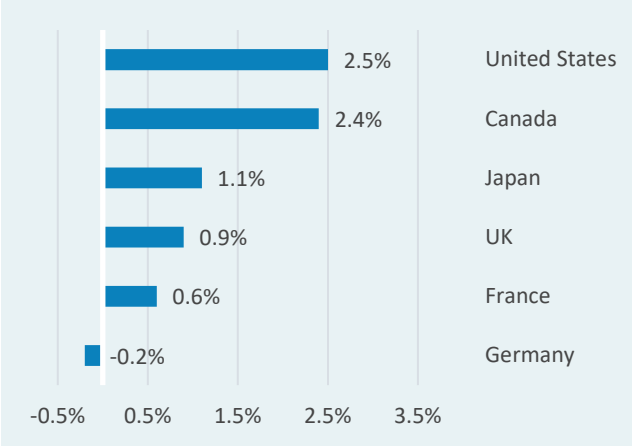
Source: BLS, Verus, as of 3/31/25 or most recent date

REAL GDP GROWTH (YEAR-OVER-YEAR)



Source: BLS, Verus, as of 3/31/25 or most recent date

Q3 REAL GDP GROWTH (YOY)



Source: BLS, Verus, as of Q4 2024

Fixed income rates & credit

Fixed income environment

— The 10-year U.S. Treasury yield fell slightly from 4.55% to 4.23% during the quarter, reflecting a reversal in the economic optimism of Q4.

— The Federal Reserve kept rates steady but has communicated an expectation of weaker economic growth and moderately higher inflation in 2025, due to U.S. administration tariffs and trade policy. Falling growth but rising inflation would put the Fed in a very difficult position regarding policy decisions. At the beginning of Q1 investors were expecting two rate cuts in 2025. This has since jumped to 4.

— The yield premium of U.S. Treasuries over that of European debt—German bunds in particular—shrunk materially during the quarter. The dual narratives of weaker-than-expected U.S. growth in 2025, and debt limit easing in Germany which could boost growth, has sent yields of those countries closer to parity.

— Longer duration credit slightly outperformed shorter duration. This behavior likely reflected a shift in market sentiment from year end, during which uncertainty in fiscal and monetary policy contributed to a bear steepening of the yield curve. Long duration corporate bonds gained +2.38% while Bank loans added +0.6% and high yield returned +1.0%.

— Credit spreads widened due to risk off movements, and lower quality spreads experienced the largest shifts. High yield bond spreads rose by 41bps to 3.53%, while investment grade spreads rose to 1.0%. Despite recent widening events, credit spreads across all ratings remain below long-term historical averages.

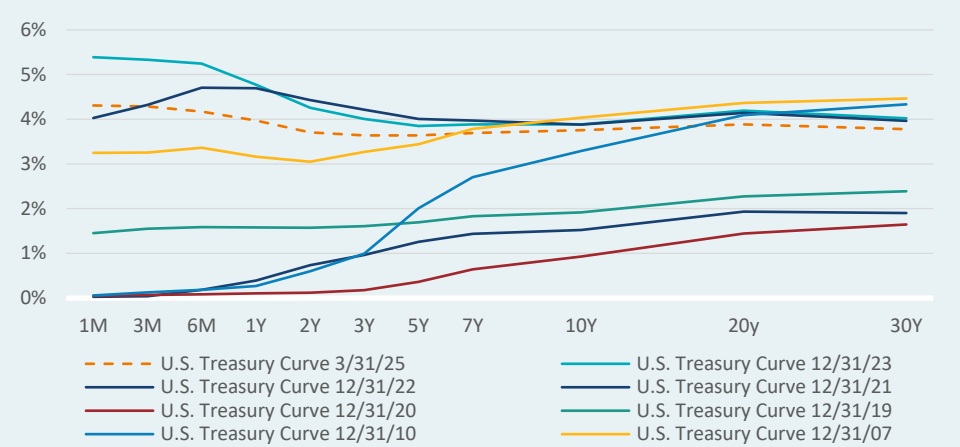
— U.S. Treasury yields showed extreme jumps. Some investors attributed the move to fluctuations in foreign demand for U.S. dollars due to shifts in U.S. trade policy. Others believe these moves have been driven by hedge fund trading and an unwinding of 'basis trades'—a levered trading strategy that tries to take advantage of differences between current Treasury price and prices of futures contracts.

	QTD Total Return	1 Year Total Return
Core Fixed Income (Bloomberg U.S. Aggregate)	2.8%	4.9%
Core Plus Fixed Income (Bloomberg U.S. Universal)	2.7%	5.2%
U.S. Treasuries (Bloomberg U.S. Treasury)	2.9%	4.5%
U.S. Treasuries: Long (Bloomberg U.S. Treasury 20+)	4.7%	1.3%
U.S. High Yield (Bloomberg U.S. Corporate HY)	1.0%	7.7%
Bank Loans (S&P/LSTA Leveraged Loan)	0.6%	7.0%
Emerging Market Debt Local (JPM GBI-EM Global Diversified)	4.3%	4.0%
Emerging Market Debt Hard (JPM EMBI Global Diversified)	2.2%	6.8%
Mortgage-Backed Securities (Bloomberg MBS)	3.1%	5.4%

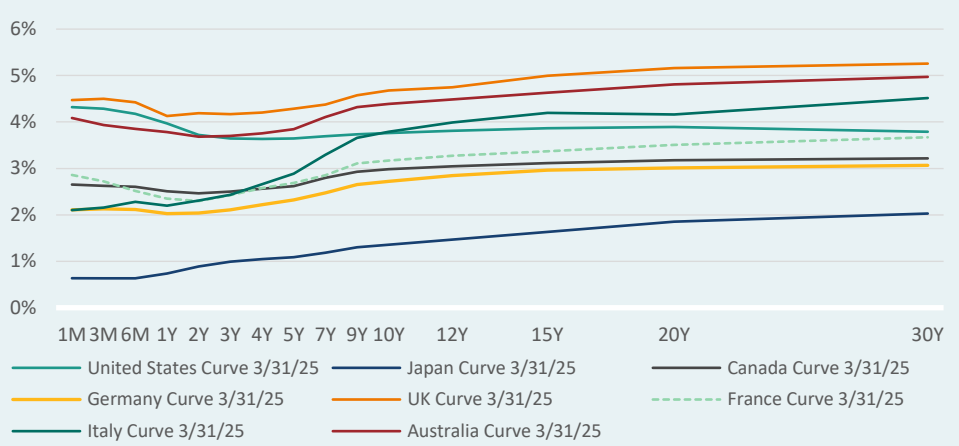
Source: Standard & Poor's, J.P. Morgan, Bloomberg, as of 3/31/25

Yield environment

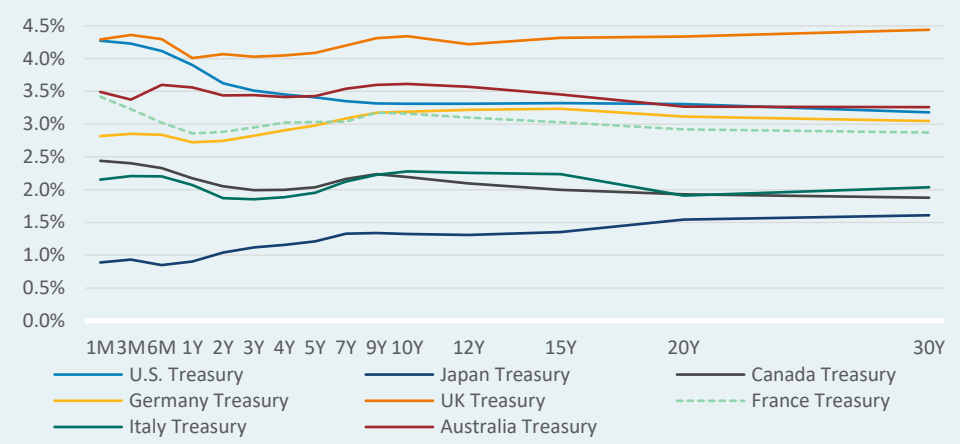
U.S. YIELD CURVE



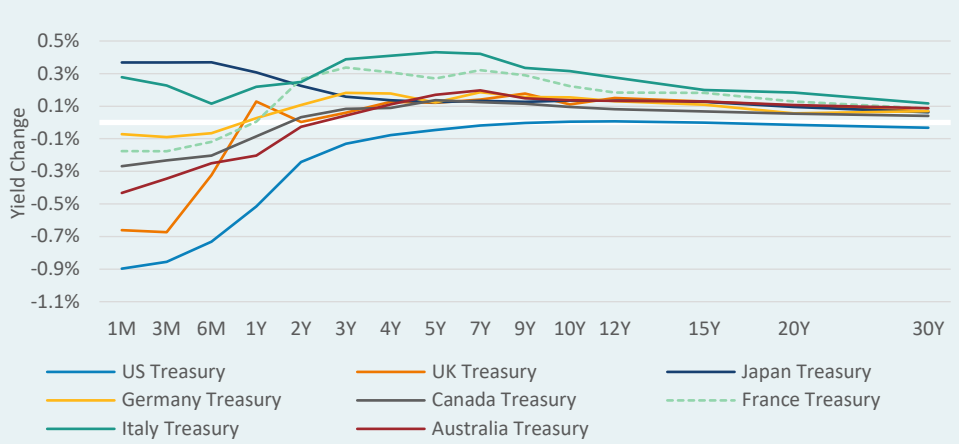
GLOBAL GOVERNMENT YIELD CURVES



YIELD CURVE CHANGES OVER LAST FIVE YEARS



IMPLIED CHANGES OVER NEXT YEAR



Source: Bloomberg, as of 3/31/25

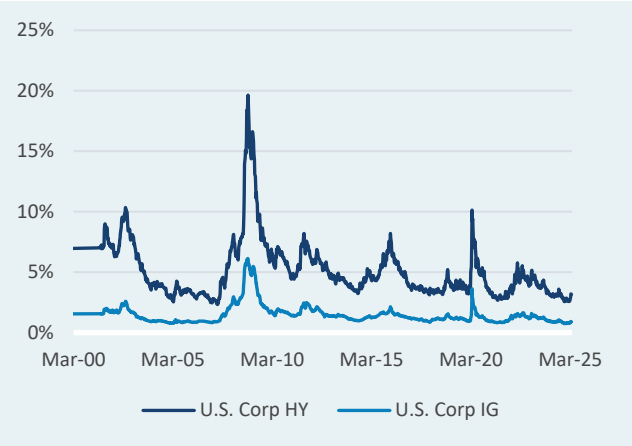
Credit environment

During the quarter, longer duration credit slightly outperformed shorter duration despite the Federal Reserve holding rates at previous levels. This behavior likely reflected a shift in market sentiment from year end, during which uncertainty in fiscal and monetary policy had contributed to a sharp bear steepening of the yield curve. During Q1 investors observed a trend towards higher quality credit, as long duration investment grade corporate bonds (Bloomberg U.S. Long Corporate Credit) gained 2.38% while Bank loans added +0.6% (S&P/LSTA Leveraged Loans) and high yield returned +1.0% (Bloomberg U.S. Corporate High Yield).

Returns within the high yield bond market reflected similar slight risk-off movement, with lower quality credits experiencing the worst performance. Bonds rated CCC, including distressed credit, lost -2.31%, compared to bonds rated B, which returned -1.36% and BB, which returned -0.57%. Similarly, lower quality bank loans underperformed higher quality. CCC-rated loans returned -2.14%, compared to -0.33% and +.02% for B- and BB-rated loans, respectively.

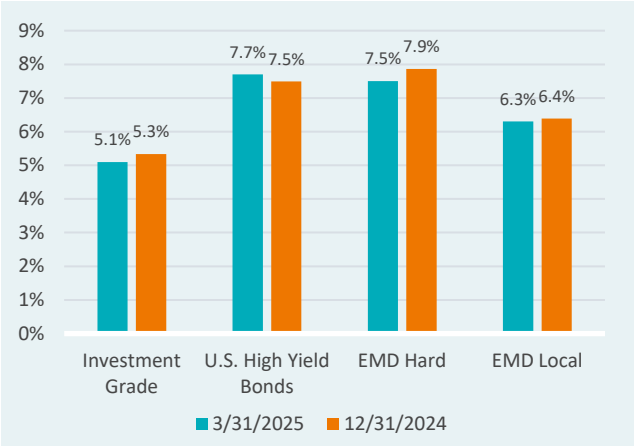
Credit spreads widened due to initial risk off movements, and lower quality spreads experienced largest shifts. High yield bond spreads rose by 41bps to 3.53%, while investment grade spreads rose to 1.0%. Despite recent widening events, credit spreads across all ratings remain below long-term historical averages, suggesting investors are still somewhat confident in the ability of businesses to service debt.

SPREADS



Source: Barclays, Bloomberg, as of 3/31/25

YIELD TO MATURITY



Source: Bloomberg, J.P. Morgan as of 3/31/25

CREDIT SPREAD (OAS)

Market	3/31/25	3/31/24
Long U.S. Corp	1.2%	1.1%
U.S. Inv Grade Corp	0.9%	0.9%
U.S. High Yield	3.5%	3.0%
U.S. Bank Loans*	4.7%	4.9%

Source: Barclays, Credit Suisse, Bloomberg, as of 3/31/25
**Discount margin (4-year life)*

Default & issuance

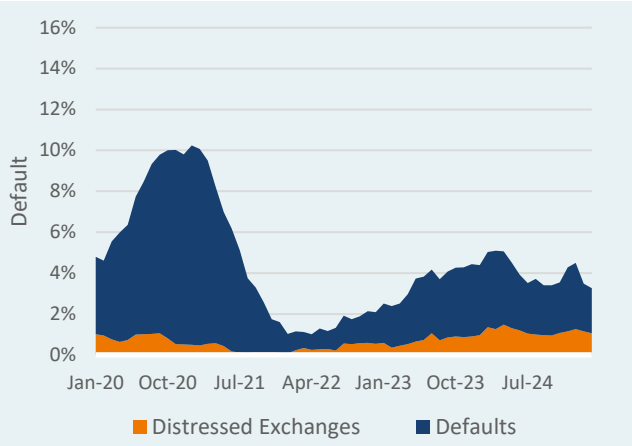
Total default activity remained below the two-year average during Q1, as the economy continued to demonstrate strength and recession forecasts prior to April were relatively muted. During the quarter, seven companies defaulted, totaling more than $1.2 billion in bonds and $4.8 billion in loans. Monthly default activity consistently came in at less than half of the monthly average default volume of 2023 and 2024 ($7.1 billion).

While defaults and distressed activity was subdued across credit, loans surpassed bonds in default and distressed exchange activity. During the quarter, eight companies completed a distressed exchange totaling $580 million in bonds and $4.4 billion in loans. This total of less than $5 billion in total distressed credit volume was significantly lower than the $19.4 billion seen in Q4 and was the lightest quarterly default/LME volume since Q4 2022.

High yield bond default rates rose slightly to 1.2% but were less than half of the default rate of one year prior. Current figures remain well below the long-term annual average of 3.4%. Loan default rates rose slightly to 3.9%, up 0.3% from one year prior. Notably, this gap in default rates between leveraged loan and high yield (2.7%) is a reduction from the 3% gap five months ago that represented the high-water mark since 2000.

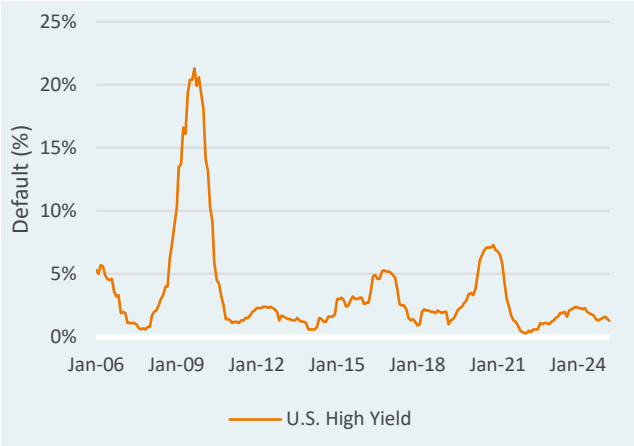
Quarterly issuance volume for high yield bonds was lower, totaling $68.3 billion, down 22% year over year, which compares to $87.6 billion in Q1 2024. Bank loans saw significantly higher levels of issuance, totaling $337 billion, which was 6% greater than one year prior. However, this represented a reduction from the previous record levels of issuance seen in Q4 ($505 billion). It is possible that changing higher interest rate expectations due to actions of the Trump administration could be affecting issuance decisions.

U.S. BANK LOAN DEFAULTS (LAST 12 MONTHS)



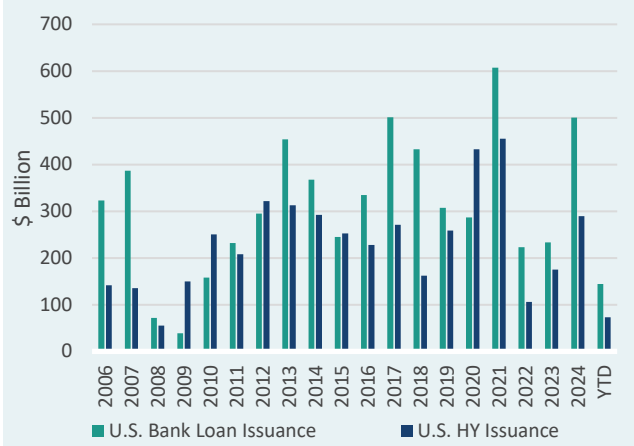
Source: BofA Merrill Lynch, Verus, as of 3/31/25 – par weighted

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



Source: BofA Merrill Lynch, as of 3/31/25 – par weighted

U.S. ISSUANCE ($ BILLIONS)



Source: BofA Merrill Lynch, as of 3/31/25

Equity

Equity environment

— Domestic equities delivered substantial underperformance during Q1 (S&P 500 -4.3%) relative to international developed (MSCI EAFE +6.9%) and emerging market equities (MSCI EM +2.9%)—a notable change in trend from recent years. The S&P 500 entered a technical correction mid-March.

— A sentiment shift away from U.S. stocks and towards foreign markets occurred in recent months, as tariff concerns spooked investors and contributed to recession fears. At the same time, certain European governments have indicated a greater willingness to invest in local economies, possibly generating better economic growth. This contributed to a rotation out of U.S. market and into Europe.

— Growth stocks, notably the Magnificent 7, have led the market downward, although small capitalization stocks still underperformed large caps. Businesses that have fully embraced globalization and outsourced supply chains may find themselves in a particularly difficult position due to the drastic shift in U.S. trade policy.

— Chinese markets climbed in February on the heels of the DeepSeek launch in January, when President Xi Jinping reportedly met with tech leadership. Also, signs that the real estate bear market may be easing, and that consumer spending may be turning upward, generating impressive Q1 returns.

— Market-priced volatility jumped in early March as tariff announcements, trade negotiations, and fears of general economic weakness spooked markets, leading to a broad selloff of U.S. assets. As trade fears intensified in the first week of April, global markets saw one of the most sudden drops in modern history which sent the VIX to 52.

	QTD TOTAL RETURN		1 YEAR TOTAL RETURN	
	(unhedged)	(hedged)	(unhedged)	(hedged)
U.S. Large Cap (S&P 500)	(4.3%)		8.3%	
U.S. Small Cap (Russell 2000)	(9.5%)		(4.0%)	
U.S. Equity (Russell 3000)	(4.7%)		7.2%	
U.S. Large Value (Russell 1000 Value)	2.1%		7.2%	
U.S. Large Growth (Russell 1000 Growth)	(11.1%)		7.8%	
Global Equity (MSCI ACWI)	(1.3%)	(2.2%)	7.2%	14.7%
International Large (MSCI EAFE)	6.9%	3.4%	4.9%	6.8%
Eurozone (EURO STOXX 50)	10.9%	7.8%	5.5%	8.2%
U.K. (FTSE 100)	12.1%	6.0%	6.2%	11.7%
Japan (TOPIX)	1.2%	(2.4%)	(0.6%)	9.2%
Canada (S&P/TSX)	1.5%	2.5%	9.0%	26.7%
Emerging Markets (MSCI Emerging Markets)	2.9%	2.5%	8.1%	11.2%

Source: Standard & Poor's, FTSE, MSCI, STOXX, JPX, as of 3/31/25 – performance quoted from perspective of U.S. dollar investor

Domestic equity

U.S. equities performed poorly in Q1 with the S&P 500 down -4.3% (note: this does not include the dramatic global selloff of early April). In a change of pace from 2024, mega-cap stocks in Q1 acted as a drag on the overall index, as these previously high-flyers struggled on growth and tariff concerns. Domestic equities have notably underperformed both international (MSCI EAFE +6.9%) and emerging markets (MSCI EM +2.9%) year-to-date. Domestic businesses that have fully embraced globalization and outsourced supply chains may find themselves in a particularly difficult position due to the drastic shift in U.S. trade policy.

Year-over-year earnings growth of the S&P 500 is expected to be 7.3%, according to FactSet as of April 11th. During the quarter, analysts lowered EPS estimates slightly more than normal, by -4.2% which compares to the 5-year average adjustment of -3.3%. Materials and consumer discretionary sectors saw the largest adjustments, suggesting signs of expected economic weakness. It is very likely that future corporate earnings guidance will turn negative to reflect the more difficult trade and growth environment.

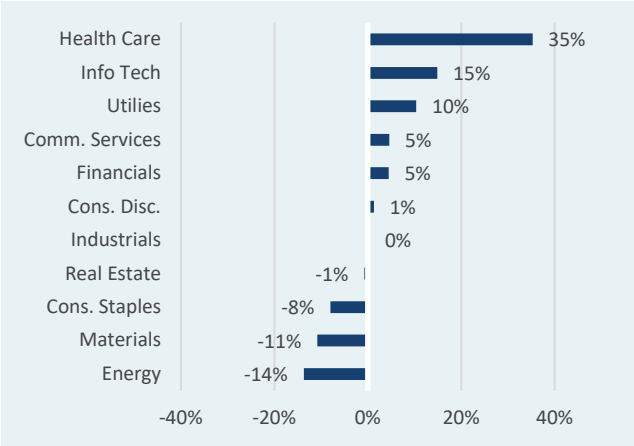
U.S. equities underperformed dramatically during Q1, reversing a multi-year trend

S&P 500 PRICE INDEX



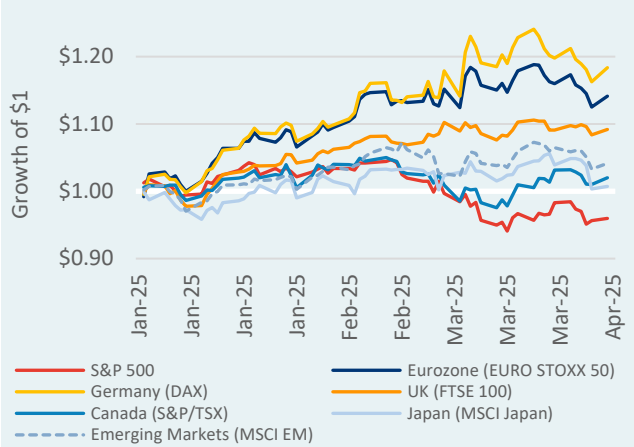
Source: Standard &Poor's, as of 3/31/25

S&P 500 EPS GROWTH (YEAR-OVER-YEAR)



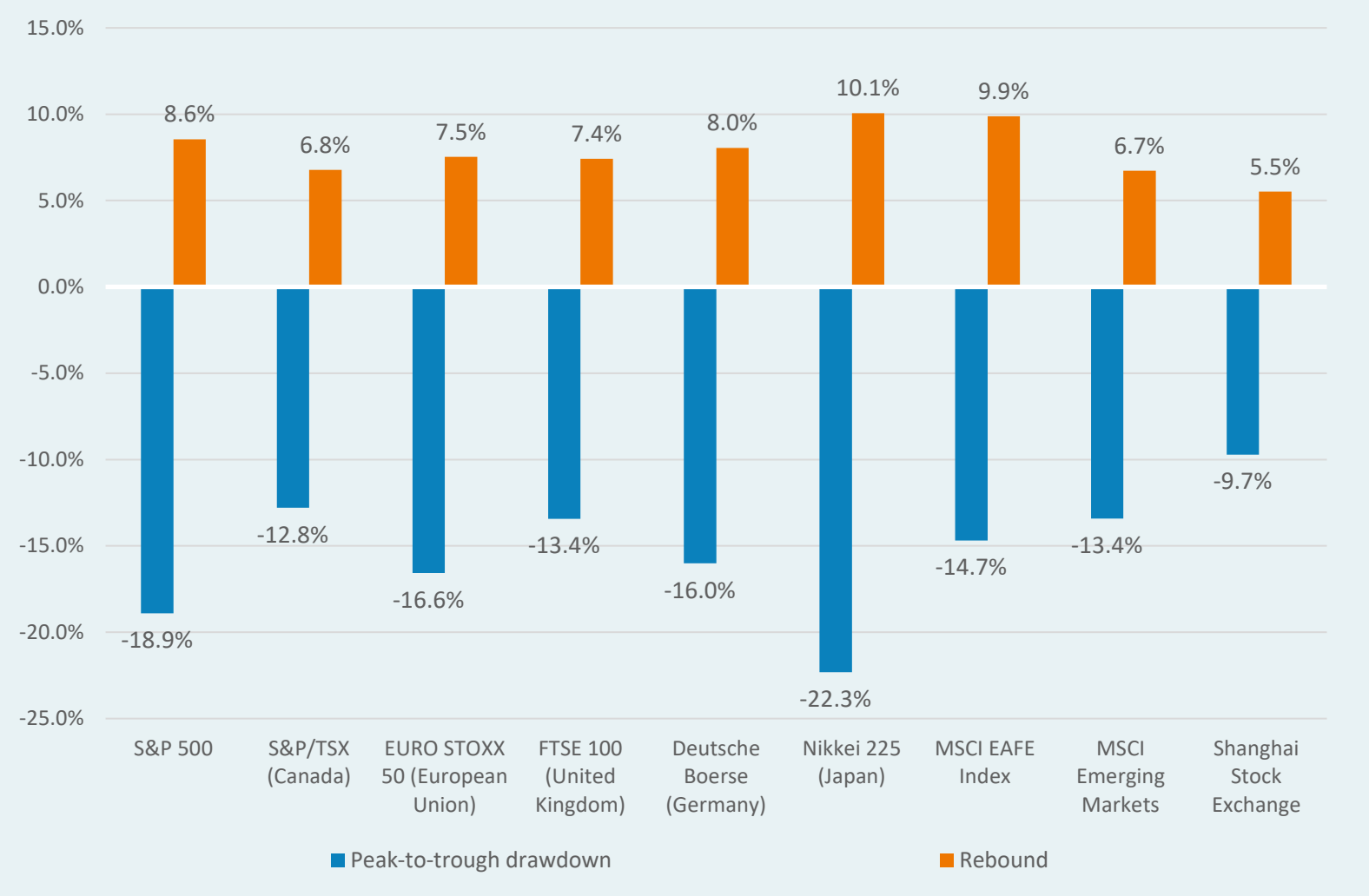
Source: Factset, as of 4/11/25

REGIONAL EQUITY PERFORMANCE (YTD)



Source: Verus, Bloomberg, Verus, as of 3/31/25

Tariff-induced selloff



Source: Verus, as of 4/14/25

On April 2nd, President Trump announced wide-reaching tariffs on most trading partners. The level of tariffs were far higher than investors had expected, resulting in large risk-off market moves.

The domestic market has faced the most pain given that it has chosen trade conflict with many trading partners, while other regions face conflict only with the U.S.

Domestic equity size & style

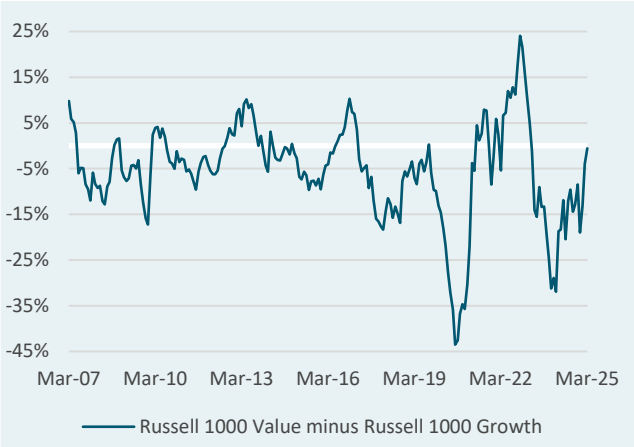
Small cap equities underperformed large caps year-to-date (FTSE Russell 2000 -9.5% vs. FTSE Russell 1000 -4.5%), despite a drawdown across mega cap stocks. Value stocks on the other hand outperformed growth stocks substantially (FTSE Russell 1000 Value +2.1% vs FTSE Russell 1000 Growth -10.0%), as many investors tend to seek safer higher dividend paying stocks during riskier environments and heightened recession risk. These effects could be seen in sector performance disparities during the quarter, with energy, utilities, and financials outperforming materially. Information technology was one of the worst performing sectors.

Ongoing style factor volatility may be a feature of Q2, given the historically sudden global market selloff that occurred in early April, which has hit mega cap growth and tech stocks particularly severely.

On a one-year lookback basis, large cap value stocks have become the leader among U.S. style groups, and small cap growth the laggards.

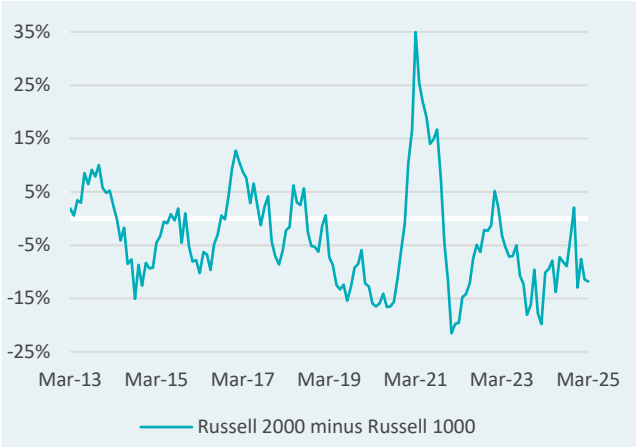
Small cap & value lagged in Q1 while value outperformed growth substantially (+2.1% vs -10.0%)

VALUE VS. GROWTH 1-YR ROLLING RELATIVE PERFORMANCE



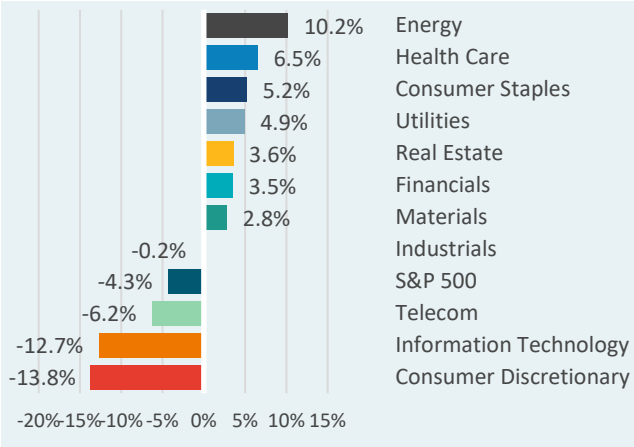
Source: FTSE, as of 3/31/25

SMALL VS. LARGE 1-YR ROLLING RELATIVE PERFORMANCE



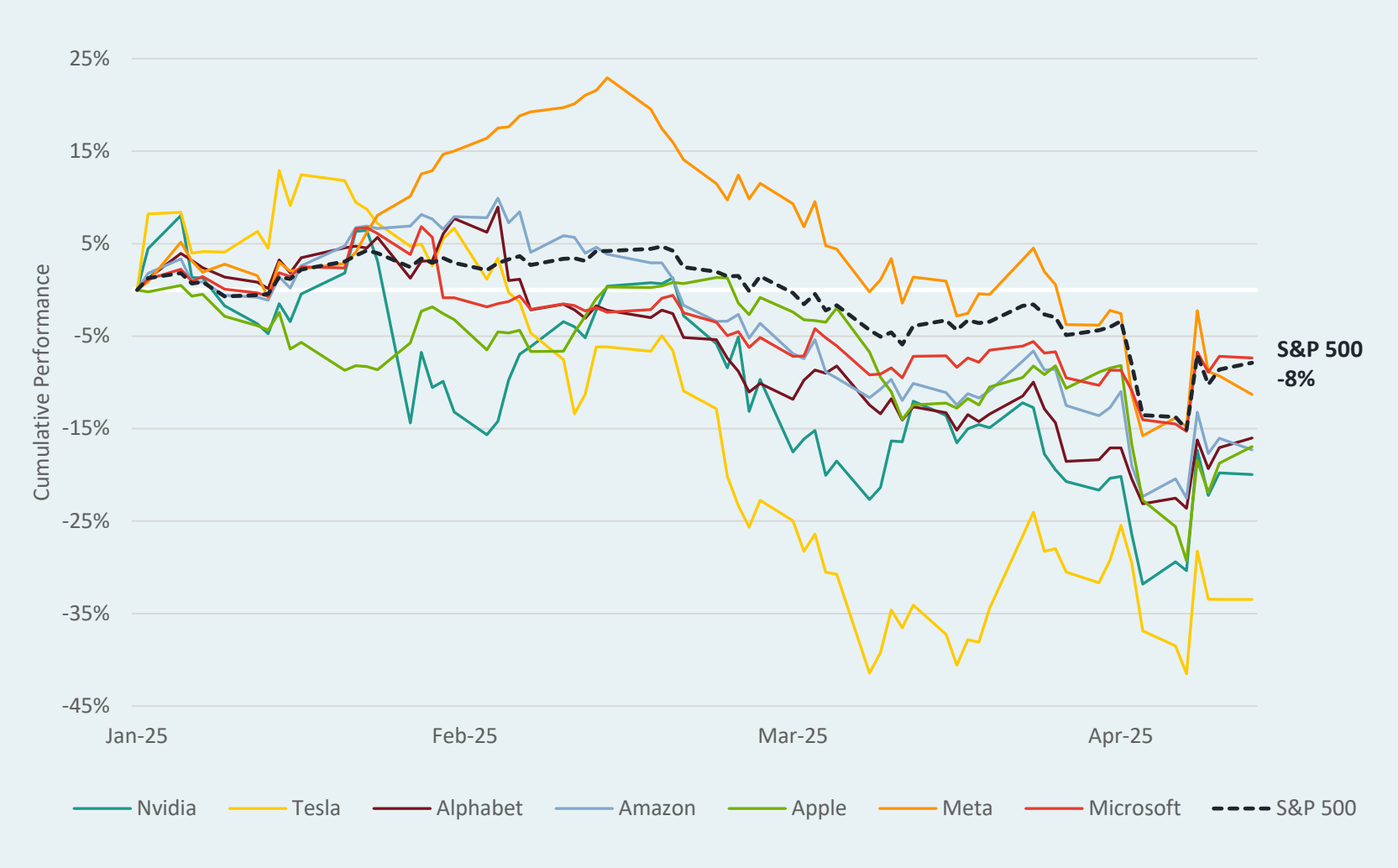
Source: FTSE Russell, as of 3/31/25

Q1 PERFORMANCE



Source: Morningstar, as of 3/31/25

Less Magnificent 7



The Magnificent 7 suffered large losses during the market selloff

Nearly all members of this group are lagging the S&P 500 YTD

Source: Verus, Bloomberg, as of 4/14/25

International developed equity

In a sharp reversal from years of U.S. outperformance, domestic stocks entered technical correction territory in March while non-U.S. stocks—European markets in particular—took the lead. Weakening U.S. conditions and the Trump Administration's "Liberation Day" tariff contributed to a dramatic fall in domestic stocks later in March and the first week of April. European stocks have rallied on hopes for stimulus, easing of debt ceilings, and perhaps investments in greater European independence. Depreciation of the U.S. dollar further fueled international stock outperformance for U.S. investors. For the first time in quite some time, many investors are seeking opportunities outside of the U.S. market.

International developed shares (MSCI EAFE +6.9%) and emerging market equities (MSCI EM +2.9%) both outperformed domestic stocks (S&P 500 -4.3%).

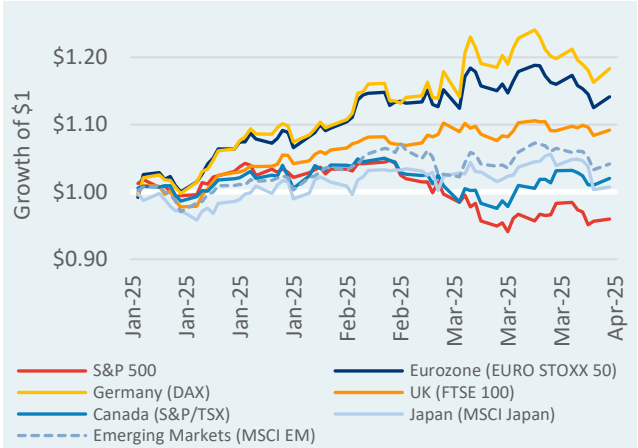
President Trump's approach of attempting to negotiate with all of America's trade partners all at once places the U.S. in a uniquely difficult economic position. For example, while China faces a trade war with only a single trading partner (the United States), here at home we face a trade war with multiple trading partners. It could be argued that the negative economic impacts on the U.S. from this trade war could be much larger than the negative economic impacts that many other countries will endure.

INTERNATIONAL DEVELOPED EQUITY



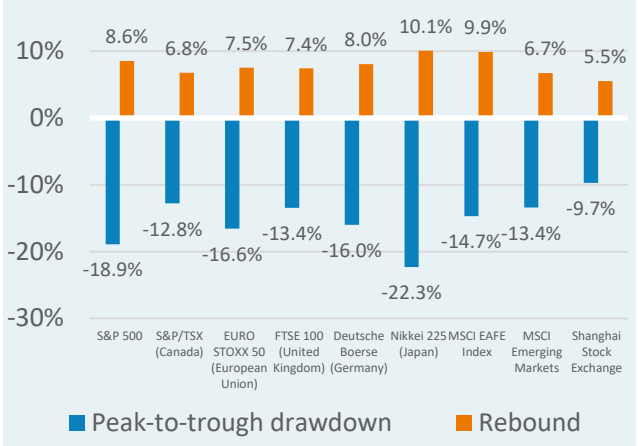
Source: MSCI, as of 3/31/25

REGIONAL STOCK PERFORMANCE YTD



Source: Verus, Bloomberg, as of 3/31/25

REGIONAL RETURNS (PEAK-TO-TROUGH)



Source: Verus, Bloomberg, as of 4/14/25

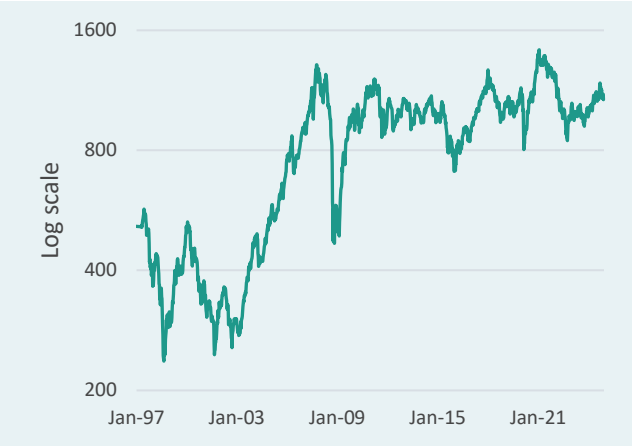
Emerging market equity

Emerging market equities (MSCI EM +2.9%) delivered moderately positive returns in Q1, outperforming U.S. equities, fueled by China's equity rally. Chinese markets climbed notably in February on the heels of the DeepSeek launch in January, when President Xi Jinping reportedly met with tech leaders for the first time in several years. This meeting could help to bolster investor confidence in Chinese tech despite ongoing structural challenges across the local investment landscape. Additionally, signs that the bear market in residential real estate may be easing, and that consumer spending may be turning upward, generated market excitement and an impressive Q1 (MSCI China Index +11.3%).

This movement served as a helpful reminder that larger regional markets can have big performance impacts an overall emerging markets allocation.

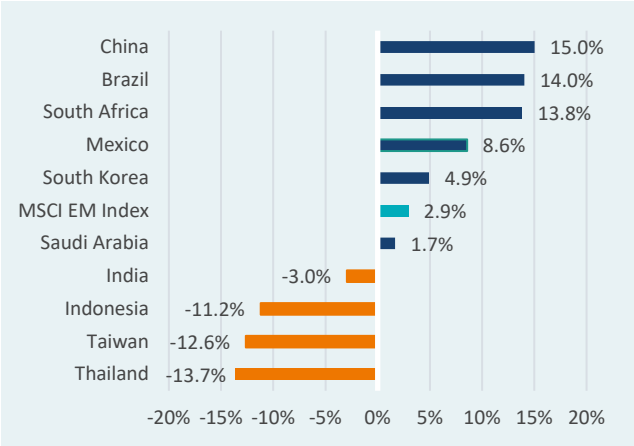
As the U.S. administration appears to be focusing maximum pressure on China regarding trade and business practices, the intense market volatility experienced in early April seems to set the table for the remainder of 2025. Some estimates put China's economic growth rate this year at perhaps 4% or even 3%, below the 5% target publicized by the Chinese Communist Party.

EMERGING MARKET EQUITY



Source: MSCI, as of 3/31/25

MSCI EM 2025 Q1 COUNTRY RETURNS (USD)



Source: Verus, Bloomberg, as of 3/31/25

CHINA'S COMEBACK



Source: MSCI, as of 3/31/25

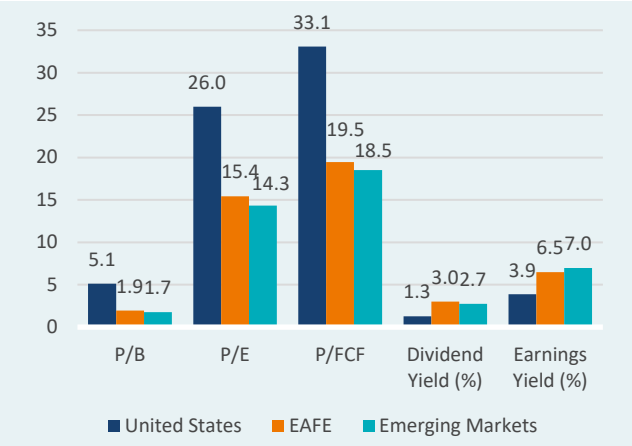
Equity valuations

U.S. equity multiples fell materially during the market selloff, while international equities performed moderately well with little valuation movement. This reduced some of the historically wide valuation gap between markets.

Many investors have become more bearish on U.S. stocks due to actions of the U.S. administration. At the same time, certain European governments have indicated a greater willingness to invest in local economies, possibly generating stronger economic growth rates in the future. These trends have fueled some rotation of investment dollars out of the U.S. market and into Europe. As a consequence of the Trump administration foreign policy, conversations have taken place in the investor community around diversification and the fact that many portfolios have become intensely U.S.-concentrated over time. Additionally, U.S. valuations are historically high relative to other markets.

High valuations are a product of fantastic earnings growth forecasts, and rosy expectations that U.S. exceptionalism will continue. If those expectations begin to show cracks, and investors seek opportunities elsewhere due to a less welcoming U.S. investment environment, valuations could change. However, we feel that this story is a bit overdone—the fundamental justifications for a U.S. equity premium will probably remain intact despite tariff pain that might occur in the near- and medium-term.

MSCI VALUATION METRICS (3-MONTH AVG)



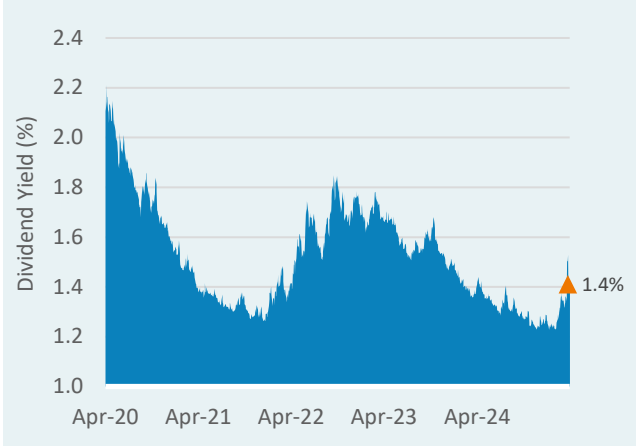
Source: MSCI, Verus, as of 3/31/25 – trailing P/E

FORWARD P/E



Source: MSCI, as of 3/31/25

S&P 500 HISTORICAL DIVIDEND YIELD



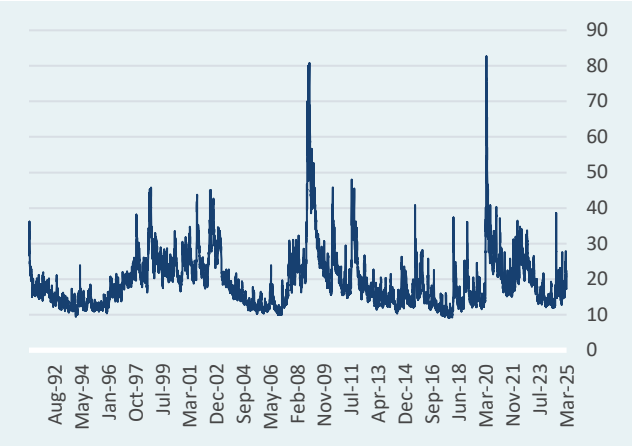
Source: Standard & Poor's, Verus, as of 3/31/25

Market volatility

Market-priced volatility (Cboe VIX Index) jumped to nearly 30% in early March as tariff announcements, trade negotiations, and fears of general economic weakness spooked markets, leading to a broad selloff of U.S. assets. The VIX index suggests the ultra-low volatility environment of 2023 and early 2024 ended in August of 2024 with a historically large volatility spike that occurred that month. Ongoing recession fears and trade disruptions could very likely contribute to greater-than-normal market price fluctuations in the near- and medium-term.

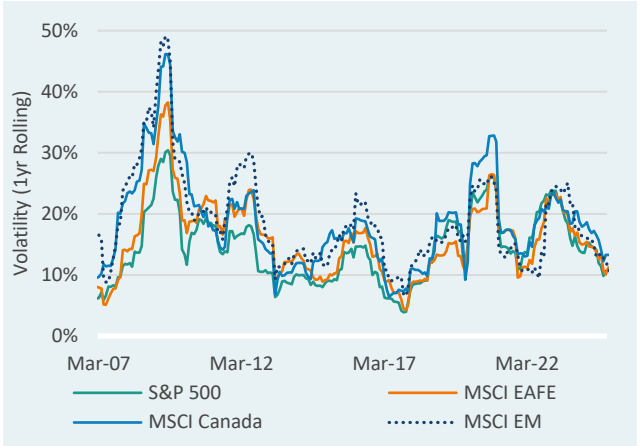
Implied bond market volatility showed an extreme jump in late March and the first week of April. Competing theories exist as to the cause, with some market participants attributing the move to fluctuations in foreign demand for U.S. dollars due to radical shifts in the trade policy of the Trump administration. Other investors believe these moves have been more driven by hedge fund trading and an unwinding of 'basis trades'—a levered trading strategy that tries to take advantage of differences between current Treasury price and the price reflected in futures contracts. Due to the highly levered nature of this strategy, market volatility spikes can lead to trade losses and unwinding of large positions which can move markets. The true cause of these moves remains unclear.

U.S. IMPLIED VOLATILITY (VIX)



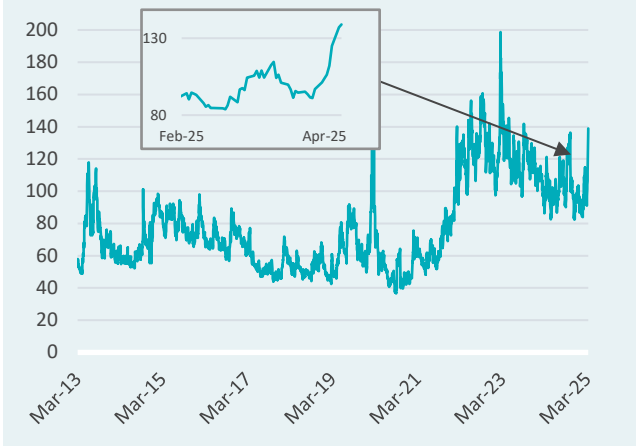
Source: Cboe, as of 3/31/25

REALIZED VOLATILITY



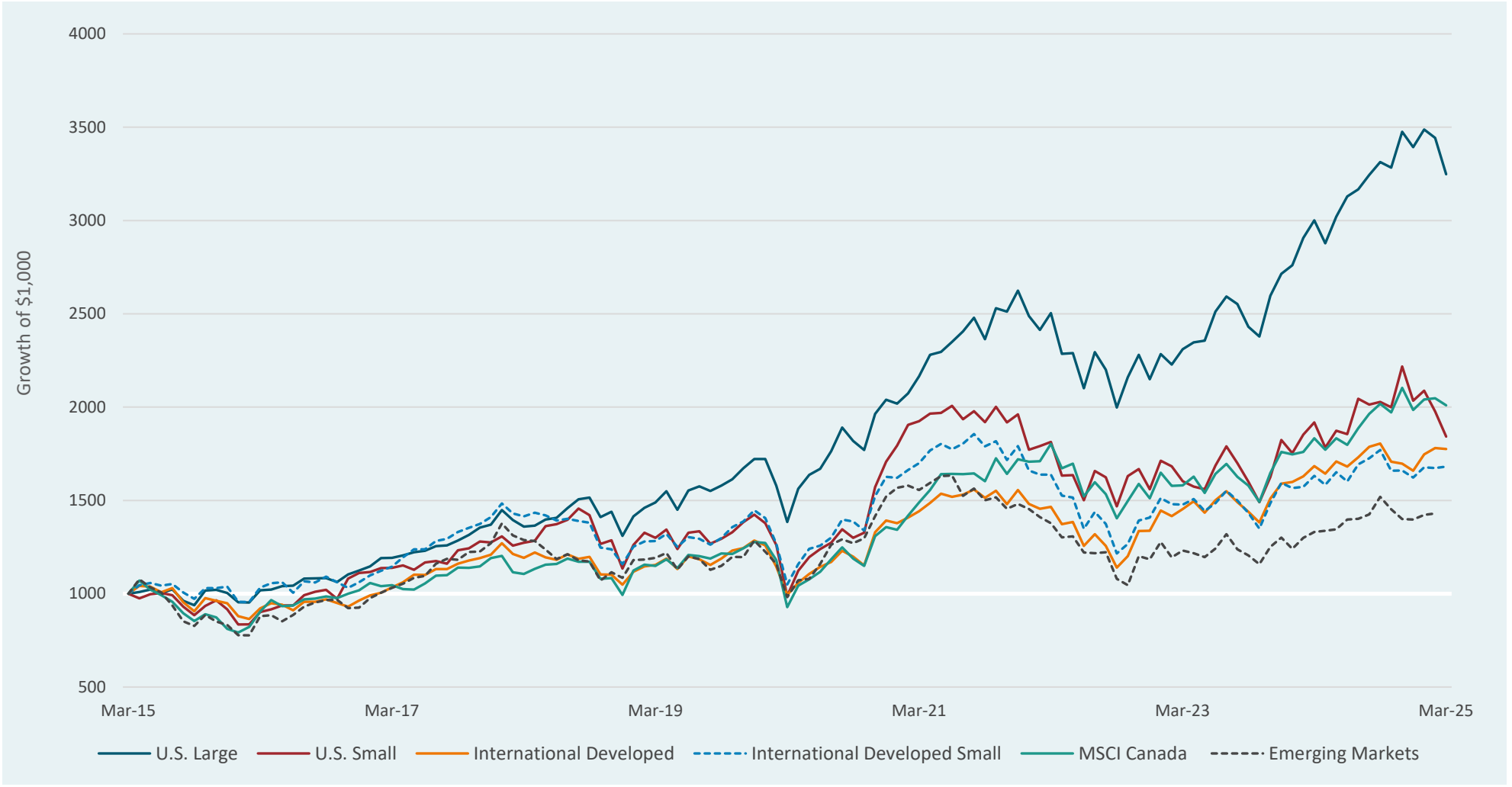
Source: Standard & Poor's, MSCI, Verus, as of 3/31/25

U.S. TREASURY IMPLIED VOL ("MOVE" INDEX)



Source: BofA, as of 4/8/25

Long-term equity performance



Source: Standard & Poor's, FTSE, MSCI, Verus, as of 3/31/25

Other assets

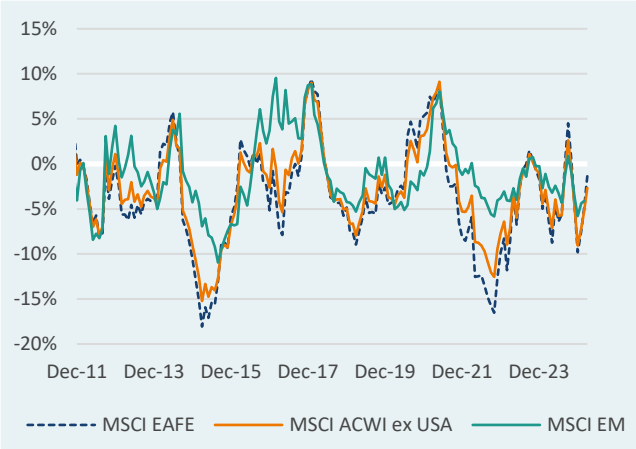
Currency

The U.S. dollar fell during Q1 on tariff and trade fears, as well as signs of a weakening economy. This boosted the returns of U.S. investors with unhedged foreign currency exposure. The U.S. Dollar Index was down -8.5%. Dollar movement is particularly difficult to predict—a slowdown in U.S. economic growth throughout the remainder of the year should have a dampening effect on dollar value, but a global market selloff tends to result in a flight to quality (higher U.S. dollar). A big hike in tariffs imposed by the U.S. should generally push the dollar up as trading partners work to buy dollars, but if this causes a negative shock to the economy and leads to rate cuts from the Federal Reserve then that would be negative for the dollar. The overall net effect of these opposing forces is very complex.

Those without a currency hedging program gained +3.5% from currency moves across international equities (MSCI EAFE) during Q1, but lost -1.9% over the past year. Currency gains were large across the Euro and British pound, while the Japanese yen moved in the opposite direction.

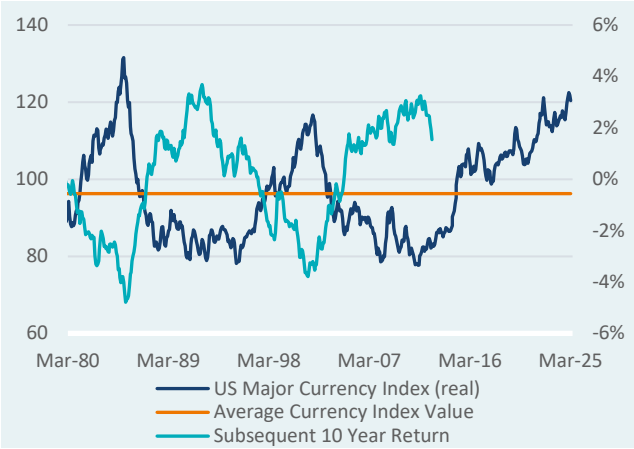
A more thoughtful portfolio approach to currency exposure has provided lower portfolio volatility and higher returns—a rare proposition. This approach involves reducing the uncompensated risk of unhedged foreign currency exposure, and instead of unhedged exposure, making a passive investment in the currency market by investing in currencies with higher interest rates, undervalued currencies, and currencies showing positive price momentum. This approach, represented by the MSCI Currency Factor Mix Index, has offered a positive one-year rolling return over most periods with far lower volatility than an unhedged approach. The past year of intense currency volatility is testament to this approach.

EFFECT OF CURRENCY (1-YEAR ROLLING)



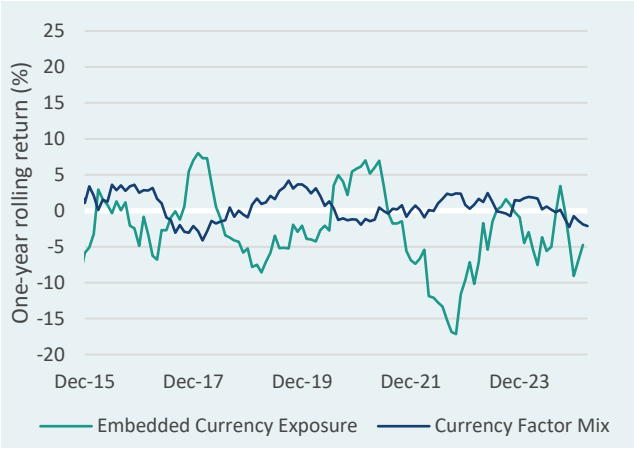
Source: MSCI, Verus, as of 3/31/25

U.S. DOLLAR MAJOR CURRENCY INDEX



Source: FRED, Verus, as of 3/31/25

EMBEDDED CURRENCY VS CURRENCY FACTORS



Source: MSCI, Verus, as of 3/31/25 "Embedded Currency Exposure" is the currency return impact from not hedging currency risk

Appendix

Periodic table of returns

BEST ↑ ↓ WORST

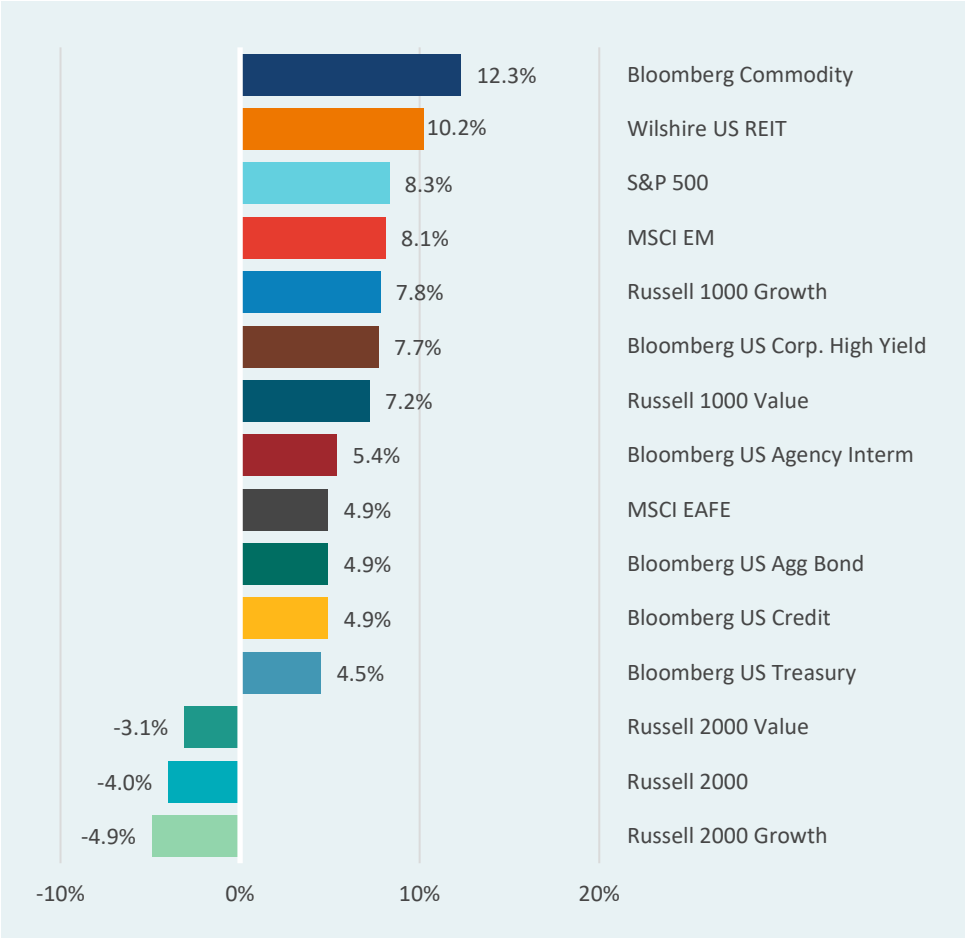
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD	5-Year	10-Year
Large Cap Growth	34.5	32.6	39.8	5.2	79.0	29.1	14.3	18.6	43.3	13.5	13.3	31.7	37.3	6.7	36.4	38.5	28.3	16.1	42.7	33.4	8.9	20.1	15.1
Large Cap Equity	21.4	26.9	16.2	1.4	37.2	26.9	7.8	18.1	38.8	13.2	5.7	21.3	30.2	1.9	31.4	34.6	27.6	9.4	26.5	24.5	6.9	18.5	12.2
Large Cap Value	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	28.5	21.0	27.1	1.5	18.7	15.2	2.9	16.1	8.8
Small Cap Growth	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	26.5	20.0	26.5	-4.7	18.2	14.4	2.8	15.3	6.3
Emerging Markets Equity	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	25.5	18.3	25.2	-7.5	16.9	11.5	2.1	14.5	6.1
Small Cap Equity	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	22.4	14.0	17.7	-13.0	15.4	9.9	1.0	13.3	6.1
60/40 Global Portfolio	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	22.0	10.3	14.8	-14.5	14.6	9.5	0.9	11.8	5.7
Small Cap Value	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	18.6	7.8	11.3	-14.5	11.5	8.1	0.7	10.8	5.4
International Equity	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	18.4	7.5	8.9	-17.3	9.8	7.5	0.3	8.5	5.3
Hedge Funds of Funds	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	8.7	4.6	6.5	-19.1	6.3	5.4	-4.5	7.9	3.7
Cash	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	7.8	2.8	2.8	-20.1	5.5	5.3	-7.7	7.5	3.7
Commodities	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	7.7	0.5	0.0	-20.4	5.0	3.8	-9.5	3.0	2.8
US Bonds	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	6.4	0.5	-1.5	-26.4	-7.9	1.3	-10.0	2.5	1.8
Real Estate	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	2.1	-3.1	-2.5	-29.1	-7.9	0.4	-11.1	-0.4	1.5

- Large Cap Equity
- Large Cap Value
- Large Cap Growth
- Small Cap Equity
- Small Cap Value
- Small Cap Growth
- International Equity
- Emerging Markets Equity
- US Bonds
- Cash
- Commodities
- Real Estate
- Hedge Funds of Funds
- 60% MSCI ACWI/40% Bloomberg Global Bond

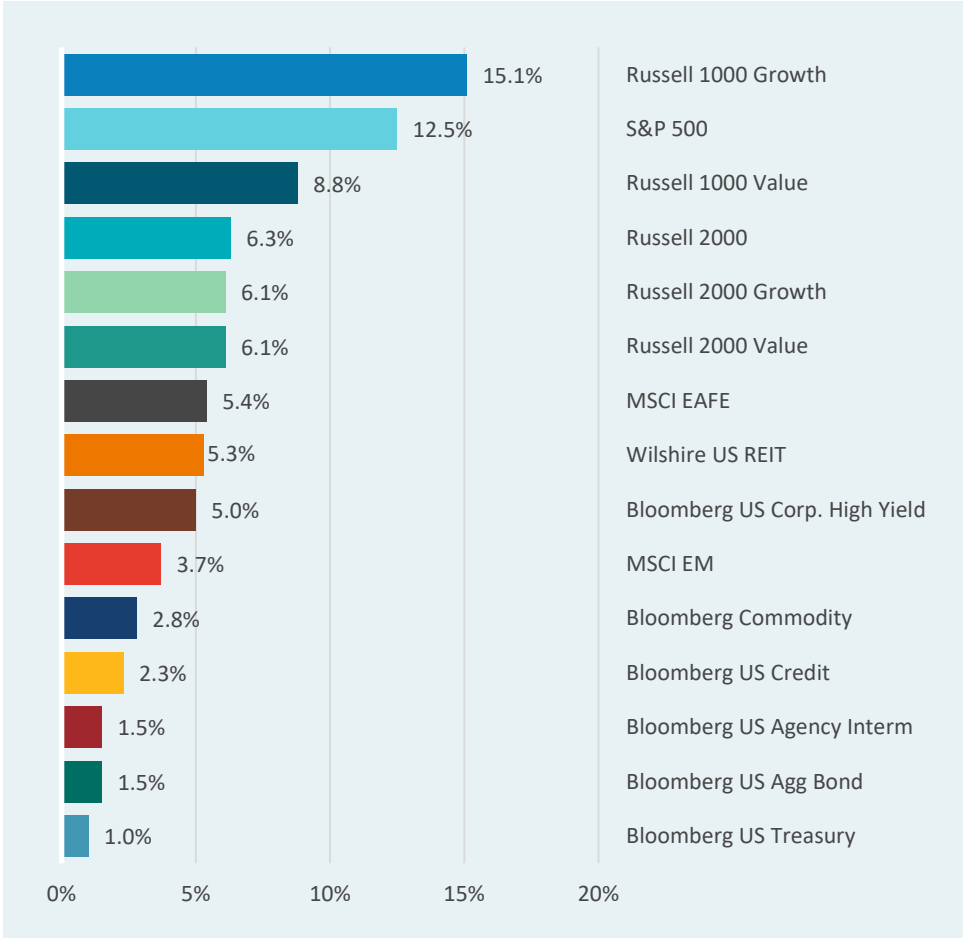
Source Data: Morningstar, Inc., Hedge Fund Research, Inc. (HFR), National Council of Real Estate Investment Fiduciaries (NCREIF). Indices used: Russell 1000, Russell 1000 Value, Russell 1000 Growth, Russell 2000, Russell 2000 Value, Russell 2000 Growth, MSCI EAFE, MSCI EM, Bloomberg U.S. Aggregate, T-Bill 90 Day, Bloomberg Commodity, NCREIF Property, HFRI FOF, MSCI ACWI, Bloomberg Global Bond. NCREIF Property Index performance data as of 12/31/24.

Major asset class returns

ONE YEAR ENDING MARCH



TEN YEARS ENDING MARCH



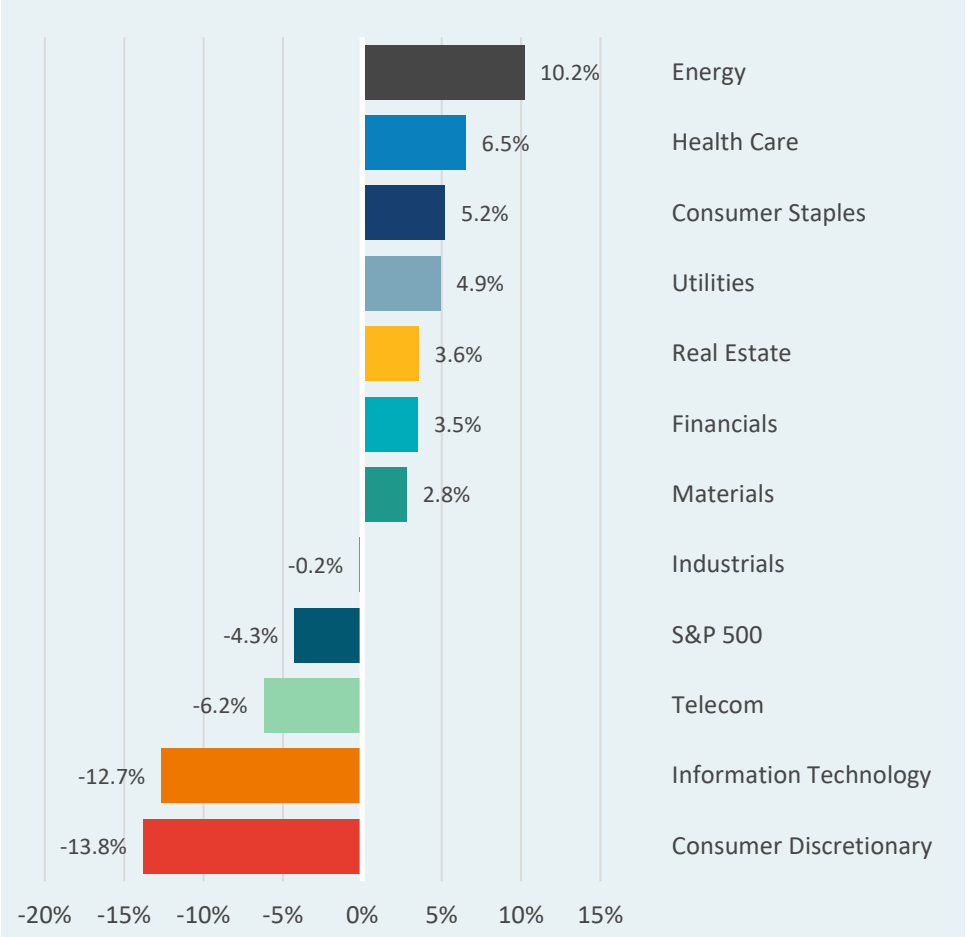
**Only publicly traded asset performance is shown here. Performance of private assets is typically released with a 3- to 6-month delay.*

Source: Morningstar, as of 3/31/25

Source: Morningstar, as of 3/31/25

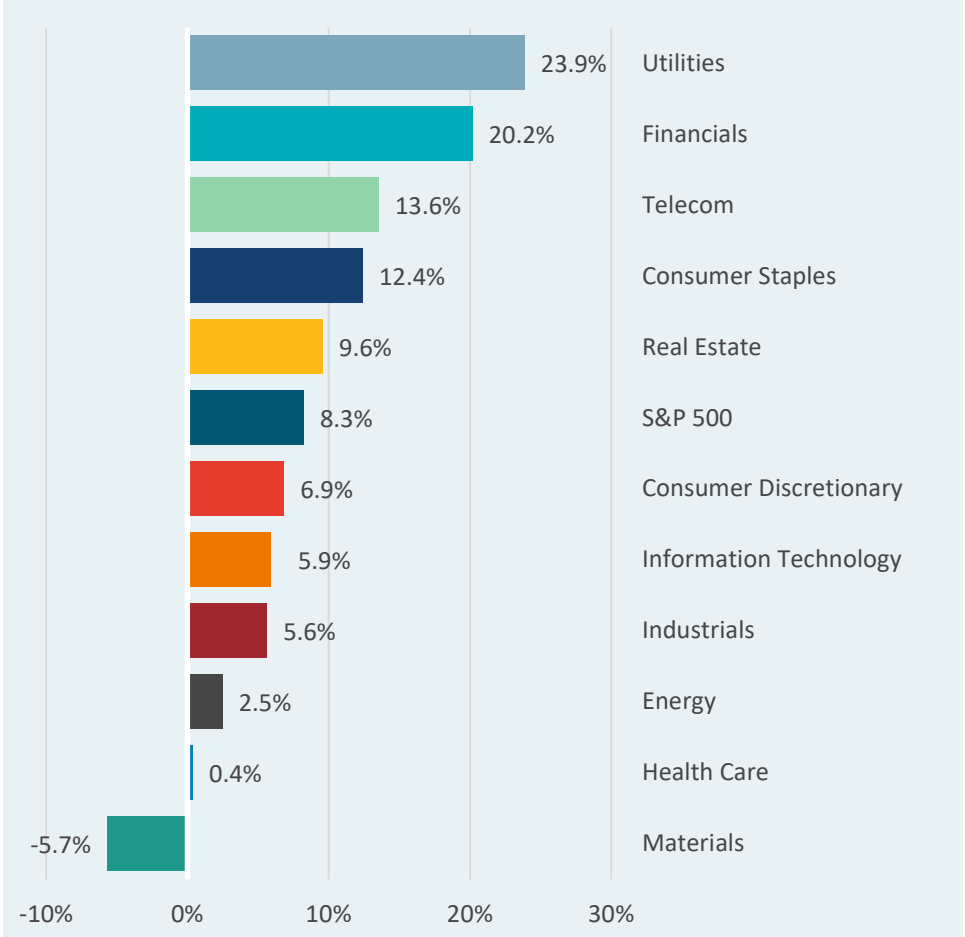
S&P 500 sector returns

QTD



Source: Morningstar, as of 3/31/25

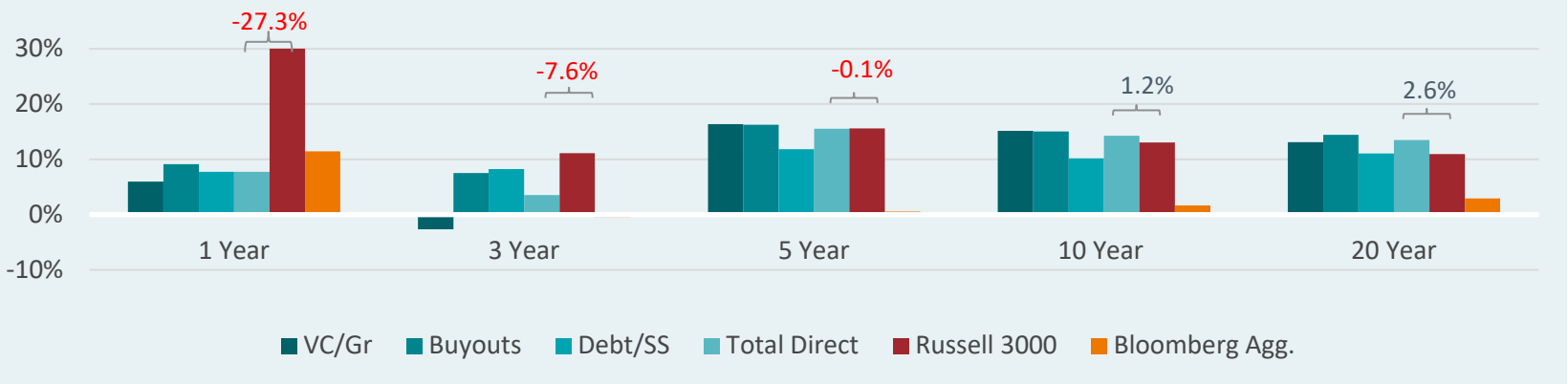
ONE YEAR ENDING MARCH



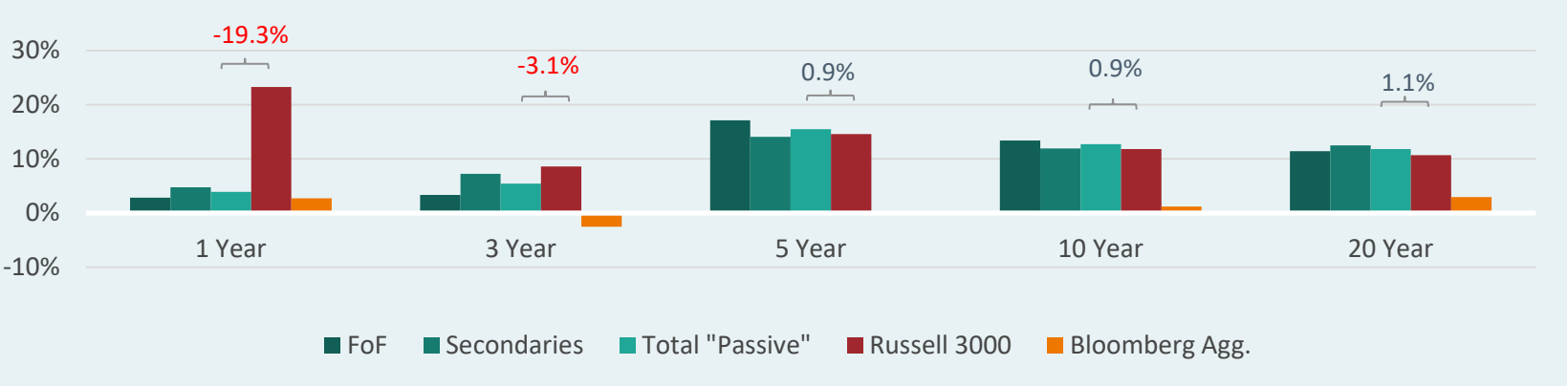
Source: Morningstar, as of 3/31/25

Private equity vs. traditional assets performance

DIRECT PRIVATE EQUITY FUND INVESTMENTS



"PASSIVE" STRATEGIES



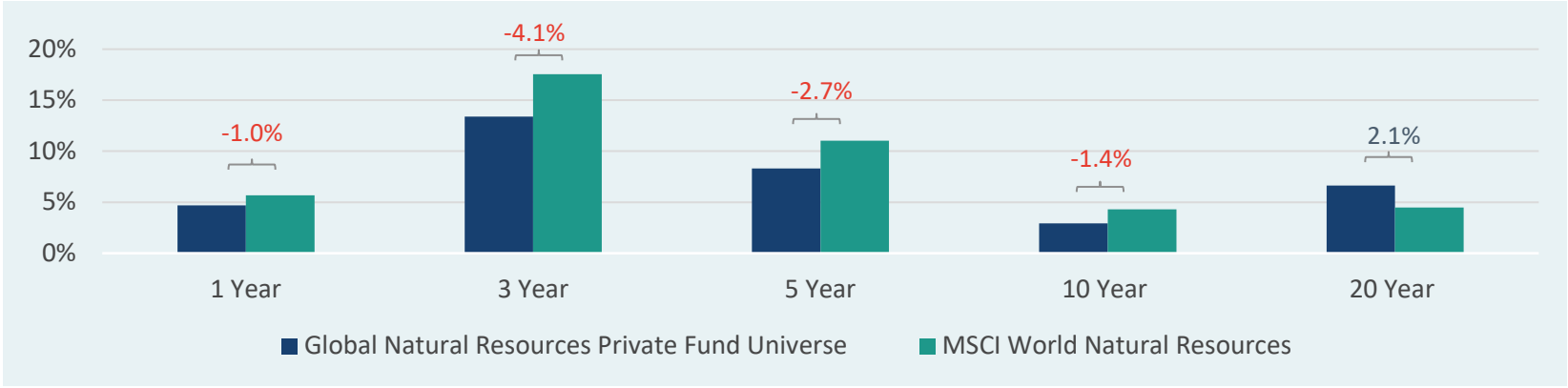
Direct P.E Fund Investments outperformed public equites over the long-term, but have recently underperformed

"Passive" strategies have outperformed public markets over the long-term

Sources: FTSE PME: U.S. Direct Private Equity returns are as of September 30, 2024, whereas "Passive" strategies as of June 30, 2024. Public Market Equivalent returns resulted from "Total Passive" and Total Direct's identical cash flows invested into and distributed from respective traditional asset comparable.

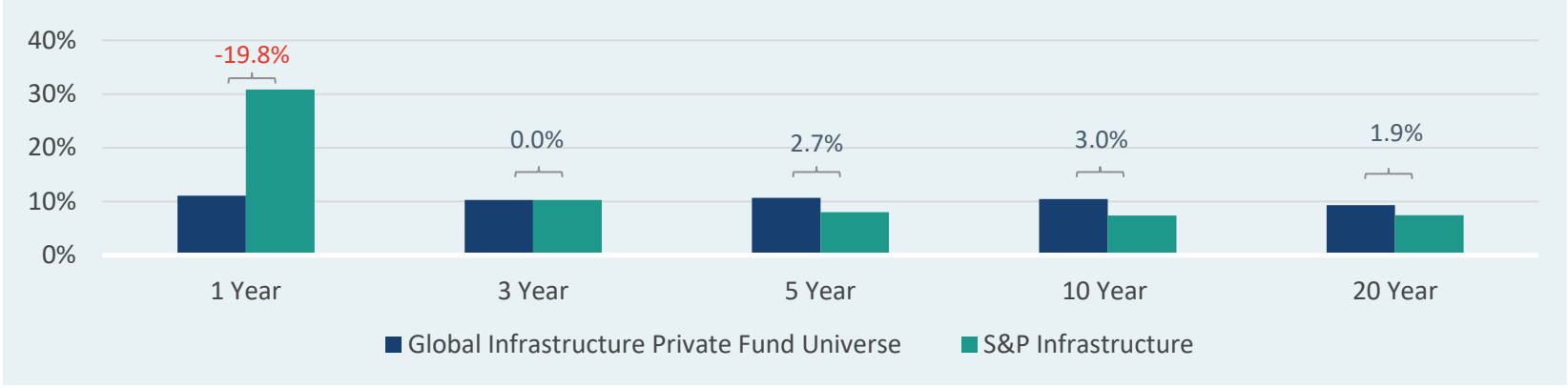
Private vs. liquid real assets performance

GLOBAL NATURAL RESOURCES FUNDS



N.R. funds underperformed the MSCI World Natural Resources benchmark across most periods

GLOBAL INFRASTRUCTURE FUNDS

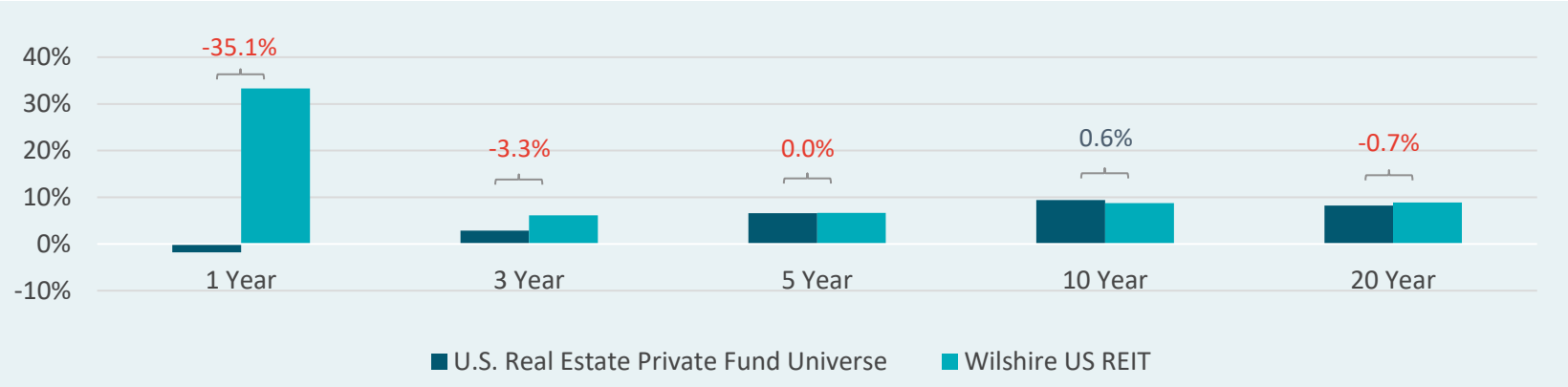


Infra. funds outperformed the S&P Infra. over the long-term

Sources: FTSE PME: Global Natural Resources (vintage 1999 and later, inception of MSCI World Natural Resources benchmark) and Global Infrastructure (vintage 2002 and later, inception of S&P Infrastructure benchmark) universes as of September 30, 2024. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real assets universes.

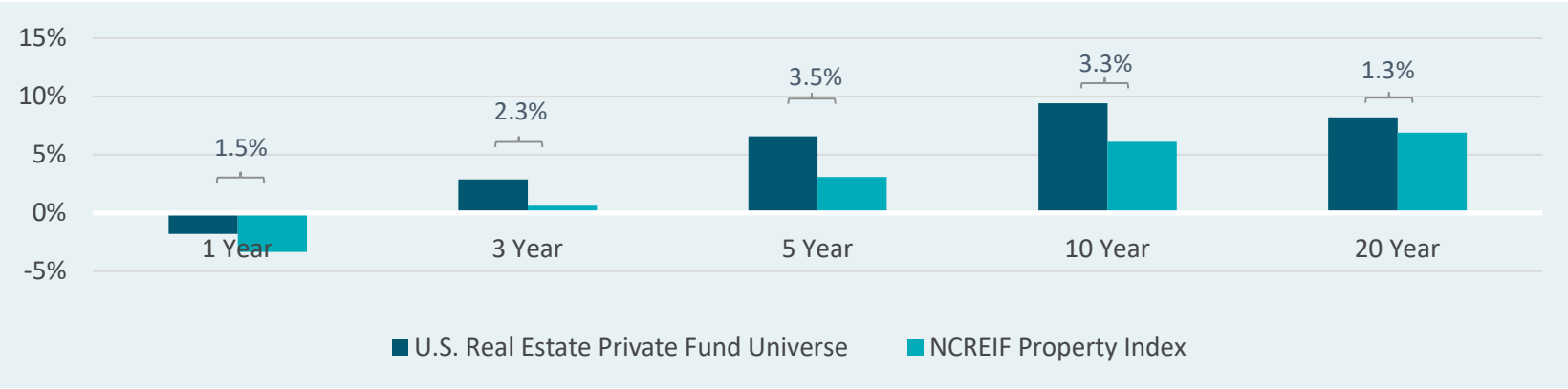
Private vs. liquid and core real estate performance

U.S. PRIVATE REAL ESTATE FUNDS VS. LIQUID UNIVERSE



U.S. Private R.E. funds underperformed the Wilshire U.S. REIT Index across most time periods.

U.S. PRIVATE REAL ESTATE FUNDS VS. CORE FUNDS



U.S. Private R.E. Funds outperformed the NCREIF Property Index across all time periods.

Sources: FTSE PME: U.S. Real Estate universes as of September 30, 2024. Public Market Equivalent returns resulted from identical cash flows invested into and distributed from respective liquid real estate universes.

Detailed index returns

DOMESTIC EQUITY	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Core Index							
S&P 500	(5.6)	(4.3)	(4.3)	8.3	9.1	18.6	12.5
S&P 500 Equal Weighted	(3.4)	(0.6)	(0.6)	4.1	5.2	17.7	10.0
DJ Industrial Average	(4.1)	(0.9)	(0.9)	7.4	8.8	16.2	11.4
Russell Top 200	(6.1)	(4.8)	(4.8)	9.5	10.0	19.2	13.4
Russell 1000	(5.8)	(4.5)	(4.5)	7.8	8.7	18.5	12.2
Russell 2000	(6.8)	(9.5)	(9.5)	(4.0)	0.5	13.3	6.3
Russell 3000	(5.8)	(4.7)	(4.7)	7.2	8.2	18.2	11.8
Russell Mid Cap	(4.6)	(3.4)	(3.4)	2.6	4.6	16.3	8.8
Style Index							
Russell 1000 Growth	(8.4)	(10.0)	(10.0)	7.8	10.1	20.1	15.1
Russell 1000 Value	(2.8)	2.1	2.1	7.2	6.6	16.1	8.8
Russell 2000 Growth	(7.6)	(11.1)	(11.1)	(4.9)	0.8	10.8	6.1
Russell 2000 Value	(6.0)	(7.7)	(7.7)	(3.1)	0.0	15.3	6.1

INTERNATIONAL EQUITY	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
MSCI ACWI	(4.0)	(1.3)	(1.3)	7.2	6.9	15.2	8.8
MSCI ACWI ex US	(0.2)	5.2	5.2	6.1	4.5	10.9	5.0
MSCI EAFE	(0.4)	6.9	6.9	4.9	6.1	11.8	5.4
MSCI EM	0.6	2.9	2.9	8.1	1.4	7.9	3.7
MSCI EAFE Small Cap	0.5	3.7	3.7	3.1	0.9	9.9	5.3
Style Index							
MSCI EAFE Growth	(3.2)	2.1	2.1	(2.6)	2.4	8.5	5.5
MSCI EAFE Value	2.3	11.6	11.6	12.8	9.7	14.8	5.1
Regional Index							
MSCI UK	0.7	9.7	9.7	14.4	7.9	13.8	4.9
MSCI Japan	0.1	0.3	0.3	(2.1)	5.3	8.8	5.3
MSCI Euro	0.1	11.9	11.9	5.4	10.1	14.7	5.9
MSCI EM Asia	(0.1)	1.3	1.3	9.8	1.9	7.5	4.4
MSCI EM Latin American	4.8	12.7	12.7	(13.6)	(2.0)	11.8	2.6

FIXED INCOME	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Broad Index							
Bloomberg US TIPS	0.6	4.2	4.2	6.2	0.1	2.4	2.5
Bloomberg US Treasury Bills	0.3	1.0	1.0	5.1	4.3	2.6	1.9
Bloomberg US Agg Bond	0.0	2.8	2.8	4.9	0.5	(0.4)	1.5
Bloomberg US Universal	(0.0)	2.7	2.7	5.2	1.0	0.3	1.8
Duration							
Bloomberg US Treasury 1-3 Yr	0.5	1.6	1.6	5.4	2.8	1.1	1.5
Bloomberg US Treasury Long	(0.9)	4.7	4.7	1.3	(7.2)	(7.9)	(0.6)
Bloomberg US Treasury	0.2	2.9	2.9	4.5	(0.0)	(1.7)	1.0
Issuer							
Bloomberg US MBS	(0.0)	3.1	3.1	5.4	0.6	(0.7)	1.1
Bloomberg US Corp. High Yield	(1.0)	1.0	1.0	7.7	5.0	7.3	5.0
Bloomberg US Agency Interm	0.4	2.0	2.0	5.4	2.5	0.7	1.5
Bloomberg US Credit	(0.2)	2.4	2.4	4.9	1.1	1.3	2.3

OTHER	Month	QTD	YTD	1 Year	3 Year	5 Year	10 Year
Index							
Bloomberg Commodity	3.9	8.9	8.9	12.3	(0.8)	14.5	2.8
Wilshire US REIT	(3.6)	1.0	1.0	10.2	(0.8)	11.2	5.3
S&P UBS Leveraged Loan	(0.3)	0.6	0.6	7.0	7.1	8.9	5.0
S&P Global Infrastructure	2.1	4.6	4.6	18.8	6.1	13.8	6.5
Alerian MLP	(0.1)	12.2	12.2	23.9	24.7	39.7	5.0
Regional Index							
JPM EMBI Global Div	(0.8)	2.2	2.2	6.8	3.4	3.5	3.2
JPM GBI-EM Global Div	1.5	4.3	4.3	4.0	2.7	2.3	1.3
Hedge Funds							
HFRI Composite	(1.1)	0.8	0.8	5.1	4.7	9.6	5.0
HFRI FOF Composite	(1.0)	0.7	0.7	6.1	4.5	7.5	3.7
Currency (Spot)							
Euro	3.9	4.3	4.3	1.2	(1.0)	(0.3)	0.1
Pound Sterling	2.5	3.1	3.1	2.2	(0.7)	0.8	(1.4)
Yen	0.8	5.1	5.1	0.0	(6.7)	(6.3)	(2.2)

Source: Morningstar, HFRI, as of 3/31/25

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.langerresearch.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.Bloomberg.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 induces 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 "(Good-Poor + 100)/2" to the present and future sales series and "(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.*

Notices & disclosures

Past performance is no guarantee of future results. *This report or presentation is provided for informational purposes only and is directed to institutional clients and eligible institutional counterparties only and should not be relied upon by retail investors. Nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security or pursue a particular investment vehicle or any trading strategy. The opinions and information expressed are current as of the date provided or cited only and are subject to change without notice. This information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability. Verus Advisory Inc. expressly disclaim any and all implied warranties or originality, accuracy, completeness, non-infringement, merchantability and fitness for a particular purpose. This report or presentation cannot be used by the recipient for advertising or sales promotion purposes.*

The material may include estimates, outlooks, projections and other "forward-looking statements." Such statements can be identified by the use of terminology such as "believes," "expects," "may," "will," "should," "anticipates," or the negative of any of the foregoing or comparable terminology, or by discussion of strategy, or assumptions such as economic conditions underlying other statements. No assurance can be given that future results described or implied by any forward looking information will be achieved. Actual events may differ significantly from those presented. Investing entails risks, including possible loss of principal. Risk controls and models do not promise any level of performance or guarantee against loss of principal.

"VERUS ADVISORY™ and any associated designs are the respective trademarks of Verus Advisory, Inc. Additional information is available upon request.

Verus® *is a registered trademark of Verus Advisory, Inc.*

Kern County Employees Retirement Association

Investment Performance Review

Period Ending: March 31, 2025

Verus

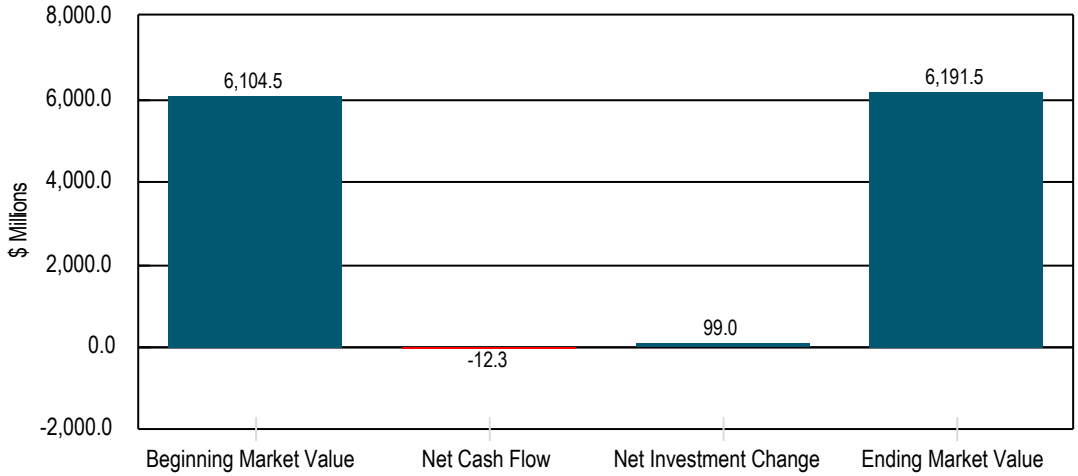
VERUSINVESTMENTS.COM

SEATTLE 206.622.3700
CHICAGO 312.815.5228
PITTSBURGH 412.784.6678
LOS ANGELES 310.297.1777
SAN FRANCISCO 415.362.3484

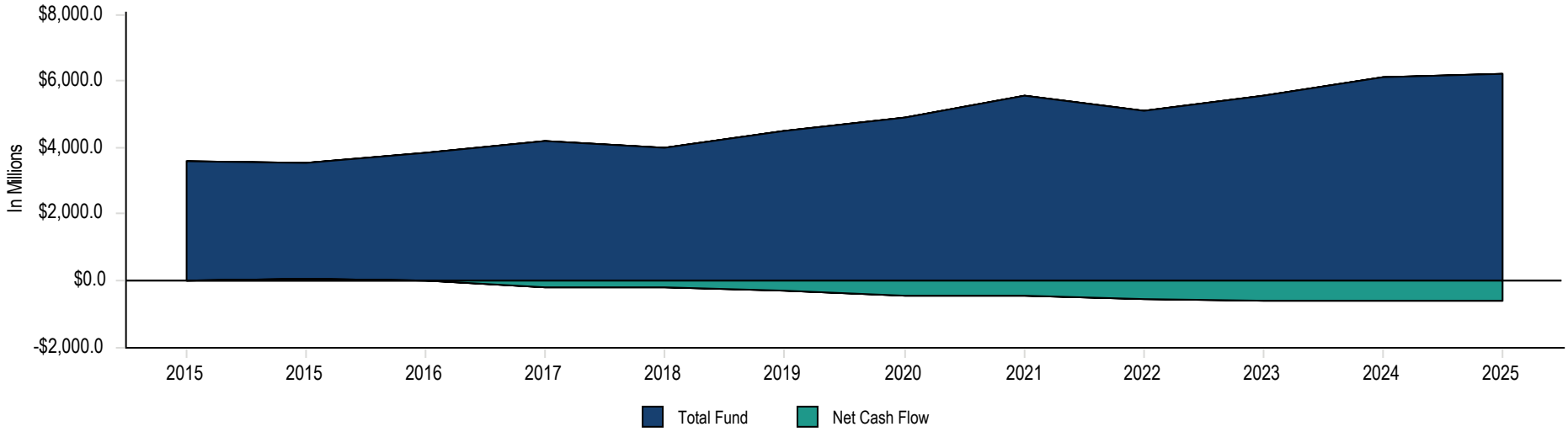
Portfolio Reconciliation

	Last Three Months
Beginning Market Value	$6,104,548,221
Net Cash Flows	-$12,341,983
Net Investment Change	$99,034,901
Ending Market Value	$6,191,533,804

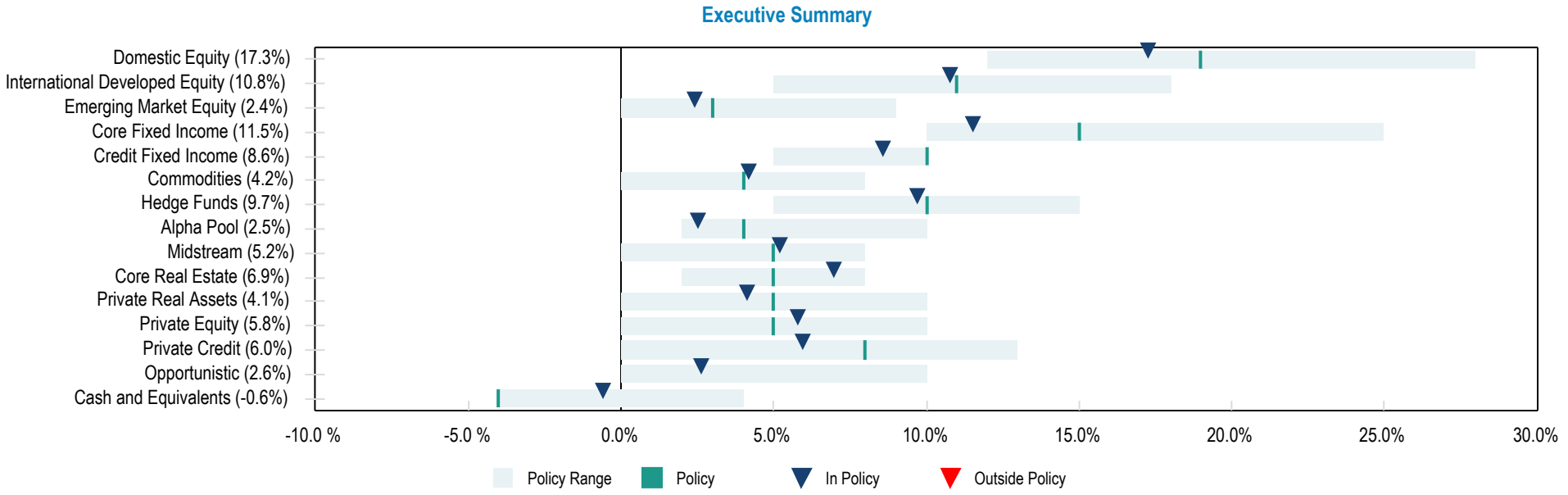
Change in Market Value
Last Three Months

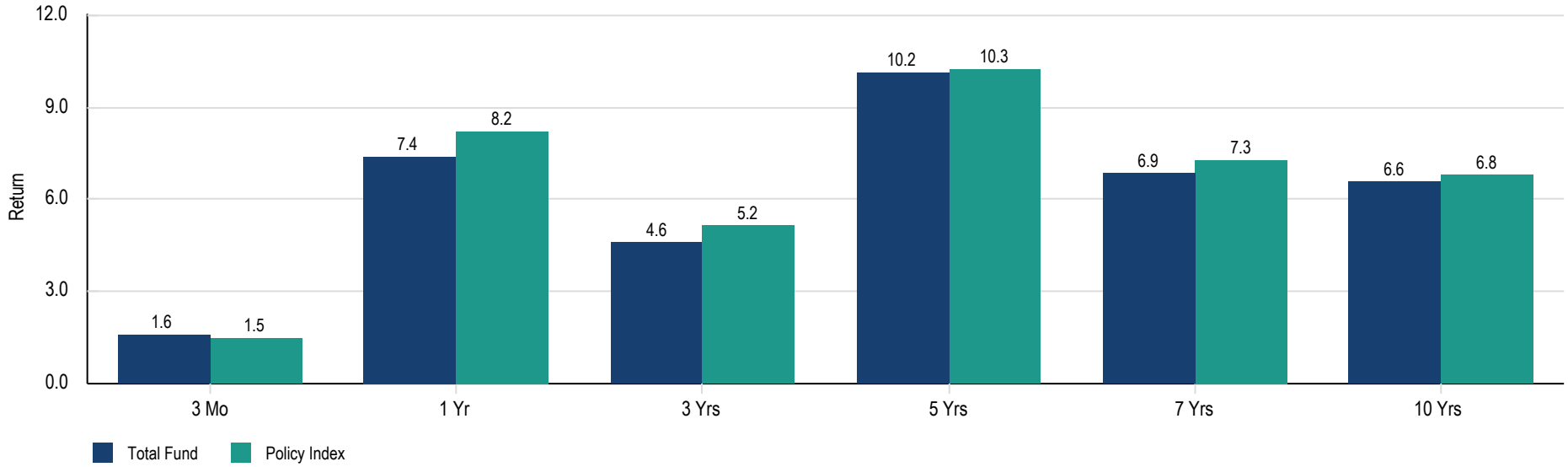


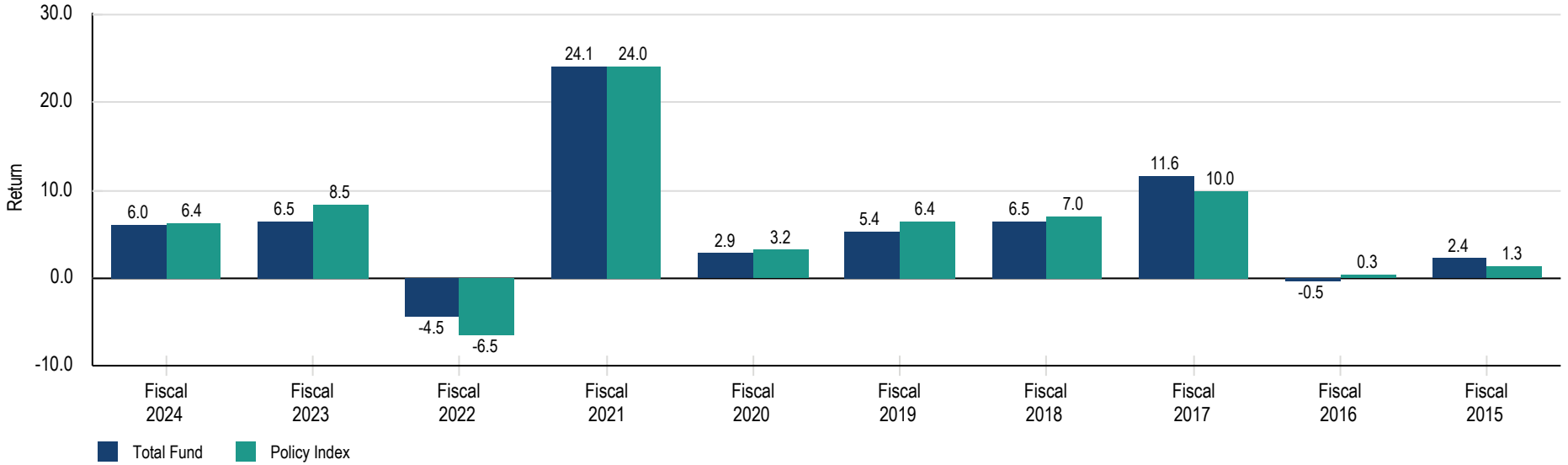
Market Value History



	Current Balance ($)	Current Allocation (%)	Policy Allocation (%)	Excess Allocation (%)	Policy Range (%)	Within IPS Range?
Equity	1,887,013,370	30.5	33.0	-2.5	23.0 - 45.0	Yes
Fixed Income	1,427,497,729	23.1	25.0	-1.9	15.0 - 35.0	Yes
Core Real Estate	429,951,520	6.9	5.0	1.9	2.0 - 8.0	Yes
Hedge Funds	602,493,854	9.7	10.0	-0.3	5.0 - 15.0	Yes
Alpha Pool	155,515,649	2.5	4.0	-1.5	2.0 - 10.0	Yes
Private Equity	316,693,676	5.1	5.0	0.1	0.0 - 10.0	Yes
Private Credit	409,298,492	6.6	8.0	-1.4	0.0 - 13.0	Yes
Private Real Assets	254,467,070	4.1	5.0	-0.9	0.0 - 10.0	Yes
Commodities	260,392,521	4.2	4.0	0.2	0.0 - 8.0	Yes
Opportunistic	162,396,353	2.6	0.0	2.6	0.0 - 10.0	Yes
Midstream	321,652,429	5.2	5.0	0.2	0.0 - 8.0	Yes
Cash and Equivalents	-35,838,859	-0.6	-4.0	3.4	-4.0 - 4.0	Yes
Total	**6,191,533,804**	**100.0**	**100.0**	**0.0**		




12.0
9.0
6.0
3.0
0.0
Return
1.6
1.5
7.4
8.2
4.6
5.2
10.2
10.3
6.9
7.3
6.6
6.8
3 Mo
1 Yr
3 Yrs
5 Yrs
7 Yrs
10 Yrs
Total Fund
Policy Index


30.0
20.0
10.0
0.0
-10.0
Return
6.0
6.4
6.5
8.5
-4.5
-6.5
24.1
24.0
2.9
3.2
5.4
6.4
6.5
7.0
11.6
10.0
-0.5
0.3
2.4
1.3
Fiscal 2024
Fiscal 2023
Fiscal 2022
Fiscal 2021
Fiscal 2020
Fiscal 2019
Fiscal 2018
Fiscal 2017
Fiscal 2016
Fiscal 2015
Total Fund
Policy Index

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Total Fund	**6,191,533,804**	**100.0**	**1.7**	**6.3**	**7.7**	**4.9**	**10.5**	**7.0**	**9.8**	**6.7**	**-4.2**	**24.4**	**3.2**
Policy Index			*1.5*	*6.4*	*8.2*	*5.2*	*10.3*	*6.8*	*10.6*	*8.5*	*-6.5*	*24.0*	*3.2*
InvMetrics Public DB > $1B Rank			*8*	*3*	*3*	*28*	*39*	*46*	*57*	*71*	*37*	*89*	*22*
Equity	**1,955,410,651**	**31.6**	**-1.1**	**3.5**	**5.4**	**6.1**	**15.2**	**9.2**	**17.1**	**15.9**	**-14.9**	**41.2**	**0.7**
MSCI AC World IMI Index (Net)			*-1.6*	*3.8*	*6.3*	*6.3*	*15.0*	*8.6*	*18.4*	*16.1*	*-16.5*	*40.9*	*1.2*
Domestic Equity	1,069,116,533	17.3	-5.1	3.1	6.4	7.6	17.9	12.1	22.4	17.8	-12.0	43.6	6.3
MSCI USA IMI			*-4.8*	*3.7*	*7.2*	*8.3*	*18.4*	*11.9*	*23.3*	*19.2*	*-13.7*	*44.4*	*6.7*
International Developed Equity	667,787,614	10.8	4.3	5.2	4.0	5.4	12.7	6.1	11.0	17.2	-17.2	37.0	-5.5
MSCI World ex U.S. IMI Index (Net)			*5.8*	*5.9*	*5.1*	*5.0*	*11.9*	*5.5*	*10.8*	*16.3*	*-17.7*	*34.8*	*-5.1*
Emerging Markets Equity	218,504,669	3.5	3.3	2.4	8.0	3.0	9.7	3.8	14.2	5.3	-21.4	40.6	-10.9
MSCI Emerging Markets IMI (Net)			*1.7*	*1.4*	*6.6*	*1.5*	*8.8*	*3.8*	*13.6*	*3.2*	*-24.8*	*43.2*	*-4.0*
Fixed Income	**1,427,497,729**	**23.1**	**2.6**	**5.4**	**5.7**	**1.7**	**2.2**	**2.6**	**4.2**	**3.1**	**-12.7**	**5.4**	**6.6**
Fixed Income Custom Benchmark			*2.5*	*5.2*	*5.6*	*1.7*	*1.7*	*2.4*	*4.8*	*1.9*	*-11.6*	*4.0*	*5.2*
Core Fixed Income	895,074,493	14.5	2.9	4.4	4.5	0.2	0.0	1.7	2.5	-0.9	-11.2	1.0	9.5
Core Fixed Income Benchmark			*2.7*	*4.5*	*4.4*	*0.4*	*-0.5*	*1.4*	*2.5*	*-0.9*	*-10.3*	*-0.3*	*8.7*
Credit Fixed Income	532,185,924	8.6	1.9	6.5	7.1	3.9	5.2	3.2	6.7	8.9	-14.6	11.1	-0.6
Credit Fixed Income Benchmark			*2.1*	*6.6*	*7.0*	*4.3*	*5.6*	*3.9*	*8.2*	*9.2*	*-15.7*	*12.2*	*-1.1*
Commodities	**260,392,521**	**4.2**	**7.6**	**7.0**	**9.8**	**2.3**	**17.1**	**4.9**	**14.6**	**-6.3**	**20.1**	**43.5**	**-10.7**
Bloomberg Commodity Index Total Return			*8.9*	*9.1*	*12.3*	*-0.8*	*14.5*	*2.8*	*5.0*	*-9.6*	*24.3*	*45.6*	*-17.4*
Hedge Funds	**602,493,854**	**9.7**	**0.4**	**5.9**	**7.7**	**7.4**	**10.0**	**6.4**	**9.2**	**6.9**	**2.8**	**16.3**	**7.3**
75% (3 Month T-Bill + 3%) + 25% MSCI ACWI Net			*1.0*	*5.5*	*8.0*	*7.5*	*8.2*	*6.1*	*11.4*	*9.4*	*-1.7*	*11.4*	*4.5*
Alpha Pool	**155,515,649**	**2.5**	**2.6**	**4.9**	**4.4**	**1.3**	**-**	**-**	**0.7**	**-0.9**	**1.5**	**14.5**	**-**
3-Month Treasury Bill +3%			*1.8*	*5.9*	*8.1*	*7.4*	*-*	*-*	*8.6*	*6.7*	*3.2*	*3.1*	*-*
Midstream Energy	**321,652,429**	**5.2**	**6.5**	**22.7**	**28.9**	**20.6**	**-**	**-**	**30.6**	**20.1**	**9.6**	**-**	**-**
Alerian Midstream Energy Index			*6.3*	*32.4*	*39.5*	*19.8*	*-*	*-*	*26.7*	*12.2*	*11.4*	*-*	*-*
Core Real Estate	**350,342,334**	**5.7**	**1.6**	**2.1**	**-2.1**	**-9.0**	**-0.9**	**3.1**	**-19.8**	**-11.9**	**25.6**	**6.6**	**2.3**
NCREIF ODCE			*1.1*	*2.5*	*2.0*	*-4.3*	*2.9*	*5.6*	*-9.3*	*-10.0*	*29.5*	*8.0*	*2.2*
Private Real Assets	**255,367,070**	**4.1**	**1.1**	**0.6**	**-1.5**	**1.6**	**8.1**	**9.0**	**-6.4**	**7.9**	**31.3**	**12.1**	**4.4**
			1.1	*0.6*	*-1.5*	*1.6*	*8.1*	*9.0*	*-6.4*	*7.9*	*31.3*	*12.1*	*4.4*
Private Equity	**327,005,580**	**5.3**	**2.4**	**6.3**	**8.8**	**6.0**	**12.8**	**10.4**	**11.9**	**-0.6**	**23.0**	**41.7**	**-10.5**
			2.4	*6.3*	*8.8*	*6.0*	*12.8*	*10.4*	*11.9*	*-0.6*	*23.0*	*41.7*	*-10.5*
Private Credit	**409,298,492**	**6.6**	**4.6**	**8.9**	**13.4**	**8.8**	**5.7**	**-**	**13.2**	**3.2**	**1.2**	**4.8**	**5.5**
			4.6	*8.9*	*13.4*	*8.8*	*5.7*	*-*	*13.2*	*3.2*	*1.2*	*4.8*	*5.5*

Policy Index: 33% MSCI ACWI IMI (Net), 27% Fixed Income Blend - 19% Core (12% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index, 4% Bloomberg US Corporate Credit 1-3 Year Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index. 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 6% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 6% actual time-weighted Private Credit Returns*, 4% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill. Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020
Opportunistic	**162,396,353**	**2.6**	**3.6**	**13.8**	**14.0**	**2.0**	**14.5**	**-**	**2.9**	**0.6**	**-5.4**	**59.9**	**-**
Assumed Rate of Return +3%			*2.4*	*7.4*	*10.0*	*10.0*	*10.0*	-	*10.0*	*10.0*	*10.0*	*10.0*	-
Cash	**220,887,245**	**3.6**	**1.1**	**4.1**	**5.6**	**4.2**	**2.5**	**2.5**	**6.4**	**2.3**	**-0.2**	**0.1**	**1.0**
3 Month T-Bill			*1.0*	*3.6*	*5.0*	*4.2*	*2.6*	*1.9*	*5.4*	*3.6*	*0.2*	*0.1*	*1.6*

Policy Index: 33% MSCI ACWI IMI (Net), 27% Fixed Income Blend - 19% Core (12% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index, 4% Bloomberg US Corporate Credit 1-3 Year Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index. 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 6% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 6% actual time-weighted Private Credit Returns*, 4% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill. Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Performance and Attribution

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2025

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Inception	Inception Date
Total Fund	**6,191,533,804**	**100.0**	**1.6**	**6.0**	**7.4**	**4.6**	**10.2**	**6.6**	**9.6**	**6.5**	**-4.5**	**24.1**	**2.9**	**6.7**	**Jun-11**
Policy Index			*1.5*	*6.4*	*8.2*	*5.2*	*10.3*	*6.8*	*10.6*	*8.5*	*-6.5*	*24.0*	*3.2*	*6.8*	
Equity	**1,955,410,651**	**31.6**	**-1.1**	**3.3**	**5.2**	**5.9**	**14.9**	**8.8**	**16.9**	**15.7**	**-15.1**	**40.7**	**0.3**	**9.1**	**Jun-11**
MSCI AC World IMI Index (Net)			*-1.6*	*3.8*	*6.3*	*6.3*	*15.0*	*8.6*	*18.4*	*16.1*	*-16.5*	*40.9*	*1.2*	*8.6*	
Domestic Equity	**1,069,116,533**	**17.3**	**-5.1**	**2.9**	**6.2**	**7.4**	**17.7**	**11.8**	**22.1**	**17.6**	**-12.2**	**43.2**	**6.0**	**11.7**	**Jul-14**
MSCI USA IMI			*-4.8*	*3.7*	*7.2*	*8.3*	*18.4*	*11.9*	*23.3*	*19.2*	*-13.7*	*44.4*	*6.7*	*11.7*	
Mellon DB SL Stock Index Fund	739,327,721	11.9	-4.3	3.8	8.2	9.0	18.6	-	24.5	19.6	-10.6	40.8	7.5	13.0	Oct-17
S&P 500 Index			*-4.3*	*3.8*	*8.3*	*9.1*	*18.6*	-	*24.6*	*19.6*	*-10.6*	*40.8*	*7.5*	*13.0*	
PIMCO StocksPLUS	151,799,758	2.5	-4.1	3.8	8.2	8.7	18.7	12.3	25.6	18.8	-12.8	41.7	7.7	11.1	Jul-03
S&P 500 Index			*-4.3*	*3.8*	*8.3*	*9.1*	*18.6*	*12.5*	*24.6*	*19.6*	*-10.6*	*40.8*	*7.5*	*10.4*	
AB US Small Cap Value Equity	88,372,355	1.4	-9.3	-0.2	-2.7	-1.3	15.4	-	9.1	4.3	-16.1	77.5	-19.4	6.0	Jul-15
Russell 2000 Value Index			*-7.7*	*0.5*	*-3.1*	*0.0*	*15.3*	-	*10.9*	*6.0*	*-16.3*	*73.3*	*-17.5*	*6.4*	
Geneva Capital Small Cap Growth	89,616,699	1.4	-9.0	-1.1	-2.3	3.0	11.8	-	9.8	15.6	-22.1	37.6	9.3	9.2	Jul-15
Russell 2000 Growth Index			*-11.1*	*-2.0*	*-4.9*	*0.8*	*10.8*	-	*9.1*	*18.5*	*-33.4*	*51.4*	*3.5*	*6.0*	
International Developed Equity	**667,787,614**	**10.8**	**4.3**	**5.1**	**3.9**	**5.3**	**12.5**	**5.9**	**10.9**	**17.1**	**-17.3**	**36.7**	**-5.7**	**5.1**	**Jul-14**
MSCI World ex U.S. IMI Index (Net)			*5.8*	*5.9*	*5.1*	*5.0*	*11.9*	*5.5*	*10.8*	*16.3*	*-17.7*	*34.8*	*-5.1*	*4.5*	
Mellon DB SL World ex-US Index Fund	340,930,491	5.5	6.2	6.0	5.7	6.1	13.1	-	11.7	17.9	-16.1	35.6	-5.5	6.4	Jul-18
MSCI World ex U.S. IMI Index (Net)			*5.8*	*5.9*	*5.1*	*5.0*	*11.9*	-	*10.8*	*16.3*	*-17.7*	*34.8*	*-5.1*	*5.4*	
Cevian Capital II	50,930,437	0.8	1.3	7.6	9.2	14.4	21.5	9.3	21.8	25.3	-8.2	46.8	-8.2	9.0	Dec-14
MSCI Europe Index (Net) Hedged			*5.9*	*4.9*	*4.8*	*7.8*	*12.2*	*6.0*	*12.2*	*17.3*	*-8.6*	*25.0*	*-5.6*	*7.0*	
Lazard Japanese Equity	140,780,057	2.3	1.8	3.8	-0.4	-	-	-	-	-	-	-	-	15.8	Nov-23
TOPIX Net Total Return Index			*1.3*	*3.8*	*-0.7*	-	-	-	-	-	-	-	-	*13.6*	
American Century Non-US Small Cap	62,706,456	1.0	-0.6	-2.9	-4.0	-2.2	-	-	8.3	7.9	-27.4	-	-	-1.2	Dec-20
MSCI World ex U.S. Small Cap Growth Index (Net)			*0.9*	*2.6*	*1.2*	*-1.9*	-	-	*5.6*	*9.5*	*-28.6*	-	-	*-1.1*	
Dalton Japan Long Only	72,440,173	1.2	5.6	10.2	6.8	-	-	-	-	-	-	-	-	16.8	Oct-23
MSCI Japan Small Cap Index (Net)			*3.8*	*9.4*	*3.1*	-	-	-	-	-	-	-	-	*14.6*	
Emerging Markets Equity	**218,504,669**	**3.5**	**3.2**	**2.1**	**7.6**	**2.5**	**9.0**	**3.0**	**13.8**	**4.6**	**-21.9**	**39.5**	**-11.8**	**2.2**	**Jul-14**
MSCI Emerging Markets IMI (Net)			*1.7*	*1.4*	*6.6*	*1.5*	*8.8*	*3.8*	*13.6*	*3.2*	*-24.8*	*43.2*	*-4.0*	*3.0*	
DFA Emerging Markets Value I	56,024,047	0.9	3.2	0.8	6.7	4.3	14.1	5.2	16.7	7.9	-12.9	47.6	-17.7	4.8	Mar-14
MSCI Emerging Markets Value (Net)			*4.3*	*2.4*	*7.6*	*2.8*	*9.8*	*3.2*	*14.1*	*4.1*	*-18.6*	*41.6*	*-15.7*	*3.0*	
Mellon Emerging Markets Stock Index Fund	21,085,092	0.3	3.1	3.3	8.6	1.2	-	-	12.0	1.6	-25.5	41.1	-	4.4	Jun-20
MSCI Emerging Markets (Net)			*2.9*	*2.9*	*8.1*	*1.4*	-	-	*12.5*	*1.7*	*-25.3*	*40.9*	-	*6.1*	
Carrhae Capital Long Master Fund Ltd	72,998,249	1.2	6.1	-	-	-	-	-	-	-	-	-	-	4.3	Aug-24
MSCI Emerging Markets IMI (Net)			*1.7*	-	-	-	-	-	-	-	-	-	-	*1.1*	
ABS Emerging Market Direct	68,397,281	1.1	0.3	-	-	-	-	-	-	-	-	-	-	-2.4	Aug-24
MSCI Emerging Markets IMI (Net)			*1.7*	-	-	-	-	-	-	-	-	-	-	*-0.2*	
Fixed Income	**1,427,497,729**	**23.1**	**2.5**	**5.3**	**5.5**	**1.5**	**1.9**	**2.4**	**3.9**	**2.9**	**-13.0**	**5.1**	**6.3**	**3.4**	**Jun-10**
Fixed Income Custom Benchmark			*2.5*	*5.2*	*5.6*	*1.7*	*1.7*	*2.4*	*4.8*	*1.9*	*-11.6*	*4.0*	*5.2*	*3.2*	
Core Fixed Income	**895,074,493**	**14.5**	**2.9**	**4.3**	**4.4**	**0.1**	**-0.2**	**1.6**	**2.4**	**-1.0**	**-11.4**	**0.8**	**9.3**	**1.8**	**Jul-14**
Core Fixed Income Benchmark			*2.7*	*4.5*	*4.4*	*0.4*	*-0.5*	*1.4*	*2.5*	*-0.9*	*-10.3*	*-0.3*	*8.7*	*1.7*	
Aristotle Short Duration Bond Strategy	183,166,478	3.0	2.0	-	-	-	-	-	-	-	-	-	-	2.0	Jan-25
Blmbg. U.S. Corporate 1-3 Year Index			*1.6*	-	-	-	-	-	-	-	-	-	-	*1.6*	
Fixed Income Beta Exposure	161,628,813	2.6	3.6	3.9	4.1	-	-	-	1.7	-2.5	-	-	-	1.9	Jun-22
ICE BofA 7-10 Year U.S. Treasury Index			*3.9*	*4.8*	*4.7*	-	-	-	*0.3*	*-3.3*	-	-	-	*0.3*	

Policy Index: 33% MSCI ACWI IMI (Net), 27% Fixed Income Blend - 19% Core (12% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index, 4% Bloomberg US Corporate Credit 1-3 Year Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index. 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 6% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 6% actual time-weighted Private Credit Returns*, 4% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill. Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Verus

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2025

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Inception	Inception Date
Mellon DB SL Aggregate Bond Index Fund	369,542,491	6.0	2.8	4.8	4.9	0.5	-0.4	1.4	2.6	-0.9	-10.4	-0.4	8.8	2.2	Jan-11
Bloomberg U.S. Aggregate Index			*2.8*	*4.8*	*4.9*	*0.5*	*-0.4*	*1.5*	*2.6*	*-0.9*	*-10.3*	*-0.3*	*8.7*	*2.3*	
PIMCO Core Plus	180,671,081	2.9	3.4	5.8	5.7	1.1	0.6	1.8	3.6	-0.7	-9.9	1.1	8.7	2.6	Feb-11
Bloomberg U.S. Aggregate Index			*2.8*	*4.8*	*4.9*	*0.5*	*-0.4*	*1.5*	*2.6*	*-0.9*	*-10.3*	*-0.3*	*8.7*	*2.2*	
Credit Fixed Income	**532,185,924**	**8.6**	**1.9**	**6.5**	**7.1**	**3.9**	**5.2**	**3.2**	**6.7**	**8.9**	**-14.6**	**11.1**	**-0.6**	**-**	**May-05**
Credit Fixed Income Benchmark			*2.1*	*6.6*	*7.0*	*4.3*	*5.6*	*3.9*	*8.2*	*9.2*	*-15.7*	*12.2*	*-1.1*	*5.8*	
TCW Securitized Opportunities	92,714,524	1.5	2.8	7.5	9.6	3.8	4.5	-	3.1	4.4	-4.0	6.4	2.2	3.9	Feb-16
Bloomberg U.S. High Yield - 2% Issuer Cap			*1.0*	*6.5*	*7.7*	*5.0*	*7.3*	-	*10.4*	*9.1*	*-12.8*	*15.3*	*0.0*	*6.5*	
KKR US Broadly Syndicated Loan Fund	178,830,072	2.9	0.0	-	-	-	-	-	-	-	-	-	-	1.0	Oct-24
Morningstar LSTA U.S. Leveraged Loan			*0.5*	-	-	-	-	-	-	-	-	-	-	*2.0*	
Stone Harbor Emerging Markets Debt Blend Portfolio	40,376,544	0.7	3.3	6.2	5.5	3.9	4.6	2.2	6.8	10.8	-20.9	9.5	-1.8	1.0	Aug-12
50 JPM GBI-EM Global Div/ 40 JPM EMBI Global Div/ 10 JPM Corporate EM Bond Idx			*3.3*	*6.1*	*5.5*	*3.3*	*3.1*	*2.4*	*4.9*	*9.2*	*-19.5*	*7.2*	*-0.8*	*1.7*	
PIMCO EMD	219,548,760	3.5	2.9	6.7	5.8	3.9	4.2	-	5.6	11.3	-19.2	8.7	-	1.0	Feb-20
50 JPM EMBI Global Div / 50 JPM GBI EM Global Div			*3.3*	*6.1*	*5.4*	*3.1*	*2.9*	-	*4.9*	*9.4*	*-20.2*	*7.1*	-	*-0.2*	
Commodities	**260,392,521**	**4.2**	**7.4**	**6.4**	**9.0**	**1.6**	**16.3**	**4.3**	**13.7**	**-7.0**	**19.4**	**42.5**	**-11.3**	**1.3**	**Jul-13**
Bloomberg Commodity Index Total Return			*8.9*	*9.1*	*12.3*	*-0.8*	*14.5*	*2.8*	*5.0*	*-9.6*	*24.3*	*45.6*	*-17.4*	*0.3*	
Wellington Commodities	260,392,521	4.2	7.4	6.4	8.9	2.2	16.6	5.0	15.5	-5.2	17.2	40.2	-7.5	2.0	Sep-13
S&P GSCI Commodity Equal Weighted			*6.3*	*5.7*	*7.2*	*0.5*	*15.1*	*4.5*	*10.4*	*-6.0*	*19.0*	*40.9*	*-12.4*	*1.7*	
Hedge Funds	**602,493,854**	**9.7**	**0.2**	**5.5**	**7.1**	**7.5**	**10.0**	**5.7**	**8.9**	**7.0**	**3.4**	**16.1**	**6.9**	**5.8**	**Jun-13**
75% 90 Day TBills +3% / 25% MSCI ACWI IMI (Net)			*1.0*	*5.5*	*8.0*	*7.5*	*8.2*	*6.1*	*11.4*	*9.4*	*-1.7*	*11.4*	*4.5*	*5.9*	
Aristeia International Limited	78,662,412	1.3	2.7	5.6	6.2	5.4	9.8	6.9	5.1	5.5	1.8	21.6	8.7	5.4	May-14
Brevan Howard Fund	56,436,285	0.9	-5.6	0.8	1.4	2.5	4.4	5.8	3.1	-1.0	15.2	6.1	20.5	6.4	Sep-13
D.E. Shaw Composite Fund	67,548,138	1.1	3.4	14.3	16.5	14.9	18.9	15.0	12.9	11.0	29.0	19.0	15.6	14.5	Jul-13
HBK Fund II	53,660,439	0.9	2.6	7.3	9.1	8.0	9.9	5.6	11.1	7.9	2.3	11.0	1.5	5.4	Nov-13
Hudson Bay Cap Structure Arbitrage Enhanced Fund	84,807,375	1.4	2.4	6.4	7.1	6.6	9.6	-	4.0	7.7	7.7	14.2	16.2	9.7	Jun-19
Indus Pacific Opportunities Fund	52,163,562	0.8	3.2	6.3	7.6	3.3	11.2	6.1	5.8	-0.4	-8.2	38.0	15.8	6.8	Jul-14
Pharo Macro Fund	77,545,058	1.3	1.6	9.3	11.4	6.6	4.4	-	12.7	1.2	-11.1	3.5	-	3.2	Dec-19
PIMCO Commodity Alpha Fund	78,522,183	1.3	-7.1	-4.8	-1.7	10.9	13.8	-	15.6	18.3	8.6	14.2	4.8	10.0	Jun-16
Sculptor Master Fund	31,045,043	0.5	0.7	7.2	9.4	4.4	6.8	-	13.5	8.8	-19.9	16.8	6.5	7.0	Feb-19
Elliott Associates	22,103,360	0.4	2.4	4.6	-	-	-	-	-	-	-	-	-	4.6	Jul-24
Alpha Pool	**155,515,649**	**2.5**	**2.6**	**4.9**	**4.4**	**1.3**	**-**	**-**	**0.7**	**-0.9**	**1.5**	**14.5**	**-**	**4.2**	**Jul-20**
3-Month Treasury Bill +3%			*1.8*	*5.9*	*8.1*	*7.4*	-	-	*8.6*	*6.7*	*3.2*	*3.1*	-	*5.8*	
Hudson Bay - Alpha Pool	38,614,349	0.6	2.3	4.4	3.5	0.5	-	-	-2.8	-1.1	6.7	-	-	4.0	Aug-20
Davidson Kempner Institutional Partners	54,746,199	0.9	3.1	6.7	6.2	0.1	-	-	1.2	-4.1	-3.4	-	-	1.9	Dec-20
HBK Fund II	19,907,870	0.3	2.4	5.3	5.5	2.0	-	-	4.0	-1.0	1.3	-	-	3.4	Dec-20
Garda Fixed Income Relative Value Opportunity Fund	42,247,231	0.7	2.5	2.9	2.5	3.4	-	-	1.8	3.6	-	-	-	3.8	Sep-21
Midstream Energy	**321,652,429**	**5.2**	**6.3**	**22.1**	**28.0**	**19.8**	**-**	**-**	**29.8**	**19.3**	**9.3**	**-**	**-**	**28.7**	**Sep-20**
Alerian Midstream Energy Index			*6.3*	*32.4*	*39.5*	*19.8*	-	-	*26.7*	*12.2*	*11.4*	-	-	*28.6*	
Harvest Midstream	189,673,019	3.1	7.2	24.6	32.5	23.3	-	-	35.9	20.9	15.3	-	-	34.3	Aug-20
Alerian Midstream Energy Index			*6.3*	*32.4*	*39.5*	*19.8*	-	-	*26.7*	*12.2*	*11.4*	-	-	*28.1*	
PIMCO Midstream	131,979,410	2.1	5.2	19.3	23.0	15.8	-	-	23.6	16.9	2.2	-	-	23.3	Oct-20
50/25/25 Alerian Midstream/ ICE BofA US Pipeline/ ICE BofA US HY Midstream			*4.4*	*18.7*	*22.5*	*12.0*	-	-	*17.6*	*10.1*	*-0.7*	-	-	*17.3*	
Core Real Estate	**350,342,334**	**5.7**	**1.5**	**1.7**	**-2.6**	**-9.5**	**-1.6**	**2.5**	**-20.2**	**-12.4**	**24.8**	**5.6**	**1.4**	**3.3**	**Oct-14**
NCREIF ODCE			*1.1*	*2.5*	*2.0*	*-4.3*	*2.9*	*5.6*	*-9.3*	*-10.0*	*29.5*	*8.0*	*2.2*	*6.0*	

Policy Index: 33% MSCI ACWI IMI (Net), 27% Fixed Income Blend - 19% Core (12% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index, 4% Bloomberg US Corporate Credit 1-3 Year Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index. 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 6% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 6% actual time-weighted Private Credit Returns*, 4% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill. Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Verus

Total Fund
Performance (Net of Fees)

Kern County Employees' Retirement Association
Period Ending: March 31, 2025

	Market Value	% of Portfolio	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Fiscal 2024	Fiscal 2023	Fiscal 2022	Fiscal 2021	Fiscal 2020	Inception	Inception Date
ASB Allegiance Real Estate Fund	118,234,271	1.9	1.0	1.0	-6.8	-11.3	-3.0	1.9	-23.9	-13.3	23.0	5.4	1.5	3.2	Sep-13
NCREIF ODCE			*1.1*	*2.5*	*2.0*	*-4.3*	*2.9*	*5.6*	*-9.3*	*-10.0*	*29.5*	*8.0*	*2.2*	*6.6*	
JPMCB Strategic Property Fund	100,400,809	1.6	0.8	2.9	4.0	-6.7	0.5	3.9	-14.9	-11.4	27.9	5.9	1.3	4.4	Jul-14
NCREIF ODCE			*1.1*	*2.5*	*2.0*	*-4.3*	*2.9*	*5.6*	*-9.3*	*-10.0*	*29.5*	*8.0*	*2.2*	*6.2*	
Blue Owl Real Estate Fund VI	29,758,038	0.5	6.6	0.1	-	-	-	-	-	-	-	-	-	-12.5	May-24
NCREIF ODCE			*1.1*	*2.5*	-	-	-	-	-	-	-	-	-	*2.0*	
Sculptor Diversified REIT	48,437,900	0.8	1.0	-	-	-	-	-	-	-	-	-	-	-1.6	Dec-24
NCREIF ODCE			*1.1*	-	-	-	-	-	-	-	-	-	-	*2.1*	
Hudson Bay Real Estate Opportunities	21,530,704	0.3	1.5	-	-	-	-	-	-	-	-	-	-	1.5	Jan-25
NCREIF ODCE			*1.1*	-	-	-	-	-	-	-	-	-	-	*1.1*	
TPG AG Essential Housing III	18,372,444	0.3	2.4	-	-	-	-	-	-	-	-	-	-	2.5	Dec-24
NCREIF ODCE			*1.1*	-	-	-	-	-	-	-	-	-	-	*2.2*	
BPC Real Estate Debt Fund LP	13,608,167	0.2	5.1	-	-	-	-	-	-	-	-	-	-	5.1	Mar-25
NCREIF-ODCE			*1.1*	-	-	-	-	-	-	-	-	-	-	*1.1*	
Private Real Assets	**255,367,070**	**4.1**	**1.1**	**0.6**	**-1.5**	**1.6**	**8.1**	**9.0**	**-6.4**	**7.9**	**31.3**	**12.1**	**4.4**	**10.8**	**Mar-11**
			1.1	*0.6*	*-1.5*	*1.6*	*8.1*	*9.0*	*-6.4*	*7.9*	*31.3*	*12.1*	*4.4*	*10.4*	
Private Equity	**327,005,580**	**5.3**	**2.4**	**6.3**	**8.8**	**6.0**	**12.8**	**10.4**	**11.9**	**-0.6**	**23.0**	**41.7**	**-10.5**	**10.9**	**Sep-10**
			2.4	*6.3*	*8.8*	*6.0*	*12.8*	*10.4*	*11.9*	*-0.6*	*23.0*	*41.7*	*-10.5*	*10.8*	
Private Credit	**409,298,492**	**6.6**	**4.6**	**8.9**	**13.4**	**8.8**	**5.7**	**-**	**13.2**	**3.2**	**1.2**	**4.8**	**5.5**	**8.0**	**Jan-16**
			4.6	*8.9*	*13.4*	*8.8*	*5.7*	-	*13.2*	*3.2*	*1.2*	*4.8*	*5.5*	*8.0*	
Opportunistic	**162,396,353**	**2.6**	**3.6**	**13.8**	**14.0**	**2.0**	**14.5**	**-**	**2.9**	**0.6**	**-5.4**	**59.9**	**-**	**9.8**	**Jan-20**
Assumed Rate of Return +3%			*2.4*	*7.4*	*10.0*	*10.0*	*10.0*	-	*10.0*	*10.0*	*10.0*	*10.0*	-	*10.0*	
River Birch International	4,069,367	0.1	-5.6	27.7	38.4	-	-	-	31.0	45.1	-	-	-	42.7	Jun-22
Assumed Rate of Return +3%			*2.4*	*7.4*	*10.0*	-	-	-	*10.0*	*10.0*	-	-	-	*10.0*	
Sixth Street TAO Partners (D)	87,543,401	1.4	2.3	6.5	8.1	8.3	13.6	-	11.3	4.4	9.6	39.6	-	13.6	Mar-20
Assumed Rate of Return +3%			*2.4*	*7.4*	*10.0*	*10.0*	*10.0*	-	*10.0*	*10.0*	*10.0*	*10.0*	-	*10.0*	
Aristeia Select Opportunities II	55,479,201	0.9	7.3	27.0	21.2	2.3	-	-	-9.7	-7.2	-	-	-	3.0	Jul-21
Assumed Rate of Return +3%			*2.4*	*7.4*	*10.0*	*10.0*	-	-	*10.0*	*10.0*	*10.0*	-	-	*10.0*	
Hudson Bay Special Opportunities Fund LP	3,990,684	0.1	-9.3	44.7	70.7	-	-	-	-	-	-	-	-	61.7	Feb-24
Assumed Rate of Return +3%			*2.4*	*7.4*	*10.0*	-	-	-	-	-	-	-	-	*10.0*	
Pharo Opportunities Fund SPC	11,313,700	0.2	6.2	13.1	-	-	-	-	-	-	-	-	-	13.1	Jun-24
Assumed Rate of Return +3%			*2.4*	*7.4*	-	-	-	-	-	-	-	-	-	*7.5*	
Cash	**220,887,245**	**3.6**	**1.1**	**4.0**	**5.4**	**4.1**	**2.5**	**2.4**	**6.3**	**2.2**	**-0.2**	**0.1**	**1.0**	**1.9**	**Apr-11**
3 Month T-Bill			*1.0*	*3.6*	*5.0*	*4.2*	*2.6*	*1.9*	*5.4*	*3.6*	*0.2*	*0.1*	*1.6*	*1.3*	

Policy Index: 33% MSCI ACWI IMI (Net), 27% Fixed Income Blend - 19% Core (12% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index, 4% Bloomberg US Corporate Credit 1-3 Year Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index. 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 6% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns, 6% actual time-weighted Private Credit Returns*, 4% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill. Fixed Income Beta Exposure return includes overlay cash and an implied hurdle rate also applied to the Alpha pool.*

Vintage Year	Manager/Fund	Estimated Market Value as of 3/31/25	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Net IRR Since Inception[3]	IRR Date
			IRR Analysis as of IRR date									
Private Equity												
2008	Abbott Capital PE VI	$11,870,892	$50,000,000	$49,750,000	100%	$250,000	$83,815,491	$13,242,893	*1.68x*	*1.92x*	*12.4%*	09/30/24
2006	Pantheon Global III	$535,597	$50,000,000	$47,300,000	95%	$2,700,000	$52,000,000	$537,225	*1.10x*	*1.11x*	*1.9%*	09/30/24
2002	Pantheon USA V	$30,817	$25,000,000	$24,350,000	97%	$650,000	$38,291,224	$30,817	*1.57x*	*1.57x*	*9.0%*	12/31/24
2004	Pantheon USA VI	$311,635	$35,000,000	$33,075,000	95%	$1,925,000	$50,623,827	$311,850	*1.53x*	*1.54x*	*6.7%*	12/31/24
2006	Pantheon USA VII	$2,976,583	$50,000,000	$46,600,000	93%	$3,400,000	$83,279,998	$4,226,046	*1.79x*	*1.85x*	*10.0%*	12/31/24
2020	Vista Foundation Fund IV	$23,562,861	$25,000,000	$20,952,742	84%	$4,047,258	$30,252	$23,562,861	*0.00x*	*1.13x*	*2.4%*	03/31/25
2021	Crown Global Secondaries V Master S.C.Sp	$44,118,333	$50,000,000	$32,250,000	65%	$17,750,000	$1,550,000	$44,118,333	*0.05x*	*1.42x*	*17.6%*	03/31/25
2021	Brighton Park Capital Fund I	$41,606,915	$30,000,000	$30,000,000	100%	$0	$4,640,003	$41,606,915	*0.15x*	*1.54x*	*13.6%*	03/31/25
2021	Warren Equity Partners Fund III	$38,295,352	$32,500,000	$29,121,375	90%	$3,378,625	$564,621	$38,295,352	*0.02x*	*1.33x*	*11.5%*	03/31/25
2021	Peak Rock Capital Fund III	$27,491,235	$30,000,000	$23,476,166	78%	$6,523,834	$6,867,487	$24,024,213	*0.29x*	*1.46x*	*28.8%*	12/31/24
2021	Level Equity Growth Partners V	$12,527,584	$15,000,000	$10,691,904	71%	$4,308,096	$0	$12,527,584	*0.00x*	*1.17x*	*9.6%*	03/31/25
2021	Level Equity Opportunities Fund 2021	$10,310,633	$15,000,000	$8,710,322	58%	$6,289,678	$0	$10,310,633	*0.00x*	*1.18x*	*14.4%*	03/31/25
2022	Linden Capital Partners V LP	$16,734,531	$22,500,000	$14,493,417	64%	$8,006,583	$0	$16,734,531	*0.00x*	*1.15x*	*14.7%*	03/31/25
2022	Rubicon Technology Partners IV LP	$14,930,468	$30,000,000	$14,481,332	48%	$15,518,668	$0	$11,171,108	*0.00x*	*1.03x*	*2.0%*	12/31/24
2022	OrbiMed Private Investments IX, LP	$4,199,424	$10,000,000	$3,899,201	39%	$6,100,799	$765,338	$4,199,424	*0.20x*	*1.27x*	*22.7%*	03/31/25
2022	Brighton Park Capital Fund II	$11,812,393	$30,000,000	$14,626,198	49%	$15,373,802	$3,722,467	$11,812,393	*0.25x*	*1.06x*	*0.3%*	03/31/25
2022	Linden Co-Investment V LP	$7,073,911	$7,500,000	$9,054,807	121%	-$1,554,807	$55,503	$7,073,911	*0.01x*	*0.79x*	*22.3%*	03/31/25
2022	Warren Equity Partners Fund IV	$23,418,809	$32,500,000	$14,821,090	46%	$17,678,910	$0	$23,418,809	*0.00x*	*1.58x*	*15.4%*	03/31/25
2023	WEP Co-Invest IV	$9,693,935	$10,000,000	$9,757,415	98%	$242,585	$173,170	$9,693,935	*0.02x*	*1.01x*	*0.0%*	03/31/25
2023	Crown Global Secondaries Fund VI	$4,430,264	$30,000,000	$3,150,000	11%	$26,850,000	$0	$4,430,264	*0.00x*	*1.41x*	*72.4%*	03/31/25
2023	Parthenon Investors VII	$3,226,583	$30,000,000	$3,604,963	12%	$26,395,037	$250,000	N/A	N/A	N/A	*N/A*	N/A
2024	Longreach Capital Partners	$3,318,576	$15,000,000	$4,320,870	29%	$10,679,130	$421,772	$3,318,576	*0.10x*	*0.87x*	*10.3%*	03/31/25
2024	Blue Owl Strategic Equity	$10,311,905	$25,000,000	$6,888,386	28%	$18,111,614	$0	N/A	N/A	N/A	*N/A*	N/A
2025	WEP IV TreeCo Co-Invest	$3,866,955	$5,000,000	$3,866,955	77%	$1,133,045	$0	N/A	N/A	N/A	*N/A*	N/A
2025	Accel-KKR Capital Partners VII	$349,389	$25,000,000	$349,389	1%	$24,650,611	$0	N/A	N/A	N/A	*N/A*	N/A
2025	Level Equity Growth Partners VI	$0	$15,000,000	$0	0%	$15,000,000	$0	N/A	N/A	N/A	*N/A*	N/A
2025	Level Equity Opportunities Fund 2025	$0	$15,000,000	$0	0%	$15,000,000	$0	N/A	N/A	N/A	*N/A*	N/A
2025	Linden Capital Partners VI	$0	$30,000,000	$0	0%	$30,000,000	$0	N/A	N/A	N/A	*N/A*	N/A
	Total Private Equity	**$327,005,580**	$740,000,000	$459,591,533	62%	$280,408,467	$327,051,154	$304,647,673	*0.71x*	*1.42x*		
	% of Portfolio (Market Value)	***5.3%***										

[1](DPI) is equal to (capital returned / capital called)

[2](TVPI) is equal to (market value + capital returned) / capital called

[3]Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

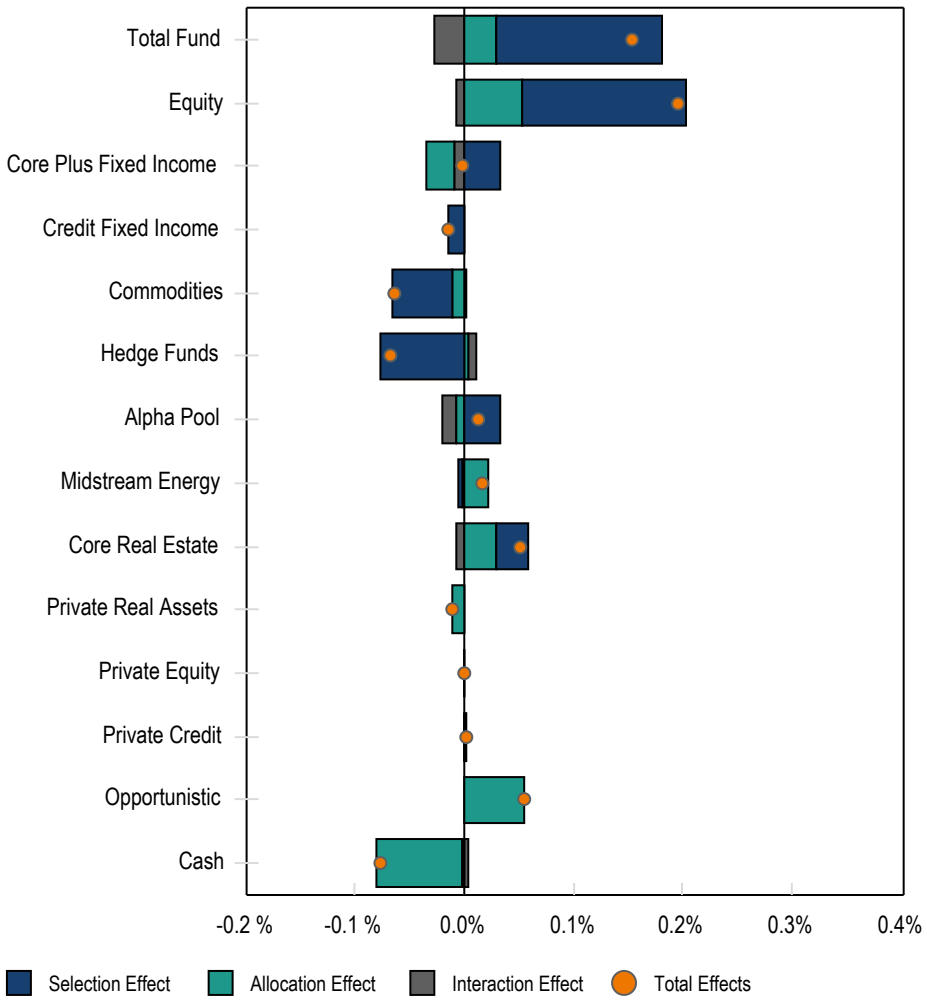
Vintage Year	Manager/Fund	Estimated Market Value 3/31/2025	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Net IRR Since Inception[3]	IRR Date
			IRR Analysis as of IRR date									
Private Credit												
2015	DC Value Recovery Fund IV[4]	$15,400,945	$74,360,749	$73,340,099	99%	$1,020,650	$44,343,375	N/A	*0.60x*	*0.81x*	*N/A*	*N/A*
2017	Sixth Street TAO Partners (B)	$53,630,984	$108,035,958	$94,076,786	87%	$13,959,172	$48,567,799	$51,532,926	*0.52x*	*1.09x*	*9.7%*	12/31/24
2017	Brookfield Real Estate Finance Fund V	$6,556,474	$50,000,000	$39,198,138	78%	$10,801,862	$38,733,516	$6,556,474	*0.99x*	*1.16x*	*3.7%*	3/31/25
2018	Magnetar Constellation Fund V	$13,406,397	$60,000,000	$56,445,318	94%	$3,554,682	$55,688,265	$13,406,397	*0.99x*	*1.22x*	*4.8%*	3/31/25
2019	H.I.G Bayside Loan Opportunity Fund V	$39,282,302	$60,000,000	$35,821,497	60%	$24,178,503	$27,521,616	$39,109,609	*0.77x*	*1.86x*	*15.6%*	12/31/24
2020	Blue Torch Credit Opportunities Fund II	$13,178,986	$20,000,000	$17,296,007	86%	$2,703,993	$8,935,024	$13,128,979	*0.52x*	*1.28x*	*10.6%*	12/31/24
2020	Fortress Credit Opportunites Fund V Expansion	$32,268,388	$40,000,000	$32,853,973	82%	$7,146,027	$4,677,582	$32,688,224	*0.14x*	*1.12x*	*24.1%*	12/31/24
2021	Fortress Lending Fund II	$17,646,988	$40,000,000	$34,937,851	87%	$5,062,149	$23,361,918	$17,646,988	*0.67x*	*1.17x*	*8.7%*	3/31/25
2022	Blue Torch Credit Opportunities Fund III	$33,856,667	$40,000,000	$40,000,000	100%	$0	$14,514,052	$32,937,484	*0.36x*	*1.21x*	*17.6%*	12/31/24
2022	Fortress Lending Fund III	$33,965,567	$40,000,000	$26,507,904	66%	$13,492,096	$7,835,848	$33,965,567	*0.30x*	*1.58x*	*11.6%*	3/31/25
2022	OrbiMed Royalty & Credit Opportunities IV	$14,130,229	$30,000,000	$13,483,980	45%	$16,516,020	$4,594,099	$14,130,229	*0.34x*	*1.39x*	*13.9%*	3/31/25
2023	Cerberus Business Finance V	$22,636,092	$30,000,000	$22,055,642	74%	$7,944,358	$3,860,174	$21,800,753	*0.18x*	*1.20x*	*19.7%*	12/31/24
2023	Silver Point – Specialty Credit Fund III	$11,904,882	$30,000,000	$19,431,701	65%	$10,568,299	$10,113,570	$12,631,180	*0.52x*	*1.13x*	*15.0%*	3/31/25
2023	Ares Pathfinder II	$9,330,977	$30,000,000	$8,346,537	28%	$21,653,463	$0	$6,225,143	*0.00x*	*1.12x*	*22.7%*	12/31/24
2023	Oak Hill Advisors Structured Products Fund III, L.P.	$17,488,491	$25,000,000	$16,098,626	64%	$8,901,374	$1,127,312	$17,488,491	*0.07x*	*1.16x*	*17.9%*	3/31/25
2023	Ares Senior Direct Lending III	$6,521,691	$30,000,000	$6,342,761	21%	$23,657,239	$292,201	N/A	*N/A*	*N/A*	*N/A*	N/A
2024	ITE Rail Fund, L.P.	$40,466,490	$40,000,000	$34,296,307	86%	$5,703,693	$999,444	$0	*2.9%*	*120.9%*	*N/A*	N/A
2024	HPS Special Situations Opportunity Fund II, L.P.	$9,026,498	$25,000,000	$8,385,898	66%	$16,614,102	$0	$0	*N/A*	*N/A*	*N/A*	N/A
2024	Castlelake Aviation V Stable Yield	$2,068,850	$30,000,000	$2,380,358	8%	$27,619,642	$409,975	N/A	*0.17x*	*1.04x*	N/A	N/A
2025	Fortress Credit Opportunities Fund VI	$10,452,368	$25,000,000	$0	0%	$25,000,000	$0	N/A	*N/A*	*N/A*	N/A	N/A
2025	Quantum Capital Solutions II	$5,097,635	$39,600,000	$908,130	2%	$38,691,870	$0	N/A	*N/A*	*N/A*	N/A	N/A
2025	Quantum Capital Solutions II Co-Investment Fund, LP	$980,593	$7,900,000	$153,342	2%	$7,746,658	$0	N/A	*N/A*	*N/A*	N/A	N/A
2025	OrbiMed Royalty & Credit Opportunities V	$0	$30,000,000	$0	0%	$30,000,000	$0	N/A	*N/A*	*N/A*	N/A	N/A
	Total Private Credit	**$409,298,492**	$904,896,707	$582,360,853	64%	$193,477,684	$295,575,771	$313,248,443	*0.51x*	*1.21x*		
	% of Portfolio (Market Value)	***6.6%***										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.
[4]Name changed from Colony Distressed Credit fund to DC Value Recovery Fund IV

Vintage Year	Manager/Fund	Estimated Market Value 3/31/2025	Total Commitment	Capital Called	% Called	Remaining Commitment	Capital Returned	Market Value as of IRR date	Distrib./ Paid-In (DPI)[1]	Tot. Value/ Paid-In (TVPI)[2]	Net IRR Since Inception[3]	IRR Date
			IRR Analysis as of IRR date									
Private Real Assets												
2014	Invesco Real Estate Value-Add Fund IV	$139,646	$50,000,000	$43,637,717	87%	$6,362,283	$56,824,750	$157,969	*1.30x*	*1.31x*	*11.6%*	06/30/24
2017	Landmark Real Estate Partners VIII	$31,359,396	$60,000,000	$46,233,098	77%	$13,766,902	$26,951,123	$33,636,579	*0.58x*	*1.26x*	*10.4%*	09/30/24
2018	Long Wharf Real Estate Partners VI	$32,951,932	$50,000,000	$50,000,000	100%	$0	$24,777,007	$32,906,084	*0.50x*	*1.15x*	*11.9%*	12/31/24
2020	Covenant Apartment Fund X	$26,131,968	$30,000,000	$25,507,333	85%	$4,492,667	$9,961,400	$26,131,968	*0.39x*	*1.42x*	*9.3%*	03/31/25
2021	Singerman Real Estate Opportunity Fund IV	$18,703,195	$35,000,000	$19,740,000	56%	$15,260,000	$5,074,955	$18,703,195	*0.26x*	*1.20x*	*9.1%*	03/31/25
2022	LBA Logistics Value Fund IX, L.P.	$24,765,049	$40,000,000	$20,615,384	52%	$19,384,616	$0	$24,765,049	*0.00x*	*1.20x*	*-3.0%*	03/31/25
2022	Covenant Apartment Fund XI	$29,176,282	$30,000,000	$20,850,000	70%	$38,076,924	$552,390	$29,176,282	*0.03x*	*1.43x*	*4.3%*	03/31/25
2022	KSL Capital Partners VI	$8,743,101	$30,000,000	$11,105,257	37%	$18,894,743	$489,911	$8,283,177	*0.04x*	*0.83x*	*-21.9%*	12/31/24
2023	Merit Hill V	$19,423,646	$30,000,000	$25,932,173	86%	$4,067,827	$7,084,980	$9,610,459	*0.27x*	*1.02x*	*2.0%*	12/31/24
2024	Juniper Capital IV, L.P.	$5,394,886	$30,000,000	$5,115,008	17%	$24,884,992	$59,700	$4,431,671	*0.01x*	*1.07x*	*10.1%*	12/31/24
2024	Juniper High Noon Partners, L.P.	$4,247,953	$5,000,000	$3,309,091	66%	$1,690,909	$0	$3,313,080	*0.00x*	*1.28x*	*46.1%*	12/31/24
2024	Landmark Real Estate Partners IX	$9,143,147	$40,000,000	$9,743,987	24%	$30,256,013	$0	N/A	*0.00x*	*0.94x*	*N/A*	N/A
2024	LRAF Holdings 21 Project Yeti II	$13,625,263	$25,000,000	$16,186,912	65%	$8,813,089	$1,552,632	N/A	*0.10x*	*0.94x*	*N/A*	N/A
2024	Post Oak Energy Partners GP V, LP	$30,661,607	$40,000,000	$30,661,607	77%	$9,338,393	$0	N/A	N/A	N/A	*N/A*	N/A
2025	Covenant Apartment Fund XII	$900,000	$30,000,000	$900,000	3%	$29,100,000	$0	N/A	N/A	N/A	*N/A*	N/A
2025	Sculptor Real Estate V	$0	$50,000,000	$0	0%	$50,000,000	$0	N/A	N/A	N/A	*N/A*	N/A
2025	SRE Opportunity Fund V	$0	$30,000,000	$0	0%	$30,000,000	$0	N/A	N/A	N/A	*N/A*	N/A
	Total Private Real Assets	**$255,367,070**	$605,000,000	$329,537,567	54%	$304,389,357	$133,328,848	$191,115,513	*0.40x*	*1.18x*		
	% of Portfolio (Market Value)	***4.1%***										

[1](DPI) is equal to (capital returned / capital called)
[2](TVPI) is equal to (market value + capital returned) / capital called
[3]Net IRR is calculated on the cash flows of all the limited partners of the fund and is net of all fees. Each IRR is provided by the Fund manager and is reflective of the Fund IRR, rather than KCERA's specific IRR.

Attribution Effects
Last Three Months



Performance Attribution

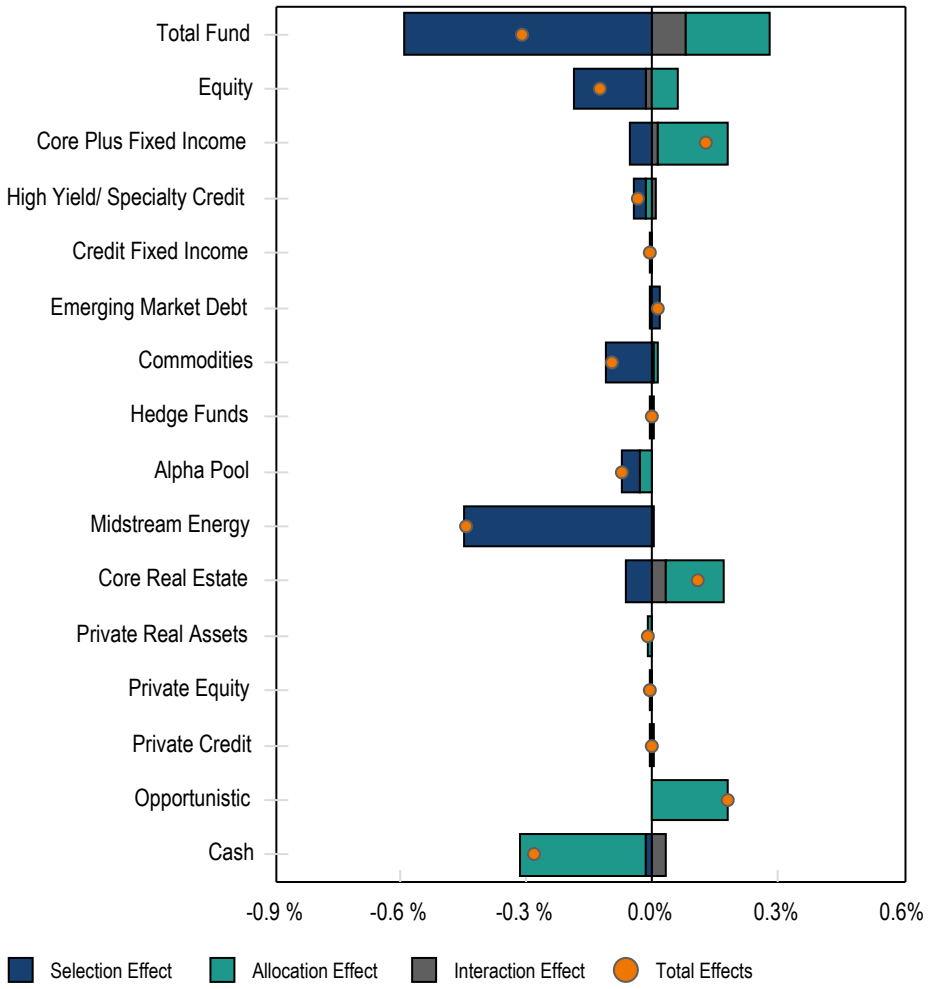
	Last Three Months
Wtd. Actual Return	1.6
Wtd. Index Return	1.5
Excess Return	**0.2**
Selection Effect	0.2
Allocation Effect	0.0
Interaction Effect	0.0

Attribution Summary
Last Three Months

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	-1.1	-1.6	0.5	0.2	0.1	0.0	0.2
Core Plus Fixed Income	2.9	2.7	0.2	0.0	0.0	0.0	0.0
Credit Fixed Income	1.9	2.1	-0.2	0.0	0.0	0.0	0.0
Commodities	7.4	8.9	-1.4	-0.1	0.0	0.0	-0.1
Hedge Funds	0.2	1.0	-0.8	-0.1	0.0	0.0	-0.1
Alpha Pool	2.6	1.8	0.9	0.0	0.0	0.0	0.0
Midstream Energy	6.3	6.3	-0.1	0.0	0.0	0.0	0.0
Core Real Estate	1.5	1.1	0.5	0.0	0.0	0.0	0.1
Private Real Assets	1.1	1.1	0.0	0.0	0.0	0.0	0.0
Private Equity	2.4	2.4	0.0	0.0	0.0	0.0	0.0
Private Credit	4.6	4.6	0.0	0.0	0.0	0.0	0.0
Opportunistic	3.6	2.4	1.2	0.0	0.1	0.0	0.1
Cash	1.1	1.0	0.0	0.0	-0.1	0.0	-0.1
Total Fund	**1.6**	**1.5**	**0.2**	**0.2**	**0.0**	**0.0**	**0.2**

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

Attribution Effects Fiscal YTD



Performance Attribution

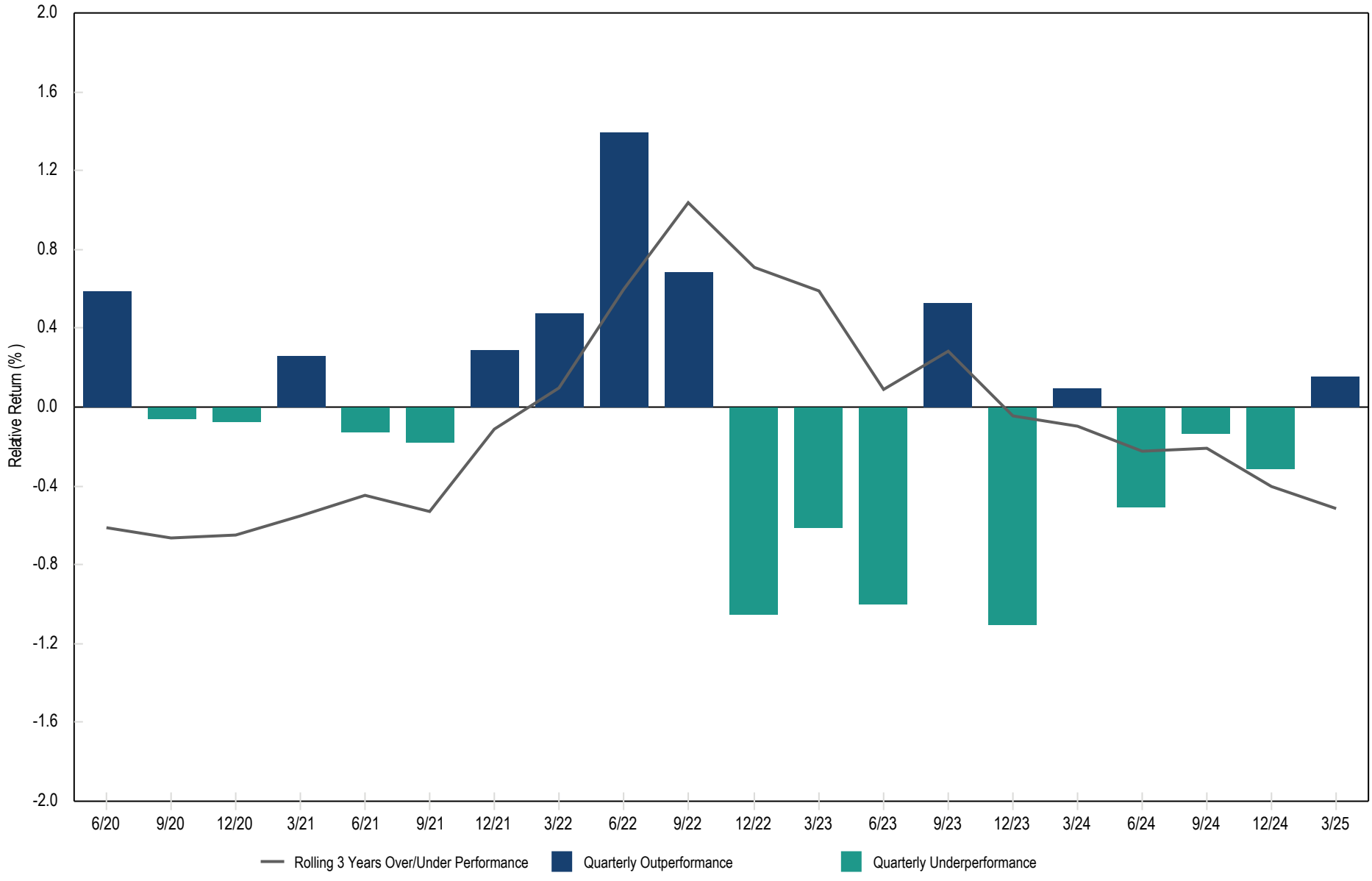
	Fiscal YTD
Wtd. Actual Return	6.0
Wtd. Index Return	6.4
Excess Return	**-0.3**
Selection Effect	-0.6
Allocation Effect	0.2
Interaction Effect	0.1

Attribution Summary FYTD

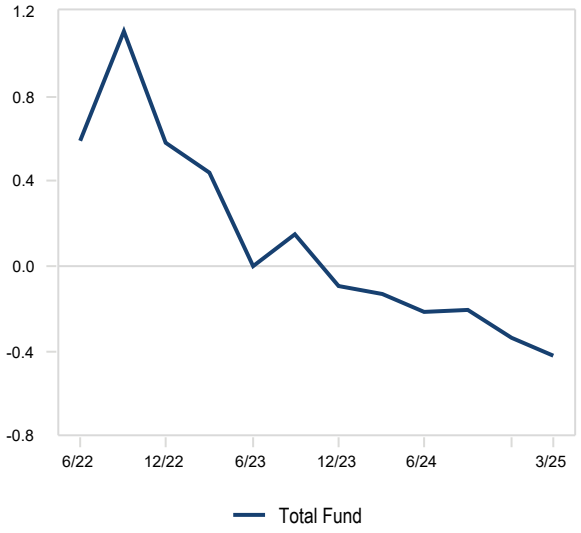
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Equity	3.3	3.8	-0.5	-0.1	0.1	0.0	-0.1
Core Plus Fixed Income	4.3	4.6	-0.3	0.0	0.2	0.0	0.1
High Yield/ Specialty Credit	4.3	4.7	-0.4	0.0	0.0	0.0	0.0
Credit Fixed Income	2.0	2.0	0.0	0.0	0.0	0.0	0.0
Emerging Market Debt	4.7	4.2	0.5	0.0	0.0	0.0	0.0
Commodities	6.4	9.1	-2.7	-0.1	0.0	0.0	-0.1
Hedge Funds	5.5	5.5	-0.1	0.0	0.0	0.0	0.0
Alpha Pool	4.9	5.9	-1.1	0.0	0.0	0.0	-0.1
Midstream Energy	22.1	32.4	-10.2	-0.4	0.0	0.0	-0.4
Core Real Estate	1.7	2.5	-0.8	0.0	0.1	0.0	0.1
Private Real Assets	0.6	0.6	0.0	0.0	0.0	0.0	0.0
Private Equity	6.3	6.3	0.0	0.0	0.0	0.0	0.0
Private Credit	8.9	8.9	-0.1	0.0	0.0	0.0	0.0
Opportunistic	13.8	7.4	6.4	0.0	0.2	0.0	0.2
Cash	4.0	3.6	0.3	0.0	-0.3	0.0	-0.3
Total Fund	**6.0**	**6.4**	**-0.3**	**-0.6**	**0.2**	**0.1**	**-0.3**

Weighted returns shown in attribution analysis may differ from actual returns. Negative cash allocation unable to be shown in Attribution Summary table. Wtd. Index Returns calculated from benchmark returns and weightings of each component. Selection Effect includes Other Effect in the Performance Attribution table.

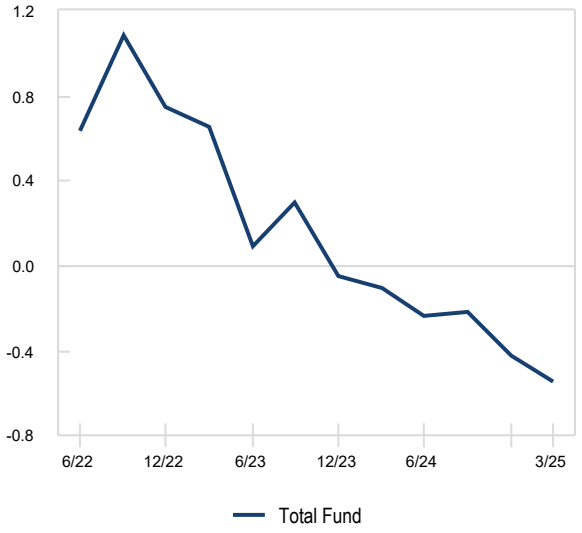
Rolling 3 Year Annualized Excess Performance



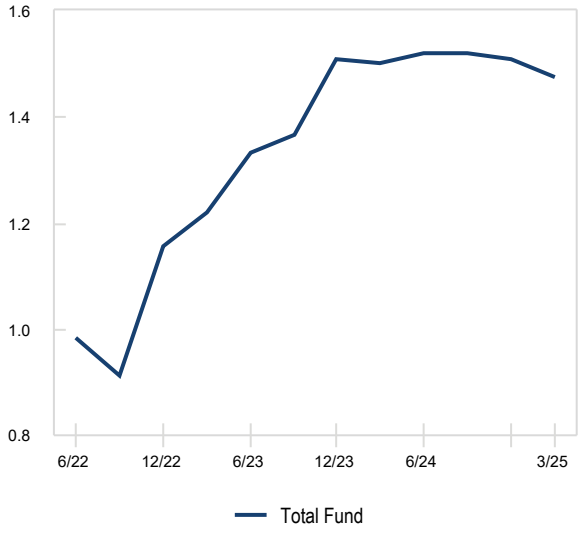
Rolling Information Ratio



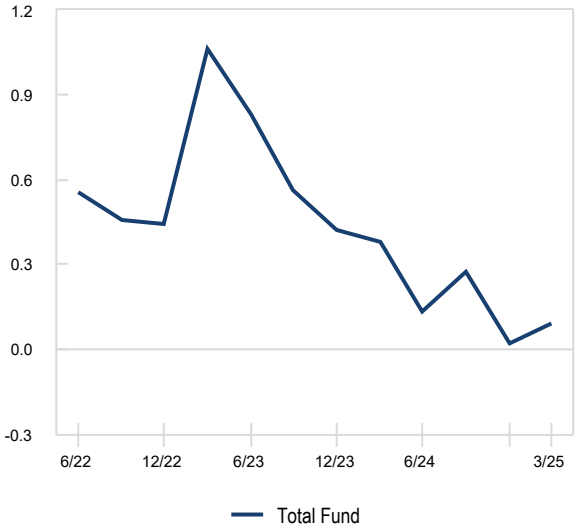
Rolling Annual Excess Benchmark Return



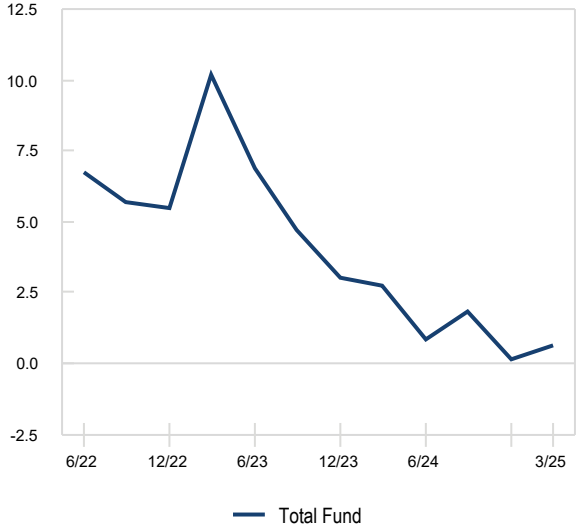
Rolling Tracking Error



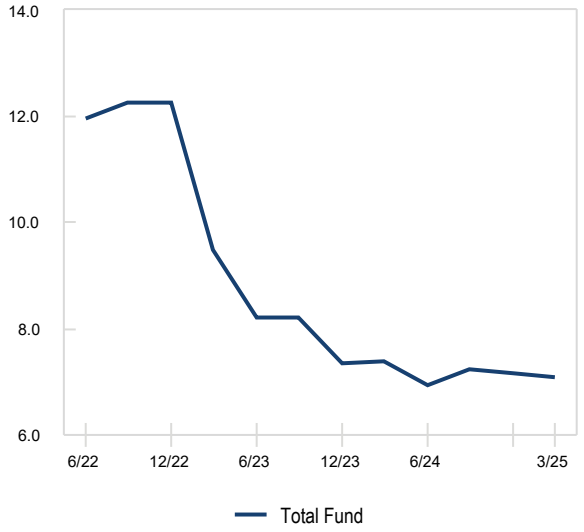
Rolling Sharpe Ratio



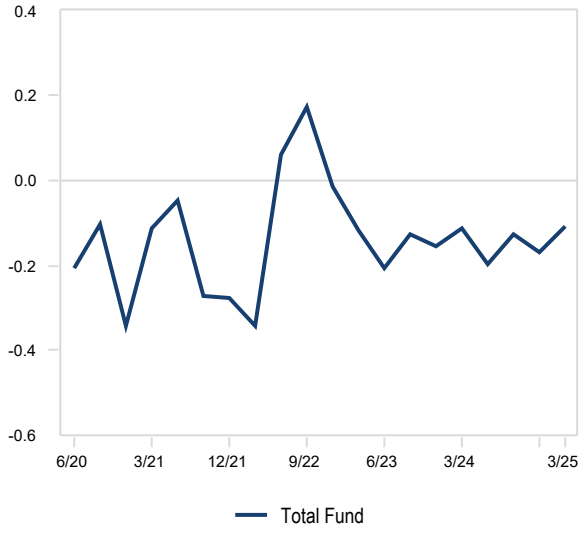
Rolling Annual Excess Risk Free Return



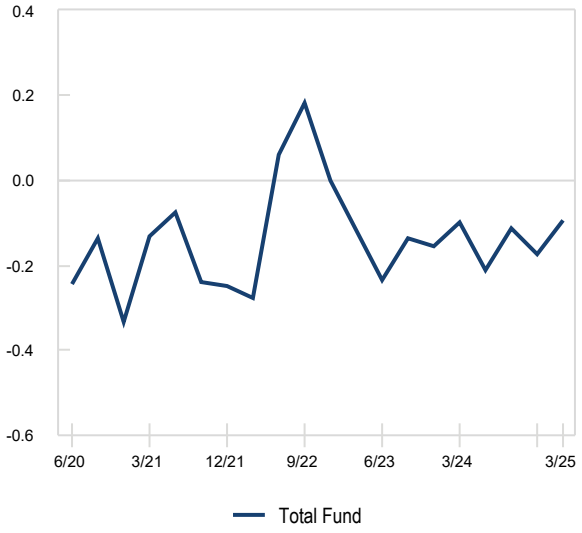
Rolling Annualized Standard Deviation



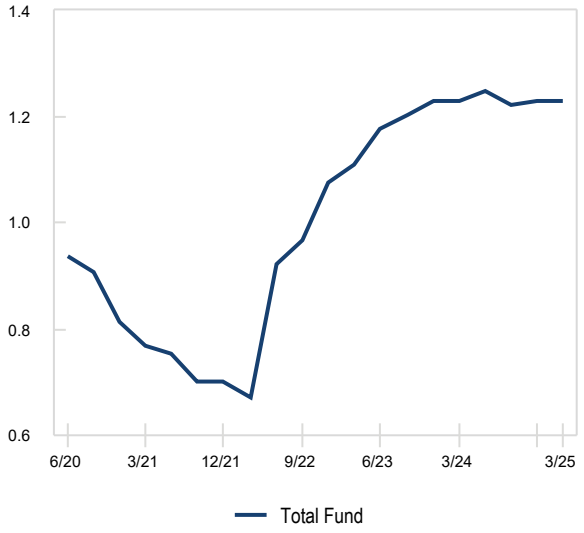
Rolling Information Ratio



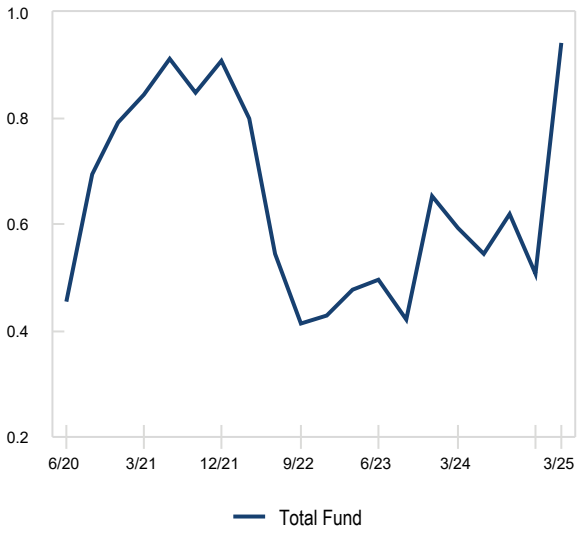
Rolling Annual Excess Benchmark Return



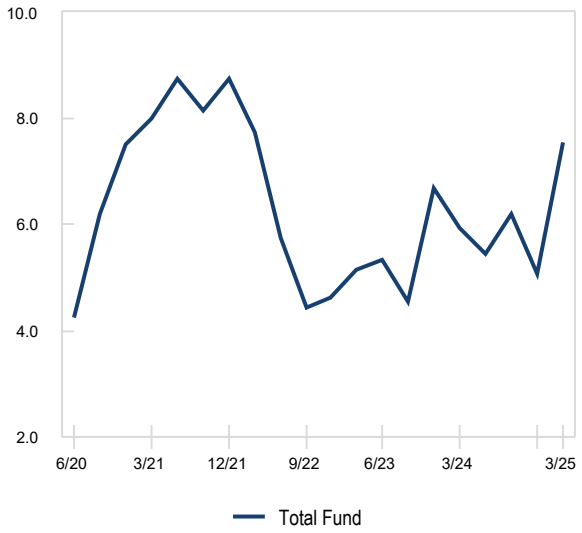
Rolling Tracking Error



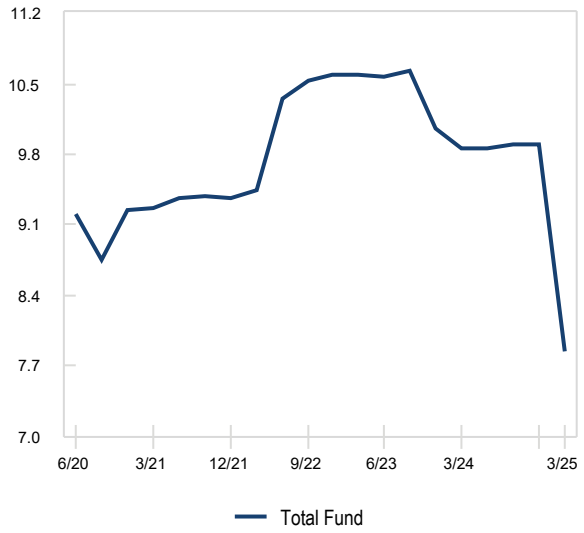
Rolling Sharpe Ratio



Rolling Annual Excess Risk Free Return



Rolling Annualized Standard Deviation



Cash Flows

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Equity	**1,978,632,564**	**3,028**		**140,001**		**-23,364,941**	**1,955,410,651**
Mellon DB SL Stock Index Fund	723,798,486				50,000,000	-34,470,765	739,327,721
PIMCO StocksPLUS	158,301,271					-6,501,513	151,799,758
AB US Small Cap Value Equity	127,181,585				-30,000,000	-8,809,229	88,372,355
Geneva Capital Small Cap Growth	68,934,109	3,028			30,000,000	-9,320,438	89,616,699
Mellon DB SL World ex-US Index Fund	377,941,699				-60,000,000	22,988,792	340,930,491
Cevian Capital II	50,271,585					658,852	50,930,437
Lazard Japanese Equity	138,325,372					2,454,685	140,780,057
American Century Non-US Small Cap	63,099,815					-393,359	62,706,456
Dalton Japan Long Only	59,025,797			140,001	10,000,000	3,274,375	72,440,173
DFA Emerging Markets Value I	54,296,557					1,727,490	56,024,047
Mellon Emerging Markets Stock Index Fund	20,451,262					633,830	21,085,092
Carrhae Capital Long Master Fund Ltd	68,818,788					4,179,461	72,998,249
ABS Emerging Market Direct	68,184,398					212,883	68,397,281
Transition Equity	1,839					-4	1,836
Fixed Income	**1,272,695,298**	**97,008**	**-24,740,289**	**-47,992**	**143,438,088**	**36,055,617**	**1,427,497,729**
Fixed Income Beta Exposure	180,127,563	95,906	-24,737,742		-239,000	6,382,086	161,628,813
Mellon DB SL Aggregate Bond Index Fund	389,250,916				-30,000,000	10,291,575	369,542,491
PIMCO Core Plus	174,770,946					5,900,135	180,671,081
Aristotle Short Duration Bond Strategy					180,000,000	3,166,478	183,166,478
TCW Securitized Opportunities	92,361,809			-47,992	-2,229,588	2,630,294	92,714,524
KKR US Broadly Syndicated Loan Fund	182,172,337				-3,427,025	84,760	178,830,072
Stone Harbor Emerging Markets Debt Blend Portfolio	39,642,520				-575,773	1,309,798	40,376,544
PIMCO EMD	213,276,214					6,272,546	219,548,760
Transition Fixed Income	230,202	407	-2,547			9,251	237,313
Commodities	**241,938,079**					**18,454,442**	**260,392,521**
Wellington Commodities	241,938,079					18,454,442	260,392,521
Hedge Funds	**585,804,102**				**15,355,580**	**1,334,172**	**602,493,854**
Aristeia International Limited	76,610,185					2,052,227	78,662,412
Brevan Howard Fund	59,815,203					-3,378,918	56,436,285
D.E. Shaw Composite Fund	65,349,931					2,198,207	67,548,138
HBK Fund II	52,303,952					1,356,487	53,660,439
Hudson Bay Cap Structure Arbitrage Enhanced Fund	82,811,320					1,996,055	84,807,375

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Indus Pacific Opportunities Fund	50,554,997					1,608,565	52,163,562
Pharo Macro Fund	76,312,118					1,232,940	77,545,058
PIMCO Commodity Alpha Fund	84,568,132					-6,045,949	78,522,183
Sculptor Master Fund	30,837,906					207,137	31,045,043
Elliott Associates	6,640,358				15,355,580	107,422	22,103,360
Alpha Pool	**161,285,470**				**-9,761,000**	**3,991,179**	**155,515,649**
Hudson Bay - Alpha Pool	47,705,509				-9,940,874	849,714	38,614,349
Davidson Kempner Institutional Partners	53,010,688				84,895	1,650,616	54,746,199
HBK Fund II	19,404,617				30,417	472,836	19,907,870
Garda Fixed Income Relative Value Opportunity Fund	41,164,656				64,562	1,018,013	42,247,231
Midstream Energy	**339,446,600**				**-39,605,268**	**21,811,097**	**321,652,429**
Harvest Midstream	183,474,373				-7,332,659	13,531,305	189,673,019
PIMCO Midstream	155,972,227				-32,272,609	8,279,792	131,979,410
Core Real Estate	**312,014,910**			**-235,244**	**33,359,167**	**5,203,501**	**350,342,334**
ASB Allegiance Real Estate Fund	119,153,853				-2,099,152	1,179,570	118,234,271
JPMCB Strategic Property Fund	104,467,147			-235,244	-4,866,311	1,035,217	100,400,809
Blue Owl Real Estate Fund VI	28,293,185				-389,326	1,854,179	29,758,038
Sculptor Diversified REIT	48,831,515				-853,136	459,522	48,437,900
Hudson Bay Real Estate Opportunities					21,298,678	232,026	21,530,704
TPG AG Essential Housing III	11,269,210				6,750,000	353,234	18,372,444
BPC Real Estate Debt Fund LP					13,518,414	89,754	13,608,167
Private Real Assets	**211,732,870**				**41,327,069**	**2,307,131**	**255,367,070**
Invesco Real Estate Value-Add Fund IV	146,880					-7,234	139,646
Landmark Real Estate Partners VIII	32,569,977				-578,884	-631,698	31,359,396
Long Wharf Real Estate	32,906,084					45,848	32,951,932
Covenant Apartment Fund X	26,226,642				-101,220	6,546	26,131,968
Singerman Real Estate Opportunity Fund IV	21,560,358				-1,968,750	-888,413	18,703,195
LBA Logistics Value Fund IX, L.P.	22,457,656				2,153,846	153,547	24,765,049
Covenant Apartment Fund XI, LP	27,381,516				1,006,572	788,194	29,176,282
KSL Capital Partners VI	8,283,177				108,066	351,859	8,743,101
Merit Hill Self-Storage V, LP.	9,610,459				8,402,412	1,410,775	19,423,646
Juniper Capital IV, L.P	4,431,671					963,215	5,394,886

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Landmark Real Estate Partners IX	8,954,510					188,637	9,143,147
Juniper High Noon Partners, L.P	3,313,080					934,873	4,247,953
LRAF Holdings 21 Yeti II LP	13,890,859				743,421	-1,009,017	13,625,263
Post Oak Energy Partners GP V, LP					30,661,607		30,661,607
Covenant Apartment Fund XII					900,000		900,000
Private Equity	**304,023,110**				**15,810,632**	**7,171,838**	**327,005,580**
Abbott VI	11,870,892						11,870,892
Pantheon Secondary III	535,597						535,597
Pantheon V	30,817						30,817
Pantheon VI	311,850					-215	311,635
Pantheon VII	4,226,046				-500,000	-749,463	2,976,583
Vista Foundation Fund IV	22,309,624				982,448	270,789	23,562,861
Crown Global Secondaries V Master S.C.Sp	42,910,264					1,208,069	44,118,333
Crown Global Secondaries VI Master S.C.Sp	4,173,538					256,726	4,430,264
Brighton Park Capital Fund I	42,681,438				-2,285,489	1,210,966	41,606,915
Warren Equity Partners Fund III	38,195,667					99,685	38,295,352
Peak Rock Capital Fund III	24,024,213				2,354,687	1,112,335	27,491,235
Level Equity Growth Partners V	12,722,143					-194,559	12,527,584
Level Equity Opportunities Fund 2021	10,355,377					-44,744	10,310,633
Linden Capital Partners V LP	17,210,053					-475,522	16,734,531
Rubicon Technology Partners IV L.P.	11,171,108				3,205,246	554,114	14,930,468
OrbiMed Private Investments IX, LP	2,869,017				650,000	680,407	4,199,424
Brighton Park Capital Fund II, L.P	9,381,533				1,441,220	989,640	11,812,393
Linden Co-Investment V LP	6,938,103					135,808	7,073,911
Warren Equity Partners Fund IV	21,002,030				477,973	1,938,806	23,418,809
WEP IV TS Co-Investment, L.P.	9,008,981				714,711	-29,757	9,693,935
Parthenon Investors VII	3,438,509				-250,000	38,074	3,226,583
Longreach Capital Partners	3,564,130				-421,738	176,184	3,318,576
Blue Owl Strategic Equity Partners	5,092,178				5,225,230	-5,503	10,311,905
WEP TreeCo Co-Investment, L.P.					3,866,955		3,866,955
Accel-KKR Capital Partners VII					349,389		349,389
Private Credit	**384,142,642**				**7,506,303**	**17,649,547**	**409,298,492**
DC Value Recovery Fund IV	16,849,614					-1,448,669	15,400,945
Sixth Street TAO Partners (B)	51,532,926				112,758	1,985,300	53,630,984

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Brookfield Real Estate Finance Fund V	9,535,253				-2,314,337	-664,442	6,556,474
Magnetar Constellation Fund V	16,062,395				-2,905,570	249,572	13,406,397
H.I.G. Bayside Loan Opportunity Fund V	39,109,609				-1,272,792	1,445,485	39,282,302
Blue Torch Credit Opportunities Fund II	13,128,979				-123,548	173,555	13,178,986
Fortress Credit Opportunites Fund V Expansion	32,688,224				-1,111,681	691,845	32,268,388
Fortress Lending Fund II	19,119,636				-2,148,242	675,594	17,646,988
Blue Torch Credit Opportunities Fund III	32,937,484				-492,027	1,411,210	33,856,667
Fortress Lending Fund III	30,456,234				2,509,261	1,000,072	33,965,567
OrbiMed Royalty & Credit Opportunities IV	12,426,680				1,005,217	698,332	14,130,229
Cerberus Business Finance V	21,800,753					835,339	22,636,092
Silver Point Specialty Credit Fund III, L.P.	10,327,519				1,415,838	161,525	11,904,882
Ares Pathfinder II	6,225,143				2,904,453	201,381	9,330,977
Oak Hill Advisors Structured Products Fund III, L.P.	16,257,113				1,178,215	53,163	17,488,491
ITE Rail Fund, L.P	26,239,548				5,226,879	9,000,063	40,466,490
Ares Senior Direct Lending Fund III LP	5,256,014				1,059,765	205,912	6,521,691
HPS Special Situations Opportunity Fund II, L.P.	7,098,738				1,774,832	152,928	9,026,498
Castlelake Aviation V Stable Yield, L.P.	2,454,442				-374,188	-11,404	2,068,850
Fortress Credit Opportunites Fund VI Expansion	9,714,808					737,560	10,452,368
Quantum Capital Solutions II	4,228,950				908,130	-39,445	5,097,635
Quantum Capital Solutions II Co-Investment Fund, LP	692,581				153,342	134,670	980,593
Opportunistic	**161,176,482**				**-4,577,681**	**5,797,552**	**162,396,353**
Sixth Street TAO Partners (D)	88,931,843				-3,461,970	2,073,528	87,543,401
Aristeia Select Opportunities II	51,690,805					3,788,396	55,479,201
River Birch International - Opportunistic Investment	4,930,140				-597,367	-263,406	4,069,367
Hudson Bay Special Opportunities Fund LP	4,968,994				-518,344	-459,966	3,990,684
Pharo Opportunities Fund SPC	10,654,700					659,000	11,313,700
Cash	**423,609,591**	**410,913**	**-3,089,276**	**-6,451**	**-202,852,890**	**2,373,006**	**220,887,245**
Short Term Investment Funds	255,823,945	410,913	-3,089,276	-6,451	-192,852,890	627,351	61,355,944
BlackRock Short Duration Fund	167,785,646				-10,000,000	1,745,655	159,531,301

	Estimated Beginning Market Value	Contributions	Withdrawals	Fees	Net Transfers	Net Investment Change	Estimated Ending Market Value
Other	**-271,953,496**	**59,002,150**	**-44,025,517**			**250,758**	**-256,726,104**
Parametric Cash Overlay	16,920,143	19,309,893	-13,832,330				22,397,706
Goldman Sachs Cash Account	3,892,997	14,165,181	-20,255,499				-2,197,320
Futures Offset	-297,313,637	25,527,075	-9,060,688			250,758	-280,596,491
Collateral Cash	4,547,000		-877,000				3,670,000

Portfolio Reconciliation

	3 Mo	Fiscal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Beginning Market Value	6,104,548,221	5,838,506,052	5,769,420,481	5,489,310,251	3,953,802,126	3,583,702,330
Contributions	692,393,065	3,247,097,267	3,588,148,166	8,801,826,391	15,497,320,762	21,818,449,132
Withdrawals	-704,735,049	-3,251,465,458	-3,598,618,294	-8,903,060,092	-15,723,981,774	-22,412,163,965
Fees	-149,686	-1,232,865	-1,730,571	-6,724,779	-38,899,222	-121,076,869
Net Cash Flows	-12,341,983	-4,368,191	-10,470,128	-101,233,701	-226,661,011	-593,714,832
Net Investment Change	99,327,567	357,395,944	432,583,451	803,457,254	2,464,392,690	3,201,546,306
Ending Market Value	6,191,533,804	6,191,533,804	6,191,533,804	6,191,533,804	6,191,533,804	6,191,533,804
Net Change $	86,985,583	353,027,753	422,113,323	702,223,553	2,237,731,679	2,607,831,474

Contribution and withdrawals include transfers in and out of accounts. Ending market value is net of fees. Market value and flows do not include the Short Term Cash Account balance.

Risk Metrics

Correlation Matrix
3 Years Ending March 31, 2025

	A	B	C	D	E	F	G	H	I	J	K	L
A	1.00											
B	0.98	1.00										
C	0.94	0.97	1.00									
D	0.96	0.96	0.87	1.00								
E	0.76	0.77	0.62	0.79	1.00							
F	0.89	0.87	0.78	0.89	0.78	1.00						
G	0.80	0.79	0.71	0.81	0.71	0.98	1.00					
H	0.92	0.89	0.85	0.88	0.69	0.89	0.79	1.00				
I	0.88	0.87	0.76	0.91	0.88	0.93	0.86	0.83	1.00			
J	0.53	0.45	0.35	0.51	0.54	0.33	0.22	0.44	0.45	1.00		
K	0.36	0.34	0.37	0.29	0.12	0.20	0.11	0.39	0.22	0.24	1.00	
L	-0.29	-0.35	-0.32	-0.33	-0.35	-0.36	-0.33	-0.33	-0.38	-0.23	-0.21	1.00

A	=	Total Fund
B	=	Equity
C	=	Domestic Equity
D	=	International Developed Equity
E	=	Emerging Markets Equity
F	=	Fixed Income
G	=	Core Fixed Income
H	=	High Yield/ Specialty Credit
I	=	Emerging Market Debt
J	=	Commodities
K	=	Hedge Funds
L	=	Core Real Estate

- Low Interaction
- Moderate Interation
- Moderate to High Interation
- High Interaction

	Alpha	Beta	R-Squared	Return	Information Ratio	Excess Performance	Tracking Error	Sharpe Ratio	Excess Return	Standard Deviation	Sortino Ratio	Up Capture	Down Capture
Total Fund	0.2	0.8	1.0	4.6	-0.4	-0.5	1.7	0.1	0.7	7.8	0.1	85.3	83.8
Equity	-0.2	1.0	1.0	5.9	-0.3	-0.4	1.3	0.2	2.9	15.9	0.3	97.8	99.1
Domestic Equity	-0.8	1.0	1.0	7.4	-0.8	-0.8	1.0	0.3	4.6	17.6	0.4	98.0	100.8
International Developed Equity	0.4	1.0	1.0	5.3	0.1	0.3	1.8	0.1	2.3	16.0	0.2	98.3	97.1
Emerging Markets Equity	1.1	0.9	1.0	2.5	0.4	1.0	2.2	0.0	-0.4	16.0	0.0	98.0	93.3
Fixed Income	-0.2	1.0	1.0	1.5	-0.3	-0.2	0.7	-0.3	-2.4	7.4	-0.4	98.4	100.6
Core Fixed Income	-0.4	1.0	1.0	0.1	-1.0	-0.4	0.4	-0.5	-3.8	7.4	-0.6	97.2	101.3
High Yield/ Specialty Credit	0.4	0.7	0.9	4.1	-0.3	-0.8	2.7	0.0	0.1	6.4	0.0	74.9	70.0
Emerging Market Debt	0.8	1.0	1.0	4.0	1.1	0.9	0.8	0.0	0.3	10.3	0.0	103.7	97.5
Commodities	2.2	0.8	0.9	1.6	0.5	2.4	4.8	-0.2	-1.9	11.0	-0.2	76.7	63.0
Hedge Funds	6.3	0.1	0.1	7.5	-0.2	-0.8	4.0	1.7	3.1	1.8	3.3	45.9	-81.3
Alpha Pool	1.5	0.0	0.0	1.3	-3.3	-7.1	2.1	-1.4	-2.8	2.0	-1.5	16.3	-
Midstream Energy	2.5	0.9	0.9	19.8	-0.1	0.0	4.6	0.9	15.4	16.6	1.5	86.9	73.1
Core Real Estate	-5.3	1.0	0.7	-9.5	-1.6	-5.2	3.4	-2.0	-13.8	6.7	-1.8	13.5	147.8
Private Real Assets	0.0	1.0	1.0	1.6	-	0.0	0.0	-0.6	-2.5	4.3	-0.7	100.0	100.0
Private Equity	0.0	1.0	1.0	5.9	-0.6	0.0	0.0	0.4	1.7	4.6	0.6	100.0	100.2
Private Credit	0.0	1.0	1.0	8.7	-1.2	0.0	0.0	1.0	4.4	4.5	3.1	99.7	100.0
Opportunistic	-	-	-	2.0	-0.7	-8.0	9.6	-0.2	-1.7	9.6	-0.3	25.5	-

Risk Return Statistics: Last Three Years

	3 Years													
	Equity	MSCI AC World IMI (Net)	Core Plus Fixed Income	Bloomberg U.S. Aggregate Index	High Yield/ Specialty Credit	ICE BofA U.S. High Yield Index	Emerging Market Debt	50 JPM EMBI Global Div/ 50 JPM GBI EM Global Div	Commodities	Bloomberg Commodity Index Total Return	Hedge Funds	75% 3 Month T-Bill +4% / 25% MSCI ACWI (net)	Core Real Estate	NCREIF ODCE-monthly
RETURN SUMMARY STATISTICS														
Up Market Periods	21	21	18	18	23	23	21	21	20	20	23	23	29	29
Down Market Periods	15	15	18	18	13	13	15	15	16	16	13	13	7	7
Maximum Return	8.39	9.24	4.23	4.53	4.80	6.02	7.56	7.35	6.99	6.26	1.46	2.89	3.19	4.77
Minimum Return	-9.42	-9.65	-4.27	-4.32	-5.04	-6.81	-5.99	-5.81	-8.90	-10.77	-0.74	-1.96	-6.33	-4.97
Return	5.93	6.31	0.07	0.52	4.08	4.84	3.95	3.09	1.63	-0.77	7.47	8.29	-9.47	-4.28
Excess Return	2.88	3.31	-3.81	-3.35	0.06	0.92	0.25	-0.61	-1.93	-4.14	3.09	3.92	-13.83	-8.35
Excess Performance	-0.38	0.00	-0.45	0.00	-0.76	0.00	0.86	0.00	2.40	0.00	-0.81	0.00	-5.19	0.00
RISK SUMMARY STATISTICS														
Beta	0.97	1.00	0.98	1.00	0.75	1.00	1.03	1.00	0.82	1.00	0.14	1.00	1.01	1.00
Upside Risk	12.07	12.36	5.33	5.52	5.04	6.35	7.73	7.43	7.60	7.80	2.72	4.32	2.12	2.92
Downside Risk	10.47	10.71	5.19	5.17	4.15	5.48	6.86	6.72	7.95	9.66	0.49	1.95	6.90	4.99
RISK/RETURN SUMMARY STATISTICS														
Standard Deviation	15.85	16.22	7.44	7.56	6.41	8.26	10.26	9.97	10.98	12.42	1.81	4.13	6.65	5.65
Alpha	-0.24	0.00	-0.44	0.00	0.41	0.00	0.78	0.00	2.24	0.00	6.31	0.00	-5.30	0.00
Sharpe Ratio	0.18	0.21	-0.52	-0.45	0.01	0.11	0.03	-0.06	-0.18	-0.33	1.69	0.98	-2.01	-1.43
Excess Risk	15.73	16.09	7.33	7.45	6.27	8.13	10.10	9.81	10.88	12.39	1.83	3.98	6.88	5.85
Tracking Error	1.27	0.00	0.44	0.00	2.67	0.00	0.80	0.00	4.80	0.00	3.95	0.00	3.43	0.00
Information Ratio	-0.33	-	-1.03	-	-0.32	-	1.09	-	0.46	-	-0.21	-	-1.60	-
CORRELATION STATISTICS														
R-Squared	0.99	1.00	1.00	1.00	0.93	1.00	0.99	1.00	0.85	1.00	0.10	1.00	0.73	1.00
Actual Correlation	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	0.92	1.00	0.32	1.00	0.86	1.00

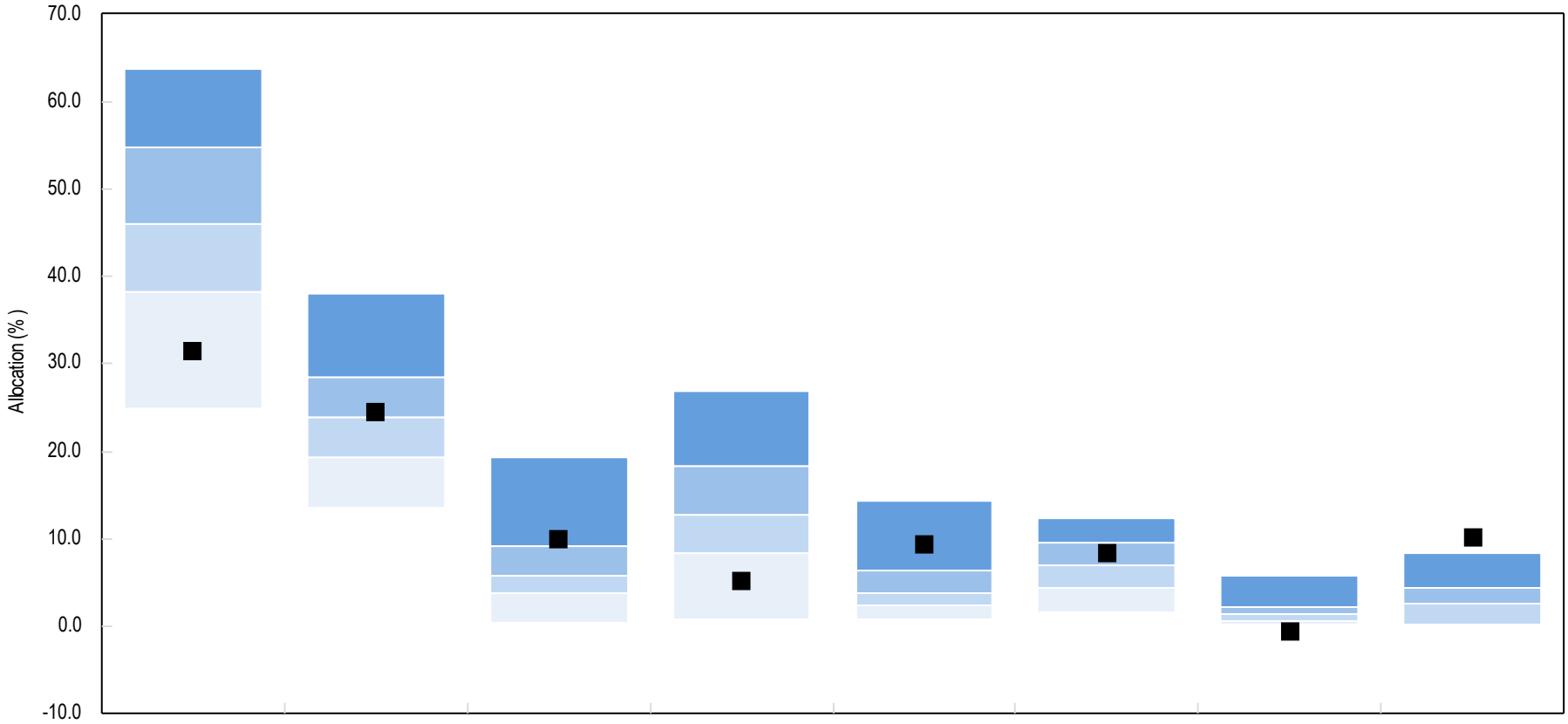
Risk Return Statistics: Last Two Years

	Midstream Energy	Alerian Midstream Energy Index	Opportunistic	Assumed Rate of Return +3%
		2 Yrs		
RETURN SUMMARY STATISTICS				
Up Market Periods	17	17	24	24
Down Market Periods	7	7	0	0
Maximum Return	12.72	14.38	10.18	0.80
Minimum Return	-5.47	-6.10	-6.31	0.80
Return	27.79	31.87	8.81	10.00
Excess Return	20.48	24.00	3.94	4.58
Excess Performance	-4.09	0.00	-1.19	0.00
RISK SUMMARY STATISTICS				
Beta	0.80	1.00	-	-
Upside Risk	13.33	15.61	8.65	2.76
Downside Risk	4.63	5.86	5.04	0.00
RISK/RETURN SUMMARY STATISTICS				
Standard Deviation	12.04	14.43	9.67	0.00
Alpha	2.37	0.00	-	-
Sharpe Ratio	1.70	1.66	0.41	28.24
Excess Risk	12.05	14.42	9.69	0.16
Tracking Error	4.59	0.00	9.67	0.00
Information Ratio	-0.77	-	-0.07	-
CORRELATION STATISTICS				
R-Squared	0.91	1.00	-	-
Actual Correlation	0.96	1.00	-	-

Data for unavailable for positions held for less than two years.

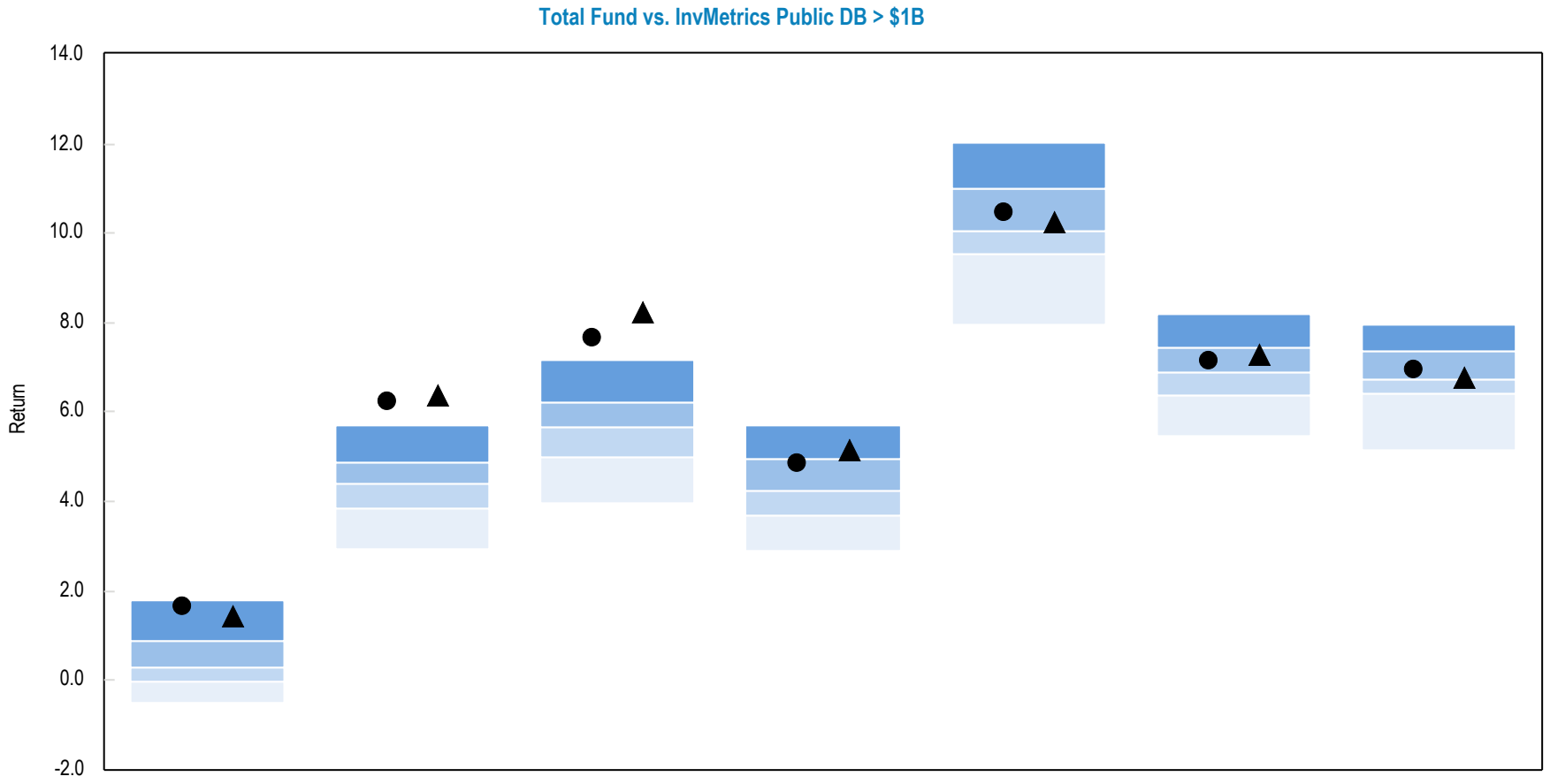
Peer Comparison

Total Plan Allocation vs. InvMetrics Public DB > $1B
As of March 31, 2025



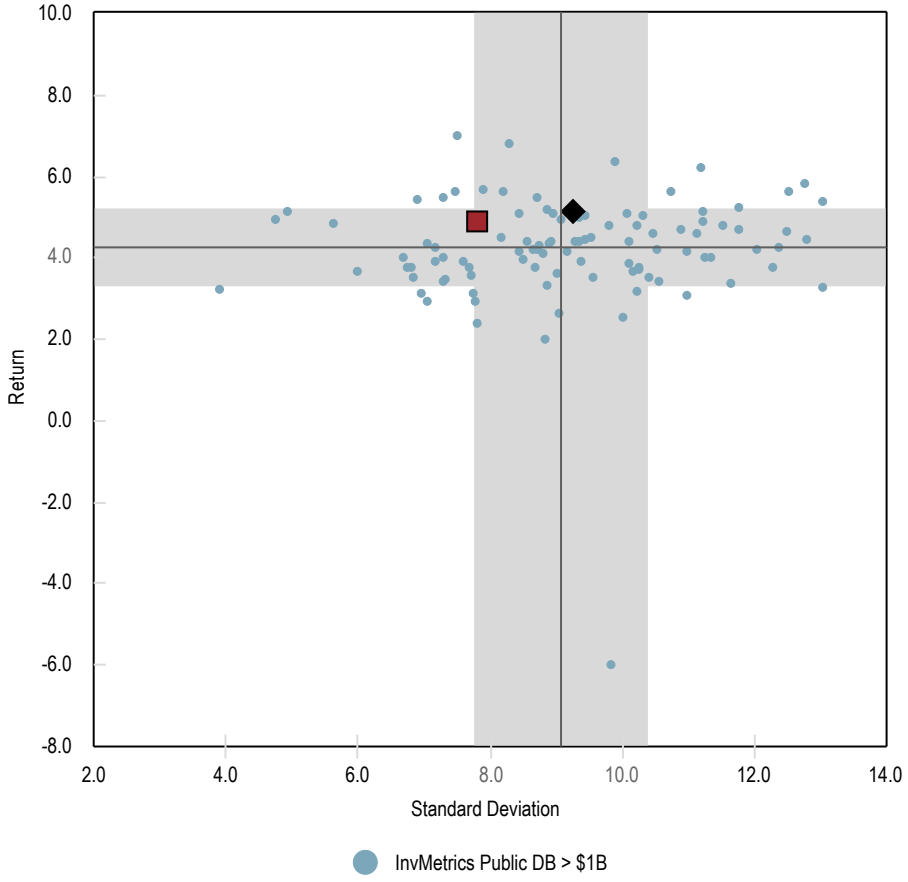
	Total Equity	Total Fixed Income	Hedge Funds	Private Equity	Real Assets/Commod	Real Estate - Private	Cash & Equivalents	Other
Total Fund	31.6 (92)	24.5 (48)	9.9 (22)	5.2 (85)	9.4 (14)	8.3 (35)	-0.6	10.1 (1)
5th Percentile	63.7	38.1	19.3	26.9	14.3	12.4	5.7	8.3
1st Quartile	54.9	28.5	9.1	18.3	6.3	9.6	2.3	4.4
Median	46.1	23.9	5.7	12.8	3.7	7.0	1.3	2.6
3rd Quartile	38.2	19.2	3.7	8.4	2.4	4.4	0.6	0.3
95th Percentile	24.9	13.6	0.5	0.8	0.7	1.6	0.2	0.0
Population	105	106	44	94	65	88	102	16

Parentheses contain percentile rankings. Other contains Alpha Pool, Opportunistic, and Private Credit. Real Estate contains Private and Core Real Estate. Real Assets contain Commodities and Midstream.



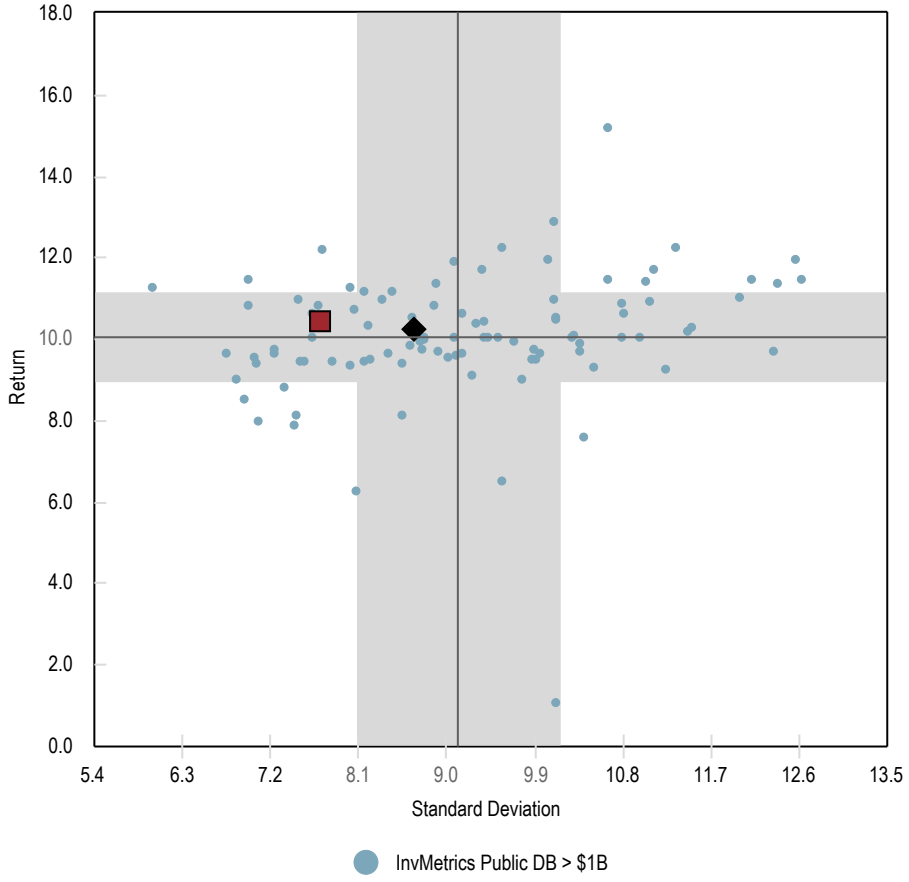
	Quarter	Fiscal YTD	1 Year	3 Years	5 Years	7 Years	10 Years
● Total Fund	1.7 (8)	6.3 (3)	7.7 (3)	4.9 (28)	10.5 (39)	7.2 (34)	7.0 (46)
▲ Policy Index	1.5 (11)	6.4 (3)	8.2 (2)	5.2 (17)	10.3 (43)	7.3 (30)	6.8 (49)
5th Percentile	1.8	5.7	7.2	5.7	12.0	8.2	8.0
1st Quartile	0.9	4.9	6.2	4.9	11.0	7.4	7.4
Median	0.3	4.4	5.7	4.3	10.0	6.9	6.7
3rd Quartile	0.0	3.8	5.0	3.7	9.5	6.4	6.4
95th Percentile	-0.5	2.9	3.9	2.9	8.0	5.5	5.2
Population	101	101	101	99	96	94	93

Annualized Return vs. Annualized Standard Deviation
3 Years Ending March 31, 2025



	Return	Standard Deviation
Total Fund	4.89	7.82
Policy Index	5.15	9.25
Median	4.25	9.08
Population	99	99

Annualized Return vs. Annualized Standard Deviation
5 Years Ending March 31, 2025



	Return	Standard Deviation
Total Fund	10.47	7.71
Policy Index	10.25	8.67
Median	10.05	9.12
Population	96	96

Other

	2025 Q1	2024 Q4	2024 Q3	2024 Q2	2024 Q1	2023 Q4	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3	2022 Q2
Total Fund	**1.6**	**-0.4**	**4.8**	**1.3**	**3.8**	**5.1**	**-0.8**	**1.9**	**3.2**	**4.5**	**-3.1**	**-7.5**
Policy Index	*1.5*	*-0.1*	*4.9*	*1.8*	*3.7*	*6.2*	*-1.4*	*2.9*	*3.8*	*5.5*	*-3.8*	*-8.9*

	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2	2020 Q1	2019 Q4	2019 Q3	2019 Q2
Total Fund	**-0.8**	**3.6**	**0.5**	**5.5**	**3.5**	**8.8**	**4.4**	**10.7**	**-11.3**	**4.6**	**0.2**	**3.1**
Policy Index	*-1.3*	*3.3*	*0.7*	*5.7*	*3.3*	*8.8*	*4.5*	*10.1*	*-11.1*	*4.6*	*0.8*	*3.0*

	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2	2017 Q1	2016 Q4	2016 Q3	2016 Q2
Total Fund	**6.8**	**-6.4**	**2.3**	**0.3**	**-0.1**	**3.0**	**3.2**	**2.7**	**4.2**	**0.8**	**3.5**	**1.9**
Policy Index	*7.0*	*-5.5*	*2.2*	*0.7*	*-0.1*	*3.2*	*3.1*	*2.8*	*3.5*	*0.5*	*2.9*	*2.2*

Performance Return Calculations

Performance is calculated using a Time Weighted Rates of Return (TWRR) methodology. Monthly returns are linked geometrically 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.

Manager Line Up

Investment Fund or Strategy	Fund Incepted	Data Source
AB US Small Cap Value Equity	7/7/2015	Northern Trust
Abbott Capital PE VI	3/31/2008	Abbott Capital
Accel-KKR Capital Partners VII	2/6/2025	Accel
ABS Emerging Market Direct	8/29/2024	ABS
American Century Non-US Small Cap	12/15/2020	American Century
Ares Pathfinder	10/1/2023	Ares
Aristeia International Limited	5/1/2014	Northern Trust
Aristotle Pacific Capital, LLC	1/6/2025	Aristotle
ASB Real Estate	9/30/2013	ASB
Barclays Capital Aggregate Rebalancing Overlay	6/15/2022	Parametric
BlackRock Short Duration Fund	9/8/2021	BlackRock
Blue Owl Real Estate Fund VI	3/18/2024	Blue Owl
Blue Owl Strategic Equity Partners	9/6/2024	Blue Owl
Blue Torch Credit Opportunities	7/24/2020	Blue Torch
BPC Real Estate Debt Fund LP	3/1/2025	BPC
Brevan Howard	11/1/2013	Northern Trust
Brighton Private Equity	3/28/2021	Brighton
Brighton Park Capital Fund II, L.P	9/30/2022	Brighton
Brookfield Real Estate Finance Fund V	12/18/2017	Northern Trust
Carrhae Capital Long Master Fund	8/1/2024	Carrhae
Castlelake Aviation V Stable Yield, L.P	10/24/2024	Castlelake
Cerberus Business Finance V	8/25/2023	Cerberus
Cevian Capital II	12/30/2014	Northern Trust
Covenant Apartment Fund X	10/29/2020	Covenant
Covenant Apartment Fund XII	3/1/2025	Covenant
Crown Global Secondaries V Master S.C.Sp	2/1/2021	Crown
Crown Global Secondaries Fund VI	2/1/2021	Crown
Dalton Japan Long Only	10/31/2023	Dalton
DC Value Recovery fund IV	12/28/2015	Colony
D.E. Shaw	6/30/2013	Northern Trust
DFA Emerging Markets Value I	3/7/2014	Northern Trust
Elliot Associates	7/1/2024	Elliott
Fortress Credit Opportunities	12/17/2020	Fortress
Fortress Lending Fund II	3/15/2021	Fortress
Fortress Credit Opportunities Fund VI Expansion	10/1/2024	Fortress
Garda Fixed Income Relative Value Opp	9/30/2021	Garda
Geneva Capital Small Cap Growth	7/22/2015	Geneva
Gresham MTAP Commodity	9/3/2013	Gresham
Harvest Midstream	9/28/2020	Harvest Midstream
HBK Fund II	11/1/2013	Northern Trust
Henderson Smallcap Growth	7/22/2015	Northern Trust
H.I.G Bayside Loan Opportunities Fund V	7/24/2019	H.I.G. Capital
Hudson Bay	6/7/2019	Northern Trust
Hudson Bay Real Estate Opportunities	1/23/2025	Hudson Bay
Hudson Bay Special Opportunities Fund	2/20/2024	Hudson Bay
Indus Pacific Opportunities	6/30/2014	Northern Trust
Invesco Real Estate III	6/30/2013	Invesco
Invesco Real Estate IV	12/18/2015	Invesco
ITE Rail Fund, L.P	2/27/224	ITE Rail
J.P. Morgan Strategic Property	7/2/2014	J.P. Morgan
Juniper High Noon Partners, L.P	3/18/2024	Juniper
Juniper Capital IV, L.P.	4/26/2023	Juniper
KKR US Broadly Syndicated Loan Fund	10/21/2024	Mellon
KSL Capital Partners VI	4/26/2023	KSL Capital
Landmark Real Estate Partners VIII	4/29/2018	Landmark
Landmark Real Estate Partners IX	4/1/2024	Landmark
Lazard Japanese Equity	11/1/2023	Lazard
LBA Logistics Value Fund IX, L.P.	2/22/2022	LBA
Level Equity Growth Partners V	11/1/2021	Level Equity
Level Equity Opportunities Fund 2021	11/1/2021	Level Equity
LGT Crown	2/1/2021	LGT
Linden Capital Partners V LP	7/19/2022	Linden
Linden Co-Investment V LP	6/30/2022	Linden
Longreach Capital Partners	5/28/2024	Long Reach
Long Wharf Real Estate	6/27/2019	Long Wharf
LRAF Holdings 21 Yeti II LP	12/6/2024	Long Wharf
Magnetar Constellation	11/14/2018	Magnetar
Mellon Aggregate Bond Index Fund	1/14/2011	Mellon
Mellon EB DV Stock Index	10/18/2017	Mellon
Mellon EB DV World ex-US Index	8/1/2018	Mellon
Merit Hill Self Storage	11/3/2023	Merit
Myriad Opportunities Offshore	5/19/2016	Northern Trust
Oak Hill Advisors	12/22/2023	Oak Hill
OrbiMed Private Investments IV, LP	11/4/2022	OrbiMed
OrbiMed Royalty & Credit Opportunities	9/12/2022	OrbiMed
Pantheon Global III	6/30/2000	Pantheon
Pantheon USA V	6/30/2005	Pantheon
Pantheon USA VI	3/31/2005	Pantheon
Pantheon USA VII	3/31/2005	Pantheon
Parametric Overlay/ Cap Efficiency Program	7/31/2020	Parametric
Peak Rock Capital Fund III	7/13/2021	Peak Rock
Pharo Opportunities Fund SPC	6/28/2024	Pharo
PIMCO Core Plus	1/21/2011	Northern Trust
PIMCO Commodity Alpha	5/4/2016	PIMCO
PIMCO EMD	2/29/2020	Northern Trust
PIMCO Midstream	10/9/2020	PIMCO
PIMCO StocksPLUS	7/14/2003	PIMCO
Post Oak Energy Partners GP V, LP	3/1/2025	Post
Fidelity Non-US Small Cap Equity	6/10/2008	Northern Trust
Quantum Capital Solutions II	11/1/2024	Quantum
Quantum Capital Solutions II Co-Investment Fund, LP	11/1/2024	Quantum
River Birch	8/3/2015	Northern Trust
Rubicon Technology Partners IV LP	11/30/2022	Rubicon
Silver Point Specialty Credit Fund III, L.P.	10/4/2023	Singerman
Singerman Real Estate Opportunity Fund IV	10/27/2021	Sculptor
Sculptor Diversified REIT	12/2/2024	Sculptor
Sculptor Enhanced Domestic Partners	3/26/2019	Northern Trust
Short Term Cash Account	12/31/2000	Northern Trust
Short Term Investment Funds	6/30/2000	Stone Harbor
Stone Harbor Emerging Markets Debt	8/8/2012	TPG Sixth Street
TAO Contingent	4/16/2020	TCW
TCW Securitized Opportunities	2/3/2016	Northern Trust
TPG AG Essential Housing III	11/1/2024	TPG Sixth Street
Transition Equity	9/30/2010	Northern Trust
Transition Fixed Income	9/30/2010	TPG Sixth Street
TSSP Adjacent Opportunities Partners	11/17/2017	Vista Equity
Vista Equity Partners	7/24/2020	Warren
Warren Equity III	4/1/2021	Warren
Warren Equity IV	1/1/2023	Wellington
Wellington Alternative Investments	2/9/2023	Wellington
WEP IV TS Co-Investment, L.P.	8/14/2023	Northern Trust
WEP TreeCo Co-Investment, L.P	2/7/2025	WEP
Western Asset Core Plus	5/31/2004	Northern Trust
Western Asset High Yield Fixed income	5/31/2005	Western Asset

Policy & Custom Index Composition	
Policy Index: 1/1/2025 - Present	33% MSCI ACWI IMI (Net), 27% Fixed Income Blend - 19% Core (12% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index, 4% Bloomberg US Corporate Credit 1-3 Year Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index. 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 6% NCREIF-ODCE Gross Monthly, 5% actual timeweighted Private Equity Returns*, 6% actual time-weighted Private Credit Returns*, 4% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill.
Policy Index: 11/1/2024 - 1/1/2025	Policy Index: 33% MSCI ACWI IMI (Net), 25% Fixed Income Blend - 17% Core (14% Bloomberg US Aggregate Index, 3% ICE BofAML 7-10 Year US Treasury Index). 8% Credit (1.5% Securitized (0.75% Bloomberg Non-Agency CMBS Index; 0.50% Bloomberg ABS Index; 0.25% J.P. Morgan CLOIE AAA Index) 2.5% Morningstar LSTA Leverage Loan Index, 4% Emerging Market Debt (2% JPM EMBI Global Div / 2% JPM GBI EM Global Div), 4% Bloomberg Commodity Index, 10% Hedge fund (7.5% 3-Month T-bill + 3%, 2.5% MSCI ACWI (Net)), 4% 3-Month T-Bill + 3%, 5% Alerian Midstream Energy Index, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 8% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -4% 3-Month T-bill.
Policy Index: 10/1/2023 - 11/1/2024	33% MSCI ACWI IMI (Net), 15% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +3%, 2.5% MSCI ACWI (Net), 8% 90 Day T-Bill + 3%, 5% Alerian Midstream Energy Index, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 8% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 0% Assumed Rate of Return +3%, -8% 90 Day T-bill.
Policy Index: 4/1/2022-9/30/23	37% MSCI ACWI IMI (Net), 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets Global Diversified, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +4%, 2.5% MSCI ACWI (Net), 8% 91 Day T-Bill + 4%, 5% NCREIF-ODCE Gross Monthly, 5% actual time-weighted Private Equity Returns*, 5% actual time-weighted Private Credit Returns*, 5% actual time-weighted Private Real Estate Returns*, 5% Alerian Midstream, 0% Assumed Rate of Return +3%, -8% 3-Month T-bill.
Policy Index: 7/1/2021-4/1/2022	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 1/1/2021-6/30/2021	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 1% Bloomberg US Aggregate*, 4% Bloomberg US Aggregate, 5% Alerian Midstream, 5% 3-Month T-bill +400bps, 91 Day T-Bills, -5% 3-Month T-bill.
Policy Index: 7/1/2020-12/31/2020	37% MSCI ACWI IMI, 14% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 4% MSCI ACWI*, 5% Bloomberg US Aggregate, 1% Alerian Midstream, 4% Bloomberg US Aggregate
Policy Index: 4/1/2020-6/30/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 1% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 1/1/2020-3/31/2020	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 10/1/2019-12/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 7/1/2019-9/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 4% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 4/1/2019-6/30/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 1/1/2019-3/31/2019	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 3% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 5% Bloomberg US Aggregate*.
Policy Index: 10/1/2018-12/31/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 2% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 2% actual time-weighted Private Real Estate Returns*, 3% MSCI ACWI*, 6% Bloomberg US Aggregate*.
Policy Index: 7/1/2018-9/30/2018	37% MSCI ACWI IMI, 19% Bloomberg US Aggregate, 6% Ice BofA ML High Yield Master II Index, 2% JPM Emerging Markets Bond Index Global Diversified, 2% JPM Government Bond Index-Emerging Markets, 4% Bloomberg Commodity Index, 7.5% 3-Month T-bill +400bps, 2.5% MSCI ACWI, 5% NCREIF-ODCE, 3% actual time-weighted Private Equity Returns*, 2% actual time-weighted Private Credit Returns*, 1% actual time-weighted Private Real Estate Returns*, 2% MSCI ACWI*, 7% Bloomberg US Aggregate*.
Policy Index: 1/1/2017- 6/30/2018	19% Russell 3000 Index, 18% MSCI ACWI ex US, 29% Bloomberg US Aggregate, 10% NCREIF-ODCE, 4% Bloomberg Commodity Index, 7.5% 91-day T-bills + 400bps, 2.5% MSCI ACWI, 5% Russell 3000 Index + 300 bps, 5% ICE BofA ML High Yield + 200 bps.
Policy Index: 4/1/2014-12/31/2016	23% Russell 3000 Index, 29% Bloomberg US Aggregate, 22% MSCI ACWI ex US,
Other Disclosures	

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.

Disclosure

This report contains confidential and proprietary information and is subject to the terms and conditions of the Consulting Agreement. It is being provided for use solely by the customer. The report may not be sold or otherwise provided, in whole or in part, to any other person or entity without written permission from Verus Advisory, Inc., (hereinafter Verus) or as required by law or any regulatory authority. The information presented does not constitute a recommendation by Verus and cannot be used for advertising or sales promotion purposes. This does not constitute an offer or a solicitation of an offer to buy or sell securities, commodities or any other financial instruments or products.

The information presented has been prepared using data from third party sources that Verus believes to be reliable. While Verus exercised reasonable professional care in preparing the report, it cannot guarantee the accuracy of the information provided by third party sources. Therefore, Verus makes no representations or warranties as to the accuracy of the information presented. Verus takes no responsibility or liability (including damages) for any error, omission, or inaccuracy in the data supplied by any third party. Nothing contained herein is, or should be relied on as a promise, representation, or guarantee as to future performance or a particular outcome. Even with portfolio diversification, asset allocation, and a long-term approach, investing involves risk of loss that the investor should be prepared to bear.

The information presented may be deemed to contain forward-looking information. Examples of forward looking information include, but are not limited to, (a) projections of or statements regarding return on investment, future earnings, interest income, other income, growth prospects, capital structure and other financial terms, (b) statements of plans or objectives of management,(c) statements of future economic performance, and (d) statements of assumptions, such as economic conditions underlying other statements. Such forward-looking information can be identified by the use of forward looking terminology such as believes, expects, may, will, should, anticipates, or the negative of any of the foregoing or other variations thereon comparable terminology, or by discussion of strategy. No assurance can be given that the future results described by the forward-looking information will be achieved. Such statements are subject to risks, uncertainties, and other factors which could cause the actual results to differ materially from future results expressed or implied by such forward looking information. The findings, rankings, and opinions expressed herein are the intellectual property of Verus and are subject to change without notice. The information presented does not claim to be all-inclusive, nor does it contain all information that clients may desire for their purposes. The information presented should be read in conjunction with any other material provided by Verus, investment managers, and custodians.

Verus will make every reasonable effort to obtain and include accurate market values. However, if managers or custodians are unable to provide the reporting period's market values prior to the report issuance, Verus may use the last reported market value or make estimates based on the manager's stated or estimated returns and other information available at the time. These estimates may differ materially from the actual value. Hedge fund market values presented in this report are provided by the fund manager or custodian. Market values presented for private equity investments reflect the last reported NAV by the custodian or manager net of capital calls and distributions as of the end of the reporting period. These values are estimates and may differ materially from the investments actual value. Private equity managers report performance using an internal rate of return (IRR), which differs from the time-weighted rate of return (TWRR) calculation done by Verus. It is inappropriate to compare IRR and TWRR to each other. IRR figures reported in the illiquid alternative pages are provided by the respective managers, and Verus has not made any attempts to verify these returns. Until a partnership is liquidated (typically over 10-12 years), the IRR is only an interim estimated return. The actual IRR performance of any LP is not known until the final liquidation.

Net-of-Fees Returns mean gross-of-fees returns reduced by fees and expenses charged by third-party investment managers on the products of such managers held by client. Net-of-Fees Returns does not include a reduction of returns for Verus' investment management and consulting fees, or other expenses incurred by the asset owner, fund or plan.

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.