

Investment Performance Review
Period Ending June 30, 2023

Butler County Employees Retirement Plan



2nd Quarter 2023 Market Environment

The Economy

- Though the Atlanta Fed GDPNow model forecasted weak GDP growth in 2023 as the impact from higher interest rates continued to spread through the broader economy, the first quarter GDP final revision of 2% was markedly higher than the 1.3% first reported.
- The US Federal Reserve Bank (the Fed) continued to increase interest rates during the quarter with an additional 0.25% increase in the Fed Funds rate in May, followed by a pause in June. The Fed continues to prioritize fighting high inflation with the press release from the June meeting detailing the extent that additional policy firming (i.e., rate increases) will consider the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments.
- June brought some weakness in the US labor market as nonfarm payrolls increased by 209,000, below the expected 240,000 new jobs. This represented the slowest month for job creation since December 2020. Initial jobless also rose for the week ending July 1st.
- The global banking sector came under duress in the first quarter of 2023, triggered by the second and third-largest regional bank failures in US history. Fears of deterioration in the banking sector have waned, likely helped by aggressive intervention from the FDIC and Federal Reserve.

Equity (Domestic and International)

- US equities moved broadly higher during the second quarter led by growth-oriented sectors. The S&P 500 Benchmark rose 8.7% for the quarter, its best-performing quarter since Q4-2021. Large-cap growth was the best-performing domestic segment of the equity market during the period while small-cap value, while positive, was the weakest relative performer for the quarter.
- International stocks experienced modest returns during the quarter. Local currency (LCL) performance outpaced US Dollar (USD) performance in most regions though both benchmarks were positive as the USD traded higher during the quarter.
- Global GDP growth continues to face challenges despite falling energy prices. European growth remained under pressure amid hawkish central bank policies. While China has fully reopened after almost three years of COVID-19 restrictions, there have been challenges associated with the region re-integrating with the global economy.

Fixed Income

- While inflation continues to decline, the Fed maintained their inflation-fighting policy stance, increasing interest rates by 0.25% in May but opting to pause in June. The additional rate hike in May along with the possibility that additional rate hikes could occur in this tightening cycle, drove intermediate and long-term rates slightly higher during the quarter.
- US Government securities were the worst-performing sector during the quarter. US Treasuries lagged the corporate and securitized sectors as yields at longer maturities rose slightly and credit conditions were considered more favorable than the previous quarter.
- Corporate bonds with lower credit ratings held up better than higher quality issues, aided by narrowing credit spreads as well as their higher coupons. High-yield bonds were the best-performing segment of the domestic bond market, echoing the equity market's positive sentiment during the quarter.
- Global bonds underperformed US issues during the quarter and the trailing one-year period.

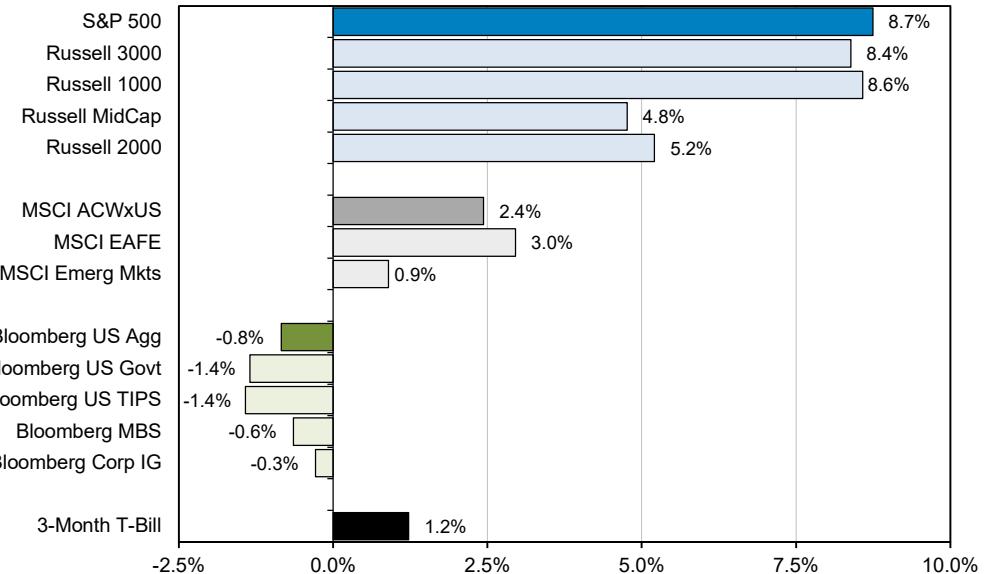
Market Themes

- Central banks remained vigilant in their fight against inflation with the Fed, the Bank of England, and the European Central foreshadowing the potential for further tightening with additional rate hikes in the coming months. GDP contraction in the Eurozone for the previous two quarters has been met with recovering asset prices in the most recent quarter as investors remain hopeful of future growth.
- The conflict in Ukraine continues without expectations of any resolution in the near future. Energy costs have subsided in recent months attributed to a mild winter in the Eurozone region and an increase in fossil fuel production in the US.
- Short-term interest rates rose across most developed markets as central banks continued to tighten policy stances. Despite previous concerns about the potential for slowing economic growth, lower-quality corporate bonds outpaced higher-quality government bonds as credit spreads narrowed.
- Both US and international equity markets continued to recover from the disappointing year that was 2022 on expectations that inflation would continue to moderate and central banks would slow the pace of their monetary tightening cycles. Growth has significantly outpaced value in the previous two quarters.

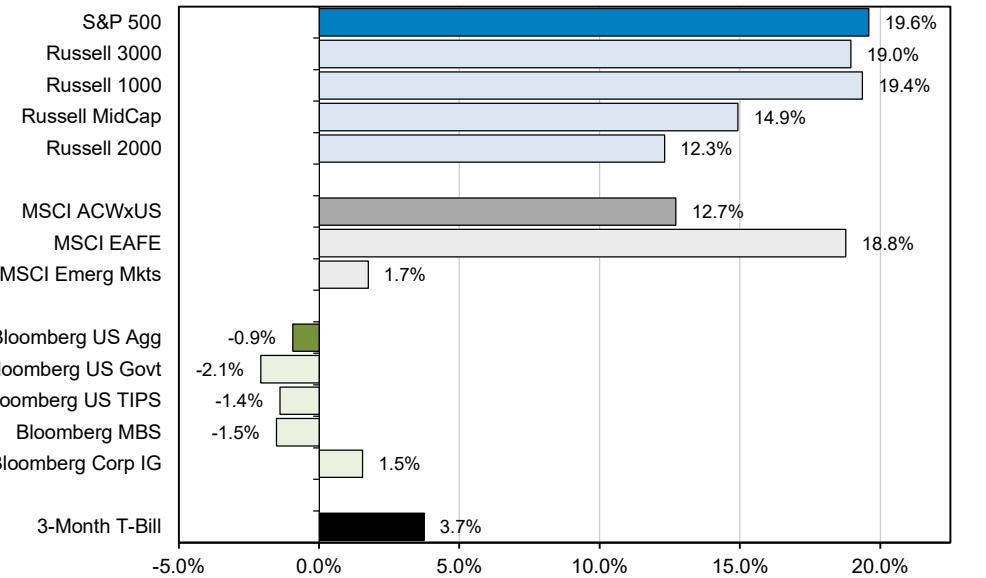


- Domestic equity markets started 2023 with solid results, led mostly by the large-cap names. The poor performance posted by domestic equities in the first half of 2022 has rolled off and now each index has turned positive on a trailing one-year basis. Factors contributing to the quarter's results include strong economic data in the face of higher benchmark rates and the expectation that the Fed would slow the pace of future interest rate increases. For the period, the S&P 500 large-cap benchmark returned 8.7% versus 4.8% for mid-cap and 5.2% for small-cap benchmarks.
- International developed and emerging market equities also delivered positive results, albeit lagging behind their domestic counterparts. Europe continues to face geopolitical risks related to the conflict in Ukraine and rising interest rates, though inflation has eased somewhat due to higher rates and more manageable energy prices. Performance in the emerging market index was led by the Latin America region whose regional index posted a strong 14.0% return in USD terms. The developed market MSCI EAFE Index returned 3.0% for the quarter and the MSCI Emerging Markets Index rose by 0.9%.
- The domestic bond market ebbed during the quarter due to higher rates from the Federal Reserve's decision to hike policy rates an additional 0.25%. The Bloomberg (BB) US Aggregate Index returned -0.8% for the period while investment-grade corporate bonds were down less with a return of -0.3%.
- During the one-year trailing period, US equity markets were positive as the weak performance from the first half of 2022 rolled off. The S&P 500 Index returned 19.6% for the year. The weakest relative performance for the year was the Russell 2000 Index, which still climbed 12.3% over the last 12-months.
- International markets also rolled off their poor performance in 2022. Over the trailing one-year period, the MSCI EAFE Index returned 18.8% while the MSCI Emerging Markets Index added a much more modest 1.7%. Concerns relating to the conflict in Ukraine continued to emanate throughout the region and globally. Elevated inflation and slowing global economic growth continue to be an additional headwind for global markets.
- Bond markets softened further, posting negative returns over the previous 1-year period for most indices. The primary driver of results during the first half of 2023 continues to be higher interest rates, which directly impact bond prices and index performance. Investment-grade corporate bonds were the only sector to post positive performance over the previous 12-months, adding 1.5%. The US Government sector suffered the most for the period, posting a return of -2.1%.

Quarter Performance



1-Year Performance

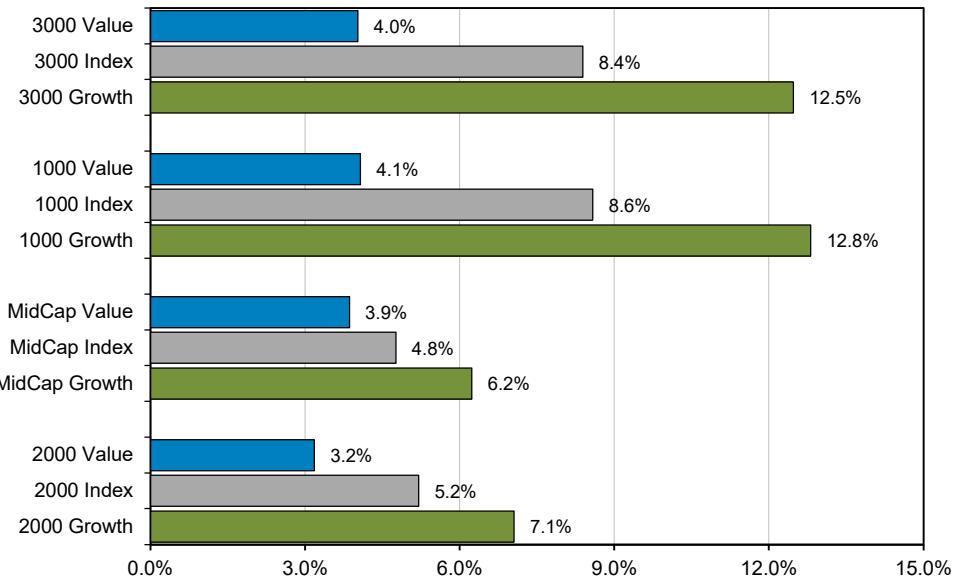


Source: Investment Metrics

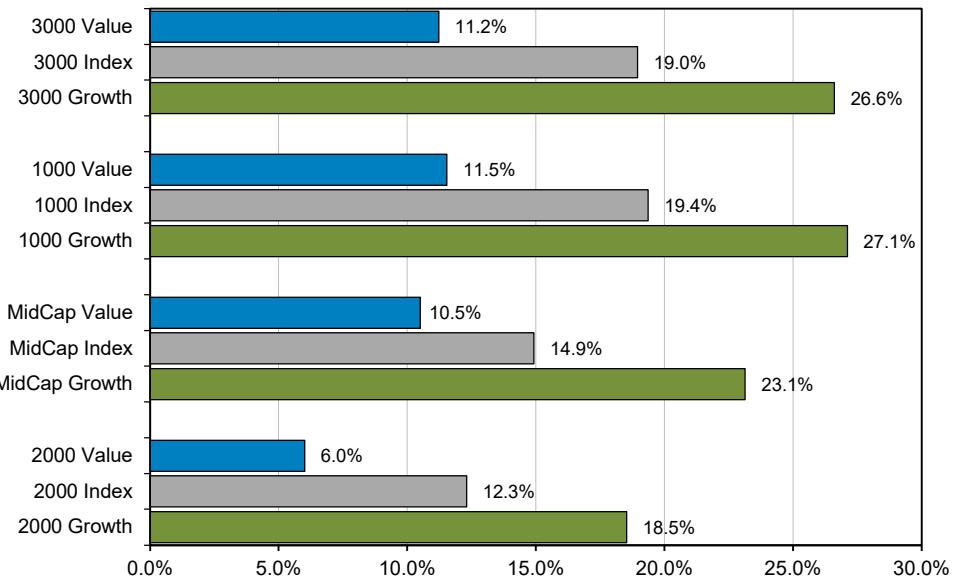
- Core domestic equity benchmarks posted positive results for the second quarter in a row. However, concerns regarding the regional banking sector and the financial sector's large weight in the value benchmarks weighed heavily on the broad value indices' performance in the first half of 2023. Large-cap stocks once again led results for the capitalization-based benchmarks, besting both the mid-cap and small-cap indices for the quarter. Growth benchmarks posted the strongest results as economic data continues to show favorable conditions for growth stocks. The Russell 1000 Growth Index topped the quarter, returning 12.8% followed by the Russell 2000 Growth Index and the Russell Midcap Growth Index, which rose by 7.1% and 6.2%, respectively.
- As previously stated, Growth stocks at all capitalization ranges outperformed their value counterparts by a wide margin for the quarter. This continued the 2023 theme of growth-based benchmark outperformance. Among the value benchmarks Large cap, mid-cap and small-cap value each posted positive performance for the quarter with the Russell 1000 Value Index leading the way at 4.1%.
- The second quarter's continued positive performance in tandem with the poor performance from the first half of 2022 rolling off the various benchmark returns turned the Russell indices positive on a trailing 12-month basis. Within large-cap stocks, the Russell 1000 Growth Index returned a strong 27.1%, leading the way among style and market capitalization classifications. The worst-performing index was the Russell 2000 Value, which posted a modest 6.0% return for the trailing 12-months.
- Growth rebounded from disappointing results in early 2022 and led value-based benchmarks in all market capitalization ranges during the trailing year. The Russell 2000 Growth Index returned 18.5%, outpacing the Russell 2000 Value index return of 6.0% by a span of 12.5%. The Russell 1000 Growth and Russell Midcap Growth benchmarks gained 27.1% and 23.1%, respectively, while their corresponding value index counterparts returned solid, but lagging, performance of 11.5% and 10.5%, respectively.

Source: Investment Metrics

Quarter Performance - Russell Style Series

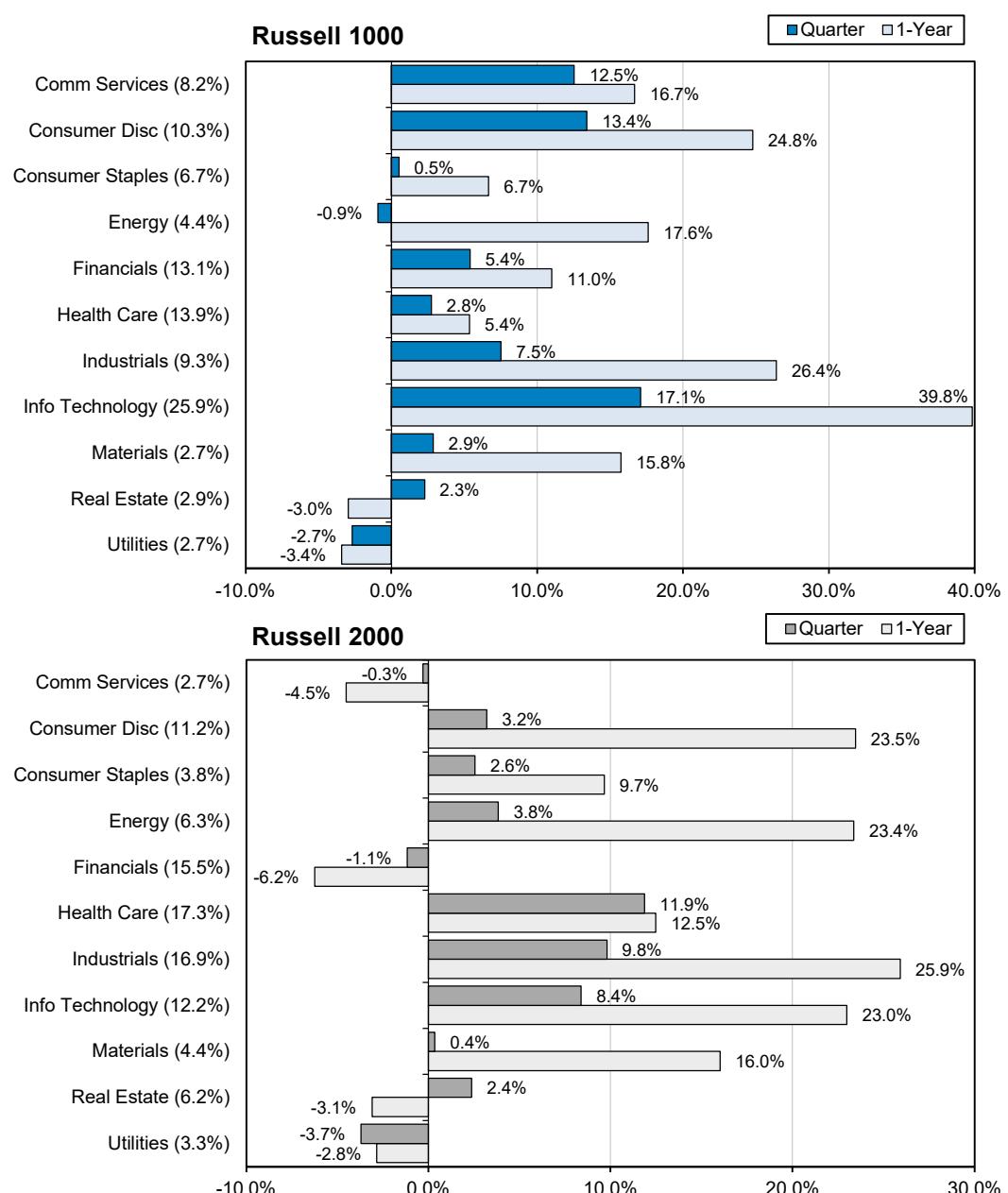


1-Year Performance - Russell Style Series



The Market Environment
GICS Sector Performance & (Sector Weight)
As of June 30, 2023

- Large Cap sector performance was mostly positive for the second quarter. Nine of 11 economic sectors posted positive absolute performance for the quarter, but just three managed to outpace the return of the Russell 1000 index.
- After a challenging 2022, the information technology sector continued its dominating rebound, amassing an impressive 17.1% return for the quarter. The other two sectors that outpaced the headline index's return for the quarter were communication services (12.5%) and consumer discretionary (13.4%). Energy (-0.9%), and utilities (-2.7%) were the two sectors that lost ground for the quarter.
- For the full year, four economic sectors exceeded the return of the broad large-cap benchmark and seven of the eleven sectors posted positive performance. The weakest economic sector in the Russell 1000 for the year was utilities, which declined by -3.4% and was heavily impacted by rising energy costs and a market rotation away from defensive names.
- Eight small-cap economic sectors posted positive results during the quarter while just three exceeded the 5.2% return of the Russell 2000 Index. The health care (11.9%), industrials (9.8%), and information technology (8.4%) sectors led the way, outpacing the broad benchmark for the quarter while the utilities (-3.7%), financials (-1.1%), and communication services (-0.3%) sectors posted negative returns.
- Like large cap sector performance over the trailing year, seven small cap sectors were positive. Industrials posted the strongest sector results (25.9%) but the consumer discretionary, energy, and information technology sectors each also returned in excess of 20% for the last 12-months. Five of the 11 economic sectors fell short of core small-cap benchmark's return of 12.3% over the trailing year. The worst-performing sector for the year was financials with a return of -6.2%. The communication services (-4.5%), real estate (-3.1%), and utilities (-2.8%) sectors also posted negative results for the year.



Source: Morningstar Direct

As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.

The Market Environment
Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000
As of June 30, 2023

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	7.0%	17.8%	42.7%	Information Technology
Microsoft Corp	6.2%	18.4%	33.9%	Information Technology
Amazon.com Inc	2.9%	26.2%	22.7%	Consumer Discretionary
NVIDIA Corp	2.4%	52.3%	179.3%	Information Technology
Tesla Inc	1.8%	26.2%	16.6%	Consumer Discretionary
Alphabet Inc Class A	1.7%	15.4%	9.9%	Communication Services
Meta Platforms Inc Class A	1.5%	35.4%	78.0%	Communication Services
Berkshire Hathaway Inc Class B	1.5%	10.4%	24.9%	Financials
Alphabet Inc Class C	1.5%	16.3%	10.6%	Communication Services
UnitedHealth Group Inc	1.1%	2.1%	-5.1%	Health Care

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Super Micro Computer Inc	0.5%	133.9%	517.7%	Information Technology
SPS Commerce Inc	0.3%	26.1%	69.9%	Information Technology
Rambus Inc	0.3%	25.2%	198.6%	Information Technology
Chart Industries Inc	0.3%	27.4%	-4.5%	Industrials
Novanta Inc	0.3%	15.7%	51.8%	Information Technology
Chord Energy Corp Ordinary Shares	0.3%	16.9%	38.0%	Energy
Light & Wonder Inc Ordinary Shares	0.3%	14.5%	46.3%	Consumer Discretionary
ChampionX Corp	0.3%	14.8%	57.8%	Energy
Atkore Inc	0.3%	11.0%	87.9%	Industrials
Commercial Metals Co	0.3%	8.0%	61.2%	Materials

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
XP Inc Class A	0.0%	97.6%	30.6%	Financials
Wayfair Inc Class A	0.0%	89.3%	49.2%	Consumer Discretionary
Carnival Corp	0.0%	85.5%	117.7%	Consumer Discretionary
XPO Inc	0.0%	85.0%	95.0%	Industrials
Palantir Technologies Inc	0.1%	81.4%	69.0%	Information Technology
MongoDB Inc Class A	0.1%	76.3%	58.4%	Information Technology
Vertiv Holdings Co Class A	0.0%	73.1%	201.6%	Industrials
Nu Holdings Ltd Ordinary Shares	0.0%	65.8%	111.0%	Financials
AppLovin Corp Ordinary Shares -	0.0%	63.4%	-25.3%	Information Technology
Norwegian Cruise Line Holdings Ltd	0.0%	61.9%	95.8%	Consumer Discretionary

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
CXApp Inc Ordinary Shares - Class A	0.0%	503.3%	9.2%	Information Technology
Immunogen Inc	0.2%	391.4%	319.3%	Health Care
Applied Digital Corp	0.0%	317.4%	790.5%	Information Technology
Presto Automation Inc	0.0%	230.4%	N/A	Information Technology
EyePoint Pharmaceuticals Inc	0.0%	195.9%	10.5%	Health Care
CARISMA Therapeutics Inc	0.0%	182.9%	N/A	Health Care
P3 Health Partners Inc Class A	0.0%	182.1%	-19.6%	Health Care
Nano X Imaging Ltd Ordinary Shares	0.0%	168.5%	37.1%	Health Care
Carvana Co Class A	0.1%	164.8%	14.8%	Consumer Discretionary
Bit Digital Inc Ordinary Shares	0.0%	163.6%	209.9%	Information Technology

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Victoria's Secret & Co	0.0%	-49.0%	-37.7%	Consumer Discretionary
Advance Auto Parts Inc	0.0%	-41.5%	-58.1%	Consumer Discretionary
Tandem Diabetes Care Inc	0.0%	-39.6%	-58.5%	Health Care
First Horizon Corp	0.0%	-35.8%	-46.6%	Financials
Ubiquiti Inc	0.0%	-35.1%	-28.5%	Information Technology
Catalent Inc	0.0%	-34.0%	-59.6%	Health Care
Concentrix Corp Ordinary Shares	0.0%	-33.4%	-39.9%	Industrials
MarketAxess Holdings Inc	0.0%	-33.0%	3.1%	Financials
Mercury Systems Inc	0.0%	-32.3%	-46.2%	Industrials
Peloton Interactive Inc	0.0%	-32.2%	-16.2%	Consumer Discretionary

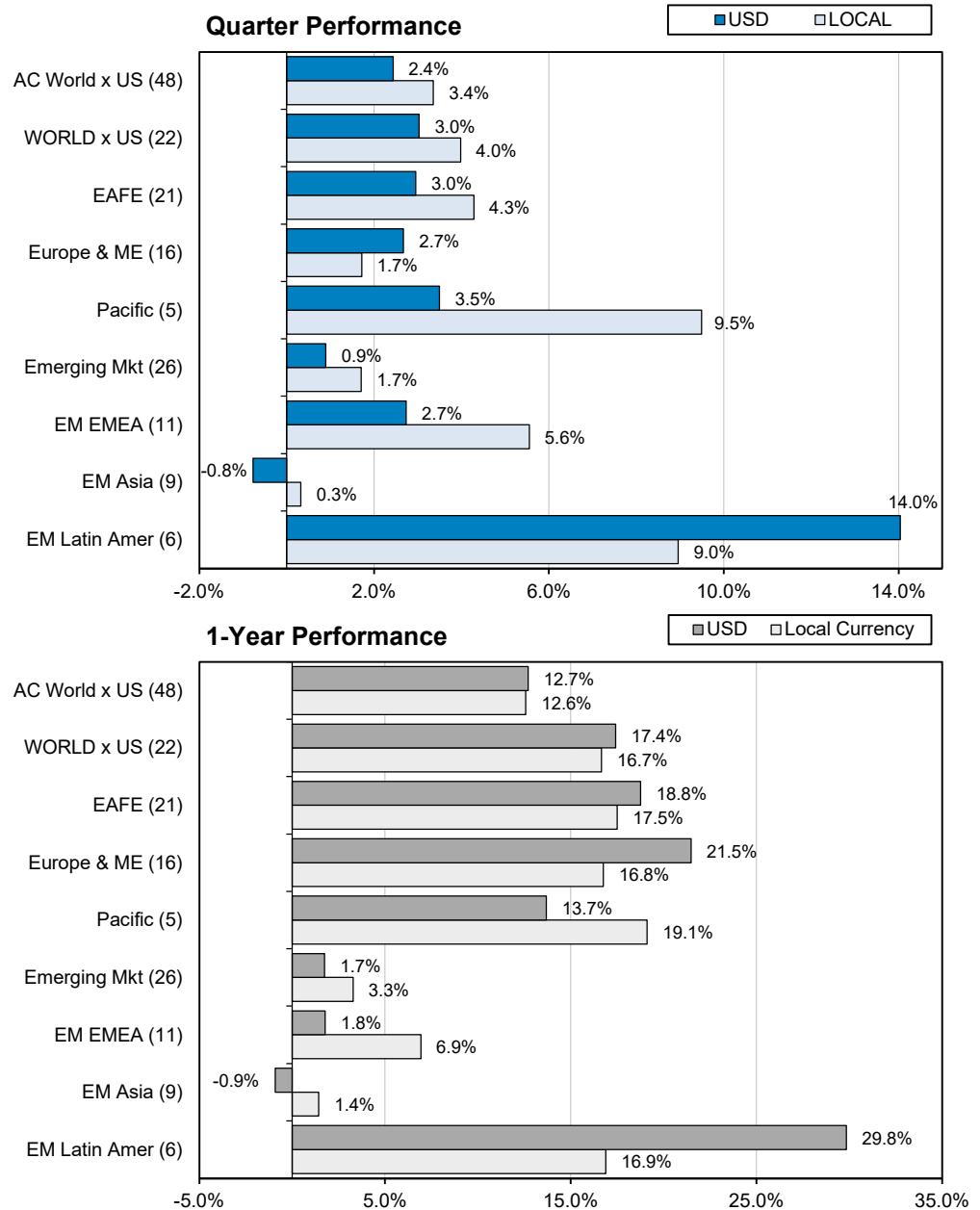
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Babylon Holdings Ltd Ordinary Shares	0.0%	-98.6%	-99.7%	Health Care
ViewRay Inc	0.0%	-89.8%	-86.7%	Health Care
Rain Oncology Inc	0.0%	-86.3%	-78.4%	Health Care
FibroGen Inc	0.0%	-85.5%	-74.4%	Health Care
HomeStreet Inc	0.0%	-66.6%	-82.0%	Financials
BioXcel Therapeutics Inc	0.0%	-64.3%	-49.5%	Health Care
Orchestra BioMed Holdings Inc	0.0%	-64.2%	N/A	Health Care
PolyMet Mining Corp	0.0%	-63.2%	-68.6%	Materials
Enviva Inc	0.0%	-62.4%	-80.1%	Energy
NanoString Technologies Inc	0.0%	-59.1%	-68.1%	Health Care

Source: Morningstar Direct



The Market Environment
International and Regional Market Index Performance (Country Count)
As of June 30, 2023

- Many of the international developed and emerging market benchmarks posted positive performance in both USD and LCL terms for the second quarter. While the strengthening of the USD chilled non-US index performance in USD during the quarter, the developed market MSCI EAFE Index still returned a solid 3.0% in USD and 4.3% in LCL terms for the period. The MSCI Emerging Markets Index rose by 0.9% in USD and 1.7% in LCL terms.
- Latin America (LATAM) dramatically outpaced other emerging markets for the quarter with the regional index earning a solid 14.0% in USD and 9.0% in LCL terms. Performance in the region was driven by strong demand for commodity exports from growing worldwide production along with a USD performance boost due to local currency strength in the region.
- The largest weighted country in the emerging market index (China, 8.2%) lagged during the quarters. Investors have struggled to accurately forecast the pace of China's recovery after its grand economic reopening from COVID-19 lockdowns, which led to a flurry of spending that has since cooled.
- Much like domestic markets, trailing one-year results for international developed and emerging markets rolled off their poor performance from early 2022 which resulted in strong results for the trailing year. Much of the strong USD performance in late 2022 has been reversed in 2023 with the MSCI EAFE Index returning 18.8% in USD for the year and 17.5% in LCL terms.
- Annual returns across emerging markets were more bifurcated. Latin American results led the way with returns of 29.8% in USD and 16.9% in LC terms. Performance in the EM Asia regional benchmark detracted from emerging market index with the EM Asia Index posting returns of -0.9% in USD and 1.4% in LCL terms. As a result, the broad MSCI Emerging Markets Index returned a muted 1.7% in USD and 3.3% in LCL terms for the year.



Source: MSCI Global Index Monitor (Returns are Net)

The Market Environment
US Dollar International Index Attribution & Country Detail
As of June 30, 2023

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	4.1%	-2.6%	2.2%
Consumer Discretionary	12.6%	5.0%	30.6%
Consumer Staples	10.1%	-0.6%	9.9%
Energy	4.2%	0.1%	14.3%
Financials	18.3%	4.6%	20.2%
Health Care	13.2%	2.0%	9.8%
Industrials	16.2%	6.2%	29.6%
Information Technology	8.2%	5.9%	32.7%
Materials	7.4%	-1.7%	16.4%
Real Estate	2.3%	-2.0%	-7.4%
Utilities	3.5%	4.0%	16.5%
Total	100.0%	3.0%	18.8%

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.5%	-4.6%	-0.7%
Consumer Discretionary	12.1%	1.5%	12.6%
Consumer Staples	8.6%	-0.4%	9.0%
Energy	5.4%	3.4%	9.4%
Financials	20.6%	4.9%	13.2%
Health Care	9.6%	1.5%	7.4%
Industrials	13.2%	5.4%	24.9%
Information Technology	11.9%	6.1%	24.1%
Materials	7.9%	-2.7%	10.7%
Real Estate	2.0%	-2.5%	-9.5%
Utilities	3.2%	3.7%	7.8%
Total	100.0%	2.4%	12.7%

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	9.8%	-6.8%	-3.6%
Consumer Discretionary	13.2%	-6.3%	-15.3%
Consumer Staples	6.4%	0.3%	4.4%
Energy	5.0%	12.1%	13.5%
Financials	21.9%	5.7%	6.4%
Health Care	3.8%	-2.5%	-9.6%
Industrials	6.3%	1.8%	5.3%
Information Technology	21.2%	5.1%	14.1%
Materials	8.1%	-4.2%	1.8%
Real Estate	1.8%	-4.9%	-17.7%
Utilities	2.6%	4.2%	-6.7%
Total	100.0%	0.9%	1.7%

Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1- Year Return
Japan	22.4%	14.5%	6.4%	18.1%
United Kingdom	14.7%	9.5%	2.2%	13.2%
France	12.4%	8.0%	3.2%	31.7%
Switzerland	10.1%	6.5%	4.0%	13.3%
Germany	8.6%	5.6%	2.8%	28.4%
Australia	7.3%	4.7%	0.3%	11.2%
Netherlands	4.6%	3.0%	4.1%	31.2%
Sweden	3.3%	2.1%	-1.2%	16.6%
Denmark	3.1%	2.0%	1.7%	31.9%
Spain	2.6%	1.7%	5.6%	29.0%
Italy	2.5%	1.6%	8.2%	43.4%
Hong Kong	2.5%	1.6%	-5.1%	-9.0%
Singapore	1.4%	0.9%	-5.6%	10.0%
Belgium	0.9%	0.6%	-6.1%	6.1%
Finland	0.9%	0.6%	-8.1%	-1.2%
Ireland	0.8%	0.5%	4.3%	45.3%
Norway	0.6%	0.4%	-1.0%	-9.0%
Israel	0.6%	0.4%	-4.0%	-4.7%
Portugal	0.2%	0.1%	-1.1%	6.7%
New Zealand	0.2%	0.1%	-6.0%	15.5%
Austria	0.2%	0.1%	4.4%	18.9%
Total EAFE Countries	100.0%	64.6%	3.0%	18.8%
Canada		7.6%	3.7%	7.0%
Total Developed Countries		72.2%	3.0%	17.4%
China		8.2%	-9.7%	-16.8%
Taiwan		4.3%	4.5%	12.5%
India		4.1%	12.2%	14.2%
Korea		3.4%	4.4%	13.0%
Brazil		1.5%	20.7%	29.8%
Saudi Arabia		1.2%	6.3%	-1.7%
South Africa		0.9%	-4.9%	-1.9%
Mexico		0.8%	5.6%	35.1%
Indonesia		0.6%	2.8%	13.2%
Thailand		0.5%	-8.2%	1.7%
Malaysia		0.4%	-8.4%	-6.4%
United Arab Emirates		0.4%	5.8%	-6.1%
Qatar		0.3%	-2.4%	-15.4%
Poland		0.2%	24.5%	36.4%
Kuwait		0.2%	-0.9%	-4.7%
Philippines		0.2%	-1.3%	5.8%
Chile		0.2%	2.4%	18.1%
Turkey		0.2%	-10.7%	53.3%
Greece		0.1%	23.9%	71.3%
Peru		0.1%	6.5%	34.0%
Hungary		0.1%	24.8%	48.8%
Czech Republic		0.0%	-5.1%	8.7%
Colombia		0.0%	11.7%	-5.7%
Egypt		0.0%	3.9%	27.0%
Total Emerging Countries		27.8%	0.9%	1.7%
Total ACWIxUS Countries		100.0%	2.4%	12.7%

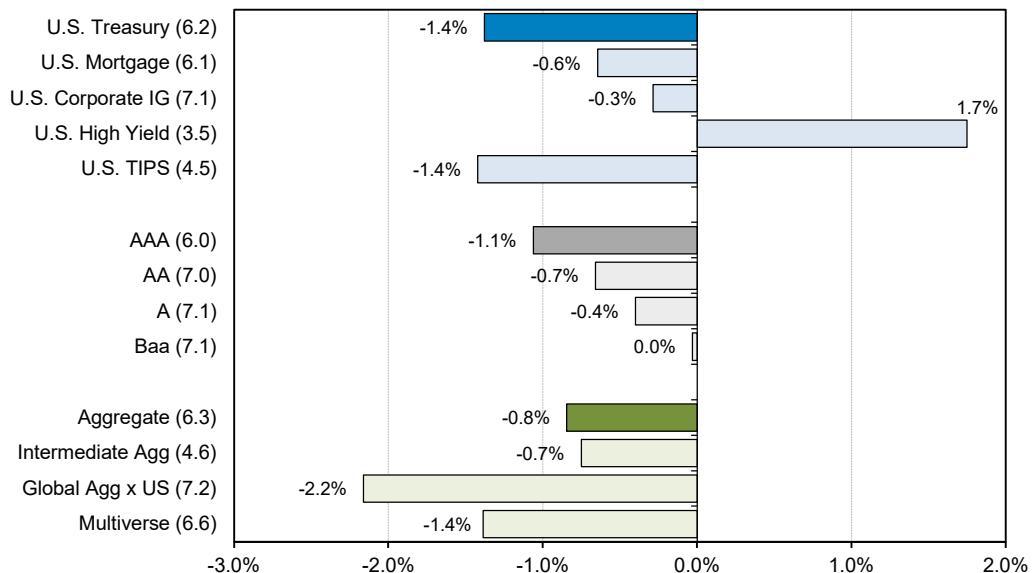
Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)

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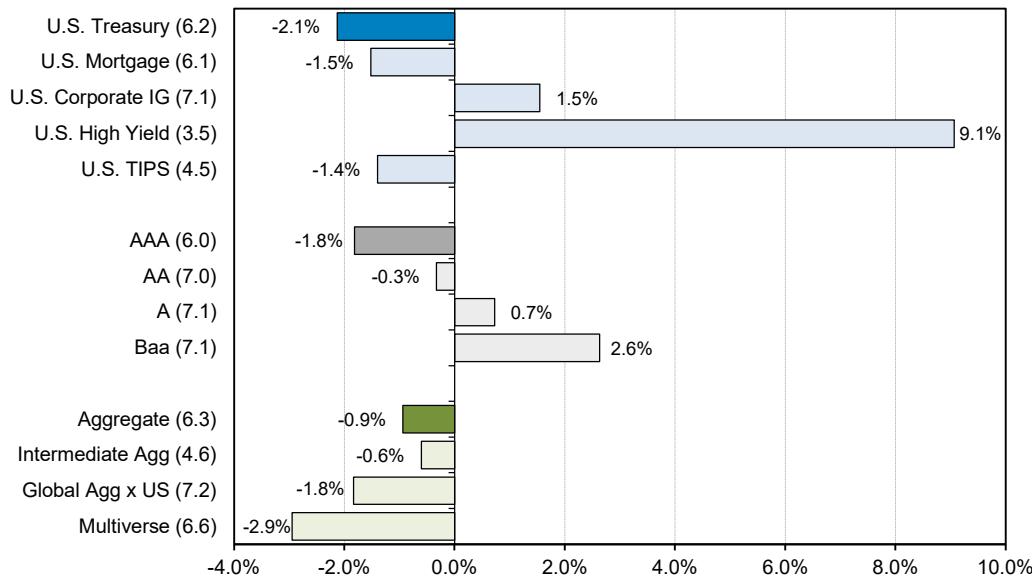


- Fixed income markets started 2023 strong but performance stalled during the second quarter. Yields remain elevated on the back of the Federal Reserve's decision to hike policy rates an additional 0.25% in May. After a challenging 2022 in fixed-income markets brought on by the largest and most rapid increase in interest rates since the early 1980s, higher yields and an expected slower pace of rate increase led investors to expect better outcomes in 2023. That expectation was at least temporarily frustrated during the second quarter, as the quarter's 0.25% rate hike and increased expectations for future rate hikes weighed on the asset class and many of the major domestic fixed-income indices posted negative absolute returns.
- The Bloomberg US Aggregate Bond Index, the bellwether US investment grade benchmark, returned a mild negative result, returning -0.8% for the quarter. Performance across the investment grade index's segments soured during the period with the Bloomberg US Corporate Investment Grade Index returning -0.3% and the US Mortgage Index sliding -0.6%.
- Outside of the aggregate index's sub-components, high-yield bonds continued to rise with a return of 1.7% as credit spreads narrowed during the quarter. US TIPS lost -1.4% for the quarter. The Bloomberg Global Aggregate ex-US Index lagged most domestic fixed-income indexes and the multiverse benchmark, posting a loss of -2.2% for the quarter.
- Over the trailing one-year period, the Bloomberg US Aggregate Bond Index declined by -0.9%. The benchmark's sub-components fell in a narrow band above and below the broad index's return. US TIPS, which are excluded from the aggregate index, dropped by -1.4% for the year. High-yield corporate bonds, which have a much shorter duration, have outpaced their investment grade counterparts with the Bloomberg US High Yield Index returning a strong 9.1% for the last year.
- Performance for non-US bonds was also negative for the year with the Bloomberg Global Aggregate ex-US Index falling by -1.8%. The combination of rising interest rates, elevated inflation, and geopolitical risks were a hindrance for non-US index performance.

Quarter Performance

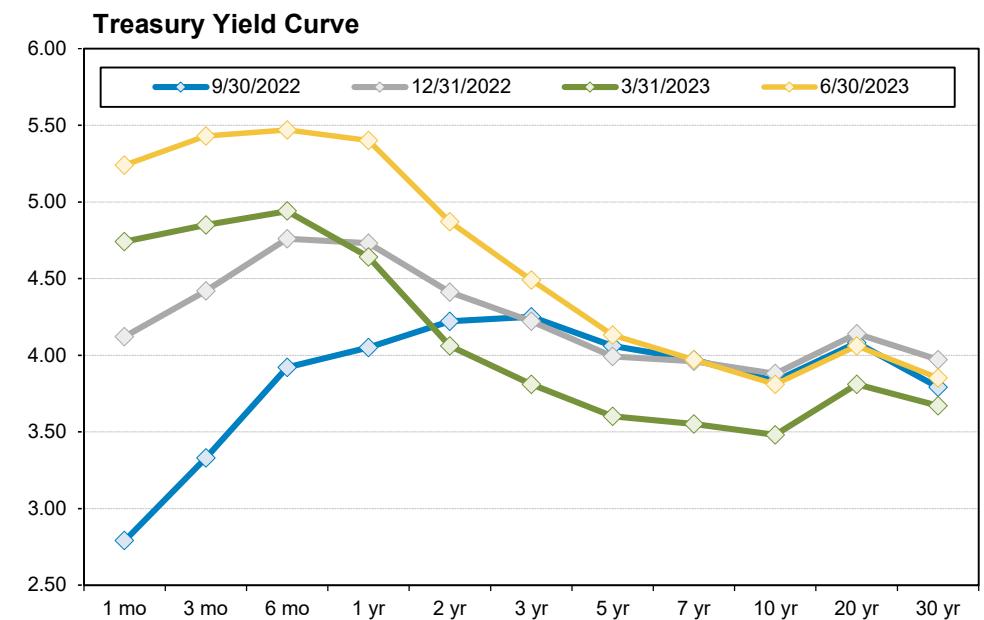
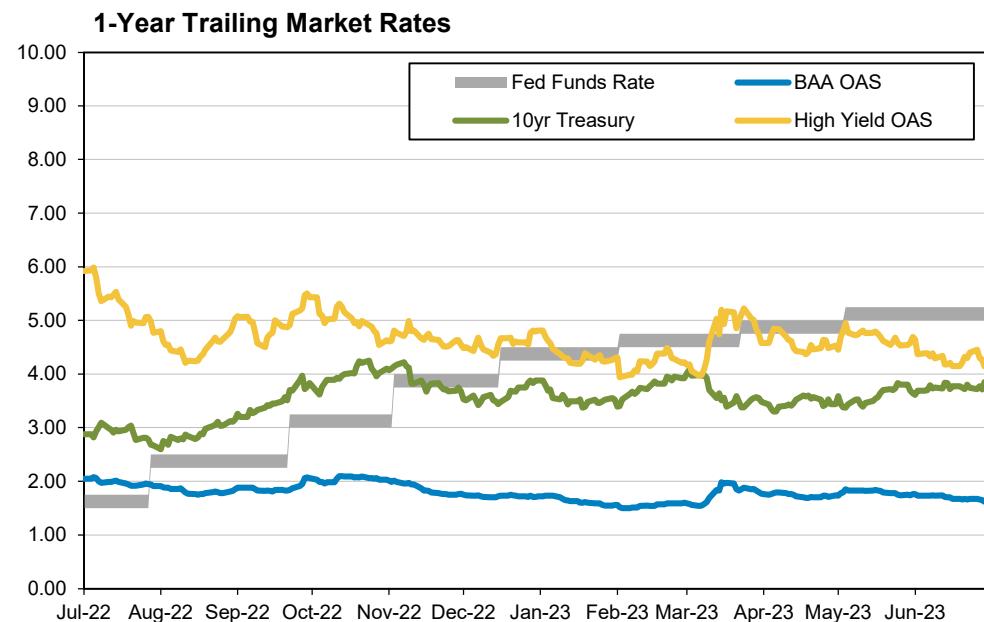


1-Year Performance



Source: Bloomberg

- The gray band across the graph illustrates the range of the current Fed Funds target rate. During the second quarter, the Federal Open Market Committee (FOMC) raised the lower end of its target rate range from 4.75% to 5.00% at their May meeting. While the FOMC pushed pause on a rate increase at their June meeting, several speeches and public comments since that meeting have made it clear that additional rate hikes should not be ruled out. The FOMC is continuing its policy of removing liquidity from the market by allowing bonds held on its balance sheet to mature without reinvesting those proceeds. Despite the potential for further rate increases, market participants appear to believe the Fed may be nearing the end of its rate hiking cycle.
- The yield on the US 10-year Treasury (green line) rose a modest 0.33% partially due to increases in the policy rate and renewed prospects for future growth. The closing yield on the 10-Year Treasury was 3.81% as of June 30, 2023, down just 7 basis points from its 3.88% yield at year-end. The benchmark's rate peaked in October 2022, cresting at just over 4.00% before pulling back to its current level.
- The blue line illustrates changes in the BAA OAS (Option Adjusted Spread) for BAA-rated corporate bonds. This measure quantifies the additional yield premium that investors require to purchase and hold non-US Treasury investment grade issues with the lowest investment grade rating. For the full year, the spread has narrowed from 2.05% to 1.62%, signaling a lower premium for credit risk than was the case a year prior. High Yield OAS spreads have narrowed from 5.92% in July 2022 to 4.14% as of the end of Q2. High-yield spreads reached their highs in July 2022 before trading lower the remainder of the year and have continued to tighten in 2023. A spike in both the BAA OAS and High Yield spreads is visible in March following a short-lived crisis of confidence in the banking sector, which was addressed quickly by the FDIC and supported further by the Fed's aggressive short-term par loan program. Both spread measures traded lower on the news of the Government's intervention, and as fears of possible contagion waned, credit spreads returned to their levels prior to February.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. Short-term rates continued to rise during the second quarter as the Fed increased interest rates to continue combatting inflation. Despite these short-term rate increases, at the end of the quarter, both intermediate and longer-term yields were slightly lower than they were at the end of 2022. The yield curve has further inverted (short-term rates higher than long-term rates) between two- and 10-year maturities. Historically, a persistent inversion of these two key rates has been a precursor of an economic recession within six- to 24 months.



Source: US Department of Treasury, FRED (Federal Reserve of St. Louis)

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PLEASE NOTE ALL PERFORMANCE IN THIS REPORT IS NET OF FEES.

Comparative Performance
Total Fund
As of June 30, 2023

Comparative Performance Trailing Returns											
	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date	
Total Fund Performance	3.29 (59)	8.17 (48)	9.58 (41)	-2.45 (77)	6.46 (70)	5.31 (84)	6.64 (72)	6.43 (60)	6.01 (38)	01/01/2001	
Total Fund Policy	3.29 (59)	8.03 (50)	9.32 (48)	-2.08 (68)	6.79 (64)	5.61 (77)	6.85 (64)	6.93 (26)	6.13 (31)		
Allocation Index	3.28 (59)	8.13 (49)	9.52 (43)	-2.49 (78)	6.48 (69)	5.24 (86)	N/A	N/A	N/A		
All Public Plans-Total Fund Median	3.45	8.01	9.16	-1.44	7.23	6.36	7.09	6.55	5.79		
All Public Plan Sponsor Universes with 50% or Less Equities											
Total Fund Performance	3.29 (37)	8.17 (26)	9.58 (19)	-2.45 (86)	6.46 (71)	5.31 (77)	6.64 (63)	6.43 (46)	6.01 (43)	01/01/2001	
Total Fund Policy	3.29 (37)	8.03 (28)	9.32 (25)	-2.08 (78)	6.79 (68)	5.61 (70)	6.85 (55)	6.93 (15)	6.13 (35)		
All Public Plans <= 50% Equities Median	2.95	7.19	8.38	-0.85	7.37	6.25	6.93	6.38	5.80		
All Public Plan Sponsor Universes with 60% or More Equities											
Total Fund Performance	3.29 (86)	8.17 (75)	9.58 (69)	-2.45 (74)	6.46 (78)	5.31 (93)	6.64 (85)	6.43 (69)	6.01 (37)	01/01/2001	
Total Fund Policy	3.29 (86)	8.03 (75)	9.32 (74)	-2.08 (65)	6.79 (69)	5.61 (88)	6.85 (75)	6.93 (33)	6.13 (33)		
All Public Plans >=60% Equities Median	3.90	9.01	10.58	-1.65	7.44	6.58	7.32	6.63	5.78		

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2023

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Domestic Equity										
Total Fund Domestic Equity	7.03	13.26	17.72	1.34	14.54	9.99	N/A	N/A	9.97	07/01/2014
Vanguard Inst'l Index Fund (VINIX)	8.73	(15)	16.87	(11)	19.55	(9)	3.35	(9)	N/A	N/A
S&P 500 Index	8.74	(8)	16.89	(4)	19.59	(3)	3.39	(2)	14.60	(3)
IM S&P 500 Index (MF) Median	8.65		16.72		19.18		3.03		14.21	
Vanguard Growth Index (VIGIX)	13.61	(26)	33.21	(16)	27.97	(24)	0.00	(23)	12.60	(17)
Vanguard Growth Index Hybrid	13.63	(25)	33.26	(16)	28.02	(23)	0.02	(22)	12.63	(17)
Russell 1000 Growth Index	12.81	(45)	29.02	(40)	27.11	(30)	1.61	(11)	13.73	(6)
IM U.S. Large Cap Growth Equity (MF) Median	12.69		27.77		25.04		-2.36		9.86	
Vanguard Value Index (VIVIX)	3.57	(68)	2.54	(76)	10.83	(58)	4.29	(29)	15.39	(32)
Vanguard Value Index Hybrid	3.57	(68)	2.53	(76)	10.86	(57)	4.31	(29)	15.42	(32)
Russell 1000 Value Index	4.07	(56)	5.12	(43)	11.54	(54)	1.95	(71)	14.30	(51)
IM U.S. Large Cap Value Equity (MF) Median	4.40		4.40		12.15		2.92		14.32	
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	4.83	(39)	8.81	(30)	17.55	(9)	0.13	(55)	15.37	(28)
S&P MidCap 400 Index	4.85	(38)	8.84	(30)	17.61	(9)	0.20	(54)	15.44	(27)
IM U.S. Mid Cap Core Equity (MF) Median	4.65		7.22		12.82		0.41		13.58	
Vanguard Small-Cap 600 Index I (VSMSX)	3.37	(67)	6.01	(62)	9.69	(70)	-4.53	(64)	15.13	(44)
S&P SmallCap 600 Index	3.38	(66)	6.03	(62)	9.75	(69)	-4.45	(63)	15.19	(43)
IM U.S. Small Cap Core Equity (MF) Median	3.95		6.98		12.22		-3.17		14.77	

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2023

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
International Equity										
Total Fund Performance - International Equity	2.09	8.92	10.25	-7.06	6.09	2.58	N/A	N/A	2.64	07/01/2014
Vanguard Intl Value (VTRIX)	3.40 (36)	12.34 (37)	18.00 (56)	N/A	N/A	N/A	N/A	N/A	2.57 (72)	12/01/2021
MSCI AC World ex USA Value	3.28 (40)	8.79 (82)	13.03 (85)	-0.35 (65)	11.16 (60)	3.31 (80)	4.32 (95)	2.84 (77)	3.44 (66)	
IM International Multi-Cap Value Equity (MF) Median	3.14	11.39	18.93	0.78	12.37	3.96	5.56	3.49	4.53	
Vanguard Intl Growth (VWILX)	0.88 (88)	13.50 (31)	14.83 (67)	N/A	N/A	N/A	N/A	N/A	-14.85 (89)	12/01/2021
MSCI AC World ex USA Growth	2.08 (74)	10.95 (60)	13.65 (73)	-8.04 (59)	4.27 (71)	4.39 (55)	5.96 (81)	3.71 (83)	-7.59 (53)	
IM International Multi-Cap Growth Equity (MF) Median	2.88	11.81	15.78	-6.60	6.02	4.72	6.49	4.75	-7.00	
Vanguard FTSE AW ex-US SC Index (VFSNX)	1.88 (45)	7.97 (52)	10.04 (97)	-7.48 (81)	7.14 (88)	N/A	N/A	N/A	13.89 (67)	04/01/2020
FTSE Global ex U.S. Small Cap Index (Net)	1.77 (46)	7.59 (55)	9.99 (97)	-7.76 (82)	7.07 (88)	1.46 (68)	4.67 (89)	N/A	13.53 (74)	
IM International SMID Cap Core Equity (MF) Median	0.83	8.46	13.34	-4.65	9.35	2.73	6.08	N/A	14.41	
Vanguard Developed Markets Index (VTMNX)	3.15 (36)	11.18 (50)	16.53 (46)	-2.31 (39)	9.02 (35)	4.41 (23)	5.69 (22)	N/A	6.65 (33)	07/01/2009
Vanguard Spliced Developed ex U.S. Index (Net)	3.00 (43)	10.85 (54)	16.53 (46)	-2.56 (43)	9.00 (35)	4.27 (27)	5.63 (24)	3.50 (38)	6.58 (35)	
MSCI EAFE (Net) Index	2.95 (45)	11.67 (42)	18.77 (22)	-1.17 (27)	8.93 (36)	4.39 (23)	5.41 (33)	3.36 (42)	6.42 (42)	
IM International Multi-Cap Equity (MF) Median	2.83	11.17	16.01	-3.34	7.64	3.43	5.07	3.16	6.19	
Vanguard Emerging Markets Index (VEMIX)	1.09 (67)	4.73 (80)	1.18 (76)	-10.65 (31)	3.48 (38)	2.13 (32)	3.23 (39)	N/A	1.87 (47)	10/01/2010
FTSE Emerging Mkts All Cap China A Inclusion Index	1.19 (65)	4.34 (85)	1.88 (71)	-10.26 (29)	4.06 (33)	2.50 (27)	3.78 (29)	2.66 (29)	2.41 (32)	
MSCI Emerging Markets (Net) Index	0.90 (72)	4.89 (78)	1.75 (71)	-12.81 (47)	2.32 (47)	0.93 (55)	2.95 (48)	1.81 (49)	1.78 (49)	
IM Emerging Markets Equity (MF) Median	1.82	7.09	4.65	-12.98	2.09	1.14	2.84	1.76	1.73	

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2023

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Fixed Income										
Total Fund Performance - Fixed Income	-0.21	2.90	2.15	-4.25	-1.82	1.51	N/A	N/A	1.59	07/01/2014
Vanguard Short Term Bond Index (VBITX)	-0.64 (98)	1.28 (85)	0.21 (95)	-2.56 (94)	-1.61 (98)	1.11 (72)	1.10 (62)	N/A	1.00 (63)	04/01/2013
Bloomberg 1-5 Year Gov/Credit Idx	-0.62 (97)	1.19 (90)	0.19 (95)	-2.54 (93)	-1.57 (97)	1.15 (69)	1.14 (58)	1.88 (37)	1.04 (59)	
IM U.S. Short Term Investment Grade (MF) Median	0.37	2.01	2.23	-1.19	0.23	1.41	1.23	1.71	1.12	
Vanguard Total Bond Index (VBTIX)	-0.90 (62)	2.24 (54)	-0.89 (51)	-5.76 (25)	-4.01 (69)	N/A	N/A	N/A	-1.72 (59)	09/01/2019
Bloomberg U.S. Aggregate Index	-0.84 (54)	2.09 (67)	-0.94 (55)	-5.73 (23)	-3.97 (64)	0.77 (46)	1.52 (48)	2.73 (57)	-1.69 (54)	
IM U.S. Broad Market Core Fixed Income (MF) Median	-0.82	2.26	-0.88	-6.08	-3.71	0.72	1.50	2.83	-1.62	
Vanguard High Yield Bond Fund (VWEAX)	1.12 (71)	4.35 (72)	8.50 (39)	-1.85 (23)	2.45 (63)	3.41 (21)	N/A	N/A	3.74 (17)	12/01/2014
Bloomberg U.S. Corp High Yield	1.75 (25)	5.38 (19)	9.06 (23)	-2.49 (43)	3.13 (41)	3.36 (23)	4.43 (12)	6.56 (4)	4.00 (10)	
IM U.S. High Yield Bonds (MF) Median	1.36	4.78	8.22	-2.63	2.81	2.70	3.57	5.29	3.13	
Vanguard International Bond (VTIFX)	0.14 (42)	3.73 (15)	0.31 (47)	-5.01 (31)	-3.33 (36)	0.28 (25)	N/A	N/A	1.31 (8)	05/01/2015
Bloomberg Global Agg ex-USD Flt Adj RIC Cpd (H)	0.37 (33)	3.56 (22)	0.45 (46)	-4.99 (31)	-3.31 (36)	0.38 (24)	2.24 (8)	N/A	1.31 (8)	
IM International Fixed Income (MF) Median	-0.95	1.24	0.27	-6.88	-4.30	-2.28	-0.72	1.55	-1.26	
Vanguard EM Bond (VEGBX)	2.54 (45)	5.15 (33)	12.40 (16)	N/A	N/A	N/A	N/A	N/A	-4.44 (34)	12/01/2021
Bloomberg Emerging Markets USD Aggregate Index	1.12 (86)	3.30 (81)	5.64 (92)	-6.94 (70)	-2.71 (93)	1.02 (69)	2.73 (49)	4.72 (59)	-7.50 (80)	
IM Emerging Markets Debt (MF) Median	2.22	4.25	8.54	-6.06	-0.95	1.82	2.70	4.91	-6.05	
REIT										
Vanguard Real Estate Index Fund (VGSNX)	1.63 (54)	3.45 (72)	-3.92 (65)	-6.00 (75)	5.90 (70)	4.41 (50)	6.16 (44)	N/A	7.96 (34)	10/01/2010
Vanguard Spliced REIT Index	1.68 (50)	3.54 (68)	-3.82 (61)	-5.90 (73)	6.00 (67)	4.48 (47)	6.24 (41)	6.82 (32)	8.03 (32)	
IM Real Estate Sector (MF) Median	1.67	4.31	-2.96	-4.90	6.84	4.41	6.04	6.21	7.66	

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2023

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Total Fund - Domestic Equity	7.03	13.26	17.72	1.34	14.54	9.99	N/A	N/A	9.97	07/01/2014
Total Domestic Large Cap Equity	8.62	16.49	19.36	2.88	13.76	11.04	N/A	N/A	10.84	06/01/2014
S&P 500 Index	8.74	16.89	19.59	3.39	14.60	12.31	12.86	10.88	11.77	
Large Cap Growth	13.61	33.21	27.97	0.00	12.98	14.70	N/A	N/A	13.86	06/01/2014
Vanguard Growth Index Hybrid	13.63	33.26	28.02	0.02	12.63	14.53	14.97	12.33	13.76	
Russell 1000 Growth Index	12.81	29.02	27.11	1.61	13.73	15.14	15.74	12.92	14.67	
Large Cap Core	8.73	16.87	19.46	3.03	13.11	10.05	N/A	N/A	10.03	06/01/2014
S&P 500 Index	8.74	16.89	19.59	3.39	14.60	12.31	12.86	10.88	11.77	
Large Cap Value	3.57	2.70	11.00	4.37	15.45	9.37	N/A	N/A	9.45	06/01/2014
Vanguard Value Index Hybrid	3.57	2.53	10.86	4.31	15.42	9.36	10.52	9.30	9.40	
Russell 1000 Value Index	4.07	5.12	11.54	1.95	14.30	8.11	9.22	8.36	7.94	
Mid Cap Equity	4.83	8.96	17.71	0.20	15.42	8.11	N/A	N/A	8.81	06/01/2014
Mid Cap Hybrid Index	4.85	8.84	17.61	0.20	15.44	8.07	10.19	N/A	8.81	
Small Cap Equity	3.37	6.01	9.69	-4.53	15.13	5.41	N/A	N/A	7.56	06/01/2014
Small Cap Hybrid Index	3.38	6.03	9.75	-4.45	15.19	5.46	8.87	N/A	7.57	
Total Fund - International Equity	2.09	8.92	10.25	-7.06	6.09	2.58	N/A	N/A	2.64	07/01/2014
Small Cap - International Equity	1.88	7.97	10.04	-7.48	7.14	N/A	N/A	N/A	13.89	04/01/2020
FTSE Global ex U.S. Small Cap Index (Net)	1.77	7.59	9.99	-7.76	7.07	1.46	4.67	N/A	13.53	
Developed Markets - International Equity	3.15	11.18	16.53	-2.31	9.02	4.41	N/A	N/A	3.92	06/01/2014
Vanguard Spliced Developed ex U.S. Index (Net)	3.00	10.85	16.53	-2.56	9.00	4.27	5.63	3.50	3.89	
Emerging Markets - International Equity	1.09	4.73	1.18	-10.57	3.54	2.16	N/A	N/A	2.38	06/01/2014
FTSE Emerging Mkts All Cap China A Inclusion Index	1.19	4.34	1.88	-10.26	4.06	2.50	3.78	2.66	3.02	
MSCI Emerging Markets (Net) Index	0.90	4.89	1.75	-12.81	2.32	0.93	2.95	1.81	2.04	

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2023

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Total Fund - Fixed Income	-0.21	2.90	2.15	-4.25	-1.82	1.51	N/A	N/A	1.59	07/01/2014
Short - Term Fixed Income	-0.64	1.28	0.21	-2.56	-1.61	1.09	N/A	N/A	0.99	06/01/2014
Bloomberg 1-5 Year Gov/Credit Iidx	-0.62	1.19	0.19	-2.54	-1.57	1.15	1.14	1.88	1.05	
High Yield - Fixed Income	1.12	4.35	8.50	-1.85	2.45	3.41	N/A	N/A	3.72	11/01/2014
Blmbg. U.S. Corp High Yield	1.75	5.38	9.06	-2.49	3.13	3.36	4.43	6.56	3.88	
Non-US Fixed Income	0.14	3.73	0.31	-5.01	-3.33	0.28	N/A	N/A	1.37	05/01/2015
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	0.37	3.56	0.45	-4.99	-3.31	0.38	2.24	N/A	1.31	
Real Estate	1.63	3.45	-3.92	-6.00	5.90	4.41	N/A	N/A	5.33	06/01/2014
Vanguard Spliced REIT Index	1.68	3.54	-3.82	-5.90	6.00	4.48	6.24	6.82	5.56	

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance Trailing Returns										
	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Fund Performance	-15.61	14.00	9.84	20.21	-5.76	13.91	8.58	-0.72	8.24	18.07
Total Fund Policy	-14.86	13.81	11.44	19.49	-4.94	13.67	8.48	-0.69	8.15	16.99
Allocation Index	-15.63	14.11	9.90	19.76	-5.32	14.25	7.44	-0.62	N/A	N/A
Domestic Equity										
Total Fund Domestic Equity	-16.59	26.91	13.96	29.77	-7.16	20.07	13.45	-0.10	N/A	33.56
Twin Capital Low Volatility	N/A	N/A	5.51 (93)	29.24 (59)	-5.37 (57)	19.16 (83)	16.03 (9)	-1.31 (80)	12.91 (59)	N/A
S&P 500 Index	-18.11 (66)	28.71 (37)	18.40 (45)	31.49 (33)	-4.38 (41)	21.83 (55)	11.96 (32)	1.38 (55)	13.69 (43)	32.39 (61)
IM U.S. Large Cap Core Equity (SA+CF) Median	-16.49	27.74	17.53	30.00	-5.07	22.09	10.46	1.52	13.42	33.17
Twin Capital Enhanced Index	N/A	N/A	15.07 (61)	29.73 (51)	-6.43 (69)	20.37 (79)	11.66 (57)	2.42 (27)	13.42 (62)	N/A
S&P 500 Index	-18.11 (59)	28.71 (60)	18.40 (48)	31.49 (33)	-4.38 (31)	21.83 (65)	11.96 (56)	1.38 (46)	13.69 (57)	32.39 (72)
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median	-17.63	29.13	17.38	29.78	-5.30	22.60	12.31	1.22	14.00	33.46
Vanguard Inst'l Index Fund (VINIX)	-18.14 (12)	28.67 (8)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P 500 Index	-18.11 (3)	28.71 (1)	18.40 (9)	31.49 (3)	-4.38 (7)	21.83 (1)	11.96 (3)	1.38 (2)	13.69 (1)	32.39 (1)
IM S&P 500 Index (MF) Median	-18.36	28.25	18.05	31.08	-4.66	21.37	11.55	0.97	13.18	31.77
Vanguard Growth Index (VIGIX)	-33.14 (70)	27.27 (20)	40.20 (28)	37.25 (12)	-3.32 (72)	27.82 (64)	6.11 (19)	3.23 (75)	13.70 (17)	32.44 (69)
Vanguard Growth Index Hybrid	-33.13 (69)	27.30 (20)	40.27 (28)	37.31 (11)	-3.34 (73)	27.86 (64)	6.16 (18)	3.38 (72)	13.69 (17)	32.51 (68)
Russell 1000 Growth Index	-29.14 (27)	27.60 (17)	38.49 (34)	36.39 (19)	-1.51 (54)	30.21 (39)	7.08 (10)	5.67 (49)	13.05 (24)	33.48 (57)
IM U.S. Large Cap Growth Equity (MF) Median	-31.30	22.37	35.62	33.26	-1.22	29.28	2.21	5.61	10.49	34.12
Vanguard Value Index (VIVIX)	-2.05 (12)	26.48 (44)	2.30 (70)	25.83 (59)	-5.42 (22)	17.14 (47)	16.87 (21)	-0.81 (18)	13.20 (10)	33.01 (38)
Vanguard Value Index Hybrid	-2.01 (11)	26.51 (43)	2.26 (71)	25.85 (59)	-5.40 (22)	17.16 (46)	16.93 (20)	-0.86 (19)	13.29 (9)	33.20 (35)
Russell 1000 Value Index	-7.54 (66)	25.16 (63)	2.80 (61)	26.54 (50)	-8.27 (45)	13.66 (82)	17.34 (17)	-3.83 (69)	13.45 (8)	32.53 (44)
IM U.S. Large Cap Value Equity (MF) Median	-6.10	25.96	3.82	26.50	-8.61	16.95	13.85	-3.00	10.82	32.11
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	-13.11 (50)	24.67 (59)	13.58 (26)	26.13 (72)	N/A	N/A	N/A	N/A	N/A	N/A
S&P MidCap 400 Index	-13.06 (50)	24.76 (59)	13.66 (26)	26.20 (72)	-11.08 (40)	16.24 (38)	20.74 (12)	-2.18 (29)	9.77 (41)	33.50 (58)
IM U.S. Mid Cap Core Equity (MF) Median	-13.21	25.73	8.44	28.59	-11.64	14.94	14.51	-3.74	8.88	34.49
Vanguard Small-Cap 600 Index I (VSMSX)	-16.18 (57)	26.74 (37)	11.46 (39)	22.74 (61)	N/A	N/A	N/A	N/A	N/A	N/A
S&P SmallCap 600 Index	-16.10 (54)	26.82 (36)	11.29 (41)	22.78 (61)	-8.48 (9)	13.23 (38)	26.56 (16)	-1.97 (21)	5.76 (34)	41.31 (18)
IM U.S. Small Cap Core Equity (MF) Median	-15.77	25.12	9.89	23.94	-12.71	12.09	21.66	-4.35	4.73	36.85

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of June 30, 2023

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
International Equity										
Total Fund Performance - International Equity	-18.46	6.98	10.24	21.55	-14.50	28.00	5.26	-5.56	N/A	13.97
Vanguard Intl Value (VTRIX)	-11.66 (76)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA Value	-7.95 (43)	11.13 (69)	-0.21 (74)	16.45 (72)	-13.45 (16)	23.35 (64)	9.59 (18)	-9.59 (96)	-4.60 (43)	15.65 (96)
IM International Multi-Cap Value Equity (MF) Median	-9.51	12.63	3.58	18.79	-16.13	24.72	4.02	-2.27	-5.22	23.66
Vanguard Intl Growth (VWILX)	-30.79 (86)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA Growth	-22.80 (48)	5.37 (74)	22.56 (38)	27.84 (50)	-14.10 (46)	32.47 (40)	0.50 (51)	-0.91 (77)	-2.29 (35)	15.86 (81)
IM International Multi-Cap Growth Equity (MF) Median	-23.55	10.09	20.55	27.73	-14.54	30.69	0.51	1.34	-3.79	20.27
Vanguard FTSE AW ex-US SC Index (VFSNX)	-21.25 (85)	12.76 (55)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE Global ex U.S. Small Cap Index (Net)	-21.58 (87)	13.02 (53)	11.40 (14)	21.55 (30)	-18.91 (39)	29.78 (50)	3.93 (29)	-0.61 (82)	-4.34 (30)	N/A
IM International SMID Cap Core Equity (MF) Median	-17.06	13.19	5.76	19.58	-19.67	29.44	-0.75	4.70	-6.30	24.68
Vanguard Developed Markets Index (VTMNX)	-15.34 (47)	11.44 (34)	10.27 (43)	22.14 (43)	-14.49 (35)	26.46 (46)	2.46 (35)	-0.19 (44)	-5.62 (55)	22.07 (35)
Vanguard Spliced Developed ex U.S. Index (Net)	-15.58 (49)	11.57 (33)	10.00 (44)	22.34 (42)	-14.79 (38)	26.31 (47)	2.29 (37)	-0.28 (45)	-4.85 (44)	22.71 (28)
MSCI EAFE (Net) Index	-14.45 (40)	11.26 (37)	7.82 (57)	22.01 (45)	-13.79 (25)	25.03 (62)	1.00 (52)	-0.81 (53)	-4.90 (45)	22.78 (28)
IM International Multi-Cap Equity (MF) Median	-15.71	10.28	8.74	21.55	-15.87	25.85	1.12	-0.72	-5.32	20.37
Vanguard Emerging Markets Index (VEMIX)	-17.74 (21)	0.92 (36)	15.26 (65)	20.37 (50)	-14.54 (29)	31.43 (72)	11.76 (26)	-15.39 (68)	0.72 (18)	-5.06 (80)
FTSE Emerging Mkts All Cap China A Inclusion Index	-17.26 (19)	1.76 (32)	15.84 (62)	20.81 (47)	-14.49 (29)	31.46 (72)	10.66 (34)	-13.28 (46)	2.96 (10)	-2.82 (59)
MSCI Emerging Markets (Net) Index	-20.09 (32)	-2.54 (58)	18.31 (47)	18.42 (63)	-14.57 (29)	37.28 (43)	11.19 (29)	-14.92 (62)	-2.19 (43)	-2.60 (58)
IM Emerging Markets Equity (MF) Median	-22.47	-1.61	17.68	20.17	-16.46	35.66	8.25	-13.73	-3.00	-1.46

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of June 30, 2023

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Fixed Income										
Total Fund Performance - Fixed Income	-11.27	0.05	6.75	10.16	-0.71	3.82	4.79	-0.18	N/A	-3.65
Vanguard Short Term Bond Index (VBITX)	-5.61 (91)	-0.97 (94)	4.71 (11)	4.84 (23)	1.37 (42)	1.19 (71)	1.51 (59)	0.98 (9)	1.32 (13)	N/A
Bloomberg 1-5 Year Gov/Credit Idx	-5.50 (89)	-0.97 (94)	4.71 (11)	5.01 (18)	1.38 (41)	1.27 (66)	1.56 (56)	0.97 (9)	1.42 (11)	0.28 (63)
IM U.S. Short Term Investment Grade (MF) Median	-3.78	0.02	3.02	4.12	1.24	1.45	1.68	0.27	0.67	0.47
Vanguard Total Bond Index (VBTIX)	-13.15 (27)	-1.65 (64)	7.73 (65)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg U.S. Aggregate Index	-13.01 (22)	-1.55 (60)	7.51 (73)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (62)	0.55 (20)	5.97 (27)	-2.02 (54)
IM U.S. Broad Market Core Fixed Income (MF) Median	-13.66	-1.33	8.16	8.76	-0.62	3.60	2.90	0.04	5.55	-1.96
Vanguard High Yield Bond Fund (VWEAX)	-8.97 (18)	3.78 (79)	5.38 (51)	15.90 (9)	-2.87 (46)	7.13 (31)	11.27 (86)	-1.31 (13)	N/A	N/A
Bloomberg U.S. Corp High Yield	-11.19 (58)	5.28 (42)	7.11 (20)	14.32 (38)	-2.08 (22)	7.50 (21)	17.13 (8)	-4.47 (58)	2.45 (24)	7.44 (32)
IM U.S. High Yield Bonds (MF) Median	-10.97	4.93	5.43	13.83	-2.97	6.63	13.80	-3.98	1.50	6.72
Vanguard International Bond (VTIFX)	-12.89 (48)	-2.17 (20)	4.59 (75)	7.89 (25)	3.00 (2)	2.43 (86)	4.69 (35)	N/A	N/A	N/A
Bloomberg Global Agg ex-USD Flt Adj RIC Cpd (H)	-12.72 (44)	-2.10 (19)	4.75 (72)	8.06 (24)	3.16 (1)	2.57 (82)	4.90 (33)	1.34 (3)	9.14 (9)	1.26 (16)
IM International Fixed Income (MF) Median	-12.94	-5.39	6.55	6.64	-2.47	9.80	3.34	-5.82	0.63	-3.74
Vanguard EM Bond (VEGBX)	-13.02 (40)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg Emerging Markets USD Aggregate Index	-15.26 (69)	-1.65 (43)	6.52 (53)	13.11 (78)	-2.46 (16)	8.17 (94)	9.88 (77)	1.29 (17)	4.76 (30)	-4.12 (31)
IM Emerging Markets Debt (MF) Median	-14.19	-1.97	6.76	14.75	-4.99	11.69	11.65	-1.16	2.39	-5.46

REIT

Vanguard Real Estate Index Fund (VGSNX)	-26.20 (51)	40.47 (61)	-4.67 (54)	29.02 (33)	-5.93 (54)	4.93 (58)	8.51 (21)	2.56 (58)	30.17 (36)	2.46 (29)
Vanguard Spliced REIT Index	-26.12 (47)	40.56 (60)	-4.55 (53)	29.03 (33)	-5.86 (52)	5.07 (54)	8.60 (20)	2.52 (58)	30.38 (30)	2.47 (29)
IM Real Estate Sector (MF) Median	-26.17	41.32	-4.31	27.32	-5.71	5.32	6.34	2.91	29.47	1.64

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of June 30, 2023

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Fund - Domestic Equity	-16.59	26.91	13.96	29.77	-7.16	20.07	13.45	-0.10	N/A	33.56
Total Domestic Large Cap Equity	-17.98	27.04	14.02	30.31	-5.16	20.67	13.09	1.00	N/A	N/A
S&P 500 Index	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39
Large Cap Growth	-33.14	27.27	41.61	37.36	-3.51	27.82	5.87	3.78	N/A	N/A
Vanguard Growth Index Hybrid	-33.13	27.30	40.27	37.31	-3.34	27.86	6.16	3.38	13.69	32.51
Russell 1000 Growth Index	-29.14	27.60	38.49	36.39	-1.51	30.21	7.08	5.67	13.05	33.48
Large Cap Core	-18.20	27.04	9.03	29.41	-5.71	19.57	14.29	0.18	N/A	N/A
S&P 500 Index	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39
Large Cap Value	-2.05	26.48	2.30	25.83	-5.50	17.14	16.87	-0.27	N/A	N/A
Vanguard Value Index Hybrid	-2.01	26.51	2.26	25.85	-5.40	17.16	16.93	-0.86	13.29	33.20
Russell 1000 Value Index	-7.54	25.16	2.80	26.54	-8.27	13.66	17.34	-3.83	13.45	32.53
Mid Cap Equity	-13.11	24.67	13.58	26.13	-10.44	19.29	11.23	-1.31	N/A	N/A
Mid Cap Hybrid Index	-13.06	24.76	13.66	26.20	-10.67	19.30	11.25	-1.28	13.83	35.21
Small Cap Equity	-16.18	26.74	11.46	22.74	-10.45	16.25	18.32	-3.63	N/A	N/A
Small Cap Hybrid Index	-16.10	26.82	11.29	22.78	-10.32	16.24	18.26	-3.68	7.54	37.77
Total Fund - International Equity	-18.46	6.98	10.24	21.55	-14.50	28.00	5.26	-5.56	N/A	13.97
Small Cap - International Equity	-21.25	12.76	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FTSE Global ex U.S. Small Cap Index (Net)	-21.58	13.02	11.40	21.55	-18.91	29.78	3.93	-0.61	-4.34	N/A
Developed Markets - International Equity	-15.34	11.44	10.27	22.14	-14.49	26.46	2.46	-0.41	N/A	N/A
Vanguard Spliced Developed ex U.S. Index (Net)	-15.58	11.57	10.00	22.34	-14.79	26.31	2.29	-0.28	-4.85	22.71
Emerging Markets - International Equity	-17.74	1.10	15.26	20.37	-14.54	31.43	11.76	-15.80	N/A	N/A
FTSE Emerging Mkts All Cap China A Inclusion Index	-17.26	1.76	15.84	20.81	-14.49	31.46	10.66	-13.28	2.96	-2.82
MSCI Emerging Markets (Net) Index	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19	-2.60

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of June 30, 2023

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Fund - Fixed Income	-11.27	0.05	6.75	10.16	-0.71	3.82	4.79	-0.18	N/A	-3.65
Short - Term Fixed Income	-5.61	-0.97	4.71	4.71	1.37	1.19	1.51	0.98	N/A	N/A
Bloomberg 1-5 Year Gov/Credit Idx	-5.50	-0.97	4.71	5.01	1.38	1.27	1.56	0.97	1.42	0.28
High Yield - Fixed Income	-8.97	3.78	5.38	15.90	-2.87	6.65	10.89	-1.28	N/A	N/A
Blmbg. U.S. Corp High Yield	-11.19	5.28	7.11	14.32	-2.08	7.50	17.13	-4.47	2.45	7.44
Non-US Fixed Income	-12.89	-2.17	4.59	7.89	3.00	2.43	4.69	N/A	N/A	N/A
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	-12.72	-2.10	4.75	8.06	3.16	2.57	4.90	1.34	9.14	1.26
Real Estate	-26.20	40.47	-4.67	29.02	-5.93	4.93	8.51	2.56	N/A	N/A
Vanguard Spliced REIT Index	-26.12	40.56	-4.55	29.03	-5.86	5.07	8.60	2.52	30.38	2.47

Returns for periods greater than one year are annualized.
 Returns are expressed as percentages.



Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2023

Multi Time Period Statistics												
	3 YR Return		3 YR Standard Deviation		3 YR Sharpe Ratio		5 YR Return		5 YR Standard Deviation		5 YR Sharpe Ratio	
Total Fund Performance	6.46		12.68		0.46		5.31		13.06		0.34	
Total Fund Policy	6.72		12.16		0.49		5.61		12.59		0.37	
Vanguard Instl Indx;Inst (VINIX) *	14.57	(6)	17.93	(36)	0.78	(9)	12.28	(6)	18.64	(34)	0.63	(6)
S&P 500 Index	14.60		17.93		0.78		12.31		18.64		0.64	
IM S&P 500 Index (MF) Median	14.21		17.93		0.76		11.96		18.63		0.62	
Vanguard Growth Index (VIGIX)	12.60	(17)	22.47	(22)	0.59	(23)	14.50	(12)	21.75	(21)	0.66	(18)
Vanguard Growth Index Hybrid	12.63		22.49		0.59		14.53		21.75		0.66	
IM U.S. Large Cap Growth Equity (MF) Median	9.86		21.31		0.50		12.06		20.93		0.58	
Vanguard Value Index (VIVIX)	15.39	(32)	16.55	(66)	0.87	(23)	9.35	(34)	18.07	(66)	0.50	(36)
Vanguard Value Index Hybrid	15.42		16.54		0.87		9.36		18.07		0.50	
IM U.S. Large Cap Value Equity (MF) Median	14.32		16.95		0.81		8.57		18.53		0.46	
Vanguard S&P MC400;Inst (VSPMX) *	15.37	(28)	19.92	(8)	0.75	(39)	7.72	(44)	22.51	(14)	0.38	(49)
S&P MidCap 400 Index	15.44		19.93		0.76		7.79		22.52		0.38	
IM U.S. Mid Cap Core Equity (MF) Median	13.58		18.14		0.71		7.39		20.89		0.37	
Vanguard S&P SC600;Inst (VSMSX) *	15.13	(44)	21.50	(31)	0.70	(51)	5.20	(47)	23.99	(40)	0.27	(48)
S&P SmallCap 600 Index	15.19		21.49		0.71		5.22		23.98		0.27	
IM U.S. Small Cap Core Equity (MF) Median	14.77		20.92		0.70		5.04		23.84		0.26	

* Mutual fund returns were used for this report if 3 & 5 year client specific results were not available.

The Vanguard Emerging Market Stock Index Fund performance shown may be different than actual performance as the client was invested in the ETF before transferring to the mutual fund.

All performance is reported net of fees.



Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2023

	3 YR Return		3 YR Standard Deviation		3 YR Sharpe Ratio		5 YR Return		5 YR Standard Deviation		5 YR Sharpe Ratio	
Vanguard Intl Val;Inv (VTRIX)*	11.64	(24)	18.94	(23)	0.61	(21)	4.92	(45)	19.15	(34)	0.27	(46)
MSCI EAFE Index	9.48		17.85		0.53		4.90		17.65		0.27	
IM International Large Cap Core Equity (MF) Median	9.24		18.69		0.50		4.79		18.27		0.26	
Vanguard Intl Gro;Adm (VWILX)*	3.82	(94)	23.23	(1)	0.22	(95)	6.92	(34)	22.52	(1)	0.34	(43)
MSCI EAFE Growth Index	6.62		18.69		0.37		5.80		17.68		0.32	
IM International Large Cap Growth Equity (MF) Median	7.70		18.76		0.41		5.85		18.51		0.32	
Vanguard FTSEUSSC;Ins (VFSNX) *	7.14	(24)	18.22	(78)	0.40	(22)	1.77	(47)	20.24	(50)	0.11	(46)
FTSE Global ex U.S. Small Cap Index (Net)	7.07		17.98		0.40		1.46		20.04		0.10	
IM International SMID Cap Growth Equity (MF) Median	4.45		19.11		0.26		1.55		20.24		0.11	
Vanguard Developed Markets Index (VTMNX)	9.02	(35)	18.67	(44)	0.49	(37)	4.41	(22)	18.68	(52)	0.24	(22)
Vanguard Spliced Developed ex U.S. Index (Net)	9.00		18.07		0.50		4.27		18.17		0.24	
IM International Multi-Cap Equity (MF) Median	7.64		18.48		0.44		3.43		18.71		0.19	
Vanguard Emerging Markets Index (VEMIX)	3.48	(38)	16.40	(89)	0.21	(37)	2.13	(32)	18.11	(89)	0.12	(34)
FTSE Emerging Mkts All Cap China A Inclusion Index	4.06		16.13		0.25		2.50		17.79		0.14	
IM Emerging Markets Equity (MF) Median	2.08		18.49		0.13		1.13		19.76		0.08	
Vanguard Short Term Bond Index (VBITX)	-1.61	(98)	2.79	(5)	-1.04	(86)	1.11	(72)	2.52	(44)	-0.16	(72)
Bloomberg 1-5 Year Gov/Credit Idx	-1.57		2.75		-1.04		1.15		2.52		-0.15	
IM U.S. Short Term Investment Grade (MF) Median	0.23		1.94		-0.59		1.41		2.36		-0.05	
Vanguard Tot Bd;Inst (VBTIX) *	-4.01	(69)	6.13	(66)	-0.85	(71)	0.79	(44)	5.48	(73)	-0.11	(49)
Blmbg. U.S. Aggregate Index	-3.97		6.09		-0.85		0.77		5.43		-0.12	
IM U.S. Broad Market Core Fixed Income (MF) Median	-3.73		6.19		-0.79		0.72		5.75		-0.11	
Vanguard High Yield Bond Fund (VWEAX)	2.45	(63)	8.07	(57)	0.18	(63)	3.41	(21)	8.64	(79)	0.25	(19)
Vanguard High Yield Corporate Composite Index	2.39		7.93		0.18		3.57		8.48		0.27	
IM U.S. High Yield Bonds (MF) Median	2.81		8.24		0.23		2.70		9.21		0.17	

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All performance is reported net of fees.



Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2023

	3 YR Return		3 YR Standard Deviation		3 YR Sharpe Ratio		5 YR Return		5 YR Standard Deviation		5 YR Sharpe Ratio	
Vanguard Tot Itl Bl;Inst (VTIFX) *	-3.34	(38)	5.49	(72)	-0.83	(90)	0.28	(26)	4.96	(85)	-0.23	(33)
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	-3.31		5.28		-0.85		0.38		4.82		-0.22	
IM International Fixed Income (MF) Median	-4.30		8.30		-0.67		-2.28		7.71		-0.36	
Vanguard Em Mkt Bond;Adm (VEGBX)*	0.35	(75)	10.53	(66)	-0.03	(73)	4.95	(4)	11.18	(83)	0.35	(4)
JPM GBI-EM Diversified	-3.33		11.89		-0.34		-1.28		12.21		-0.17	
IM Emerging Markets Debt - LC (MF) Median	0.59		10.76		-0.01		1.88		12.66		0.09	
Vanguard Real Estate Index Fund (VGSNX)	5.90	(71)	19.96	(32)	0.32	(71)	4.41	(50)	19.97	(31)	0.24	(52)
Vanguard Spliced REIT Index	6.00		19.94		0.33		4.48		19.96		0.24	
IM Real Estate Sector (MF) Median	6.84		19.82		0.38		4.41		19.57		0.24	

* Mutual fund returns were used for this report if 3 & 5 year client specific results were not available.

The Vanguard Emerging Market Stock Index Fund performance shown may be different than actual performance as the client was invested in the ETF before transferring to the mutual fund.
All performance is reported net of fees.



Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2023

Multi Time Period Statistics												
	10 YR Return		10 YR Standard Deviation		10 YR Sharpe Ratio		15 YR Return		15 YR Standard Deviation		15 YR Sharpe Ratio	
Total Fund Performance	6.64		10.86		0.56		6.43		11.97		0.52	
Total Fund Policy	6.85		10.60		0.59		6.93		11.94		0.56	
Vanguard Instl Indx;Inst (VINIX) *	12.83	(3)	15.12	(12)	0.82	(4)	10.87	(2)	17.32	(14)	0.65	
S&P 500 Index	12.86		15.12		0.82		10.88		17.32		0.65	
IM S&P 500 Index (MF) Median	12.44		15.10		0.80		10.41		17.30		0.62	
Vanguard Growth Index (VIGIX)	14.94	(17)	18.37	(42)	0.81	(26)	N/A		N/A		N/A	
Vanguard Growth Index Hybrid	14.97		18.39		0.81		12.33		19.57		0.66	
IM U.S. Large Cap Growth Equity (MF) Median	13.74		18.04		0.76		11.07		19.79		0.61	
Vanguard Value Index (VIVIX)	10.50	(22)	14.59	(69)	0.70	(19)	N/A		N/A		N/A	
Vanguard Value Index Hybrid	10.52		14.59		0.70		9.30		17.26		0.57	
IM U.S. Large Cap Value Equity (MF) Median	9.44		15.10		0.61		8.42		17.89		0.51	
Vanguard S&P MC400;Inst (VSPMX)	10.14	(10)	18.74	(69)	0.57	(14)	N/A		N/A		N/A	
S&P MidCap 400 Index	10.21		18.74		0.57		9.78		20.94		0.52	
IM U.S. SMID Cap Core Equity (MF) Median	8.25		19.36		0.47		8.38		21.61		0.46	
Vanguard S&P SC600;Inst (VSMSX)	9.79	(9)	20.94	(49)	0.51	(10)	N/A		N/A		N/A	
S&P SmallCap 600 Index	9.81		20.93		0.51		9.85		22.37		0.51	
IM U.S. Small Cap Core Equity (MF) Median	8.19		20.92		0.44		8.42		22.66		0.45	

The Vanguard Emerging Market Stock Index Fund performance shown may be different than actual performance as the client was invested in the ETF before transferring to the mutual fund.
All performance is reported net of fees.



Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2023

	10 YR Return		10 YR Standard Deviation		10 YR Sharpe Ratio		15 YR Return		15 YR Standard Deviation		15 YR Sharpe Ratio	
Vanguard Intl Val;Inv (VTRIX)	5.68	(46)	17.44	(35)	0.35	(64)	3.66	(78)	20.76	(33)	0.24	(78)
MSCI EAFE Index	5.91		16.09		0.38		3.85		19.72		0.26	
IM International Large Cap Core Equity (MF) Median	5.66		16.71		0.36		4.00		20.32		0.26	
Vanguard Intl Gro;Adm (VWILX)	9.47	(9)	21.60	(2)	0.48	(26)	6.76	(10)	23.58	(1)	0.36	(31)
MSCI EAFE Growth Index	6.81		16.23		0.43		4.48		19.40		0.29	
IM International Large Cap Growth Equity (MF) Median	6.87		16.99		0.42		5.14		20.23		0.32	
Vanguard FTSEUSSC;Ins (VFSNX)	4.97	(65)	19.00	(68)	0.30	(62)	N/A		N/A		N/A	
FTSE Global ex U.S. Small Cap Index (Net)	4.67		18.89		0.29		N/A		N/A		N/A	
IM International SMID Cap Growth Equity (MF) Median	5.29		19.44		0.33		4.60		23.21		0.28	
Vanguard Developed Markets Index (VTMNX)	5.69	(22)	16.72	(59)	0.36	(20)	N/A		N/A		N/A	
Vanguard Spliced Developed ex U.S. Index (Net)	5.63		16.55		0.36		3.50		19.96		0.24	
IM International Multi-Cap Equity (MF) Median	5.06		17.10		0.32		3.15		20.43		0.22	
Vanguard EM St I;Inst (VEMIX)*	3.23	(39)	17.03	(92)	0.22	(37)	1.93	(45)	22.44	(84)	0.17	(47)
Vanguard Spliced Emerging Markets Index (Net)	3.21		16.85		0.22		1.98		22.28		0.17	
IM Emerging Markets Equity (MF) Median	2.84		18.78		0.19		1.76		23.40		0.17	
Vanguard Sh-Tm B;Inst (VBITX)	1.09	(62)	2.17	(47)	0.07	(63)	N/A		N/A		N/A	
Bloomberg 1-5 Year Gov/Credit Idx	1.14		2.16		0.09		1.88		2.16		0.53	
IM U.S. Short Term Investment Grade (MF) Median	1.23		2.06		0.13		1.70		2.48		0.37	
Vanguard Tot Bd;Inst (VBTIX)	1.49	(51)	4.48	(70)	0.14	(48)	2.71	(58)	4.28	(81)	0.48	(38)
Blmbg. U.S. Aggregate Index	1.52		4.40		0.15		2.73		4.21		0.49	
IM U.S. Broad Market Core Fixed Income (MF) Median	1.50		4.63		0.13		2.83		4.84		0.45	
Vanguard HY Corp;Adm (VWEAX)	4.23	(16)	7.08	(93)	0.49	(7)	5.81	(20)	8.94	(93)	0.59	(4)
Blmbg. U.S. Corp High Yield	4.43		8.33		0.45		6.56		11.59		0.54	
IM U.S. High Yield Bonds (MF) Median	3.57		8.24		0.35		5.29		10.75		0.46	

The Vanguard Emerging Market Stock Index Fund performance shown may be different than actual performance as the client was invested in the ETF before transferring to the mutual fund.
All performance is reported net of fees.

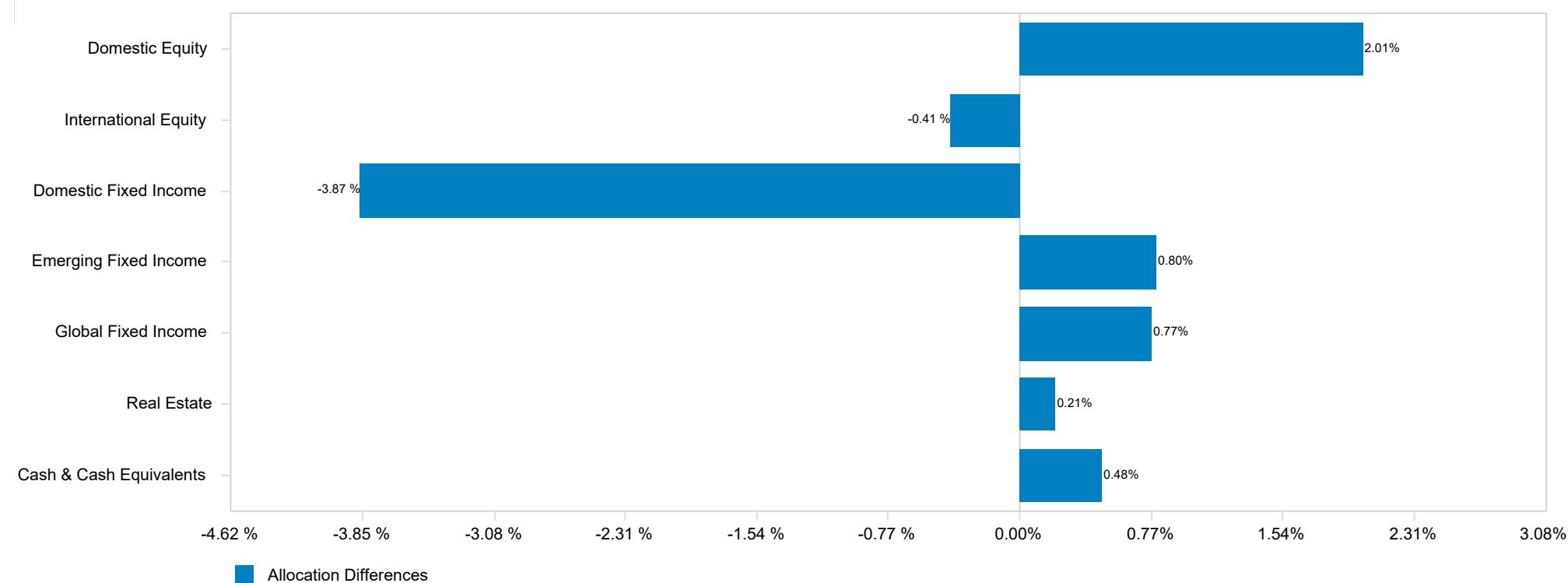


Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2023

	10 YR Return		10 YR Standard Deviation		10 YR Sharpe Ratio		15 YR Return		15 YR Standard Deviation		15 YR Sharpe Ratio	
Vanguard Tot Itl Bl;Inst (VTIFX)	2.08	(8)	4.12	(83)	0.29	(10)	N/A		N/A		N/A	
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	2.24		4.11		0.33		N/A		N/A		N/A	
IM International Fixed Income (MF) Median	-0.72		8.00		-0.17		1.55		9.01		0.13	
Vanguard Em Mkt Bond;Adm (VEGBX)	N/A		N/A		N/A		N/A		N/A		N/A	
JPM GBI-EM Diversified	-1.15		12.33		-0.11		1.30		12.55		0.11	
IM Emerging Markets Debt - LC (MF) Median	0.97		12.87		0.07		N/A		N/A		N/A	
Vanguard RE Idx;Inst (VGSNX)	6.15	(45)	16.63	(39)	0.39	(48)	6.81	(34)	23.51	(36)	0.38	(37)
Vanguard Spliced REIT Index	6.24		16.64		0.39		6.82		23.51		0.38	
IM Real Estate Sector (MF) Median	6.04		16.38		0.39		6.21		23.12		0.36	

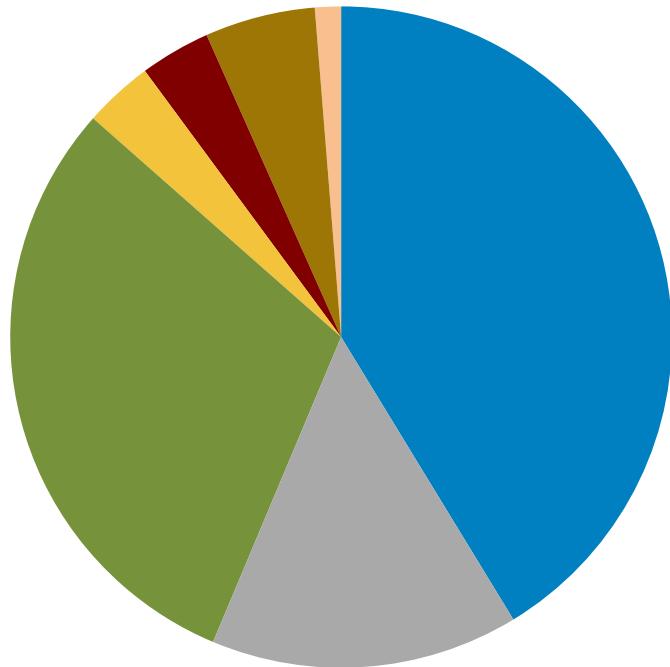
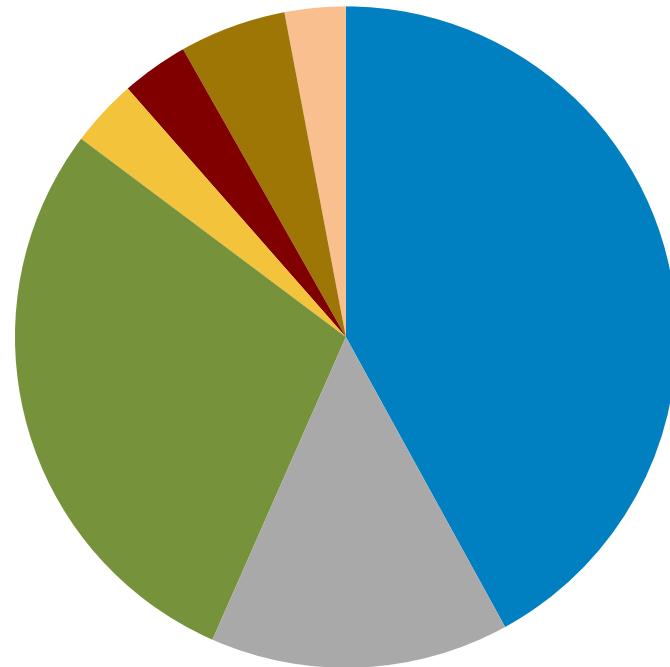
The Vanguard Emerging Market Stock Index Fund performance shown may be different than actual performance as the client was invested in the ETF before transferring to the mutual fund.
All performance is reported net of fees.





Asset Allocation Compliance

	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)
Domestic Equity	42.01	40.00	15.00	65.00
International Equity	14.59	15.00	5.00	25.00
Domestic Fixed Income	28.63	32.50	15.00	50.00
Emerging Fixed Income	3.30	2.50	0.00	5.00
Global Fixed Income	3.27	2.50	0.00	5.00
Real Estate	5.21	5.00	0.00	10.00
Cash & Cash Equivalents	2.98	2.50	0.00	5.00
Total Fund	100.00	100.00	N/A	N/A

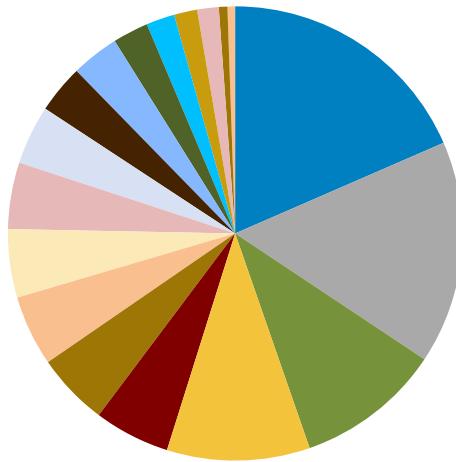
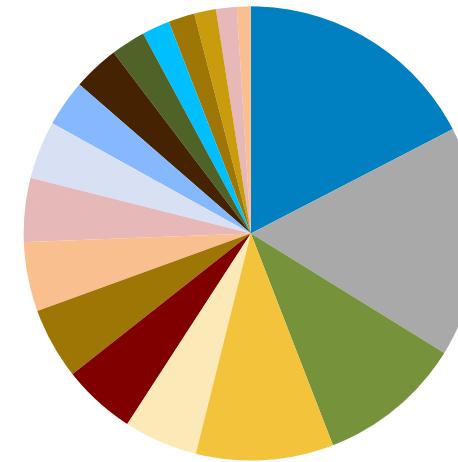
Asset Allocation By Segment as of
March 31, 2023 : \$234,581,238Asset Allocation By Segment as of
June 30, 2023 : \$246,748,149

Allocation

Segments	Market Value	Allocation
Domestic Equity	96,858,183	41.3
International Equity	35,270,591	15.0
Domestic Fixed Income	70,803,670	30.2
Emerging Fixed Income	7,939,259	3.4
Global Fixed Income	8,068,423	3.4
Real Estate	12,646,913	5.4
Cash	2,994,200	1.3

Allocation

Segments	Market Value	Allocation
Domestic Equity	103,670,743	42.0
International Equity	36,007,472	14.6
Domestic Fixed Income	70,645,628	28.6
Emerging Fixed Income	8,139,872	3.3
Global Fixed Income	8,078,969	3.3
Real Estate	12,853,432	5.2
Cash	7,352,034	3.0

Asset Allocation By Manager as of
Mar-2023 : \$234,581,238Asset Allocation By Manager as of
Jun-2023 : \$246,748,149

Allocation

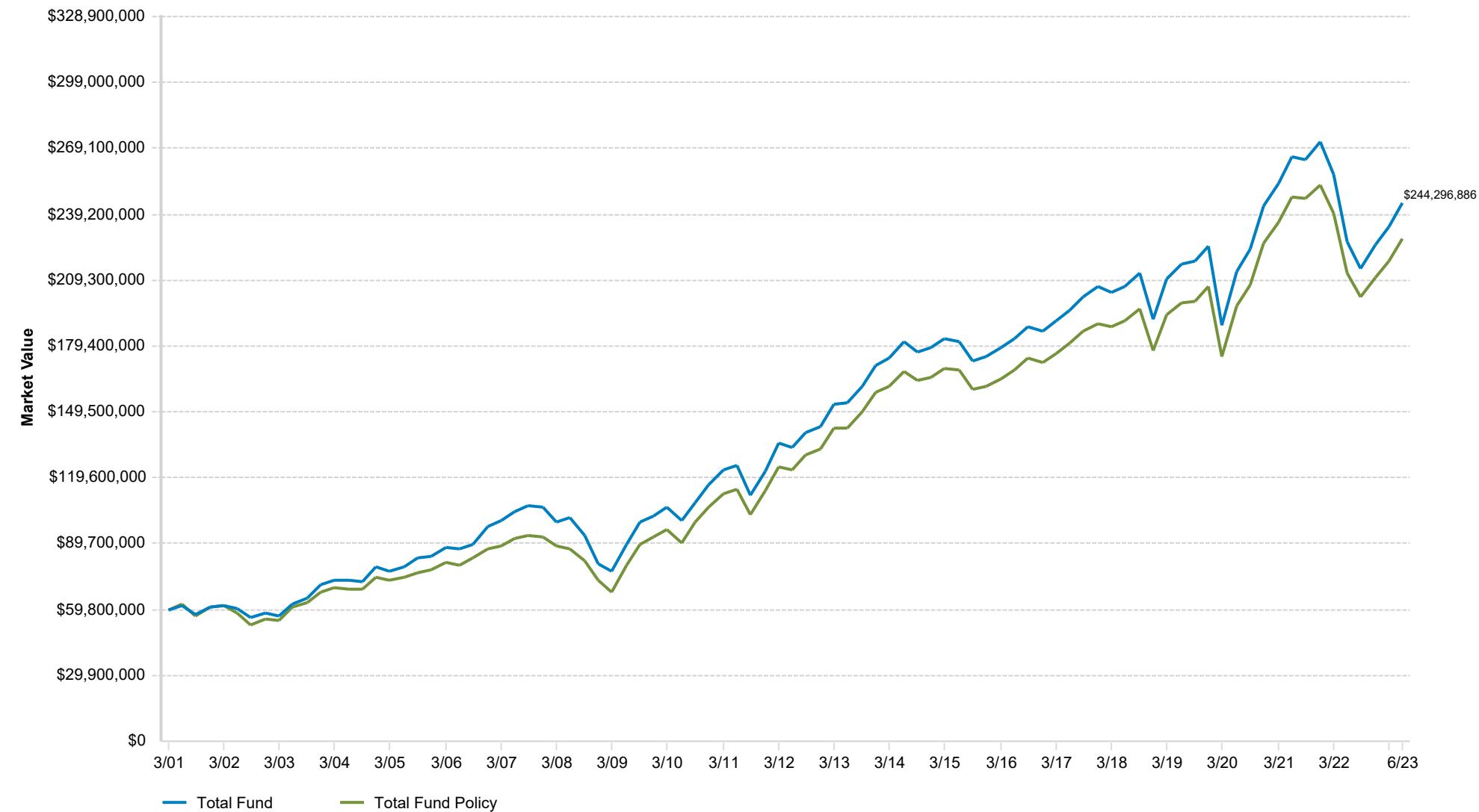
	Market Value	Allocation
Vanguard Total Bond Index (VBTIX)	43,315,084	18.5
Vanguard Inst'l Index Fund (VINIX)	37,263,668	15.9
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	24,255,228	10.3
Vanguard High Yield Bond Fund (VWEAX)	23,847,781	10.2
Vanguard Real Estate Index Fund (VGSNX)	12,646,913	5.4
Vanguard Value Index (VIVIX)	12,105,916	5.2
Vanguard Small-Cap 600 Index I (VSMSX)	11,795,780	5.0
Vanguard Growth Index (VIGIX)	11,437,591	4.9
Vanguard Emerging Markets Index (VEMIX)	11,092,686	4.7
Vanguard Developed Markets Index (VTMNX)	9,889,381	4.2
Vanguard International Bond (VTIFX)	8,080,256	3.4
Vanguard EM Bond (VEGBX)	7,984,011	3.4
Vanguard FTSE AW ex-US SC Index (VFSNX)	5,959,695	2.5
Vanguard Intl Value (VTRIX)	4,736,693	2.0
Vanguard Short Term Bond Index (VBITX)	3,868,875	1.6
Vanguard Intl Growth (VWILX)	3,592,136	1.5
Disbursement & MF Cash	1,423,596	0.6
NMA	1,285,948	0.5

Allocation

	Market Value	Allocation
Vanguard Total Bond Index (VBTIX)	42,925,946	17.4
Vanguard Inst'l Index Fund (VINIX)	40,517,640	16.4
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	25,427,425	10.3
Vanguard High Yield Bond Fund (VWEAX)	24,114,726	9.8
Vanguard Growth Index (VIGIX)	12,994,020	5.3
Vanguard Real Estate Index Fund (VGSNX)	12,853,432	5.2
Vanguard Value Index (VIVIX)	12,538,475	5.1
Vanguard Small-Cap 600 Index I (VSMSX)	12,193,183	4.9
Vanguard Emerging Markets Index (VEMIX)	11,213,753	4.5
Vanguard Developed Markets Index (VTMNX)	10,200,527	4.1
Vanguard EM Bond (VEGBX)	8,187,120	3.3
Vanguard International Bond (VTIFX)	8,091,904	3.3
Vanguard FTSE AW ex-US SC Index (VFSNX)	6,071,553	2.5
Vanguard Intl Value (VTRIX)	4,897,714	2.0
Disbursement & MF Cash	4,601,371	1.9
Vanguard Short Term Bond Index (VBITX)	3,844,172	1.6
Vanguard Intl Growth (VWILX)	3,623,925	1.5
NMA	2,451,262	1.0

Asset Allocation Attributes																	
	Domestic Equity		International Equity		Domestic Fixed Income		Emerging Fixed Income		Global Fixed Income		Real Estate		Cash		Total Fund		
	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%	
Vanguard Inst'l Index Fund (VINIX)	40,518	100.0	-	-	-	-	-	-	-	-	-	-	-	-	40,518	16.4	
Vanguard Value Index (VIVIX)	12,538	100.0	-	-	-	-	-	-	-	-	-	-	-	-	12,538	5.1	
Vanguard Small-Cap 600 Index I (VSMSX)	12,193	100.0	-	-	-	-	-	-	-	-	-	-	-	-	12,193	4.9	
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	25,427	100.0	-	-	-	-	-	-	-	-	-	-	-	-	25,427	10.3	
Vanguard Growth Index (VIGIX)	12,994	100.0	-	-	-	-	-	-	-	-	-	-	-	-	12,994	5.3	
Twin Capital Enhanced Index	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	
Vanguard Intl Value (VTRIX)	-	-	4,898	100.0	-	-	-	-	-	-	-	-	-	-	4,898	2.0	
Vanguard Intl Growth (VWILX)	-	-	3,624	100.0	-	-	-	-	-	-	-	-	-	-	3,624	1.5	
Vanguard FTSE AW ex-US SC Index (VFSNX)	-	-	6,072	100.0	-	-	-	-	-	-	-	-	-	-	6,072	2.5	
Vanguard Developed Markets Index (VTMNX)	-	-	10,201	100.0	-	-	-	-	-	-	-	-	-	-	10,201	4.1	
Vanguard Emerging Markets Index (VEMIX)	-	-	11,214	100.0	-	-	-	-	-	-	-	-	-	-	11,214	4.5	
Vanguard High Yield Bond Fund (VWEAX)	-	-	-	-	23,993	99.5	-	-	-	-	-	-	-	121	0.5	24,115	9.8
Vanguard Short Term Bond Index (VBITX)	-	-	-	-	3,837	99.8	-	-	-	-	-	-	-	7	0.2	3,844	1.6
Vanguard Total Bond Index (VBTIX)	-	-	-	-	42,816	99.7	-	-	-	-	-	-	-	110	0.3	42,926	17.4
Vanguard International Bond (VTIFX)	-	-	-	-	-	-	-	-	8,079	99.8	-	-	-	13	0.2	8,092	3.3
Vanguard EM Bond (VEGBX)	-	-	-	-	-	-	8,140	99.4	-	-	-	-	-	47	0.6	8,187	3.3
Vanguard Real Estate Index Fund (VGSNX)	-	-	-	-	-	-	-	-	-	-	12,853	100.0	-	-	12,853	5.2	
Disbursement & MF Cash	-	-	-	-	-	-	-	-	-	-	-	-	-	4,601	100.0	4,601	1.9
NMA	-	-	-	-	-	-	-	-	-	-	-	-	-	2,451	100.0	2,451	1.0
Total Fund	103,671	42.0	36,007	14.6	70,646	28.6	8,140	3.3	8,079	3.3	12,853	5.2	7,352	3.0	246,748	100.0	

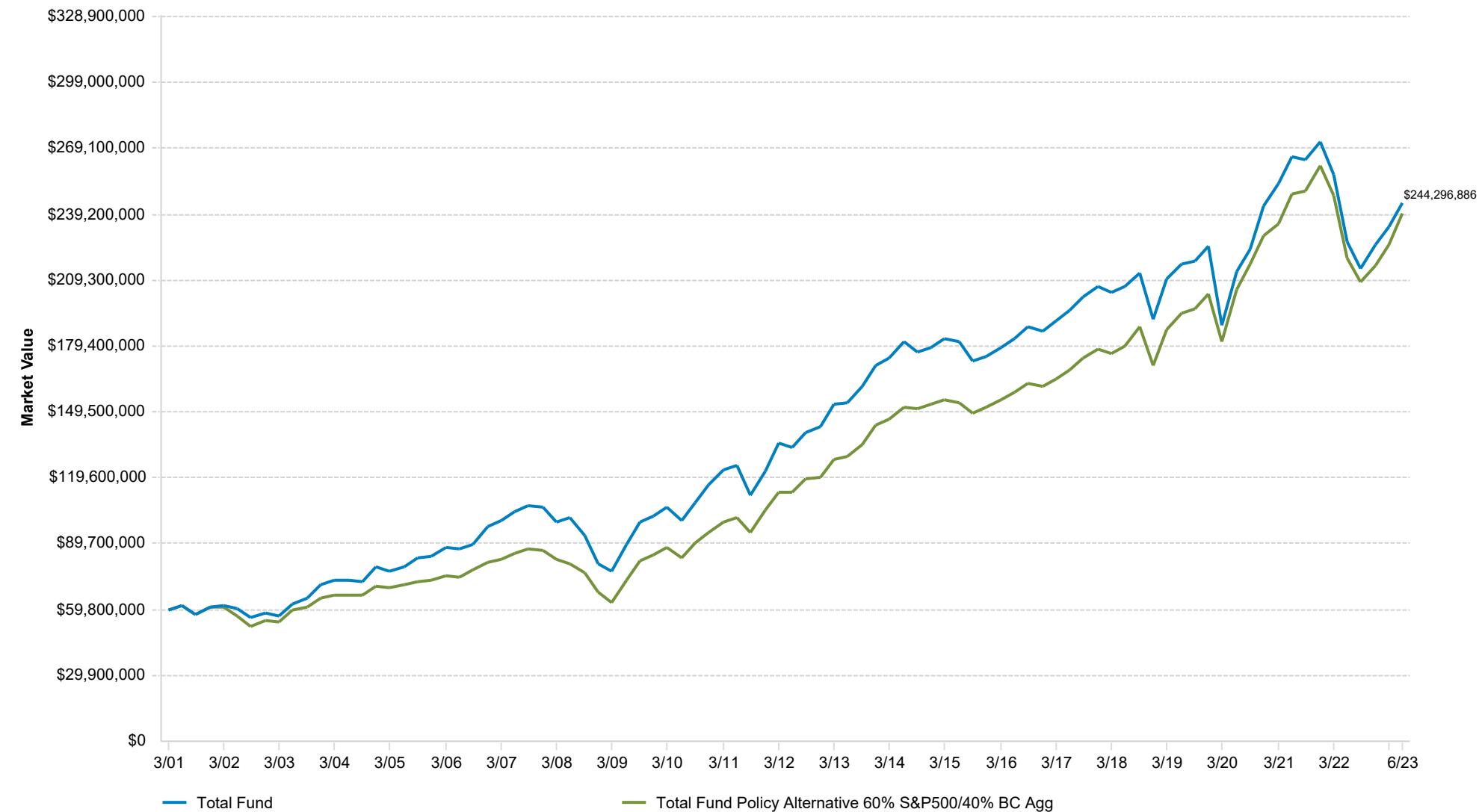


Schedule of Investable Assets
Total Fund
January 1, 2001 To June 30, 2023
Schedule of Investable Assets

Schedule of Investable Assets

Periods Ending	Beginning Market Value \$	Net Cash Flow \$	Gain/Loss \$	Ending Market Value \$	%Return
Jan-2001 To Jun-2023	59,528,253	-23,043,696	207,812,329	244,296,886	288.17

Does not include Non-Measured Assets (NMA).



Schedule of Investable Assets
Total Fund
January 1, 2001 To June 30, 2023
Schedule of Investable Assets

Schedule of Investable Assets

Periods Ending	Beginning Market Value \$	Net Cash Flow \$	Gain/Loss \$	Ending Market Value \$	%Return
Jan-2001 To Jun-2023	59,528,253	-23,043,696	207,812,329	244,296,886	288.17

Does not include Non-Measured Assets (NMA).



	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Vanguard Inst'l Index Fund (VINIX)	0.03	40,517,640	12,155	0.03 % of Assets
Vanguard Growth Index (VIGIX)	0.04	12,994,020	5,198	0.04 % of Assets
Vanguard Value Index (VIVIX)	0.04	12,538,475	5,015	0.04 % of Assets
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	0.08	25,427,425	20,342	0.08 % of Assets
Vanguard Small-Cap 600 Index I (VSMSX)	0.08	12,193,183	9,755	0.08 % of Assets
Vanguard Intl Value (VTRIX)	0.35	4,897,714	17,142	0.35 % of Assets
Vanguard Intl Growth (VWILX)	0.33	3,623,925	11,959	0.33 % of Assets
Vanguard FTSE AW ex-US SC Index (VFSNX)	0.11	6,071,553	6,679	0.11 % of Assets
Vanguard Developed Markets Index (VTMNX)	0.05	10,200,527	5,100	0.05 % of Assets
Vanguard Emerging Markets Index (VEMIX)	0.10	11,213,753	11,214	0.10 % of Assets
Vanguard Short Term Bond Index (VBITX)	0.05	3,844,172	1,922	0.05 % of Assets
Vanguard Total Bond Index (VBTIX)	0.03	42,925,946	12,878	0.03 % of Assets
Vanguard High Yield Bond Fund (VWEAX)	0.13	24,114,726	31,349	0.13 % of Assets
Vanguard International Bond (VTIFX)	0.07	8,091,904	5,664	0.07 % of Assets
Vanguard EM Bond (VEGBX)	0.45	8,187,120	36,842	0.45 % of Assets
Vanguard Real Estate Index Fund (VGSNX)	0.10	12,853,432	12,853	0.10 % of Assets
Total Fund Performance	0.08	244,296,886	206,067	

Does not include Non-Measured Assets (NMA).

Fee information on this page is an illustrative estimate of management fees based on current reported portfolio values. Fee estimates do not reflect actual calculation methodologies or applicable carried interest.



Quarter To Date	Market Value 04/01/2023	Management Fees	Net Flows	Return On Investment	Market Value 06/30/2023
Domestic Equity					
Vanguard Inst'l Index Fund (VINIX)	37,263,668	-	-	3,253,972	40,517,640
Vanguard Value Index (VIVIX)	12,105,916	-	-	432,558	12,538,475
Vanguard Small-Cap 600 Index I (VSMSX)	11,795,780	-	-	397,403	12,193,183
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	24,255,228	-	-	1,172,198	25,427,425
Vanguard Growth Index (VIGIX)	11,437,591	-	-	1,556,429	12,994,020
International Equity					
Vanguard Intl Value (VTRIX)	4,736,693	-	-	161,021	4,897,714
Vanguard Intl Growth (VWILX)	3,592,136	-	-	31,789	3,623,925
Vanguard FTSE AW ex-US SC Index (VFSNX)	5,959,695	-	-	111,857	6,071,553
Vanguard Developed Markets Index (VTMNX)	9,889,381	-	-	311,146	10,200,527
Vanguard Emerging Markets Index (VEMIX)	11,092,686	-	-	121,067	11,213,753
Fixed Income					
Vanguard Short Term Bond Index (VBITX)	3,868,875	-	-	-24,703	3,844,172
Vanguard Total Bond Index (VBTIX)	43,315,084	-	-	-389,138	42,925,946
Vanguard High Yield Bond Fund (VWEAX)	23,847,781	-	-	266,946	24,114,726
Vanguard International Bond (VTIFX)	8,080,256	-	-	11,648	8,091,904
Vanguard EM Bond (VEGBX)	7,984,011	-	-	203,109	8,187,120
REIT					
Vanguard Real Estate Index Fund (VGSNX)	12,646,913	-	-	206,518	12,853,432
Disbursement & MF Cash	1,423,596	-	3,140,873	36,902	4,601,371
Total Fund Performance	233,295,290	-	3,140,873	7,860,723	244,296,886
NMA	1,285,948	-	1,165,314	-	2,451,262
Total Fund	234,581,238	-	4,306,187	7,860,723	246,748,149

Year To Date	Market Value 01/01/2023	Management Fees	Net Flows	Return On Investment	Market Value 06/30/2023
Domestic Equity					
Vanguard Inst'l Index Fund (VINIX)	34,668,004	-	-	5,849,636	40,517,640
Vanguard Value Index (VIVIX)	14,189,986	-	-2,000,000	348,489	12,538,475
Vanguard Small-Cap 600 Index I (VSMSX)	11,501,932	-	-	691,250	12,193,183
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	25,186,430	-	-2,000,000	2,240,996	25,427,425
Vanguard Growth Index (VIGIX)	9,754,505	-	-	3,239,515	12,994,020
International Equity					
Vanguard Intl Value (VTRIX)	4,359,758	-	-	537,956	4,897,714
Vanguard Intl Growth (VWILX)	3,193,010	-	-	430,915	3,623,925
Vanguard FTSE AW ex-US SC Index (VFSNX)	5,623,130	-	-	448,423	6,071,553
Vanguard Developed Markets Index (VTMNX)	9,174,392	-	-	1,026,135	10,200,527
Vanguard Emerging Markets Index (VEMIX)	10,707,303	-	-	506,450	11,213,753
Fixed Income					
Vanguard Short Term Bond Index (VBITX)	3,795,614	-	-	48,558	3,844,172
Vanguard Total Bond Index (VBTIX)	41,986,723	-	-	939,223	42,925,946
Vanguard High Yield Bond Fund (VWEAX)	23,109,650	-	-	1,005,076	24,114,726
Vanguard International Bond (VTIFX)	7,801,035	-	-	290,868	8,091,904
Vanguard EM Bond (VEGBX)	7,786,237	-	-	400,884	8,187,120
REIT					
Vanguard Real Estate Index Fund (VGSNX)	12,424,512	-	-	428,920	12,853,432
Disbursement & MF Cash	39,388	-	4,510,427	51,556	4,601,371
Total Fund Performance	225,301,609	-	510,427	18,484,850	244,296,886
NMA	1,198,200	-	1,253,062	-	2,451,262
Total Fund	226,499,809	-	1,763,490	18,484,850	246,748,149

Goals

- Maintain the actuarial soundness of the Plan in order to meet future obligations by preserving the inflation adjusted value of the Plan's assets after all investment expenses, administrative costs, benefit payments and refunds.
- Obtain an average annual rate of investment return equal to or greater than the actuarial assumed rate of 7.5% (net of fees), with an emphasis over a longer term (fifteen year) trailing period.

Asset Allocation Ranges (Based on IPS Second Addendum)

Asset Class	Minimum	Target	Maximum
Large Cap Core	10%	15%	20%
Large Cap Value	0%	5%	10%
Large Cap Growth	0%	5%	10%
Mid Cap Core	5%	10%	15%
Small Cap Core	0%	5%	10%
International Developed Markets	5%	7.5%	15%
International Emerging Markets	0%	5%	10%
All World ex US Small Cap	0%	2.5%	5%
Aggregate Fixed Income	10%	20%	30%
Short-Term Fixed Income	0%	2.5%	5%
High Yield Fixed Income	5%	10%	15%
Non-US Fixed Income	0%	5%	10%
Real Estate	0%	5%	10%
Cash	0%	2.5%	5%

Rebalancing Policy

The Investment Consultant will monitor the asset allocation policy and shall recommend any necessary rebalancing on a quarterly basis, or more frequently. At each quarterly Board meeting, the Investment Consultant will provide the Plan's actual and target allocations (including ranges). Upon any Board approval, the Investment Consultant will initiate rebalancing.

Other Portfolio Guidelines and Restrictions

- Additional investment policies and guidelines are contained in the formal Investment Policy Statement.

Portfolio Guidelines and Restrictions

Equity Guidelines

- Equity investment manager of a separate account should diversify their portfolio in an attempt to minimize the impact of a substantial loss in any specific sector, industry or company.
- No more than 5% of each manager's equity holdings shall be invested in the securities of any one company (valued at market).
- The economic sector weightings shall not exceed the greater of two and half times the appropriate benchmark, valued at market, or 15% of the equity portfolio.
- The market for individual security holdings in the equity portfolio shall be liquid enough to allow for easy monetization.

Fixed Income Guidelines

- A fixed income investment manager of a separate account should diversify their portfolio in an attempt to minimize the adverse effects of interest rate fluctuations and default risk.
- No more than 5% of the fixed income portfolio in any one issuer, excluding direct and/or indirect obligations of the US Government.
- The market for individual security holdings in the fixed income shall be liquid enough to allow for easy monetization.
- The minimum quality rating for any fixed income security is an "investment grade" rating as determined by at least one nationally recognized credit ratings agency. Bond held in the fixed income portfolio must be rated investment grade ("Baa/BBB") or better by at least one agency, with the exception of securities held in a high-yield bond fund.
- The duration of the bonds held in the portfolios are at the discretion of the investment manager(s). However, the effective duration of the fixed income security should be within +/-20% of the index.

Cash & Equivalents Restrictions

- Commercial paper must be rated A-1 or P-1 by at least one nationally recognized credit rating agency.

Permissible Investments

- Permissible investments include those identified in the Plan's Asset Allocation Policy, subject to state statute and local ordinance.

Prohibited Investments

- Prohibited investments include those not specifically identified in the Plan's Asset Allocation Policy without prior approval of the Board, upon recommendation of the Investment Consultant.

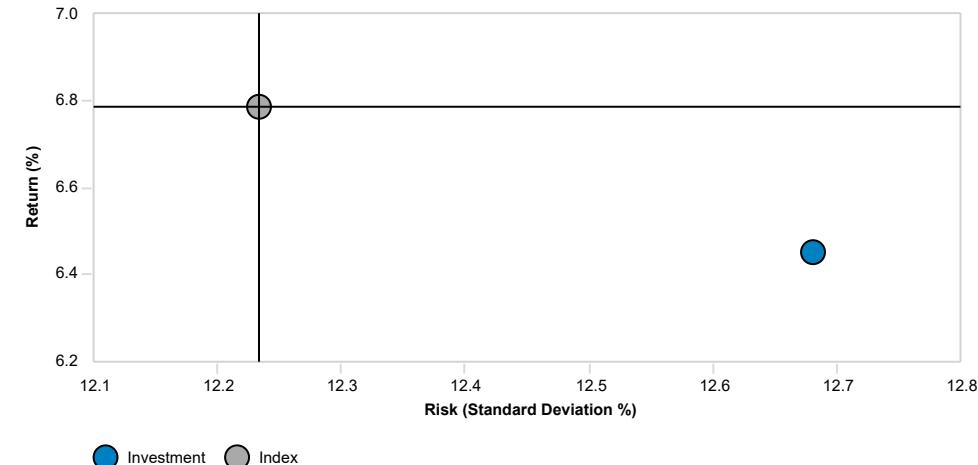
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	6.46	12.68	0.46	102.47	8	105.62	4
Index	6.79	12.23	0.50	100.00	8	100.00	4

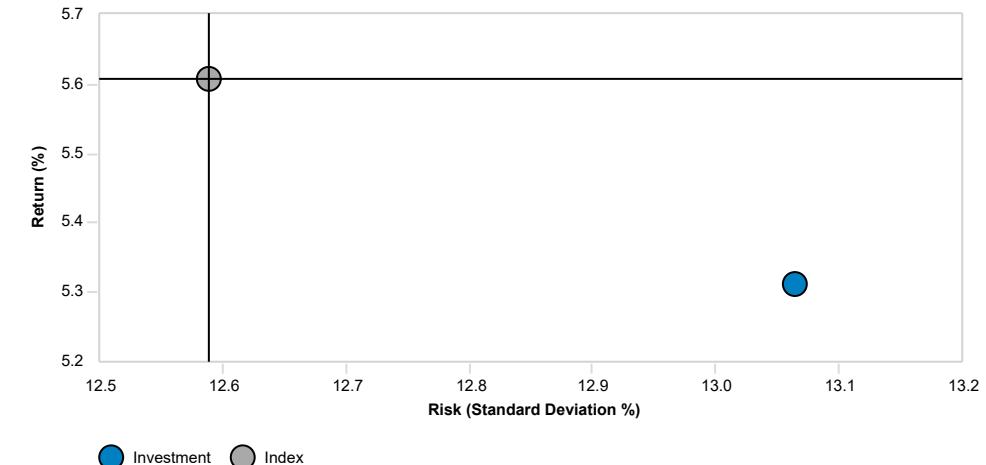
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.31	13.06	0.34	102.66	14	105.37	6
Index	5.61	12.59	0.37	100.00	14	100.00	6

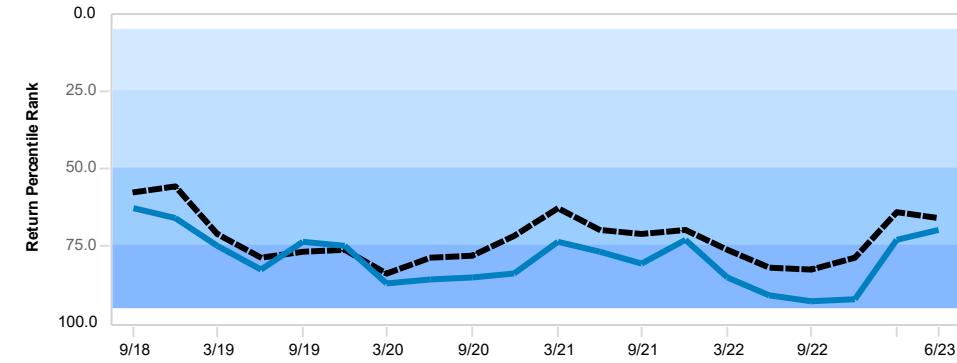
Risk and Return 3 Years



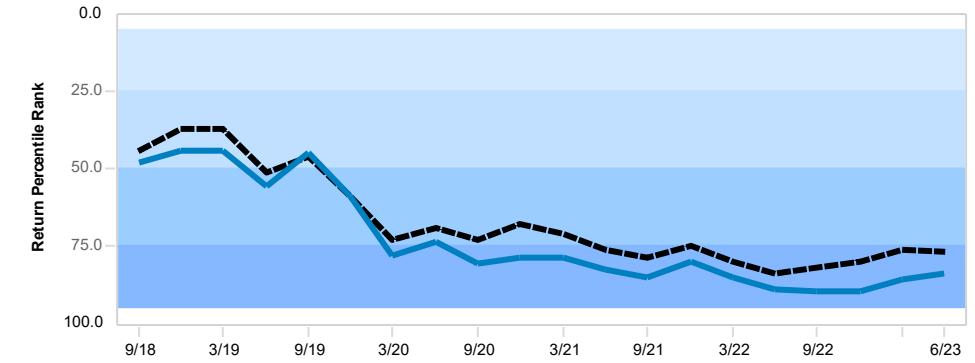
Risk and Return 5 Years



3 Year Rolling Percentile Rank All Public Plans-Total Fund



5 Year Rolling Percentile Rank All Public Plans-Total Fund



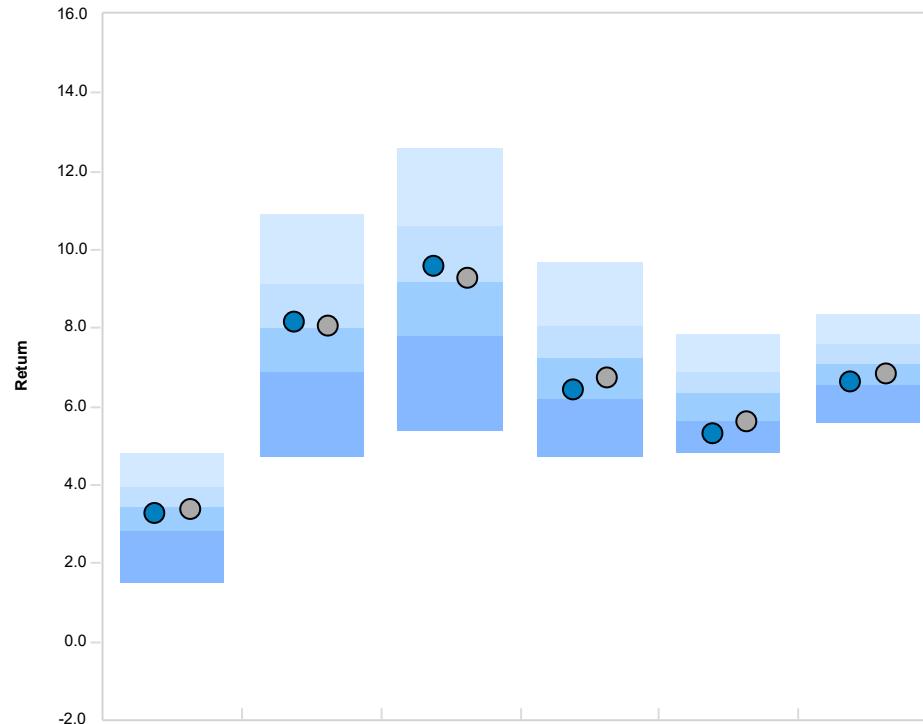
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	0 (0%)	9 (45%)	11 (55%)
Index	20	0 (0%)	0 (0%)	10 (50%)	10 (50%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	4 (20%)	3 (15%)	13 (65%)
Index	20	0 (0%)	4 (20%)	8 (40%)	8 (40%)

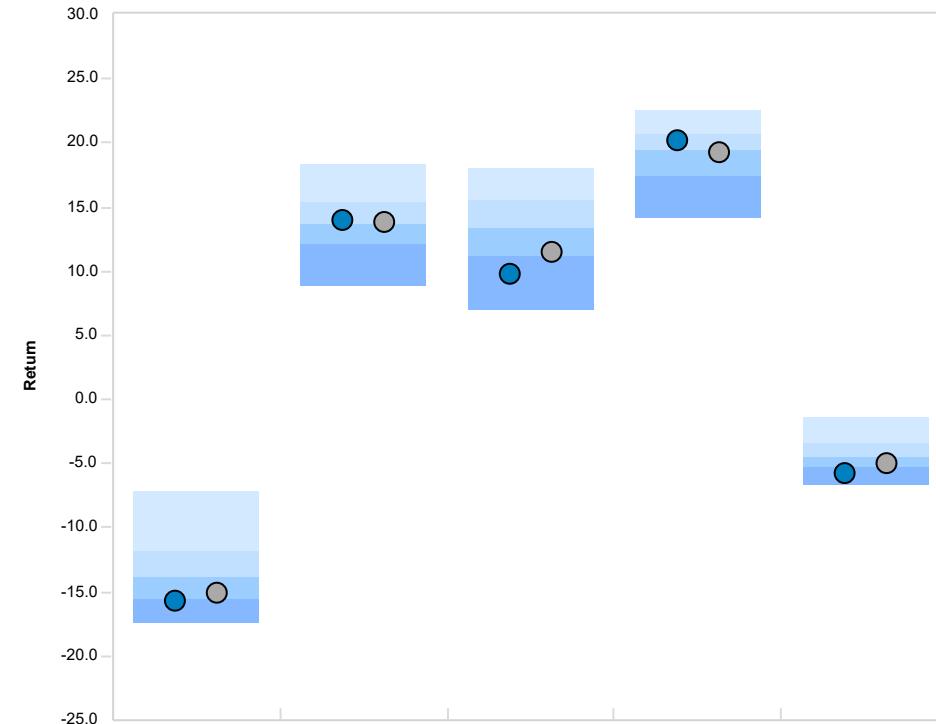
Does not include Non-Measured Assets (NMA).



Plan Sponsor Peer Group Analysis vs. All Public Plans-Total Fund



Plan Sponsor Peer Group Analysis vs. All Public Plans-Total Fund



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
● Investment	3.29 (59)	8.17 (48)	9.58 (41)	6.46 (70)	5.31 (84)	6.64 (72)
○ Index	3.37 (56)	8.08 (50)	9.28 (49)	6.72 (66)	5.61 (77)	6.85 (64)
Median	3.45	8.01	9.16	7.23	6.36	7.09

	2022	2021	2020	2019	2018
● Investment	-15.61 (76)	14.00 (44)	9.84 (86)	20.21 (36)	-5.76 (86)
○ Index	-15.03 (69)	13.87 (47)	11.44 (73)	19.29 (51)	-4.94 (64)
Median	-13.82	13.63	13.30	19.36	-4.45

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 04/01/2001	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	59,528,253	-23,889,736	208,658,369	244,296,886

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	4.72	6.81	-5.15	-11.85	-5.51	5.02
Index	4.60	6.41	-4.91	-11.37	-5.06	4.75

Does not include Non-Measured Assets (NMA).



Strategy Review
Vanguard Instl Indx;Inst (VINIX) | S&P 500 Index
As of June 30, 2023

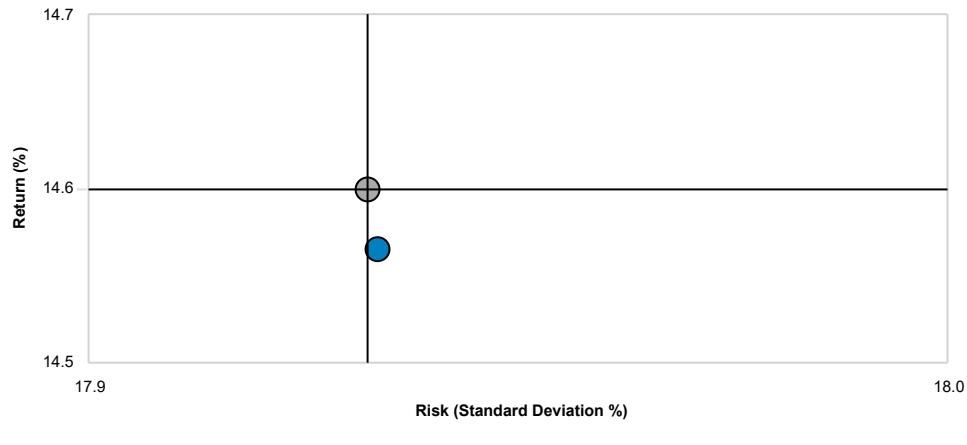
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.57	17.93	0.78	99.95	9	100.07	3
Index	14.60	17.93	0.78	100.00	9	100.00	3

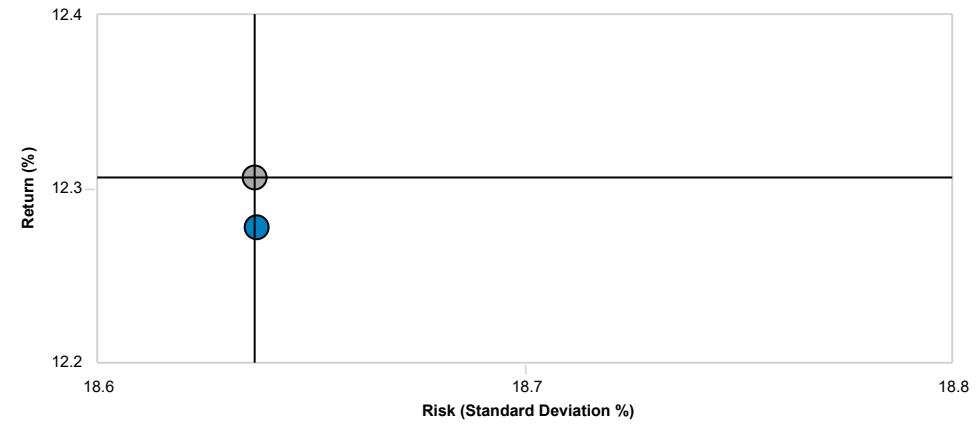
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	12.28	18.64	0.63	99.96	15	100.05	5
Index	12.31	18.64	0.64	100.00	15	100.00	5

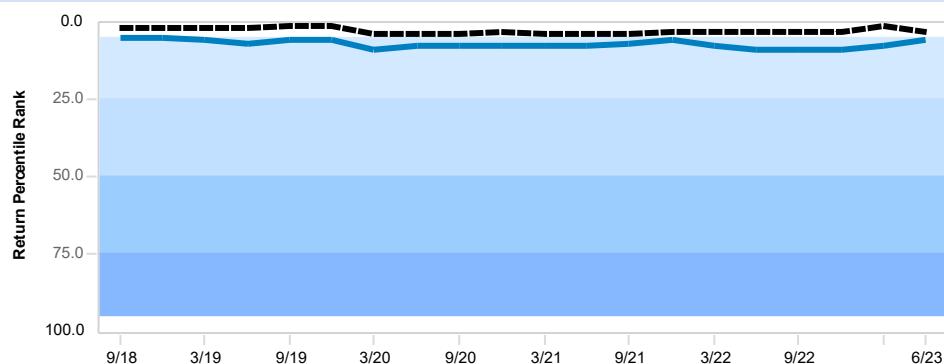
Risk and Return 3 Years



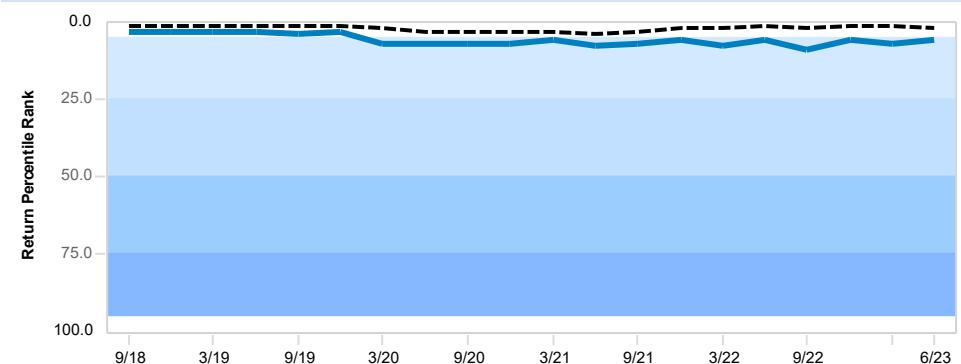
Risk and Return 5 Years



3 Year Rolling Percentile Rank IM S&P 500 Index (MF)



5 Year Rolling Percentile Rank IM S&P 500 Index (MF)



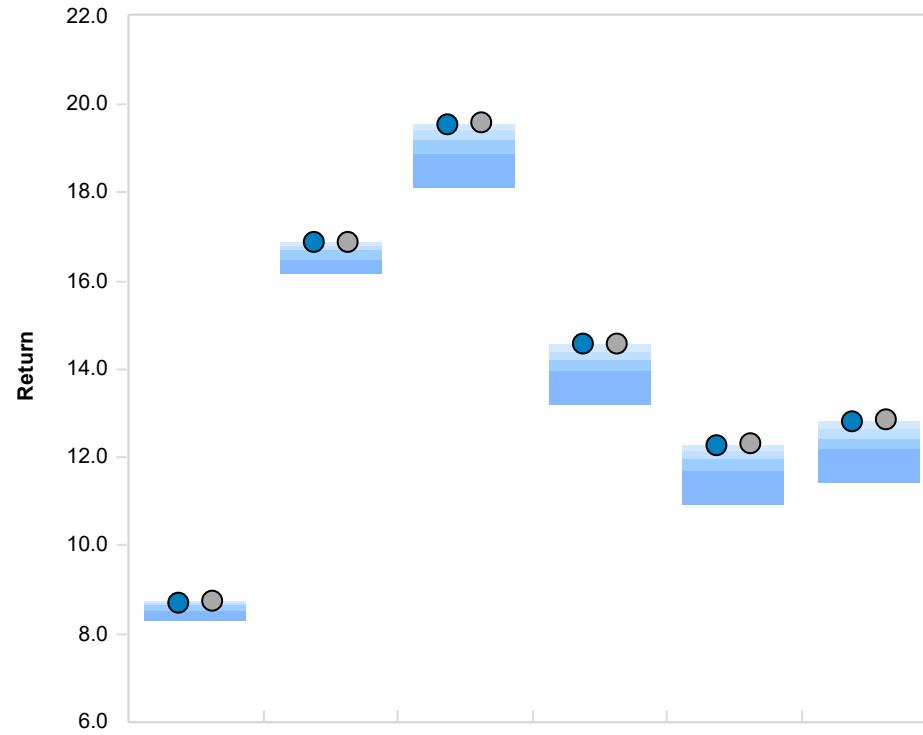
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

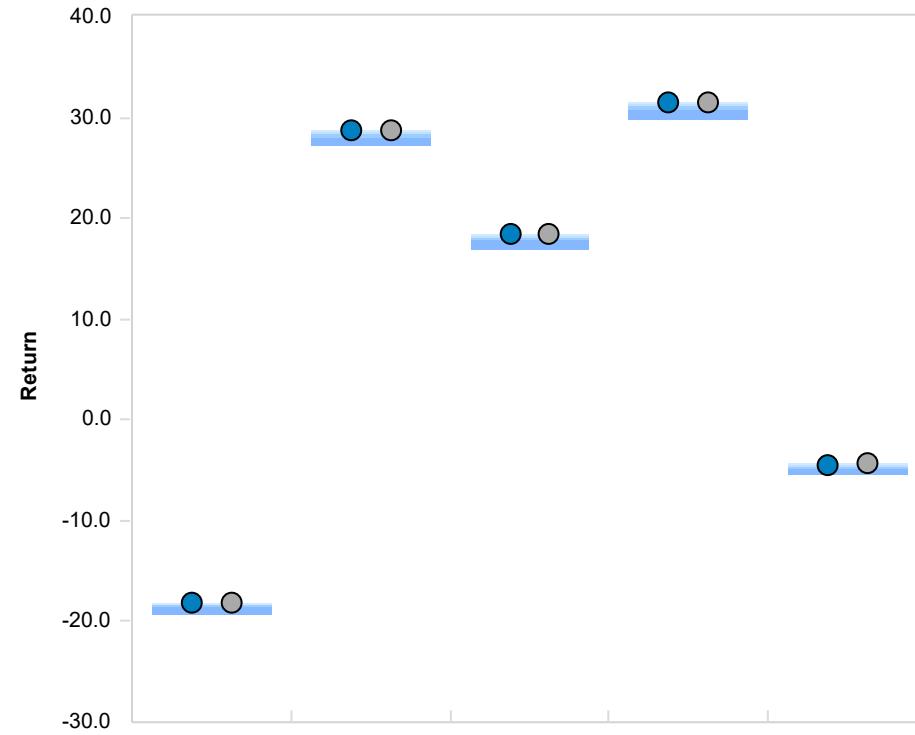
Inception date for VINIX is 12/2020. Manager returns for VINIX have been used for this report.



Peer Group Analysis - IM S&P 500 Index (MF)



Peer Group Analysis - IM S&P 500 Index (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	8.73 (15)	16.87 (11)	19.55 (8)	14.57 (6)	12.28 (6)	12.83 (3)
Index	8.74 (8)	16.89 (4)	19.59 (3)	14.60 (3)	12.31 (2)	12.86 (1)
Median	8.65	16.72	19.20	14.21	11.96	12.44

	2022	2021	2020	2019	2018
Investment	-18.14 (12)	28.67 (7)	18.39 (12)	31.46 (5)	-4.42 (15)
Index	-18.11 (3)	28.71 (1)	18.40 (9)	31.49 (3)	-4.38 (7)
Median	-18.37	28.25	18.05	31.06	-4.66

Financial Reconciliation Since Inception Ending June 30, 2023

No data found.

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	7.49 (13)	7.55 (15)	-4.89 (16)	-16.11 (14)	-4.60 (9)	11.02 (13)
Index	7.50 (5)	7.56 (8)	-4.88 (5)	-16.10 (8)	-4.60 (6)	11.03 (3)
Median	7.43	7.46	-4.94	-16.17	-4.68	10.94

Inception date for VINIX is 12/2020. Manager returns for VINIX have been used for this report.



Fund Information

Fund Name :	Vanguard Institutional Index Fund: Vanguard Institutional Index Fund; Institutional Shares	Portfolio Assets :	\$239,229 Million
Fund Family :	Vanguard	Portfolio Manager :	Butler/Louie
Ticker :	VINIX	PM Tenure :	2000--2017
Inception Date :	07/31/1990	Fund Style :	IM S&P 500 Index (MF)
Fund Assets :	\$100,805 Million	Style Benchmark :	S&P 500 Index
Portfolio Turnover :	3%		

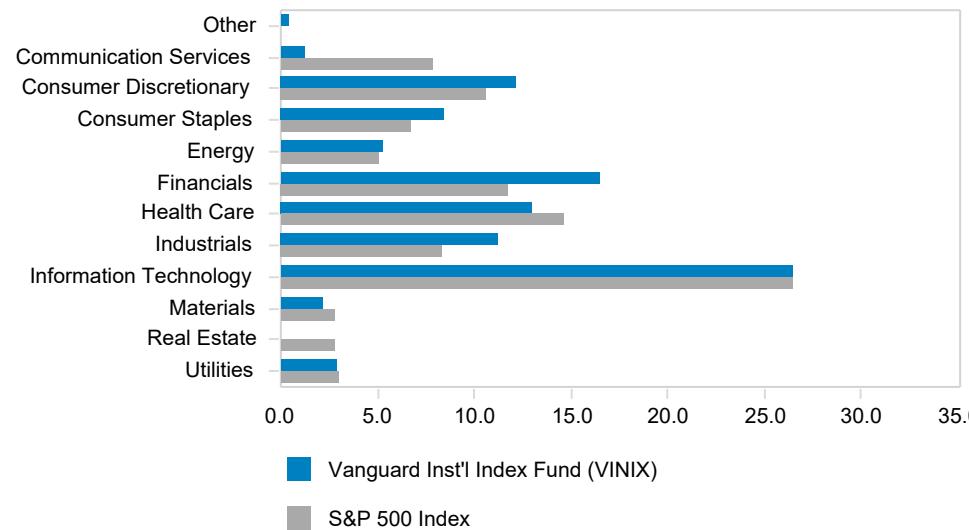
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	505	503
Avg. Market Cap	430,988,230,319	452,134,517,664
Price/Earnings (P/E)	27.96	20.64
Price/Book (P/B)	8.50	4.00
Dividend Yield	1.97	1.68
Annual EPS	28.21	13.85
5 Yr EPS	18.13	19.68
3 Yr EPS Growth	20.02	N/A
Beta	N/A	1.00

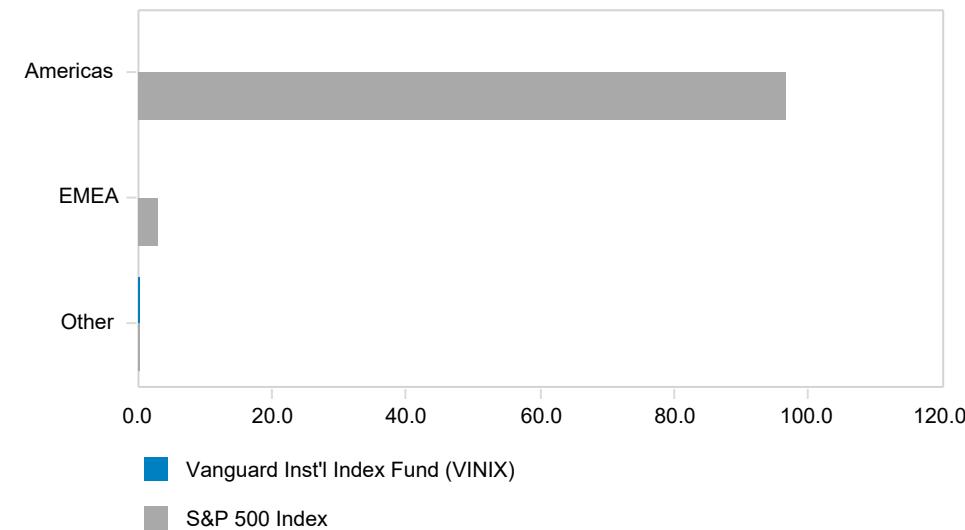
Top Ten Securities As of 01/31/2023

Apple Inc ORD	6.3 %
Microsoft Corp ORD	5.4 %
Amazon.com Inc ORD	2.7 %
Alphabet Inc Class A ORD	1.7 %
Berkshire Hathaway Inc ORD	1.6 %
Alphabet Inc Class C ORD	1.6 %
NVIDIA Corp ORD	1.4 %
Exxon Mobil Corp ORD	1.4 %
UnitedHealth Group Inc ORD	1.4 %
Tesla Inc ORD	1.4 %

Sector Weights As of 01/31/2023



Region Weights As of 01/31/2023



Statistics provided by Lipper. Most recent available data shown.

Strategy Review
Vanguard Growth Index (VIGIX) | Vanguard Growth Index Hybrid
As of June 30, 2023

Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	12.60	22.47	0.59	99.91	8	100.00	4
Index	12.63	22.49	0.59	100.00	8	100.00	4

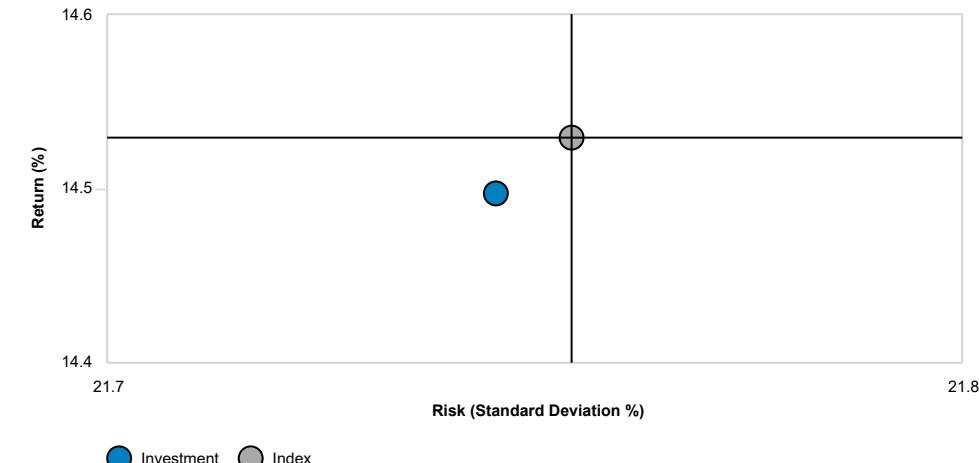
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.50	21.75	0.66	99.93	14	100.01	6
Index	14.53	21.75	0.66	100.00	14	100.00	6

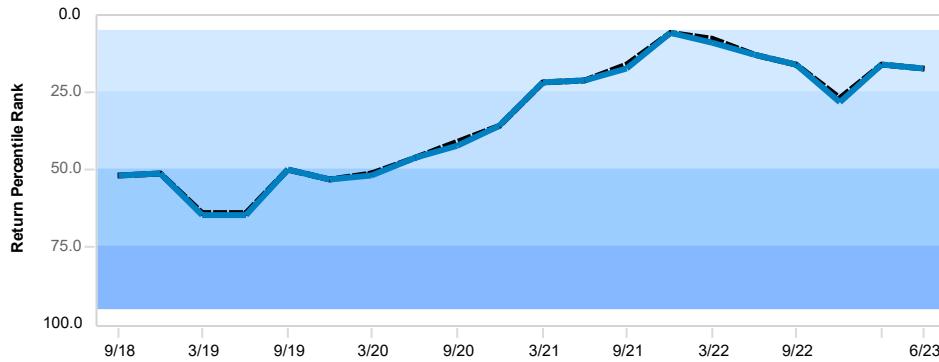
Risk and Return 3 Years



Risk and Return 5 Years

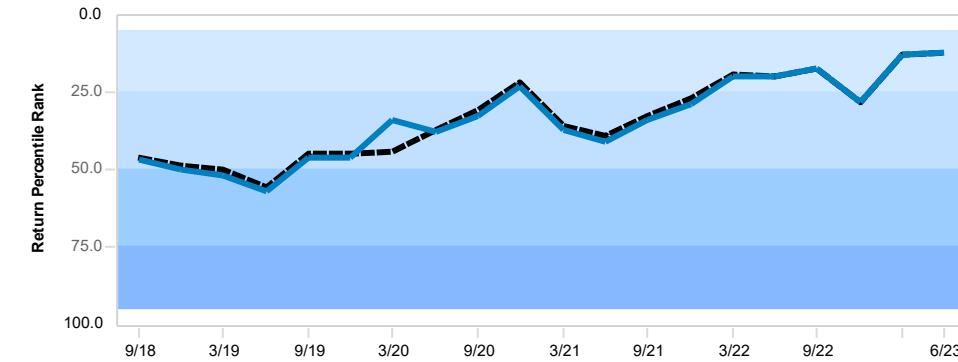


3 Year Rolling Percentile Rank IM U.S. Large Cap Growth Equity (MF)



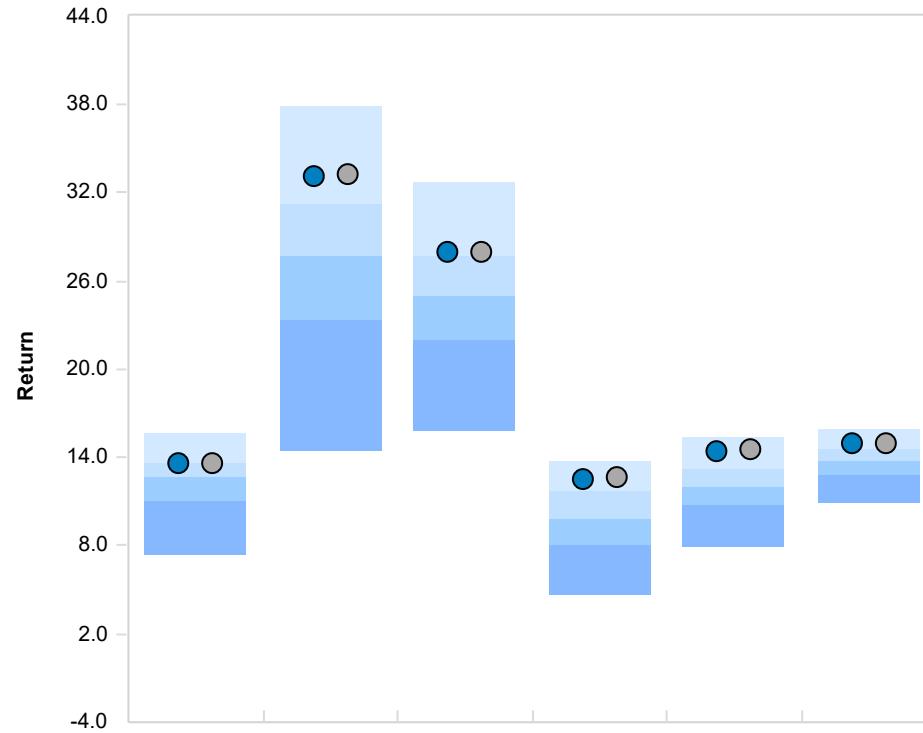
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	9 (45%)	5 (25%)	6 (30%)	0 (0%)
Index	20	9 (45%)	5 (25%)	6 (30%)	0 (0%)

5 Year Rolling Percentile Rank IM U.S. Large Cap Growth Equity (MF)

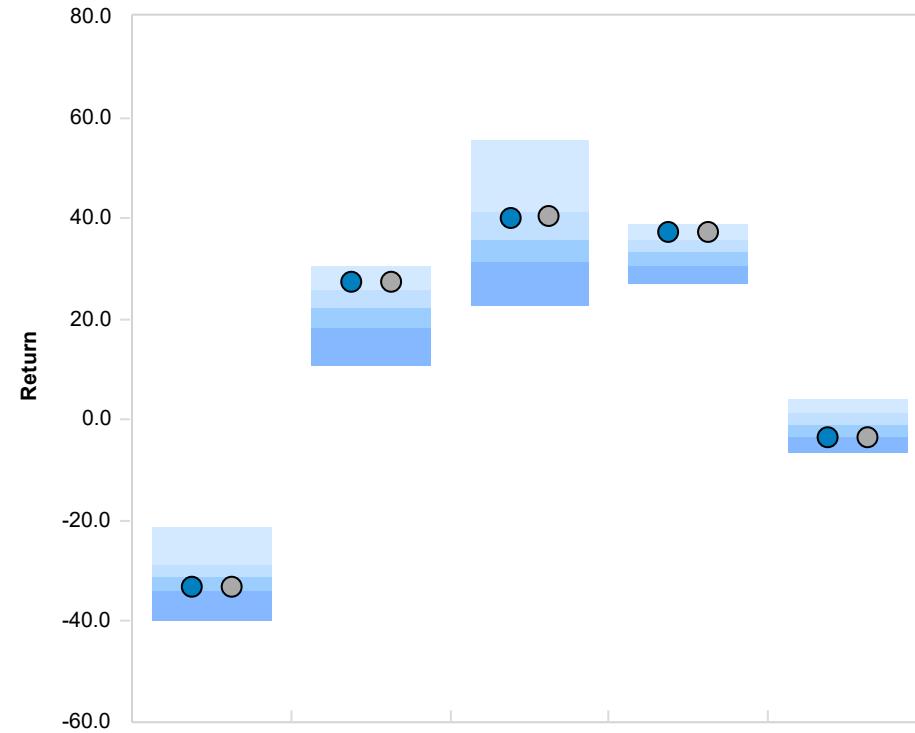


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	6 (30%)	12 (60%)	2 (10%)	0 (0%)
Index	20	6 (30%)	13 (65%)	1 (5%)	0 (0%)

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



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



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	13.61 (26)	33.21 (16)	27.97 (24)	12.60 (17)	14.50 (12)	14.94 (17)
Index	13.63 (25)	33.26 (16)	28.02 (23)	12.63 (17)	14.53 (12)	14.97 (17)
Median	12.69	27.77	25.04	9.86	12.06	13.74

	2022	2021	2020	2019	2018
Investment	-33.14 (70)	27.27 (20)	40.20 (28)	37.25 (12)	-3.32 (72)
Index	-33.13 (69)	27.30 (19)	40.27 (28)	37.31 (11)	-3.34 (73)
Median	-31.30	22.39	35.62	33.26	-1.22

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 05/01/2010	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	16,642,537	-27,644,975	23,996,458	12,994,020

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	17.25	-0.15	-3.79	-22.41	-10.29	10.73
Index	17.27	-0.15	-3.78	-22.42	-10.28	10.74



Fund Information

Fund Name :	Vanguard Index Funds: Vanguard Growth Index Fund; Institutional Class Shares	Portfolio Assets :	\$175,043 Million
Fund Family :	Vanguard	Portfolio Manager :	O'Reilly/Nejman
Ticker :	VIGIX	PM Tenure :	2000--2016
Inception Date :	05/14/1998	Fund Style :	IM U.S. Large Cap Growth Equity (MF)
Fund Assets :	\$23,085 Million	Style Benchmark :	CRSP U.S. Large Cap Growth TR Index
Portfolio Turnover :	5%		

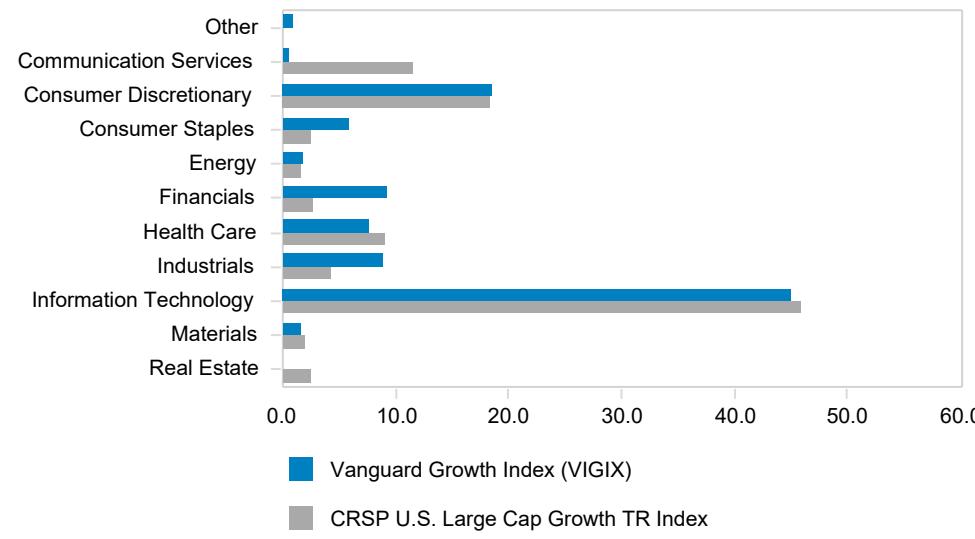
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	255	246
Avg. Market Cap	686,383,904,881	717,969,558,992
Price/Earnings (P/E)	34.86	29.20
Price/Book (P/B)	12.63	7.59
Dividend Yield	1.14	0.74
Annual EPS	30.54	17.52
5 Yr EPS	24.53	23.49
3 Yr EPS Growth	21.72	N/A
Beta (5 Years, Monthly)	1.00	1.00

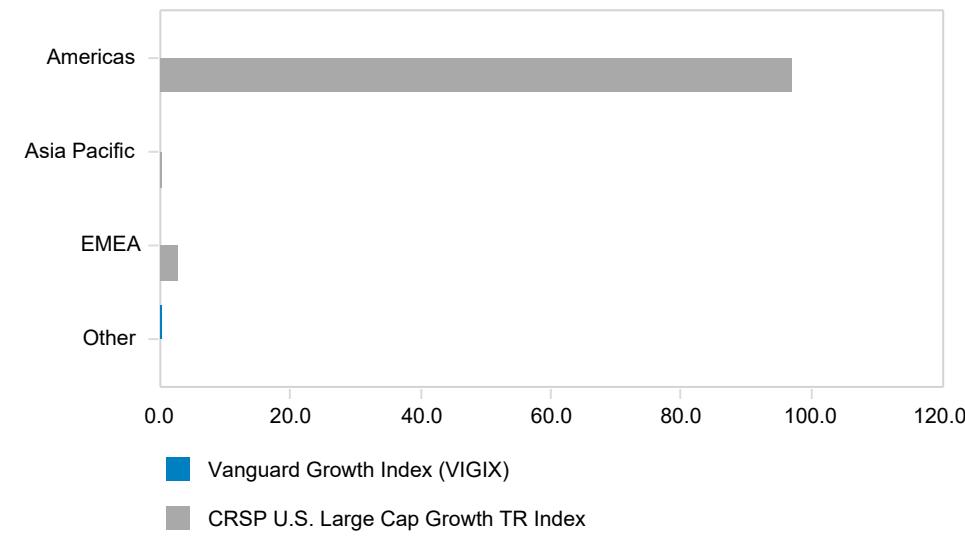
Top Ten Securities As of 01/31/2023

Apple Inc ORD	12.6 %
Microsoft Corp ORD	10.7 %
Amazon.com Inc ORD	5.2 %
Alphabet Inc Class A ORD	3.4 %
Alphabet Inc Class C ORD	3.0 %
Tesla Inc ORD	2.7 %
NVIDIA Corp ORD	2.6 %
Visa Inc ORD	2.1 %
Home Depot Inc ORD	1.9 %
Mastercard Inc ORD	1.8 %

Sector Weights As of 01/31/2023



Region Weights As of 01/31/2023



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Value Index (VIVIX) | Vanguard Value Index Hybrid
As of June 30, 2023

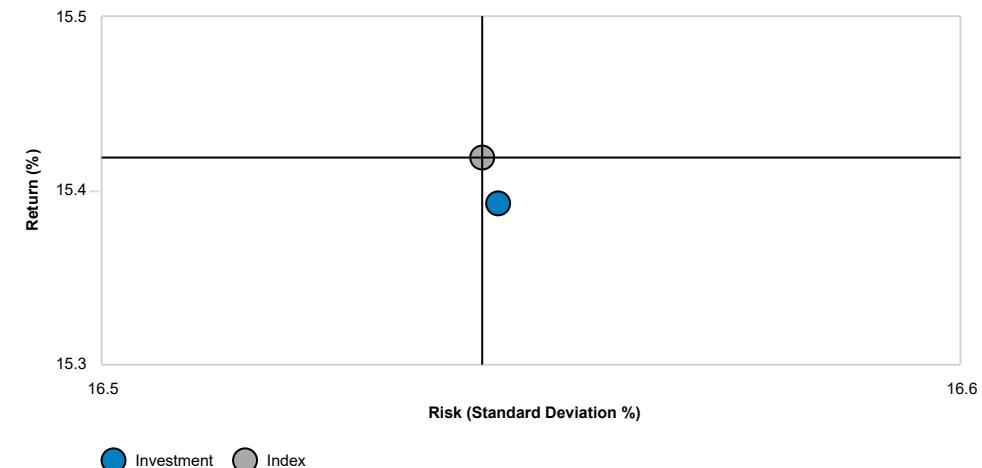
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	15.39	16.55	0.87	99.94	8	100.02	4
Index	15.42	16.54	0.87	100.00	8	100.00	4

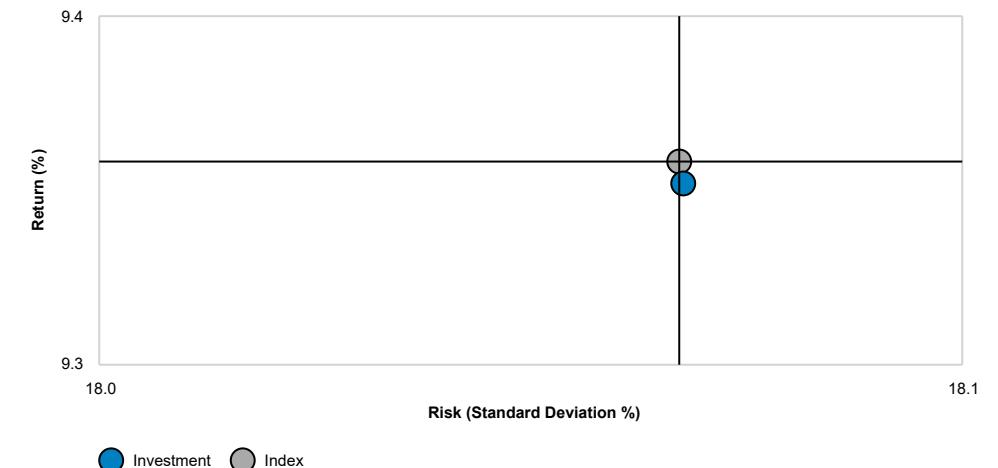
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.35	18.07	0.50	100.01	14	100.04	6
Index	9.36	18.07	0.50	100.00	14	100.00	6

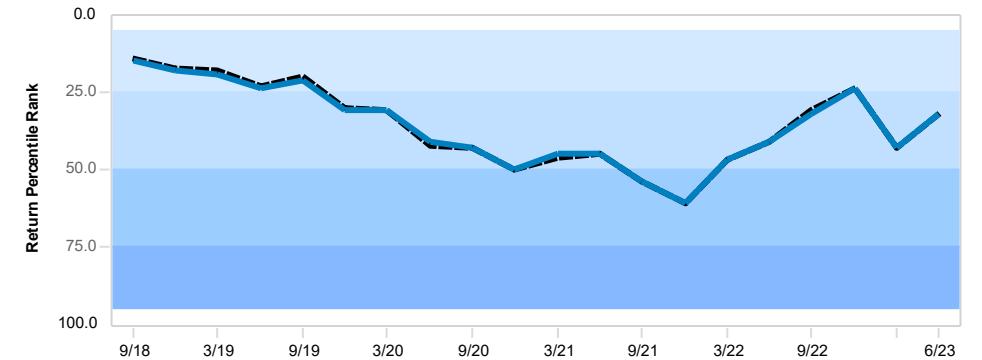
Risk and Return 3 Years



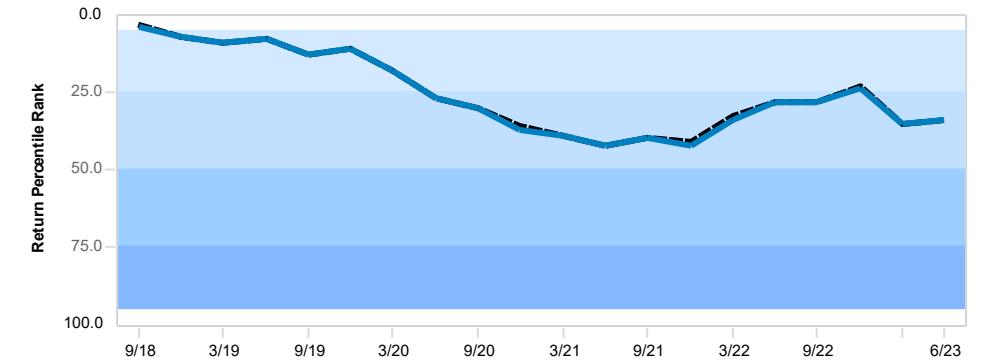
Risk and Return 5 Years



3 Year Rolling Percentile Rank IM U.S. Large Cap Value Equity (MF)



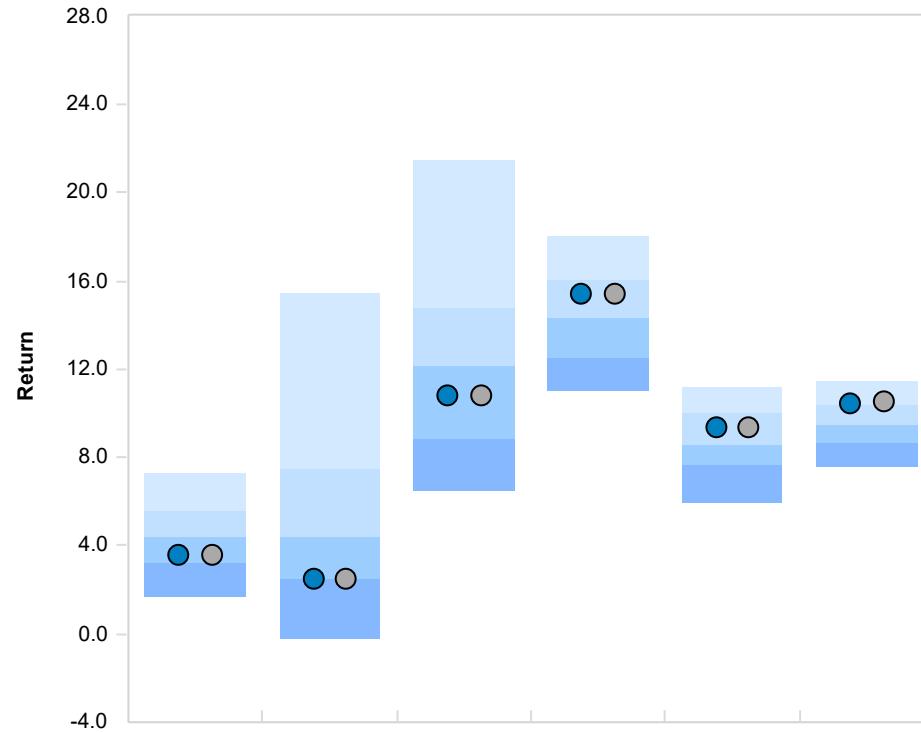
5 Year Rolling Percentile Rank IM U.S. Large Cap Value Equity (MF)



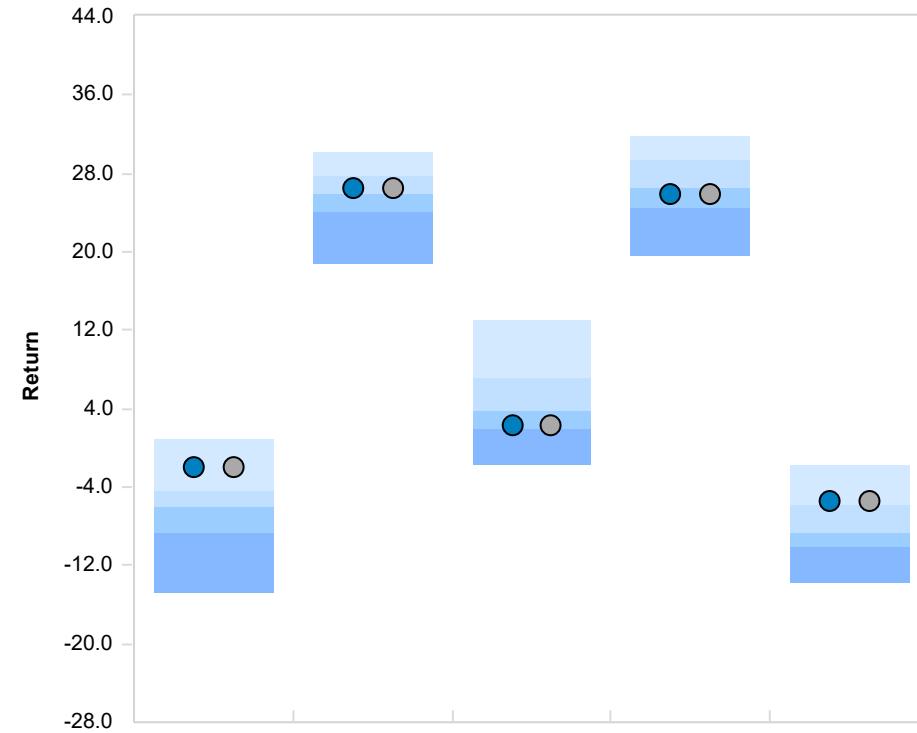
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	6 (30%)	12 (60%)	2 (10%)	0 (0%)
Index	20	6 (30%)	12 (60%)	2 (10%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	8 (40%)	12 (60%)	0 (0%)	0 (0%)
Index	20	8 (40%)	12 (60%)	0 (0%)	0 (0%)

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



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



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	3.57 (68)	2.54 (76)	10.83 (58)	15.39 (32)	9.35 (34)	10.50 (22)
Index	3.57 (68)	2.53 (76)	10.86 (57)	15.42 (32)	9.36 (34)	10.52 (22)
Median	4.40	4.40	12.15	14.32	8.57	9.44

	2022	2021	2020	2019	2018
Investment	-2.05 (12)	26.48 (44)	2.30 (70)	25.83 (59)	-5.42 (22)
Index	-2.01 (11)	26.51 (43)	2.26 (71)	25.85 (59)	-5.40 (22)
Median	-6.10	25.96	3.82	26.50	-8.61

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 07/01/2009	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	1,021,656	-2,963,564	14,480,382	12,538,475

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	-1.00	14.67	-5.74	-10.27	0.99	9.31
Index	-1.00	14.68	-5.72	-10.27	1.00	9.33

Fund Information

Fund Name : Vanguard Index Funds: Vanguard Value Index Fund; Institutional Shares
 Fund Family : Vanguard
 Ticker : VIVIX
 Inception Date : 07/02/1998
 Fund Assets : \$15,153 Million
 Portfolio Turnover : 5%

Portfolio Assets : \$146,978 Million
 Portfolio Manager : O'Reilly/Nejman
 PM Tenure : 1998--2016
 Fund Style : IM U.S. Large Cap Value Equity (MF)
 Style Benchmark : CRSP U.S. Large Cap Value TR Index

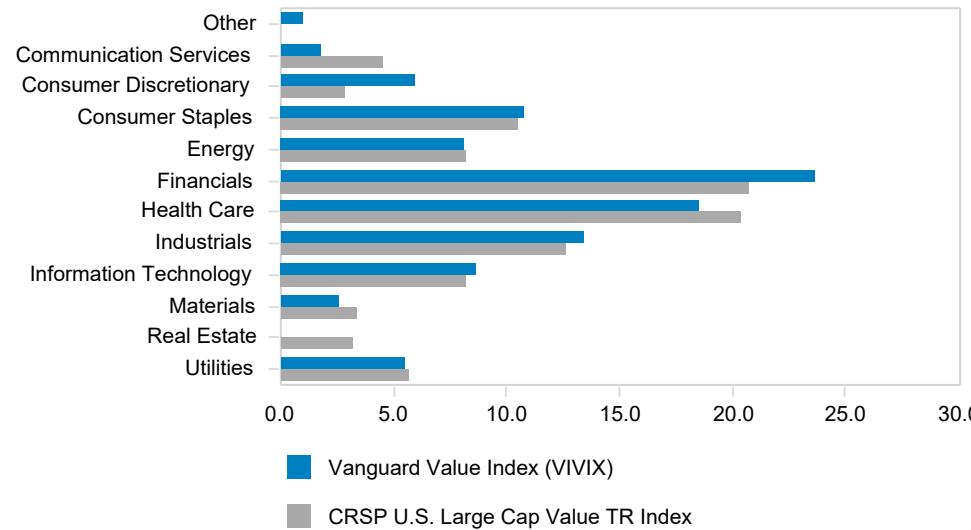
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	345	344
Avg. Market Cap	163,511,937,593	172,353,530,393
Price/Earnings (P/E)	21.64	16.22
Price/Book (P/B)	4.84	2.78
Dividend Yield	2.51	2.52
Annual EPS	25.27	535.34
5 Yr EPS	12.53	16.11
3 Yr EPS Growth	18.19	N/A
Beta (5 Years, Monthly)	1.00	1.00

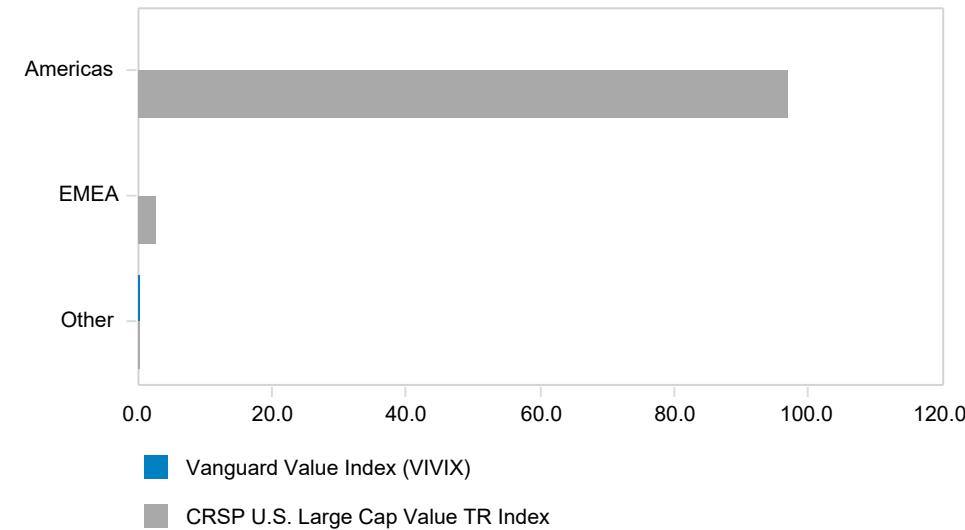
Top Ten Securities As of 01/31/2023

Berkshire Hathaway Inc ORD	3.1 %
Exxon Mobil Corp ORD	2.7 %
UnitedHealth Group Inc ORD	2.7 %
Johnson & Johnson ORD	2.4 %
JPMorgan Chase & Co ORD	2.3 %
Procter & Gamble Co ORD	1.9 %
Chevron Corp ORD	1.7 %
Merck & Co Inc ORD	1.6 %
AbbVie Inc ORD	1.5 %
Pfizer Inc ORD	1.4 %

Sector Weights As of 01/31/2023



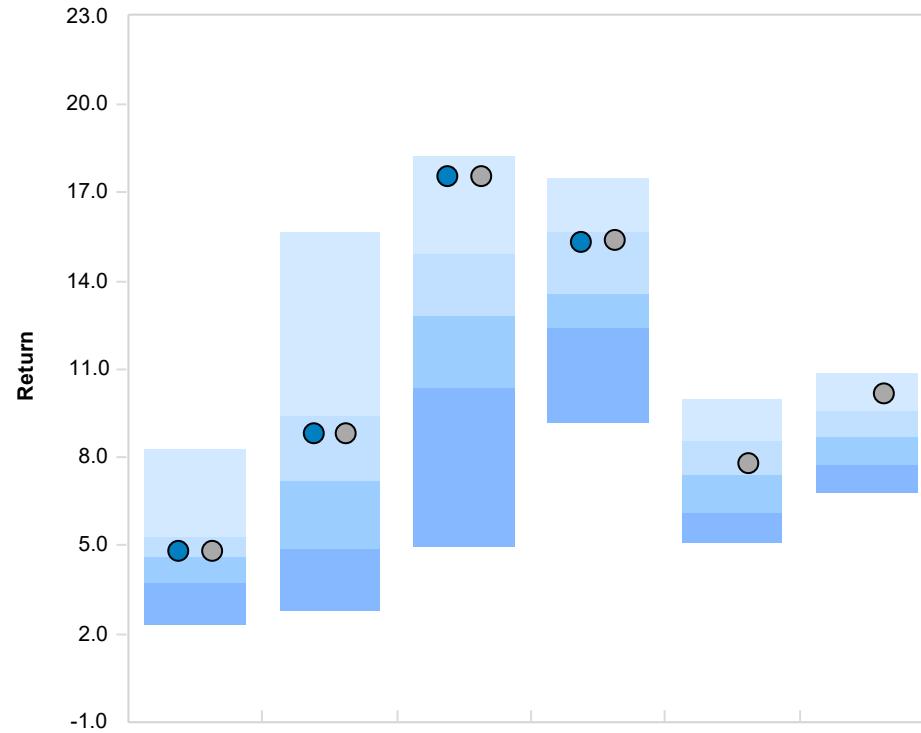
Region Weights As of 01/31/2023



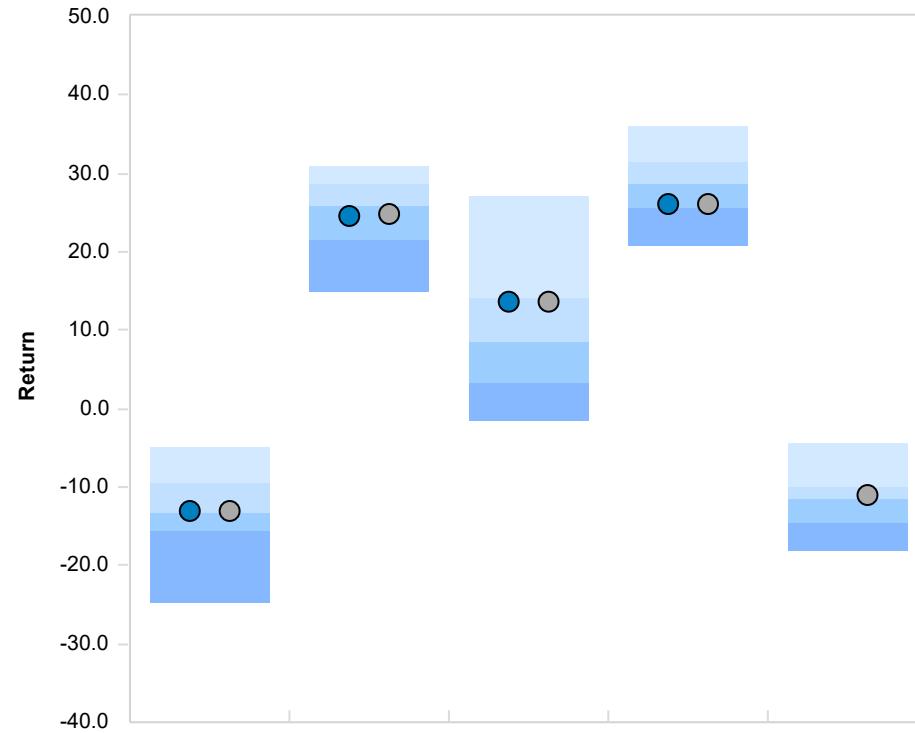
Statistics provided by Lipper. Most recent available data shown.



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



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



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	4.83 (39)	8.81 (30)	17.55 (9)	15.37 (28)	N/A	N/A
Index	4.85 (38)	8.84 (30)	17.61 (9)	15.44 (27)	7.79 (44)	10.21 (18)
Median	4.65	7.22	12.82	13.58	7.39	8.68

	2022	2021	2020	2019	2018
Investment	-13.11 (50)	24.67 (59)	13.58 (26)	26.13 (72)	N/A
Index	-13.06 (50)	24.76 (59)	13.66 (26)	26.20 (72)	-11.08 (40)
Median	-13.21	25.73	8.44	28.59	-11.64

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 12/01/2018	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	21,384,601	-6,500,000	10,542,824	25,427,425

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	3.79 (30)	10.77 (35)	-2.46 (14)	-15.43 (77)	-4.89 (59)	7.97 (59)
Index	3.81 (30)	10.78 (35)	-2.46 (14)	-15.42 (77)	-4.88 (58)	8.00 (58)
Median	2.31	9.63	-4.32	-13.63	-4.08	8.20



Fund Information

Fund Name :	Vanguard Admiral Funds: Vanguard S&P Mid-Cap 400 Index Fund; Institutional Shares	Portfolio Assets :	\$2,960 Million
Fund Family :	Vanguard	Portfolio Manager :	Khan/Narzikul
Ticker :	VSPMX	PM Tenure :	2017-2023
Inception Date :	12/15/2010	Fund Style :	IM S&P Midcap 400 Index Funds (MF)
Fund Assets :	\$1,353 Million	Style Benchmark :	S&P MidCap 400 Index
Portfolio Turnover :	11%		

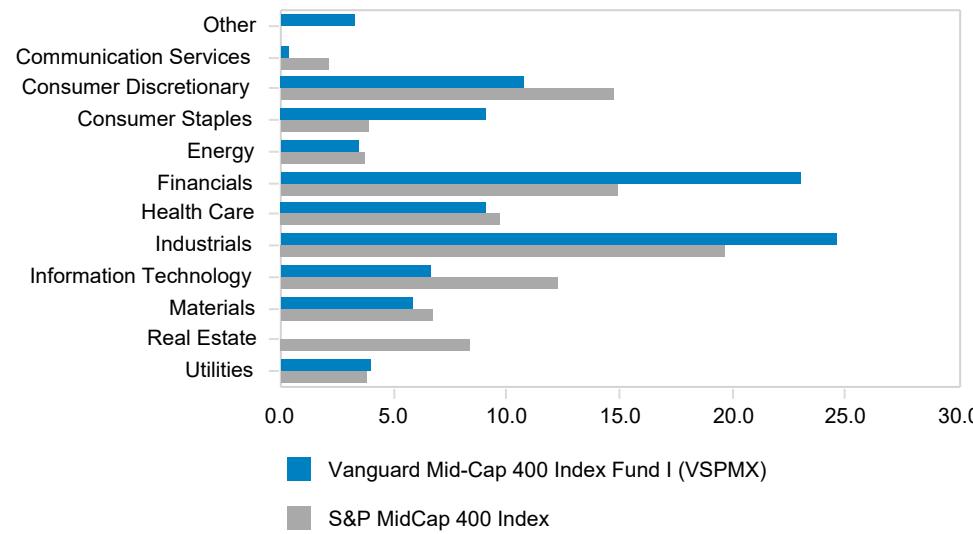
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	403	401
Avg. Market Cap	7,219,762,843	7,143,825,416
Price/Earnings (P/E)	23.76	14.06
Price/Book (P/B)	4.37	2.62
Dividend Yield	2.29	1.65
Annual EPS	41.38	4.71
5 Yr EPS	17.65	17.79
3 Yr EPS Growth	17.51	N/A
Beta (3 Years, Monthly)	1.00	1.00

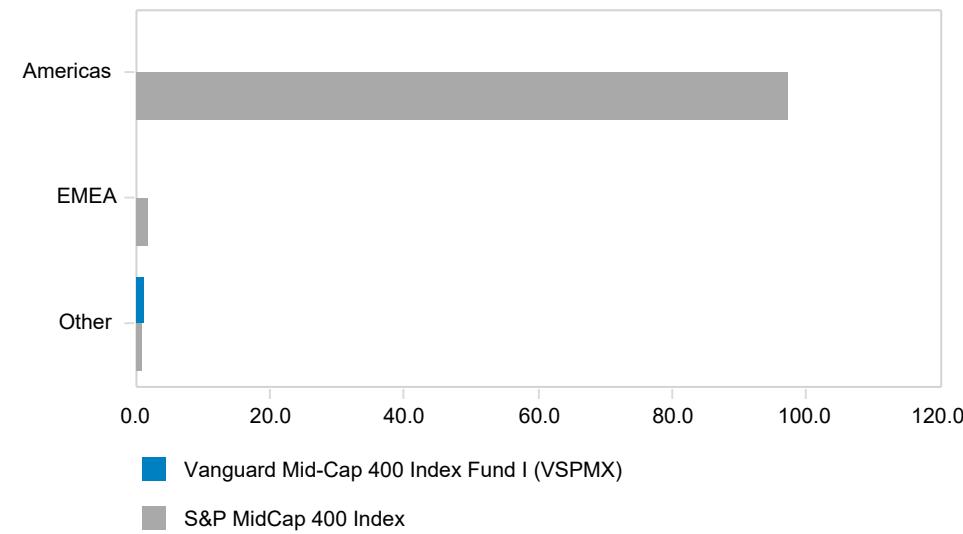
Top Ten Securities As of 01/31/2023

Vanguard Market Liquidity Fund	1.1 %
Fair Isaac Corp ORD	0.7 %
Reliance Steel & Aluminum Co ORD	0.6 %
First Horizon Corp ORD	0.6 %
Axon Enterprise Inc ORD	0.6 %
Carlisle Companies Inc ORD	0.6 %
Hubbell Inc ORD	0.5 %
AECOM ORD	0.5 %
United Therapeutics Corp ORD	0.5 %
Builders FirstSource Inc ORD	0.5 %

Sector Weights As of 01/31/2023



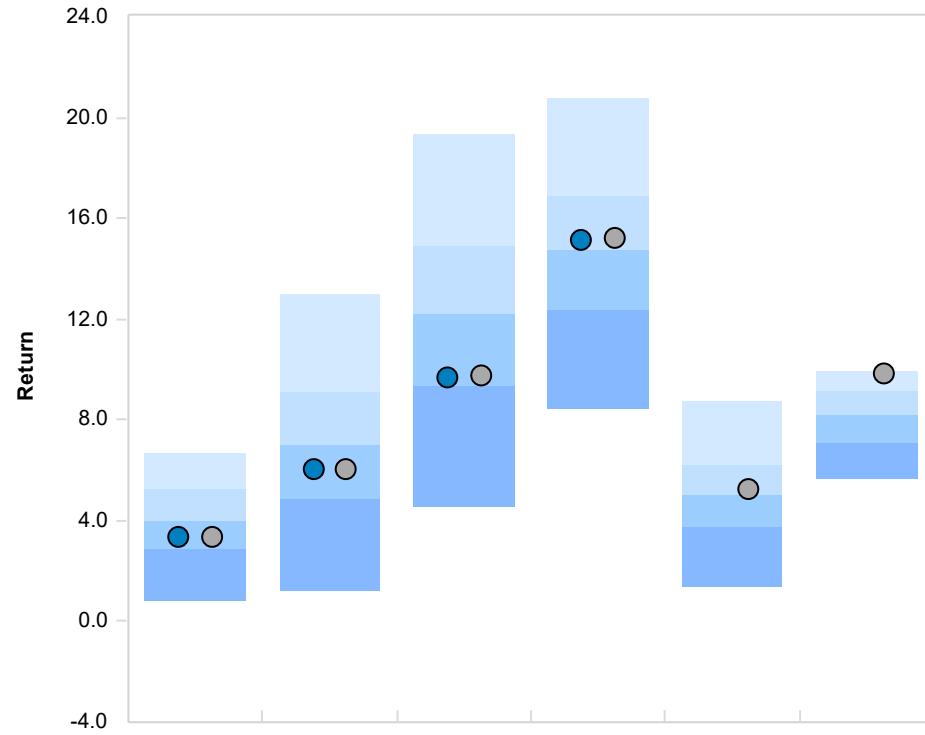
Region Weights As of 01/31/2023



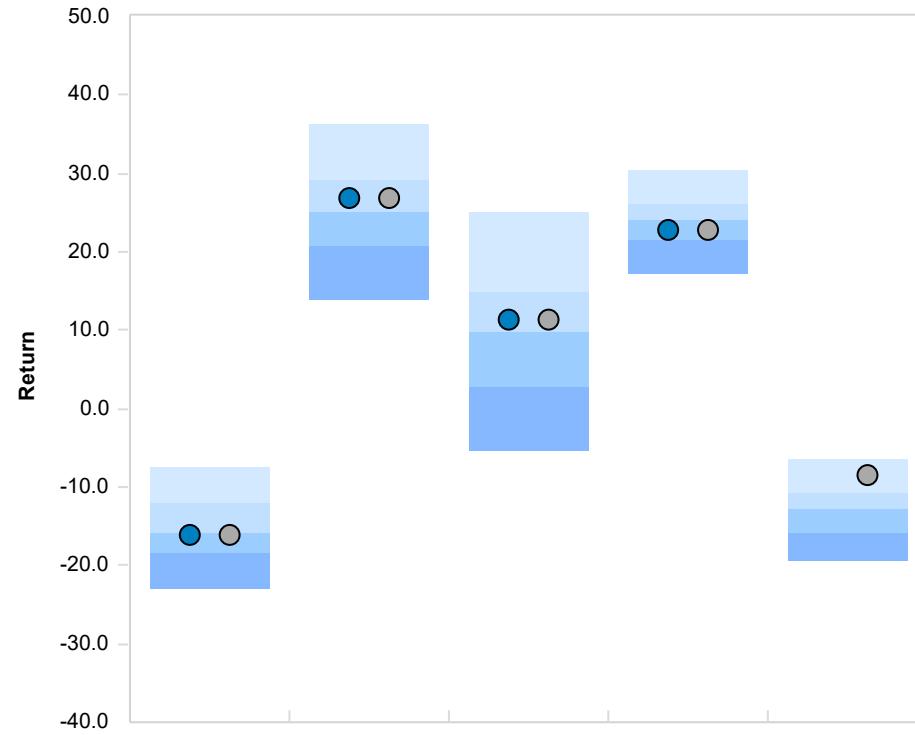
Statistics provided by Lipper. Most recent available data shown.



Peer Group Analysis - IM U.S. Small Cap Core Equity (MF)



Peer Group Analysis - IM U.S. Small Cap Core Equity (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	3.37 (67)	6.01 (62)	9.69 (71)	15.13 (44)	N/A	N/A
Index	3.38 (66)	6.03 (62)	9.75 (69)	15.19 (43)	5.22 (47)	9.81 (8)
Median	3.95	6.98	12.22	14.77	5.04	8.19

	2022	2021	2020	2019	2018
Investment	-16.18 (56)	26.74 (37)	11.46 (40)	22.74 (62)	N/A
Index	-16.10 (54)	26.82 (36)	11.29 (41)	22.78 (61)	-8.48 (9)
Median	-15.78	25.12	9.89	23.94	-12.71

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 12/01/2018	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	10,695,104	-2,500,000	3,998,078	12,193,183

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	2.55 (54)	9.17 (58)	-5.22 (69)	-14.14 (42)	-5.65 (51)	5.61 (57)
Index	2.57 (53)	9.19 (57)	-5.20 (68)	-14.11 (41)	-5.62 (50)	5.64 (56)
Median	2.71	9.65	-4.48	-14.56	-5.65	5.94

Fund Information

Fund Name :	Vanguard Admiral Funds: Vanguard S&P Small-Cap 600 Index Fund; Institutional Shares	Portfolio Assets :	\$3,943 Million
Fund Family :	Vanguard	Portfolio Manager :	Butler/Narzikul
Ticker :	VSMSX	PM Tenure :	2015--2023
Inception Date :	12/15/2010	Fund Style :	IM U.S. Small Cap Core Equity (MF)
Fund Assets :	\$1,797 Million	Style Benchmark :	S&P SmallCap 600 Index
Portfolio Turnover :	12%		

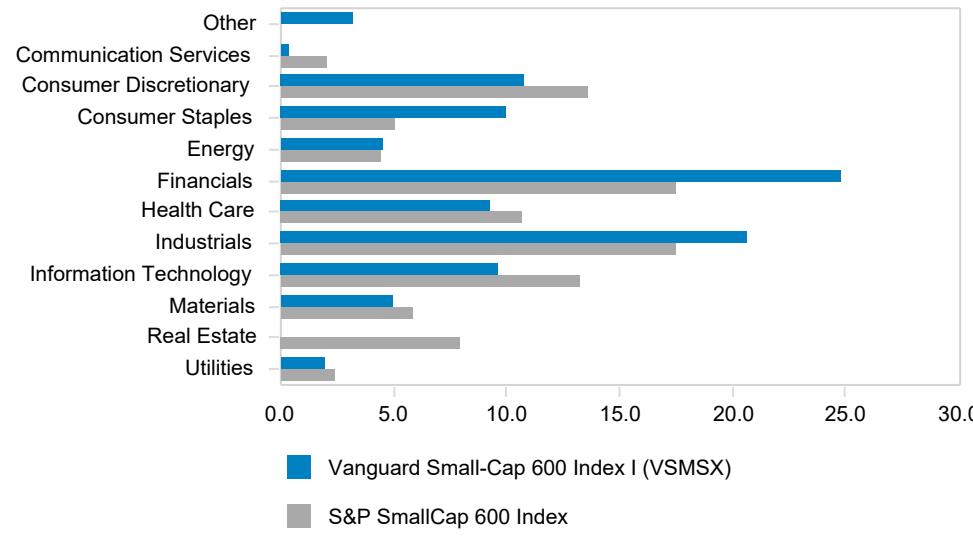
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	607	601
Avg. Market Cap	2,422,408,620	2,445,515,182
Price/Earnings (P/E)	22.86	12.50
Price/Book (P/B)	3.03	2.11
Dividend Yield	2.59	1.59
Annual EPS	39.80	3.08
5 Yr EPS	14.76	17.21
3 Yr EPS Growth	15.26	N/A
Beta (3 Years, Monthly)	1.00	1.00

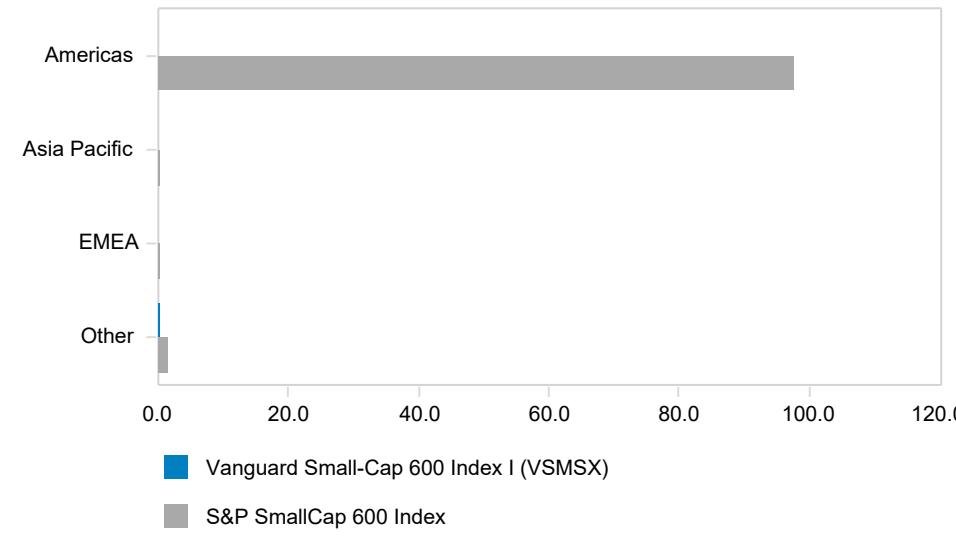
Top Ten Securities As of 01/31/2023

Agree Realty Corp ORD	0.7 %
Ufp Industries Inc ORD	0.6 %
Applied Industrial Technologies	0.6 %
Exponent Inc ORD	0.5 %
Ensign Group Inc ORD	0.5 %
Helmerich and Payne Inc ORD	0.5 %
SPS Commerce Inc ORD	0.5 %
Asbury Automotive Group Inc ORD	0.5 %
Fabrinet ORD	0.5 %
ATI Inc ORD	0.5 %

Sector Weights As of 01/31/2023



Region Weights As of 01/31/2023



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Developed Markets Index (VTMNX) | Vanguard Spliced Developed ex U.S. Index (Net)
As of June 30, 2023

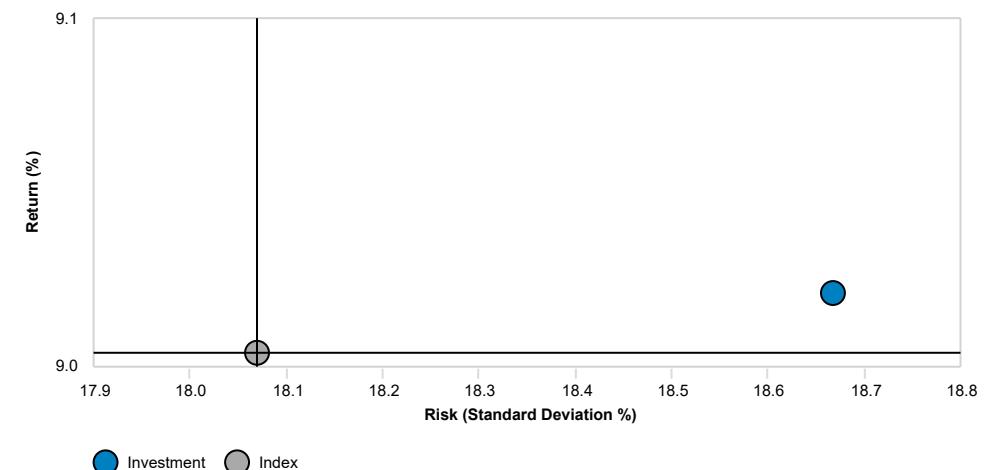
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.02	18.67	0.49	104.47	8	106.18	4
Index	9.00	18.07	0.50	100.00	8	100.00	4

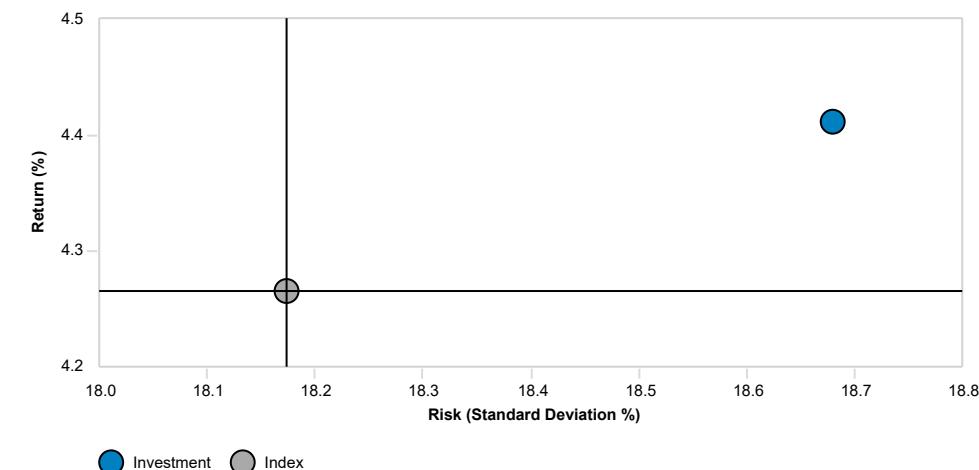
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.41	18.68	0.24	104.22	13	104.27	7
Index	4.27	18.17	0.24	100.00	13	100.00	7

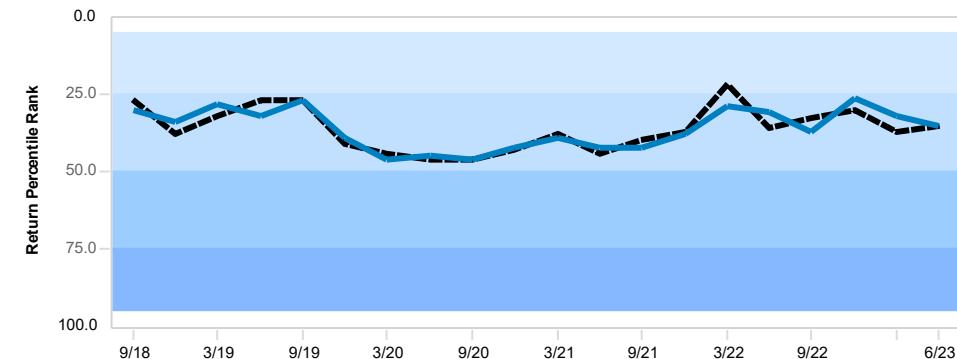
Risk and Return 3 Years



Risk and Return 5 Years

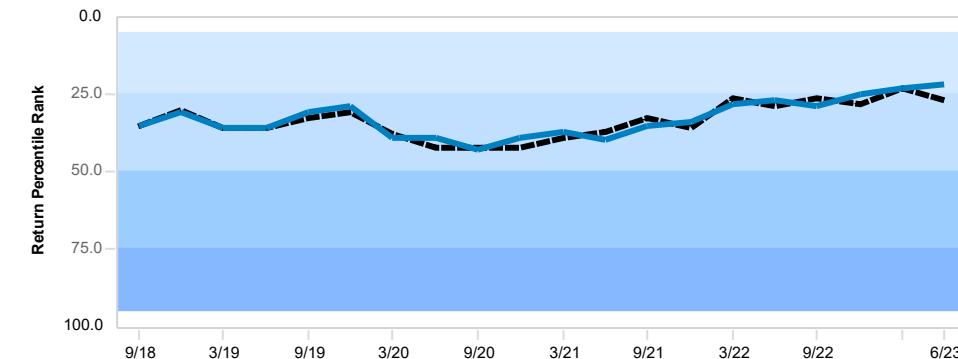


3 Year Rolling Percentile Rank IM International Multi-Cap Equity (MF)



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	20 (100%)	0 (0%)	0 (0%)
Index	20	1 (5%)	19 (95%)	0 (0%)	0 (0%)

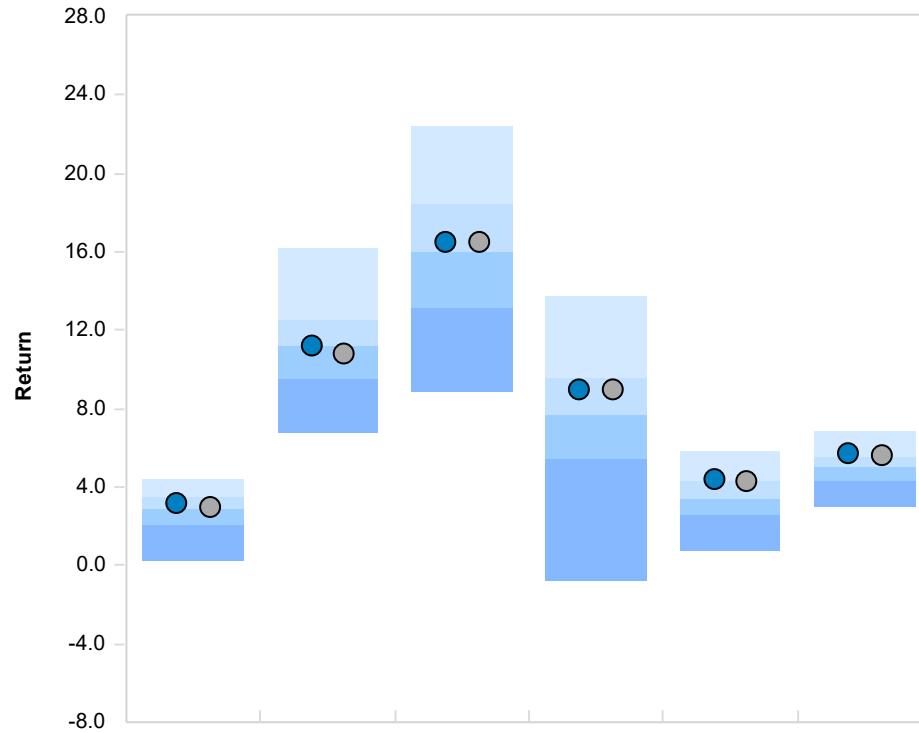
5 Year Rolling Percentile Rank IM International Multi-Cap Equity (MF)



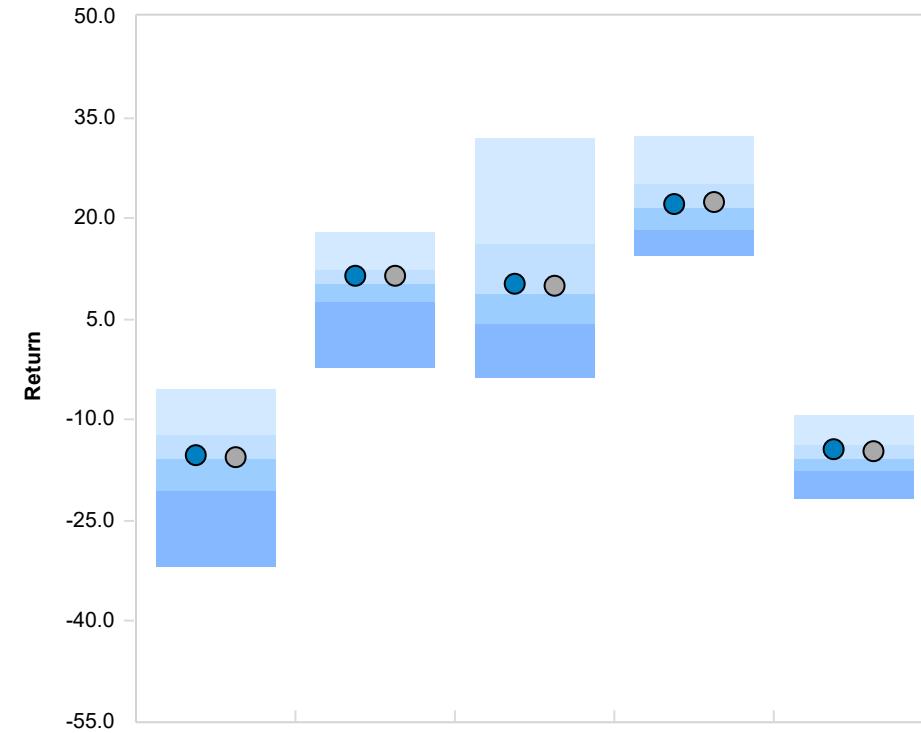
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	3 (15%)	17 (85%)	0 (0%)	0 (0%)
Index	20	1 (5%)	19 (95%)	0 (0%)	0 (0%)

Strategy Review
Vanguard Developed Markets Index (VTMNX) | Vanguard Spliced Developed ex U.S. Index (Net)
As of June 30, 2023

Peer Group Analysis - IM International Multi-Cap Equity (MF)



Peer Group Analysis - IM International Multi-Cap Equity (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	3.15 (36)	11.18 (50)	16.53 (46)	9.02 (35)	4.41 (22)	5.69 (22)
Index	3.00 (43)	10.85 (54)	16.53 (46)	9.00 (35)	4.27 (27)	5.63 (24)
Median	2.83	11.17	16.00	7.64	3.43	5.06

	2022	2021	2020	2019	2018
Investment	-15.34 (47)	11.44 (35)	10.27 (43)	22.14 (43)	-14.49 (35)
Index	-15.58 (49)	11.57 (33)	10.00 (44)	22.34 (42)	-14.79 (38)
Median	-15.71	10.28	8.74	21.55	-15.87

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 07/01/2009	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	253,831	45,927	9,900,769	10,200,527

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	7.79	17.10	-10.49	-14.04	-6.04	2.99
Index	7.62	16.28	-9.59	-15.23	-5.27	2.55

Fund Information

Fund Name :	Vanguard Tax-Managed Funds: Vanguard Developed Markets Index Fund; Institutional Shares	Portfolio Assets :	\$166,062 Million
Fund Family :	Vanguard	Portfolio Manager :	Franquin/Perre
Ticker :	VTMNX	PM Tenure :	2013–2017
Inception Date :	01/04/2001	Fund Style :	IM International Multi-Cap Core Equity (MF)
Fund Assets :	\$13,629 Million	Style Benchmark :	FTSE Developed x North America Index (Net)
Portfolio Turnover :	4%		

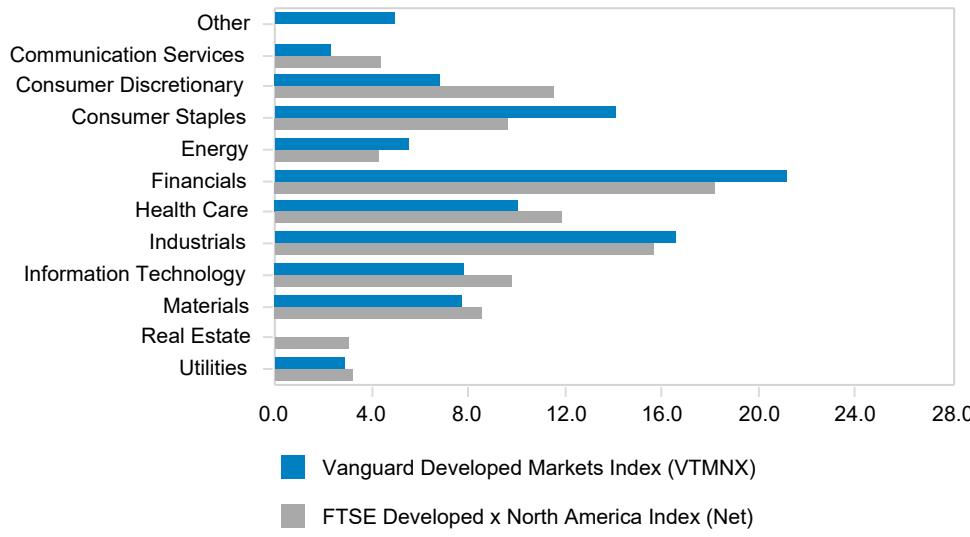
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	4,111	1,511
Avg. Market Cap	67,902,830,785	78,388,564,620
Price/Earnings (P/E)	20.82	12.49
Price/Book (P/B)	3.73	2.29
Dividend Yield	3.25	3.18
Annual EPS	41.93	878.76
5 Yr EPS	12.60	10.36
3 Yr EPS Growth	10.87	N/A
Beta (5 Years, Monthly)	1.04	1.00

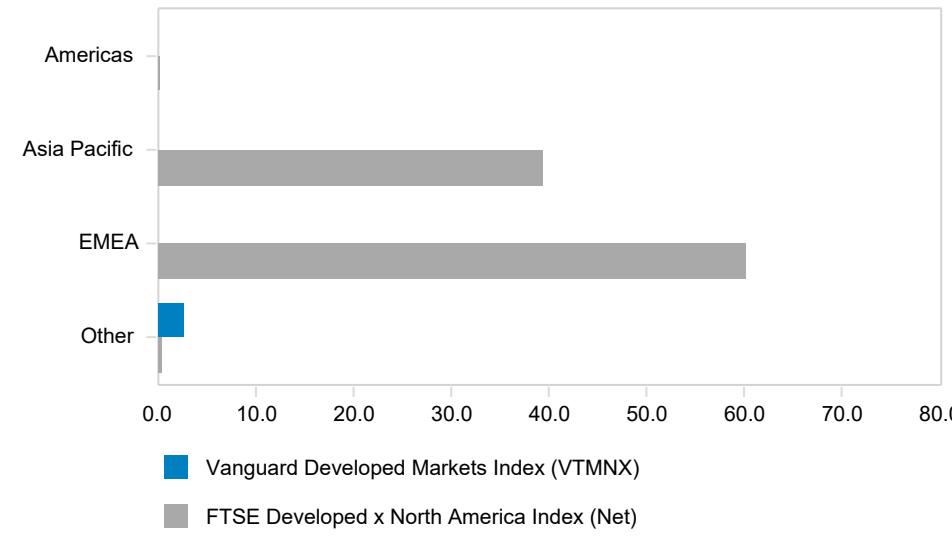
Top Ten Securities As of 01/31/2023

Vanguard Market Liquidity Fund	2.1 %
Nestle SA ORD	1.5 %
ASML Holding NV ORD	1.2 %
Samsung Electronics Co Ltd ORD	1.1 %
LVMH Moet Hennessy Louis Vuitton	1.0 %
Roche Holding AG	1.0 %
Novo Nordisk A/S ORD	1.0 %
Shell PLC ORD	1.0 %
AstraZeneca PLC ORD	0.9 %
Novartis AG ORD	0.9 %

Sector Weights As of 01/31/2023



Region Weights As of 01/31/2023



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Emerging Markets Index (VEMIX) | FTSE Emerging Mkts All Cap China A Inclusion Index
As of June 30, 2023

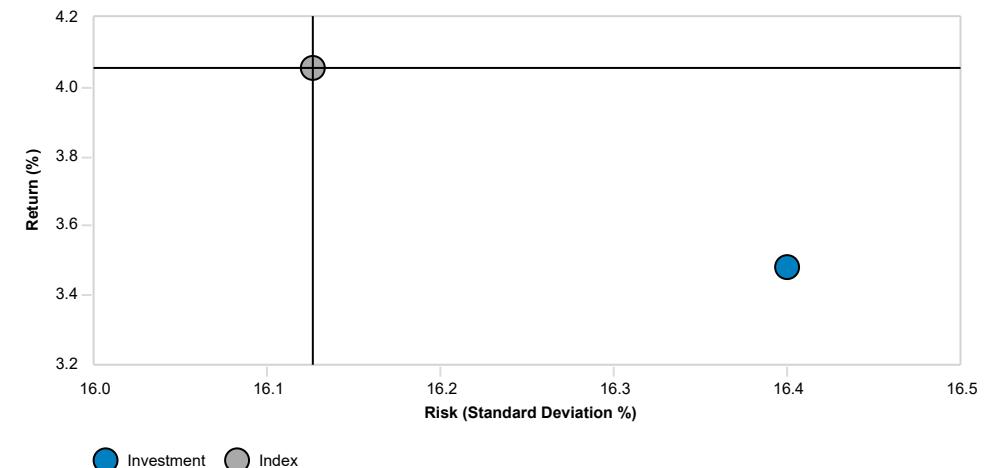
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.48	16.40	0.21	99.40	7	101.98	5
Index	4.06	16.13	0.25	100.00	7	100.00	5

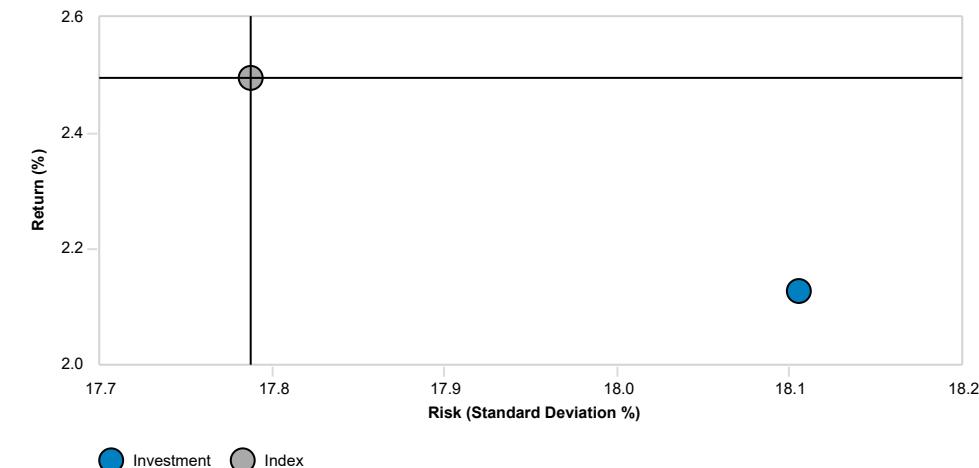
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.13	18.11	0.12	100.64	11	102.15	9
Index	2.50	17.79	0.14	100.00	11	100.00	9

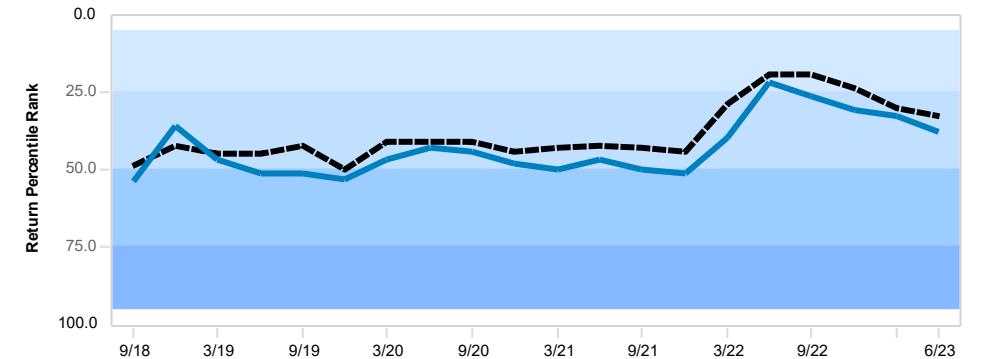
Risk and Return 3 Years



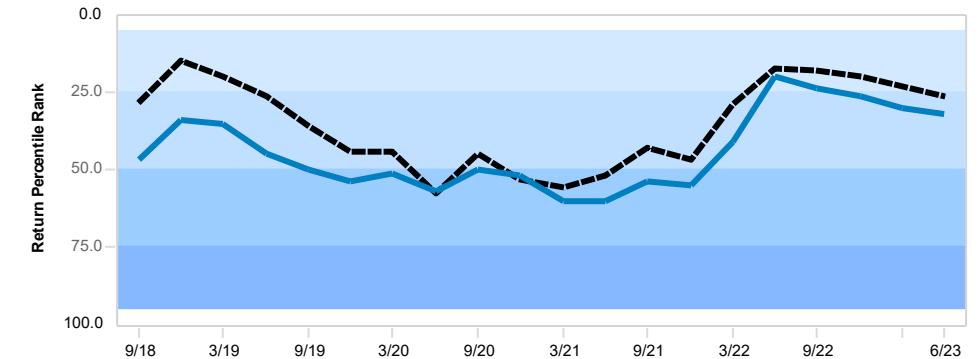
Risk and Return 5 Years



3 Year Rolling Percentile Rank IM Emerging Markets Equity (MF)



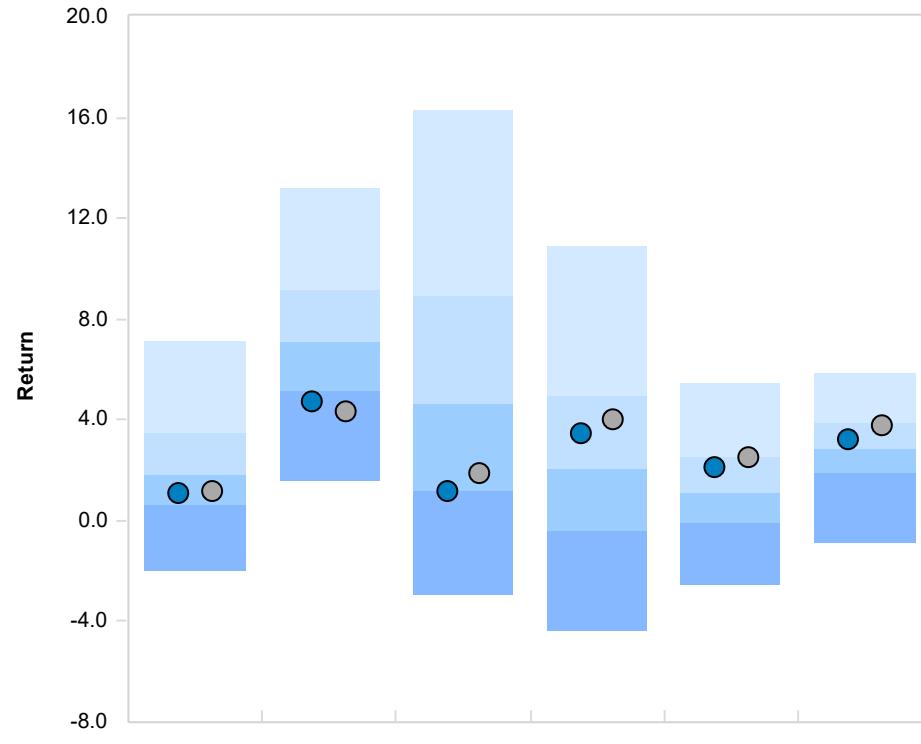
5 Year Rolling Percentile Rank IM Emerging Markets Equity (MF)



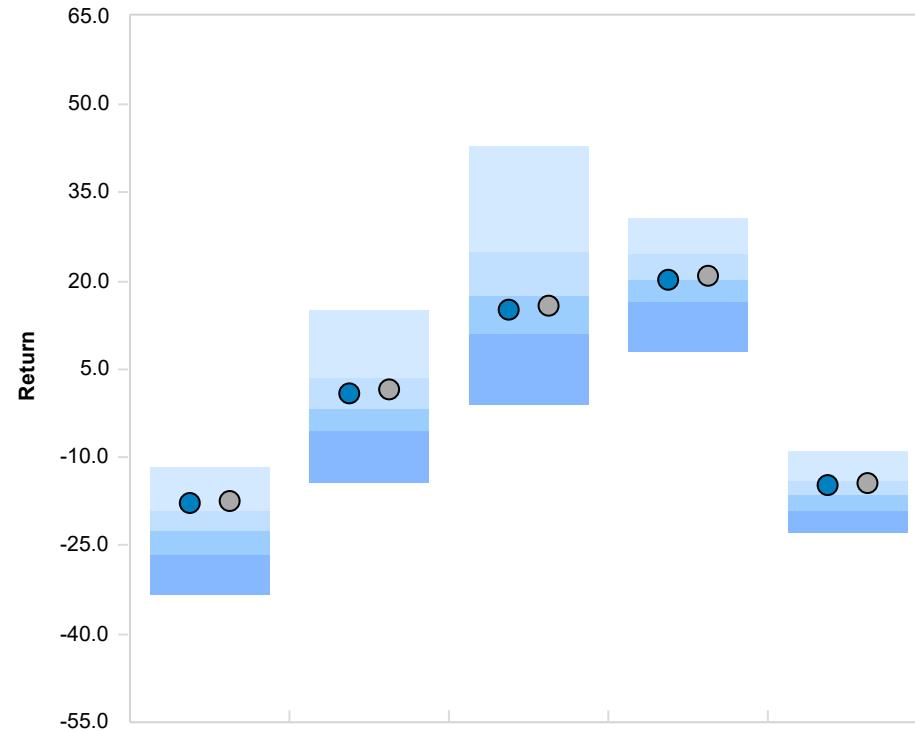
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	1 (5%)	14 (70%)	5 (25%)	0 (0%)
Index	20	3 (15%)	17 (85%)	0 (0%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	2 (10%)	10 (50%)	8 (40%)	0 (0%)
Index	20	6 (30%)	10 (50%)	4 (20%)	0 (0%)

Peer Group Analysis - IM Emerging Markets Equity (MF)



Peer Group Analysis - IM Emerging Markets Equity (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	1.09 (67)	4.73 (80)	1.18 (76)	3.48 (38)	2.13 (32)	3.23 (39)
Index	1.19 (65)	4.34 (85)	1.88 (71)	4.06 (33)	2.50 (26)	3.78 (29)
Median	1.81	7.09	4.63	2.08	1.13	2.84

	2022	2021	2020	2019	2018
Investment	-17.74 (21)	0.92 (36)	15.26 (65)	20.37 (50)	-14.54 (29)
Index	-17.26 (19)	1.76 (32)	15.84 (61)	20.81 (47)	-14.49 (29)
Median	-22.44	-1.62	17.66	20.17	-16.45

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 10/01/2010	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	5,147,163	3,164,289	2,902,300	11,213,753

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	3.60	8.22	-10.73	-9.18	-6.24	-0.40
Index	3.11	8.23	-9.78	-10.40	-5.42	-0.45

Fund Information

Fund Name :	Vanguard International Equity Index Funds: Vanguard Emerging Markets Stock Index Fund; Instl Class Shares	Portfolio Assets :	\$98,508 Million
Fund Family :	Vanguard	Portfolio Manager :	Perre/Miller
Ticker :	VEMIX	PM Tenure :	2008--2016
Inception Date :	06/22/2000	Fund Style :	IM Emerging Markets Equity (MF)
Fund Assets :	\$6,880 Million	Style Benchmark :	FTSE Emerging Mkts All Cap China A Inclusion Index
Portfolio Turnover :	7%		

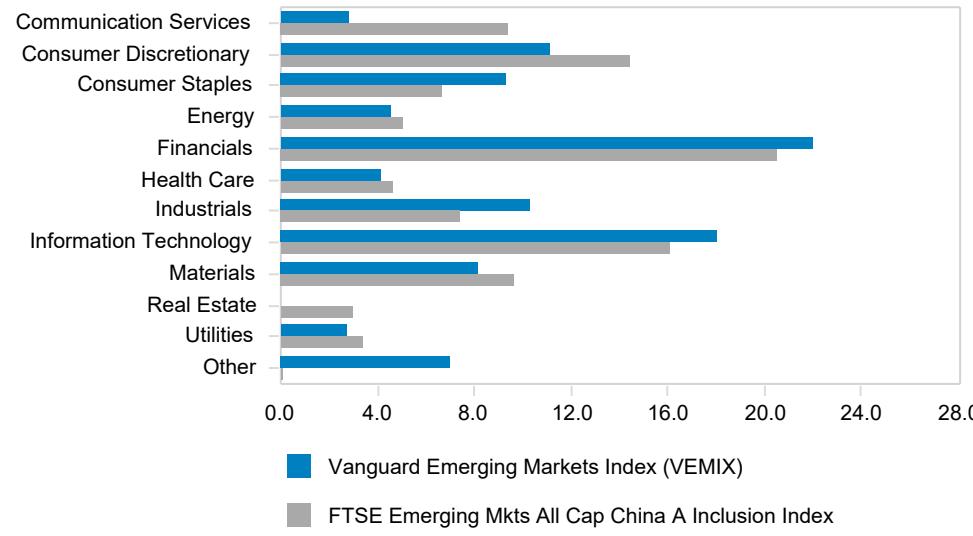
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	4,697	4,471
Avg. Market Cap	88,917,941,237	85,298,780,434
Price/Earnings (P/E)	22.12	12.09
Price/Book (P/B)	3.82	2.74
Dividend Yield	4.03	3.45
Annual EPS	35.06	34.16
5 Yr EPS	18.06	16.81
3 Yr EPS Growth	21.66	N/A
Beta (5 Years, Monthly)	1.01	1.00

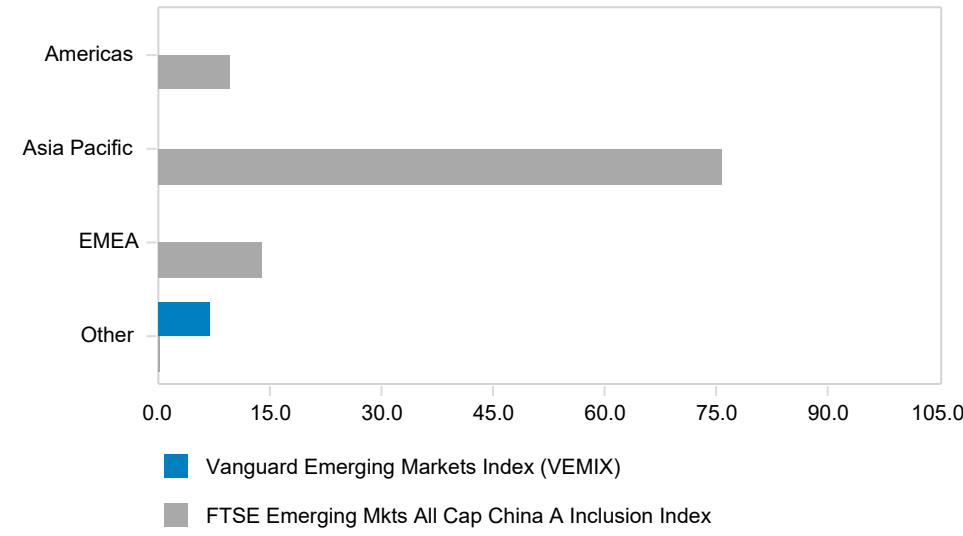
Top Ten Securities As of 01/31/2023

Taiwan Semiconductor Manufacturing	4.8 %
Tencent Holdings Ltd ORD	4.0 %
Alibaba Group Holding Ltd ORD	2.8 %
Vanguard Market Liquidity Fund	2.7 %
Meituan ORD	1.4 %
Reliance Industries Ltd ORD	1.3 %
Vale SA ORD	1.0 %
TAIWAN SEMICONDUCTOR MNFTG ADR	1.0 %
JD.Com Inc ORD	1.0 %
Infosys Ltd ORD	0.9 %

Sector Weights As of 01/31/2023



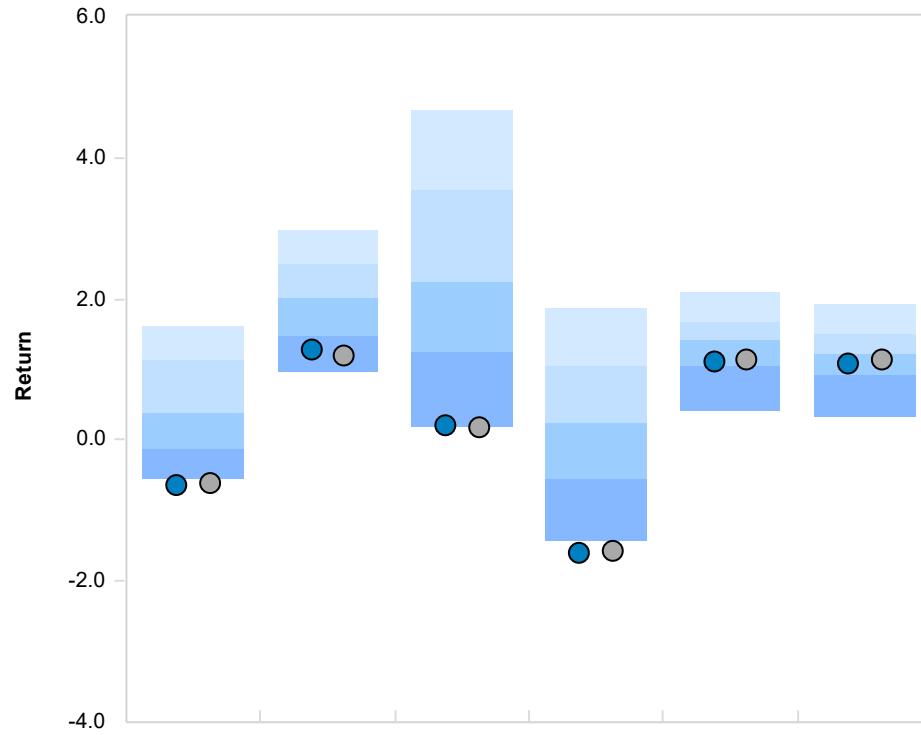
Region Weights As of 01/31/2023



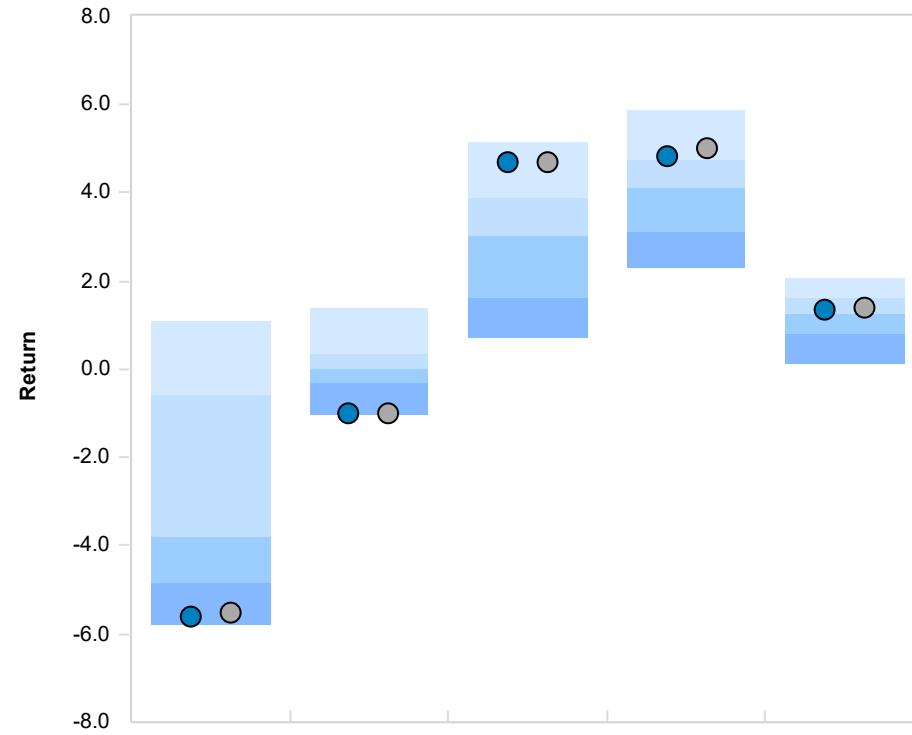
Statistics provided by Lipper. Most recent available data shown.



Peer Group Analysis - IM U.S. Short Term Investment Grade (MF)



Peer Group Analysis - IM U.S. Short Term Investment Grade (MF)



Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 04/01/2013	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	10,001,804	-7,569,350	1,411,718	3,844,172

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	1.93	1.07	-2.11	-1.15	-3.48	-0.68
Index	1.82	1.20	-2.16	-1.14	-3.45	-0.72

Fund Information

Fund Name :	Vanguard Bond Index Funds: Vanguard Short-Term Bond Index Fund; Institutional Class Shares	Portfolio Assets :	\$68,416 Million
Fund Family :	Vanguard	Portfolio Manager :	Joshua C. Barrickman
Ticker :	VBITX	PM Tenure :	2013
Inception Date :	09/27/2011	Fund Style :	IM U.S. Short Term Investment Grade (MF)
Fund Assets :	\$5,648 Million	Style Benchmark :	Bloomberg U.S. Aggregate 1-3 Yrs
Portfolio Turnover :	41%		

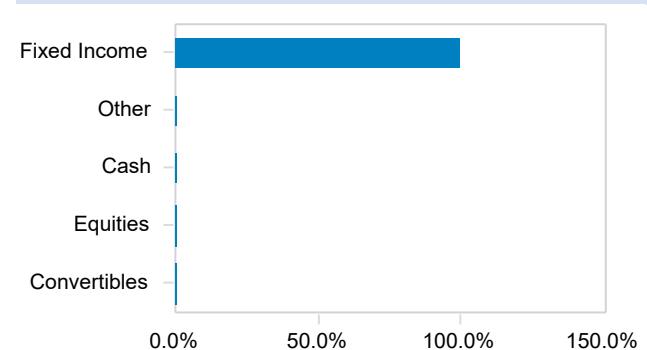
Fund Characteristics As of 12/31/2022

Avg. Coupon	2.28 %
Nominal Maturity	N/A
Effective Maturity	2.80 Years
Duration	2.60 Years
SEC 30 Day Yield	N/A
Avg. Credit Quality	AA

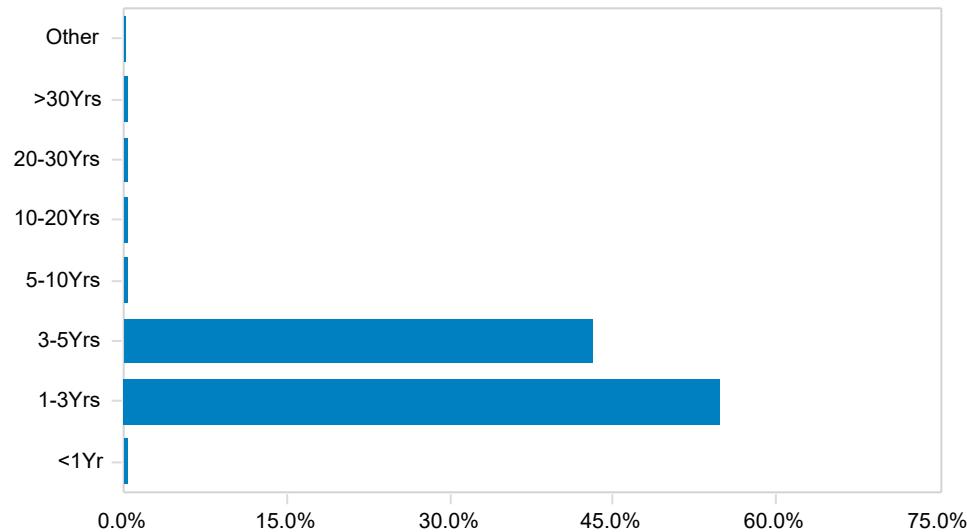
Top Ten Securities As of 12/31/2022

Government Agency Securities	33.8 %
Treasury Notes/Bonds	33.8 %
Corporate Notes/Bonds	26.9 %
Fgn. Currency Denominated Bonds	5.6 %

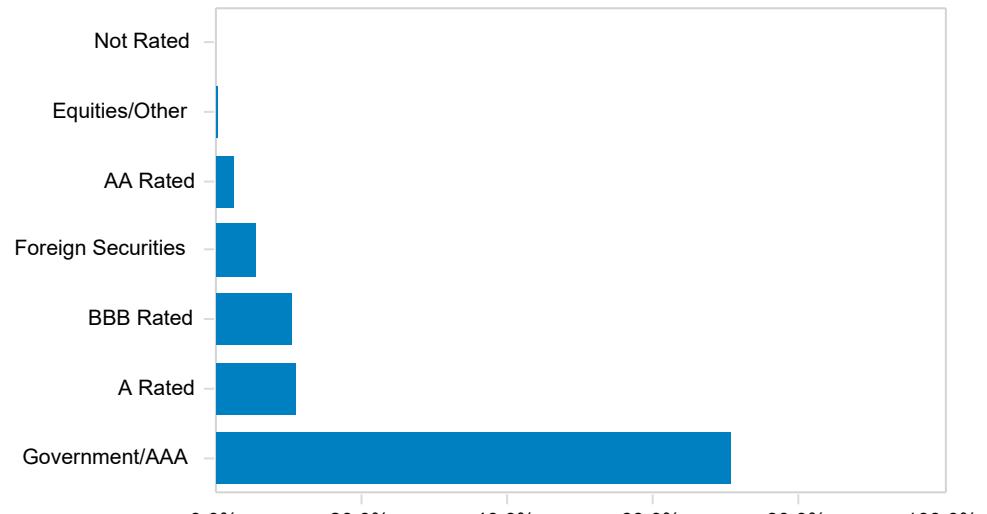
Asset Allocation As of 12/31/2022



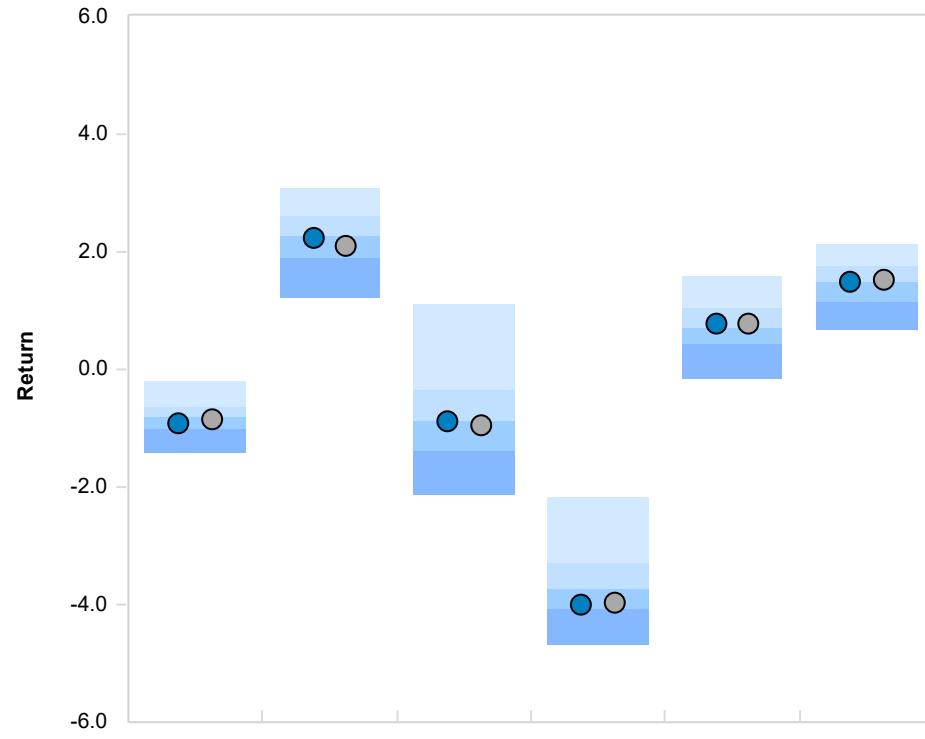
Maturity Distribution As of 12/31/2022



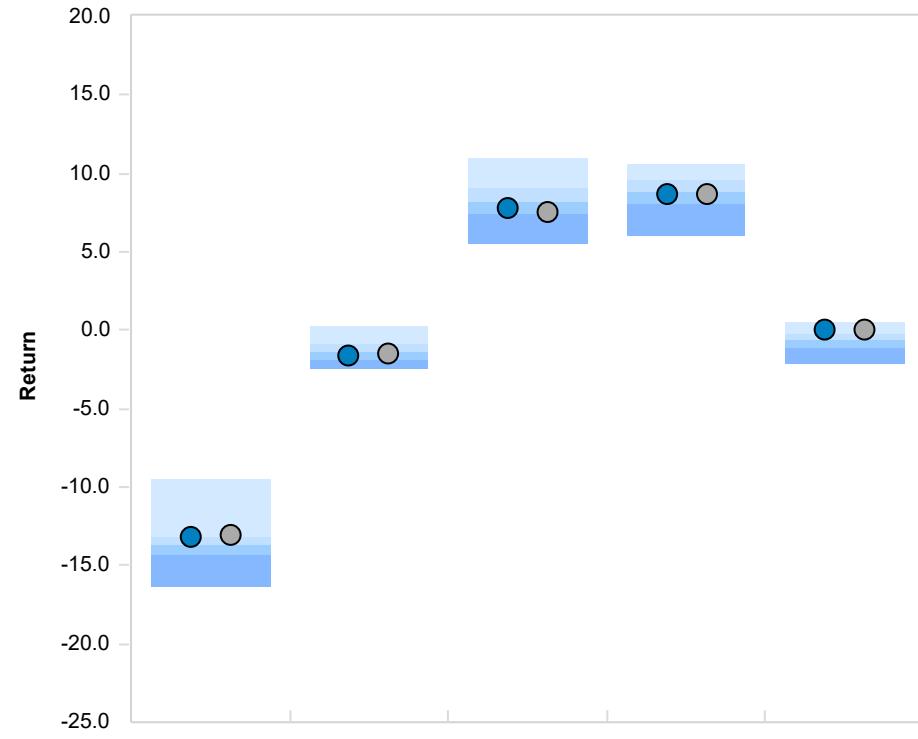
Sector/Quality Allocation As of 12/31/2022



Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)



Peer Group Analysis - IM U.S. Broad Market Core Fixed Income (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	-0.90 (61)	2.24 (54)	-0.89 (50)	-4.01 (69)	0.79 (44)	1.49 (51)
Index	-0.84 (53)	2.09 (67)	-0.94 (54)	-3.97 (64)	0.77 (46)	1.52 (48)
Median	-0.82	2.26	-0.89	-3.73	0.72	1.50

	2022	2021	2020	2019	2018
Investment	-13.15 (26)	-1.65 (64)	7.74 (65)	8.73 (52)	-0.01 (19)
Index	-13.01 (22)	-1.55 (60)	7.51 (73)	8.72 (53)	0.01 (18)
Median	-13.67	-1.33	8.16	8.76	-0.62

Financial Reconciliation Since Inception Ending June 30, 2023

No data found.

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	3.16 (46)	1.67 (56)	-4.65 (47)	-4.71 (17)	-5.98 (51)	-0.08 (38)
Index	2.96 (69)	1.87 (35)	-4.75 (61)	-4.69 (15)	-5.93 (47)	0.01 (21)
Median	3.14	1.71	-4.67	-5.35	-5.98	-0.15

Inception Date for VBTIX is 9/2019. Manager returns for VBTIX have been used for this report.



Fund Information

Fund Name :	Vanguard Bond Index Funds: Vanguard Total Bond Market Index Fund; Institutional Shares	Portfolio Assets :	\$301,643 Million
Fund Family :	Vanguard	Portfolio Manager :	Joshua C. Barrickman
Ticker :	VBTIX	PM Tenure :	2013
Inception Date :	09/18/1995	Fund Style :	IM U.S. Broad Market Core Fixed Income (MF)
Fund Assets :	\$42,082 Million	Style Benchmark :	Bloomberg U.S. Aggregate
Portfolio Turnover :	40%		

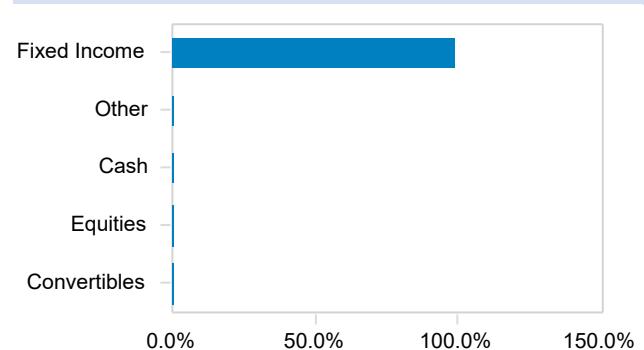
Fund Characteristics As of 03/31/2023

Avg. Coupon	2.90 %
Nominal Maturity	N/A
Effective Maturity	8.90 Years
Duration	6.60 Years
SEC 30 Day Yield	2.7
Avg. Credit Quality	AA

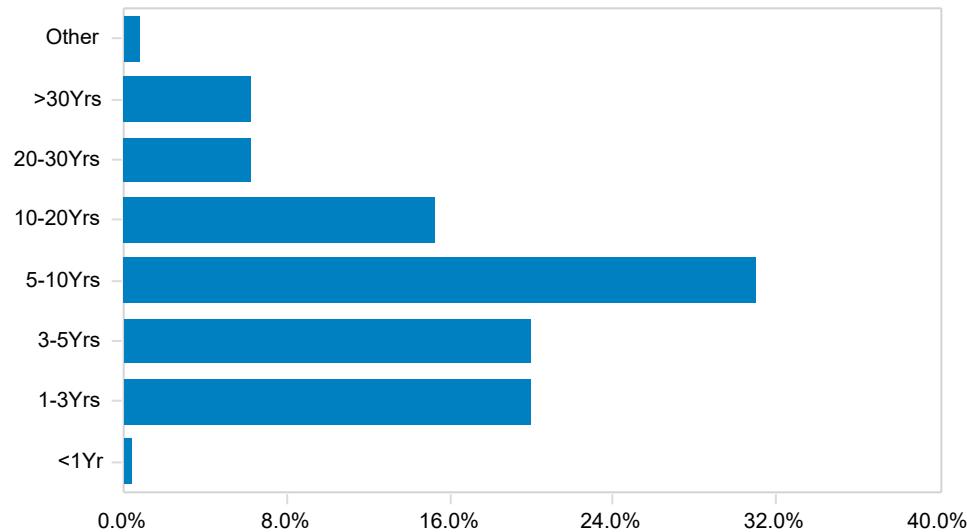
Top Ten Securities As of 12/31/2022

Corporate Notes/Bonds	26.9 %
Government Agency Securities	23.0 %
Treasury Notes/Bonds	23.0 %
GNMA and Other Mtg Backed	22.4 %
Fgn. Currency Denominated Bonds	3.5 %
Asset Backed Securities	0.5 %

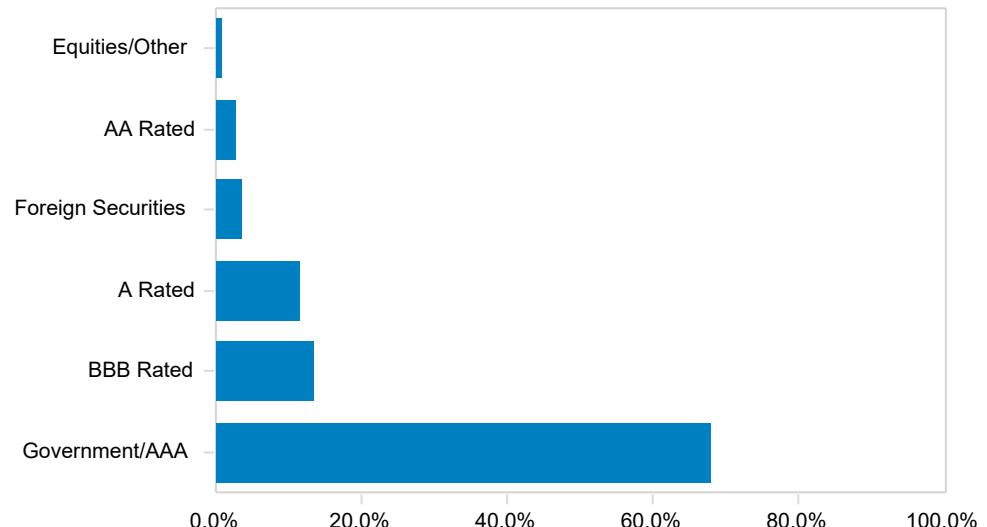
Asset Allocation As of 12/31/2022



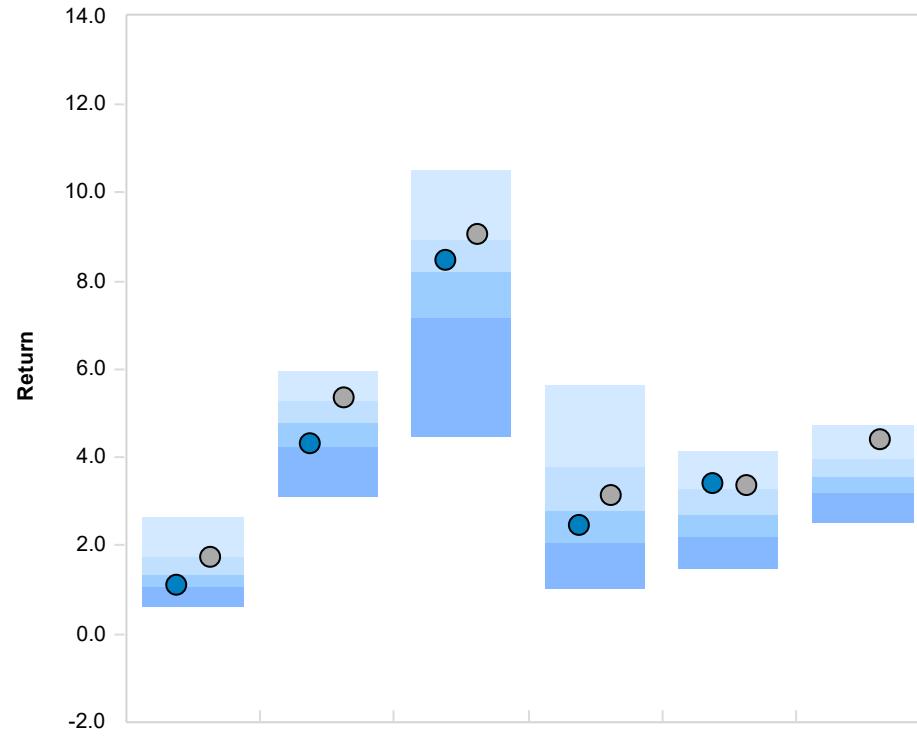
Maturity Distribution As of 03/31/2023



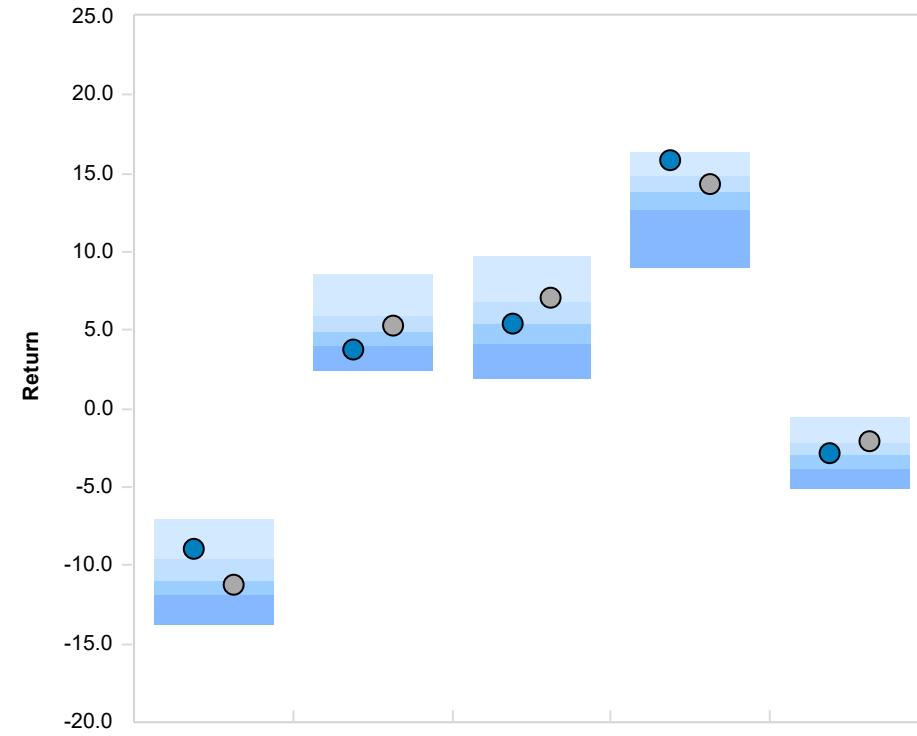
Sector/Quality Allocation As of 12/31/2022



Peer Group Analysis - IM U.S. High Yield Bonds (MF)



Peer Group Analysis - IM U.S. High Yield Bonds (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	1.12 (71)	4.35 (72)	8.50 (39)	2.45 (63)	3.41 (21)	N/A
Index	1.75 (25)	5.38 (19)	9.06 (23)	3.13 (41)	3.36 (23)	4.43 (12)
Median	1.36	4.78	8.21	2.81	2.70	3.57

	2022	2021	2020	2019	2018
Investment	-8.97 (18)	3.78 (79)	5.38 (51)	15.90 (9)	-2.87 (46)
Index	-11.19 (57)	5.28 (42)	7.11 (20)	14.32 (38)	-2.08 (22)
Median	-10.97	4.93	5.43	13.83	-2.97

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 12/01/2014	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	12,642,764	5,350,000	6,121,962	24,114,726

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	3.19	4.88	-0.85	-8.62	-4.20	0.53
Index	3.57	4.17	-0.65	-9.83	-4.84	0.71



Fund Information

Fund Name :	Vanguard Fixed Income Securities Funds: Vanguard High-Yield Corporate Fund; Admiral Shares	Portfolio Assets :	\$22,747 Million
Fund Family :	Vanguard	Portfolio Manager :	Hong/Shortsleeve/Chang
Ticker :	VWEAX	PM Tenure :	2008--2022--2022
Inception Date :	11/12/2001	Fund Style :	IM U.S. High Yield Bonds (MF)
Fund Assets :	\$19,850 Million	Style Benchmark :	FTSE High Yield Market Index
Portfolio Turnover :	36%		

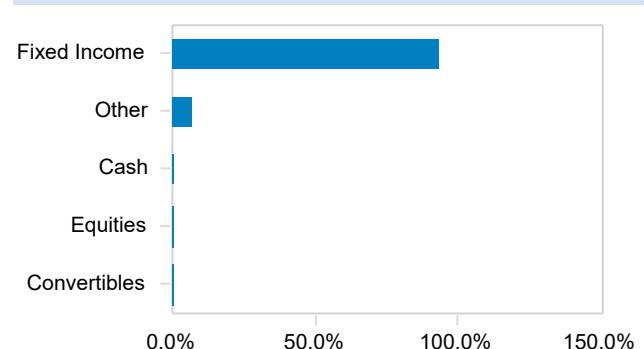
Fund Characteristics As of 12/31/2022

Avg. Coupon	4.89 %
Nominal Maturity	N/A
Effective Maturity	5.60 Years
Duration	3.90 Years
SEC 30 Day Yield	6.5
Avg. Credit Quality	BB

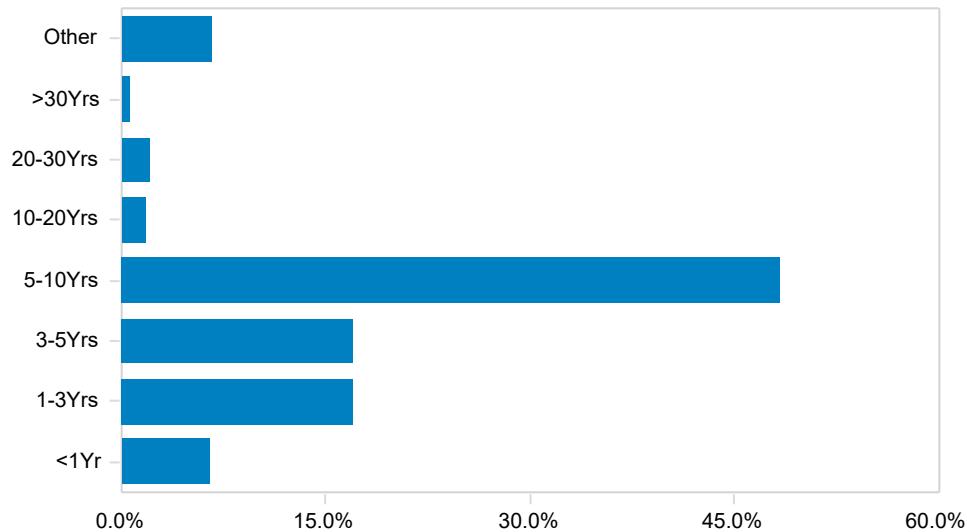
Top Ten Securities As of 12/31/2022

Corporate Notes/Bonds	87.4 %
Government Agency Securities	2.9 %
Treasury Notes/Bonds	2.9 %
Fgn. Currency Denominated Bonds	0.1 %

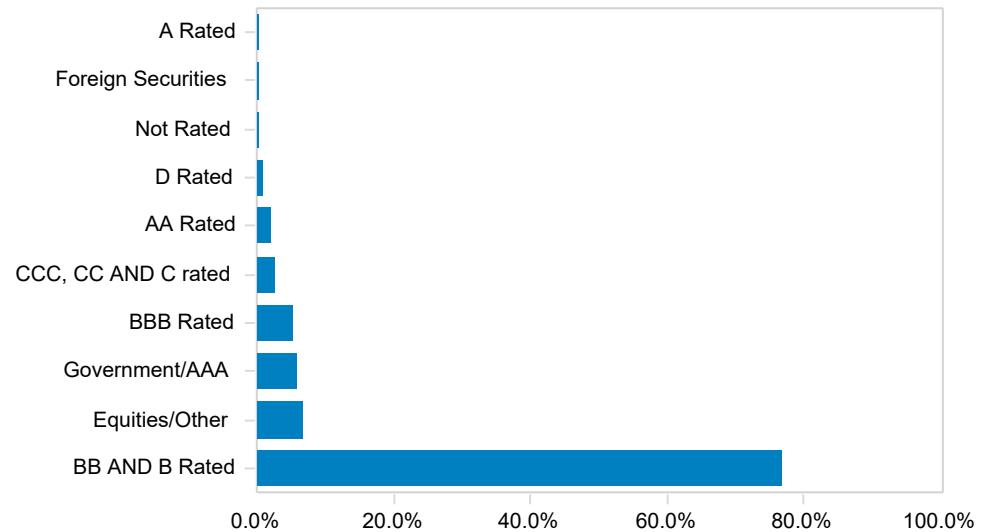
Asset Allocation As of 12/31/2022



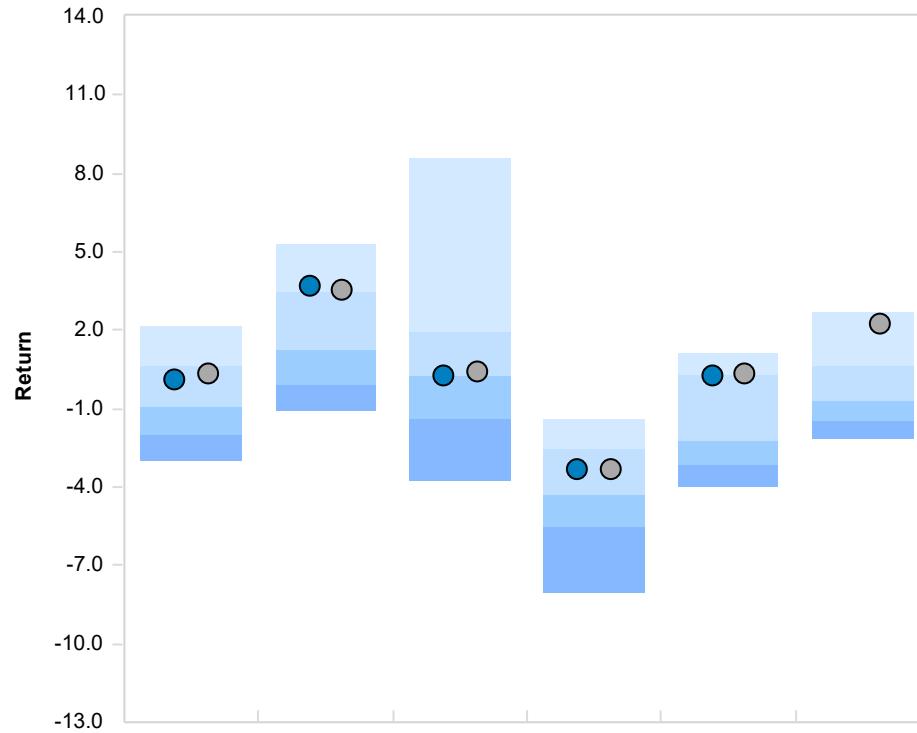
Maturity Distribution As of 12/31/2022



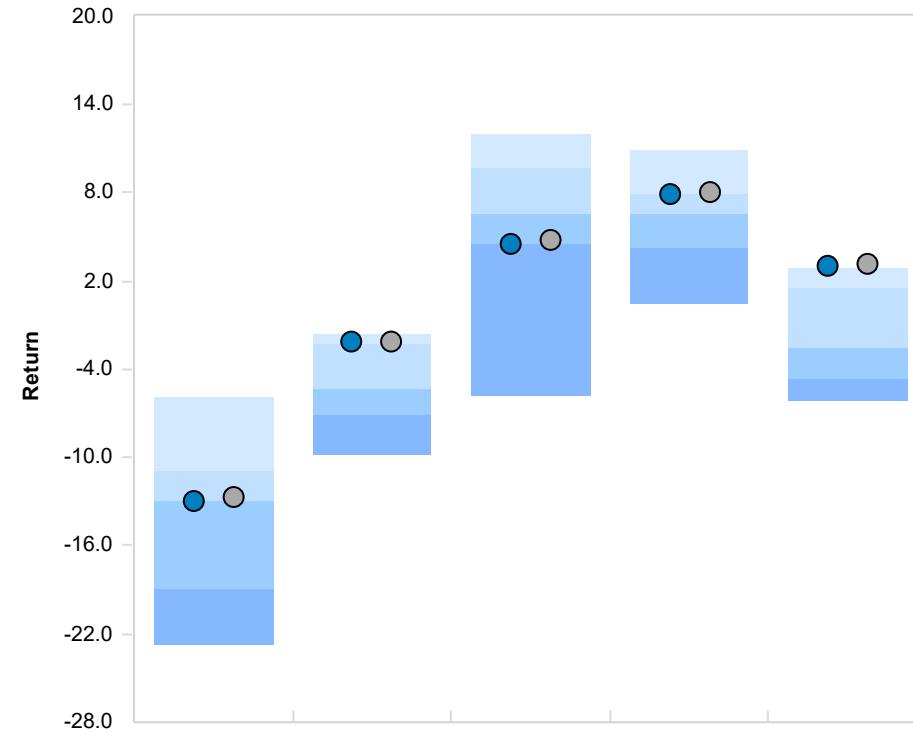
Sector/Quality Allocation As of 12/31/2022



Peer Group Analysis - IM International Fixed Income (MF)



Peer Group Analysis - IM International Fixed Income (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	0.14 (42)	3.73 (15)	0.31 (47)	-3.33 (36)	0.28 (25)	N/A
Index	0.37 (33)	3.56 (22)	0.45 (46)	-3.31 (36)	0.38 (24)	2.24 (8)
Median	-0.95	1.24	0.27	-4.30	-2.28	-0.72

	2022	2021	2020	2019	2018
Investment	-12.89 (48)	-2.17 (20)	4.59 (75)	7.89 (25)	3.00 (2)
Index	-12.72 (44)	-2.10 (19)	4.75 (72)	8.06 (24)	3.16 (1)
Median	-12.94	-5.39	6.55	6.64	-2.47

Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 06/01/2015	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	9,329,282	-2,425,000	1,187,622	8,091,904

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	3.58	-0.05	-3.25	-5.19	-4.98	-0.18
Index	3.18	0.08	-3.09	-5.23	-5.04	-0.12
Median	3.18	0.08	-3.09	-5.23	-5.04	-0.12



Fund Information

Fund Name :	Vanguard Charlotte Funds: Vanguard Total International Bond Index Fund; Institutional Class Shares	Portfolio Assets :	\$86,097 Million
Fund Family :	Vanguard	Portfolio Manager :	Barrickman/Talone
Ticker :	VTIFX	PM Tenure :	2013-2022
Inception Date :	05/31/2013	Fund Style :	IM International Fixed Income (MF)
Fund Assets :	\$12,192 Million	Style Benchmark :	FTSE Non-U.S. World Government Bond
Portfolio Turnover :	27%		

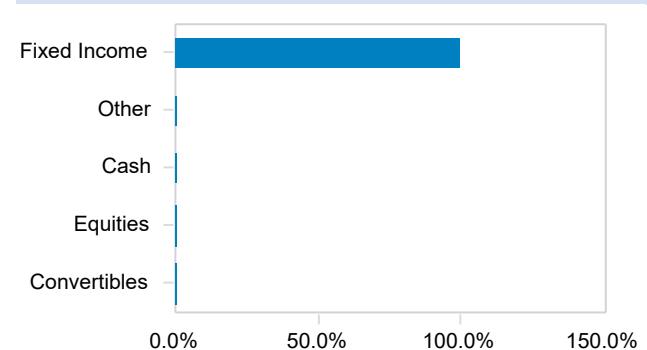
Fund Characteristics As of 12/31/2022

Avg. Coupon	1.95 %
Nominal Maturity	N/A
Effective Maturity	8.90 Years
Duration	7.40 Years
SEC 30 Day Yield	N/A
Avg. Credit Quality	N/A

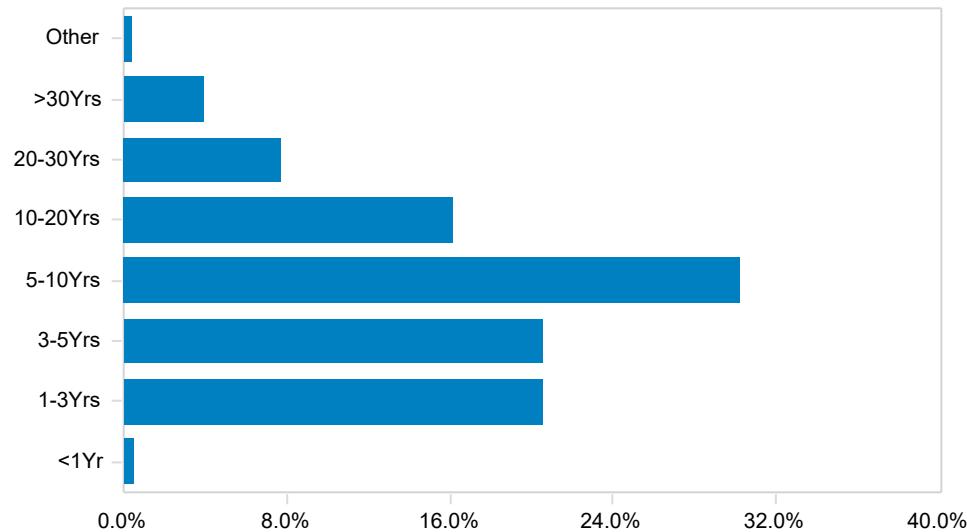
Top Ten Securities As of 12/31/2022

Fgn. Currency Denominated Bonds	79.7 %
Corporate Notes/Bonds	14.8 %
Asset Backed Securities	5.2 %

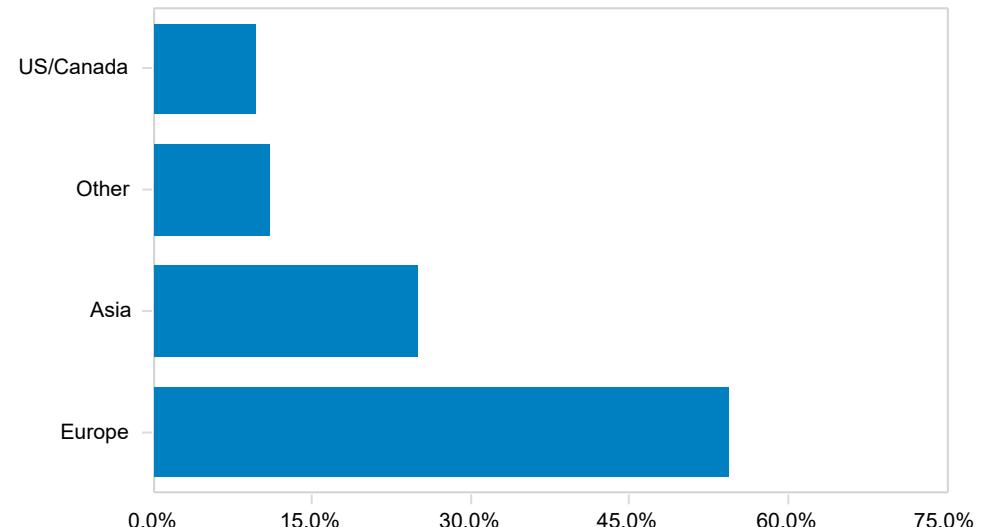
Asset Allocation As of 12/31/2022



Maturity Distribution As of 12/31/2022



Sector/Quality Allocation As of 12/31/2022



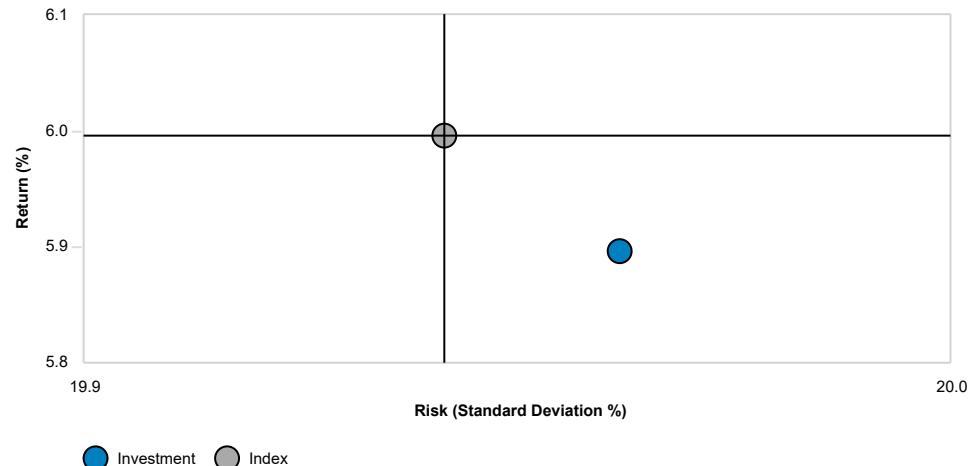
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.90	19.96	0.32	99.94	9	100.27	3
Index	6.00	19.94	0.33	100.00	9	100.00	3

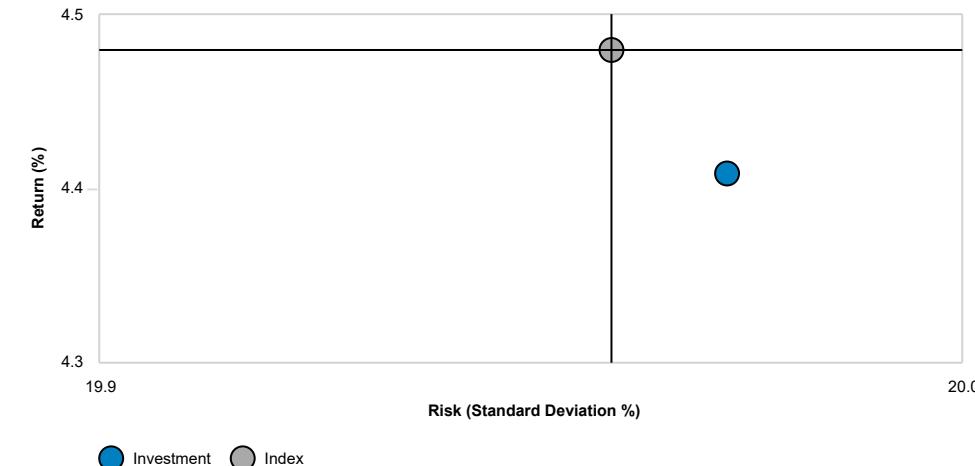
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.41	19.97	0.24	99.89	15	100.13	5
Index	4.48	19.96	0.24	100.00	15	100.00	5

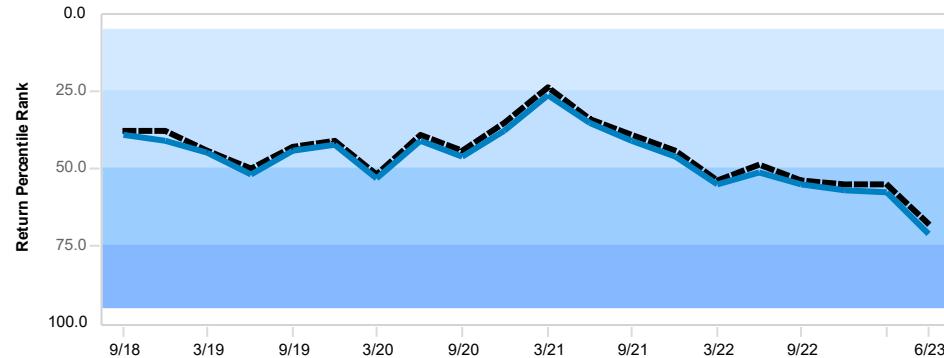
Risk and Return 3 Years



Risk and Return 5 Years

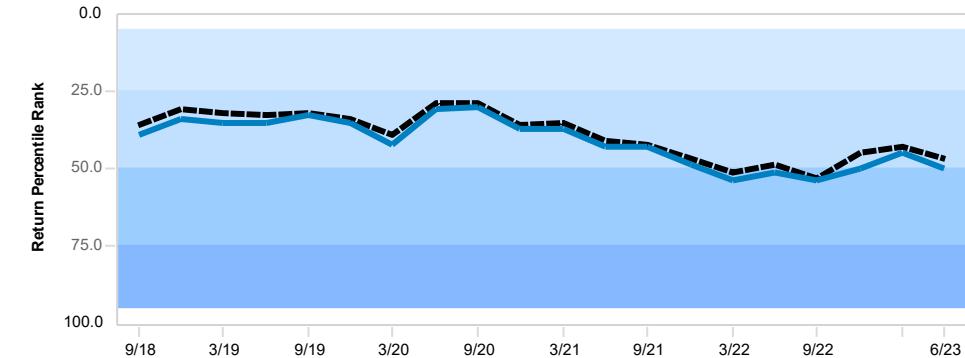


3 Year Rolling Percentile Rank IM Real Estate Sector (MF)



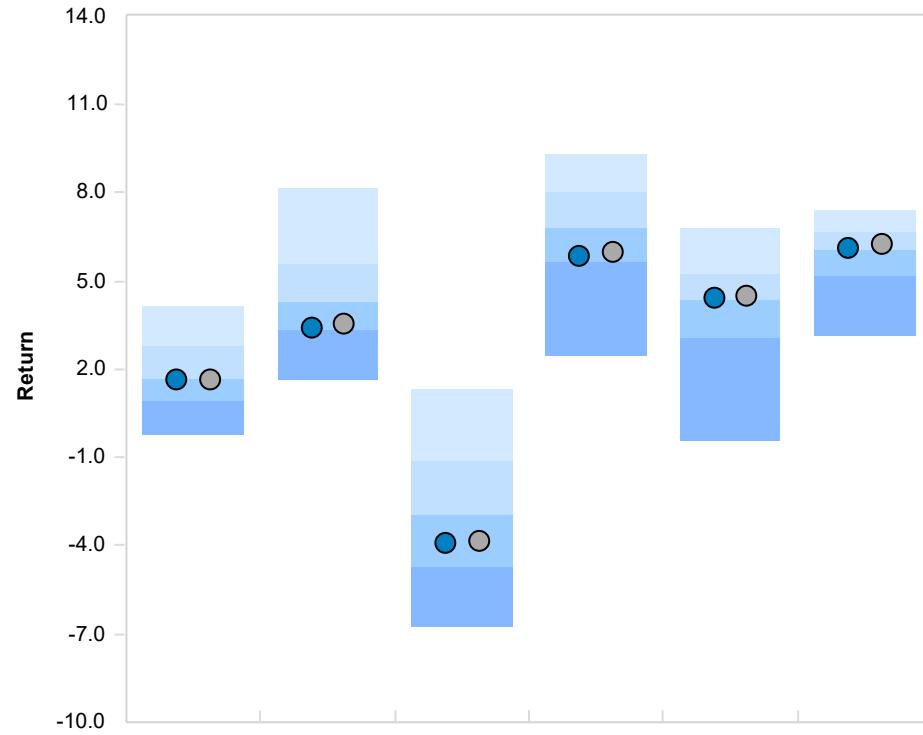
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
— Investment	20	0 (0%)	12 (60%)	8 (40%)	0 (0%)
— Index	20	1 (5%)	13 (65%)	6 (30%)	0 (0%)

5 Year Rolling Percentile Rank IM Real Estate Sector (MF)

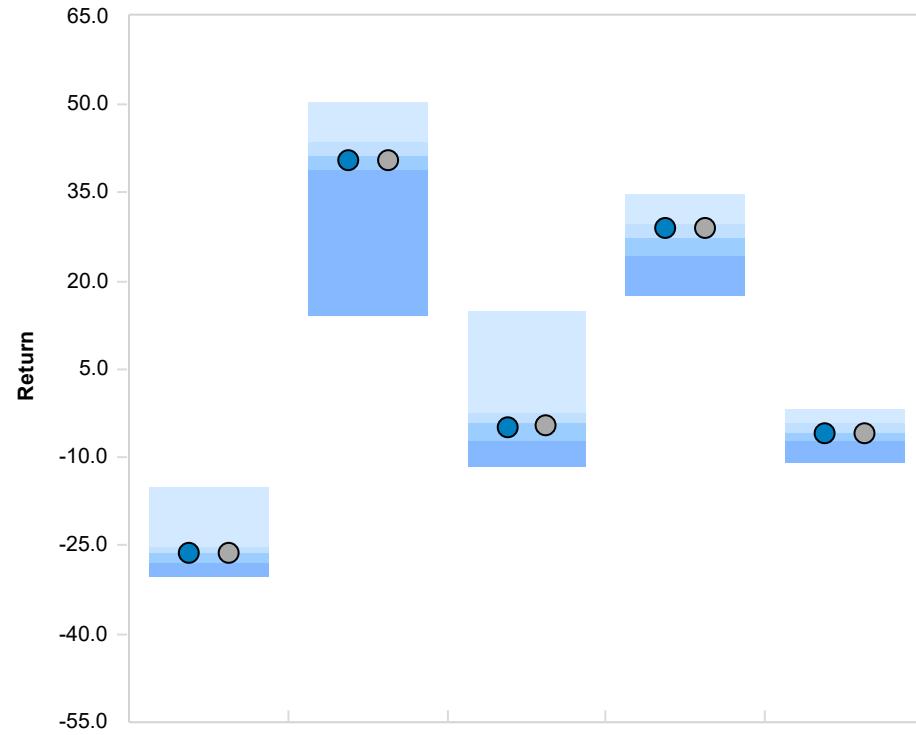


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	17 (85%)	3 (15%)	0 (0%)
Index	20	0 (0%)	18 (90%)	2 (10%)	0 (0%)

Peer Group Analysis - IM Real Estate Sector (MF)



Peer Group Analysis - IM Real Estate Sector (MF)



Financial Reconciliation Since Inception Ending June 30, 2023

	Market Value 10/01/2010	Net Flows	Return On Investment	Market Value 06/30/2023
Investment	4,801,552	-1,776,630	9,828,509	12,853,432

Comparative Performance

	1 Qtr Ending Mar-2023	1 Qtr Ending Dec-2022	1 Qtr Ending Sep-2022	1 Qtr Ending Jun-2022	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021
Investment	1.79 (82)	4.36 (25)	-11.01 (69)	-15.48 (42)	-5.97 (64)	14.96 (66)
Index	1.83 (81)	4.35 (27)	-10.98 (66)	-15.43 (38)	-5.95 (61)	14.94 (66)
Median	2.56	3.86	-10.73	-15.81	-5.29	15.66

Fund Information

Fund Name :	Vanguard Specialized Funds: Vanguard Real Estate Index Fund; Institutional Class Shares	Portfolio Assets :	\$62,436 Million
Fund Family :	Vanguard	Portfolio Manager :	O'Reilly/Nejman
Ticker :	VGSNX	PM Tenure :	2003--2016
Inception Date :	12/02/2003	Fund Style :	IM Real Estate Sector (MF)
Fund Assets :	\$9,360 Million	Style Benchmark :	Vanguard Spliced REIT Index
Portfolio Turnover :	7%		

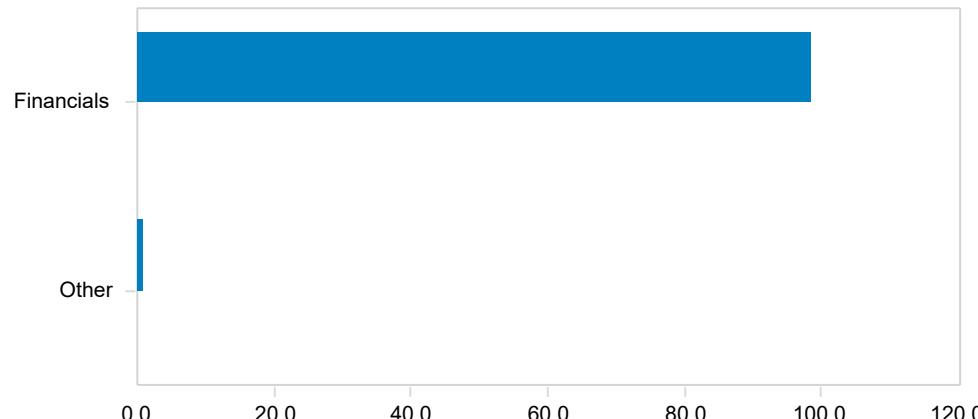
Portfolio Characteristics As of 01/31/2023

	Portfolio	Benchmark
Total Securities	170	N/A
Avg. Market Cap	43,840,692,079	-
Price/Earnings (P/E)	38.77	N/A
Price/Book (P/B)	5.44	N/A
Dividend Yield	3.87	N/A
Annual EPS	45.93	N/A
5 Yr EPS	11.80	N/A
3 Yr EPS Growth	15.34	N/A
Beta (5 Years, Monthly)	1.00	1.00

Top Ten Securities As of 01/31/2023

Vanguard Real Estate II Index Fund;Insti	12.2 %
Prologis Inc ORD	7.6 %
American Tower Corp ORD	6.7 %
Equinix Inc ORD	4.3 %
Crown Castle Inc ORD	4.1 %
Public Storage ORD	3.1 %
Realty Income Corp ORD	2.7 %
Simon Property Group Inc ORD	2.6 %
Welltower Inc ORD	2.2 %
SBA Communications Corp ORD	2.1 %

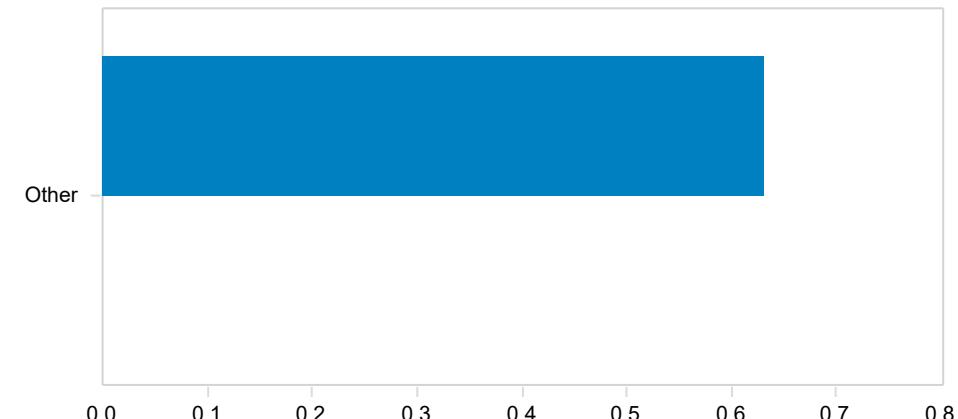
Sector Weights As of 01/31/2023



█ Vanguard Real Estate Index Fund (VGSNX)

█ Vanguard Spliced REIT Index

Region Weights As of 01/31/2023



█ Vanguard Real Estate Index Fund (VGSNX)

█ Vanguard Spliced REIT Index

Statistics provided by Lipper. Most recent available data shown.



Total Fund Policy			
Allocation Mandate	Weight (%)	Allocation Mandate	Weight (%)
Jan-1979		Jul-2014	
Russell 1000 Growth Index	20.00	CRSP U.S. Large Cap Value TR Index	8.00
Russell 1000 Value Index	20.00	CRSP U.S. Large Cap Growth TR Index	8.00
MSCI EAFE (Net) Index	10.00	CRSP U.S. Mid Cap TR Index	10.00
Bloomberg Intermediate US Govt/Credit Idx	40.00	CRSP U.S. Small Cap TR Index	5.00
Russell 2000 Index	10.00	Vanguard Spliced Emerging Markets Index (Net)	4.00
90 Day U.S. Treasury Bill	0.00	Vanguard Spliced Developed ex U.S. Index (Net)	9.00
Jun-2010		Blmbg. U.S. Gov/Credit: 5-10 Yr	7.50
Russell 1000 Value Index	15.00	Bloomberg U.S. TIPS Index	7.50
MSCI US Prime Market Growth	15.00	Bloomberg 1-5 Year Gov/Credit Idx	7.50
MSCI US Mid Cap 450 Index	10.00	Bloomberg US TIPS 0-5 Year Index	7.50
Russell 2000 Index	10.00	Vanguard Spliced REIT Index	10.00
MSCI EAFE (Net) Index	10.00	90 Day U.S. Treasury Bill	1.00
MSCI Emerging Markets (Net) Index	5.00	S&P 500 Index	15.00
Blmbg. U.S. Gov/Credit: 5-10 Yr	15.00		
Bloomberg U.S. TIPS Index	15.00		
Vanguard Spliced REIT Index	5.00		
Jun-2013			
CRSP U.S. Large Cap Value TR Index	15.00		
CRSP U.S. Large Cap Growth TR Index	15.00		
CRSP U.S. Mid Cap TR Index	10.00		
CRSP U.S. Small Cap TR Index	10.00		
Vanguard Spliced Emerging Markets Index (Net)	5.00		
Vanguard Spliced Developed ex U.S. Index (Net)	10.00		
Blmbg. U.S. Gov/Credit: 5-10 Yr	7.50		
Bloomberg U.S. TIPS Index	7.50		
Bloomberg 1-5 Year Gov/Credit Idx	7.50		
Bloomberg US TIPS 0-5 Year Index	7.50		
Vanguard Spliced REIT Index	4.00		
90 Day U.S. Treasury Bill	1.00		

Allocation Mandate	Weight (%)	Allocation Mandate	Weight (%)
Jun-2015		Oct-2019	
CRSP U.S. Large Cap Value TR Index	5.00	S&P 500 Index	15.00
CRSP U.S. Large Cap Growth TR Index	5.00	CRSP U.S. Large Cap Value TR Index	5.00
CRSP U.S. Mid Cap TR Index	10.00	CRSP U.S. Large Cap Growth TR Index	5.00
CRSP U.S. Small Cap TR Index	5.00	S&P MidCap 400 Index	10.00
Vanguard Spliced Emerging Markets Index (Net)	5.00	S&P SmallCap 600 Index	5.00
Vanguard Spliced Developed ex U.S. Index (Net)	10.00	FTSE Developed All Cap ex-U.S. Index	10.00
Blmbg. U.S. Gov/Credit: 5-10 Yr	7.50	FTSE Emerging Mkts All Cap China A Inclusion Index	5.00
Bloomberg U.S. TIPS Index	5.00	Blmbg. U.S. Aggregate Index	20.00
Bloomberg 1-5 Year Gov/Credit Idx	7.50	Bloomberg 1-5 Year Gov/Credit Idx	2.50
Bloomberg US TIPS 0-5 Year Index	5.00	Blmbg. U.S. Corp High Yield	10.00
Vanguard Spliced REIT Index	5.00	Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	5.00
90 Day U.S. Treasury Bill	2.50	Vanguard Spliced REIT Index	5.00
S&P 500 Index	15.00	90 Day U.S. Treasury Bill	2.50
Blmbg. U.S. Corp High Yield	7.50		
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	5.00		
Dec-2018		Mar-2020	
CRSP U.S. Large Cap Value TR Index	5.00	S&P 500 Index	15.00
CRSP U.S. Large Cap Growth TR Index	5.00	CRSP U.S. Large Cap Value TR Index	5.00
S&P MidCap 400 Index	10.00	CRSP U.S. Large Cap Growth TR Index	5.00
S&P SmallCap 600 Index	5.00	S&P MidCap 400 Index	10.00
Vanguard Spliced Emerging Markets Index (Net)	5.00	S&P SmallCap 600 Index	5.00
Vanguard Spliced Developed ex U.S. Index (Net)	10.00	FTSE Developed All Cap ex-U.S. Index	7.50
Blmbg. U.S. Gov/Credit: 5-10 Yr	7.50	FTSE Emerging Mkts All Cap China A Inclusion Index	5.00
Bloomberg U.S. TIPS Index	5.00	FTSE Global ex U.S. Small Cap Index (Net)	2.50
Bloomberg 1-5 Year Gov/Credit Idx	7.50	Blmbg. U.S. Aggregate Index	20.00
Bloomberg US TIPS 0-5 Year Index	5.00	Bloomberg 1-5 Year Gov/Credit Idx	2.50
Vanguard Spliced REIT Index	5.00	Blmbg. U.S. Corp High Yield	10.00
90 Day U.S. Treasury Bill	2.50	Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	5.00
S&P 500 Index	15.00	Vanguard Spliced REIT Index	5.00
Blmbg. U.S. Corp High Yield	7.50	90 Day U.S. Treasury Bill	2.50
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	5.00		

Mid Cap Index Policy	
Allocation Mandate	Weight (%)
Oct-2010	
Vanguard Spliced Mid Cap Index	100.00
Dec-2018	
S&P MidCap 400 Index	100.00

Small Cap Index Policy	
Allocation Mandate	Weight (%)
Jul-2009	
Vanguard Spliced Small Cap Index	100.00
Dec-2018	
S&P SmallCap 600 Index	100.00

Vanguard Spliced REIT Index History

MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009

MSCI US REIT Index through February 1, 2018

MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018

MSCI US Investable Market Real Estate 25/50 Index thereafter



Active Return	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
Alpha	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
Beta	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
Consistency	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
Distributed to Paid In (DPI)	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
Down Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
Downside Risk	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
Excess Return	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
Excess Risk	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
Information Ratio	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
Public Market Equivalent (PME)	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
R-Squared	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
Return	- Compounded rate of return for the period.
Sharpe Ratio	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
Standard Deviation	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
Total Value to Paid In (TVPI)	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
Tracking Error	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
Treynor Ratio	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
Up Market Capture	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

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