



Investment Performance Review
Period Ending June 30, 2022

Butler County Employees Retirement Plan



As you may recall from our Client Letter at the beginning of the year, AndCo remains steadfast in our belief and conviction that the best way to service our valued clients is within a model that is independent, singularly focused, customized, and passionately delivered. We continue to reinvest 100% of our net profits back into the organization to enhance our customized service model and provide the appropriate resources for all our team members to serve our valued clients at a high level.

To that end, we are thrilled to share that AndCo is the recipient of a Greenwich Quality Leader Award for mid-sized consulting firms!

Coalition Greenwich is a leading global provider of data, analytics, and insights to the financial services industry, and the Greenwich Exchange provides institutional investors with robust and actionable data to inform their decision-making. Research participants receive regional and global industry insights, as well as peers' perceptions of asset managers and investment consultants.

Outlined below are the award criteria research participants answer that determines Quality Leader Awards each year. To qualify as a research participant you must have at least \$150MM in investable assets.

2021 was the first year we launched an initiative to participate in this research opportunity and the experience helped glean key insights into what is important for our clients and how we can better serve them going forward. We deeply appreciate the client representatives that acted as research participants in the 2021 study.

While our consultants are the tip of the spear when servicing our clients, this award, and our overall client service experience, would not have been possible without the work of our entire AndCo team. We greatly appreciate their ongoing work and efforts that made this award possible.

As we have stated since our rebrand in 2017, our name, AndCo, reminds us of who we work for every day - "Our Client" &Co. You will always be first in our service model and at the forefront of each team member's efforts to serve, earn your trust, and add value.

Thank you again for your valued partnership and the opportunity to serve you. We share this award with you and will continue to work hard to earn your trust as we move forward in these challenging market environments.

GREENWICH QUALITY LEADER AWARD CRITERIA

Understanding of Client Goals and Objectives	Client Satisfaction with Manager Recommendations	Timeliness in Providing Written Reports
Advice on DC Plan Structure and Design	Communication of Philosophy and Investment Beliefs	Capability of Consultants Assigned to Clients
Credibility with Investment Committee	Advice on Long-Term Asset Allocation and Liability Issues	Usefulness of Personal Meetings
Proactive Advice and Innovative Ideas	Responsiveness and Prompt Follow-Up on Client Requests	Sufficient Professional Resources
	Usefulness of Written Investment Reviews	

IMPORTANT DISCLOSURE INFORMATION RE GREENWICH QUALITY LEADER AWARD: This communication is intended for informational purposes only and should not be regarded as investment advice or as a recommendation regarding any particular course of action. AndCo Consulting is an investment adviser registered with the U.S. Securities and Exchange Commission ("SEC"). Registration as an investment adviser does not constitute an endorsement of the firm by securities regulators nor does it indicate that the adviser has attained a particular level of skill or ability.

These ratings are not indicative of AndCo's future performance. These awards or any other rankings and/or recognition by unaffiliated rating services and/or publications should not be construed as a guarantee that a client will experience a certain level of results or satisfaction if they invest with AndCo, nor should it be construed as a current or past endorsement by any of our clients. AndCo did not pay a fee to participate in this award survey. Coalition Greenwich and AndCo are not affiliated entities.

METHODOLOGY FOR THIS AWARD: Between July and October 2021, Coalition Greenwich conducted interviews with 811 individuals from 661 of the largest tax-exempt funds in the United States. These U.S.-based institutional investors are corporate and union funds, public funds, and endowment and foundation funds, with either pension or investment pool assets greater than \$150 million. Study participants were asked to provide quantitative and qualitative evaluations of their asset management and investment consulting providers, including qualitative assessments of those firms soliciting their business and detailed information on important market trends.



2nd Quarter 2022 Market Environment

The Economy

- Global economic growth continued to slow during the 2nd quarter as global central banks tightened monetary policy in order to fight persistently high inflation. Additionally, rising geopolitical concerns related to Russia's continued action in Ukraine, China's zero-Covid policy, and social unrest in emerging markets all contributed to the slowdown.
- The US Federal Reserve Bank (the Fed) increased interest rates twice during the quarter by a total of 1.25%. June's rate increase of 0.75% was the largest interest rate increase since the early 1990s. The Fed indicated that its primary focus is arresting the increase in inflation which could require additional rate increases.
- The US labor market continues to be a source of strength with the unemployment rate holding steady at 3.6% in June. The pace of job growth remains above the market's expectations with 390,000 and 372,000 new jobs created in May and June, respectfully. Despite these gains, the number of available workers entering the workforce remains significantly below the pre-pandemic high.
- The US housing market showed signs of cooling as higher mortgage rates pushed many buyers out of the market. Importantly, housing starts and new building permits continued their downward trend which suggests future new inventory may fall short of demand. Finally, home price appreciation continued to increase as measured by the Case-Shiller Home Price Index.

Equity (Domestic and International)

- US equities declined broadly during the 2nd quarter as worries regarding inflation, sharply higher interest rates, rising recession risk, and continued geopolitical events weighed on the equity market. Large cap value was the least negative (-12.2%) segment of the domestic equity market relative to other styles and capitalizations for the second consecutive quarter. Mid-cap growth was the worst performing style, falling 21.1% for the period.
- International stocks also struggled during the 2nd quarter as the continuing conflict in Ukraine and persistently high inflation drove markets lower. Western Europe was negatively affected by rising energy prices due to continued restrictions on purchases from Russia. Additionally, both the Euro and Yen currencies fell against the US dollar (USD) because of increasing uneasiness over future economic growth.

Fixed Income

- Concerns about current inflation levels, combined with the Fed's stated commitment to continue raising interest rates, were the primary drivers of return during the 2nd quarter. US interest rates moved significantly higher during the quarter with the US 10-Year Treasury bond rising 63 basis points to close at a yield of 2.98%.
- Performance was broadly negative across all bond market sectors during the quarter with US Treasury bonds holding up the most as market volatility increased.
- Investment grade corporate bonds underperformed higher quality mortgage-backed and US Treasury bonds during the quarter. High yield bonds also lagged their peers as fears over future economic growth and weaker corporate earnings drove credit spreads wider.
- Counterintuitively, TIPS underperformed nominal US Treasury bonds during the quarter as the bond market's future expectation for inflation declined.

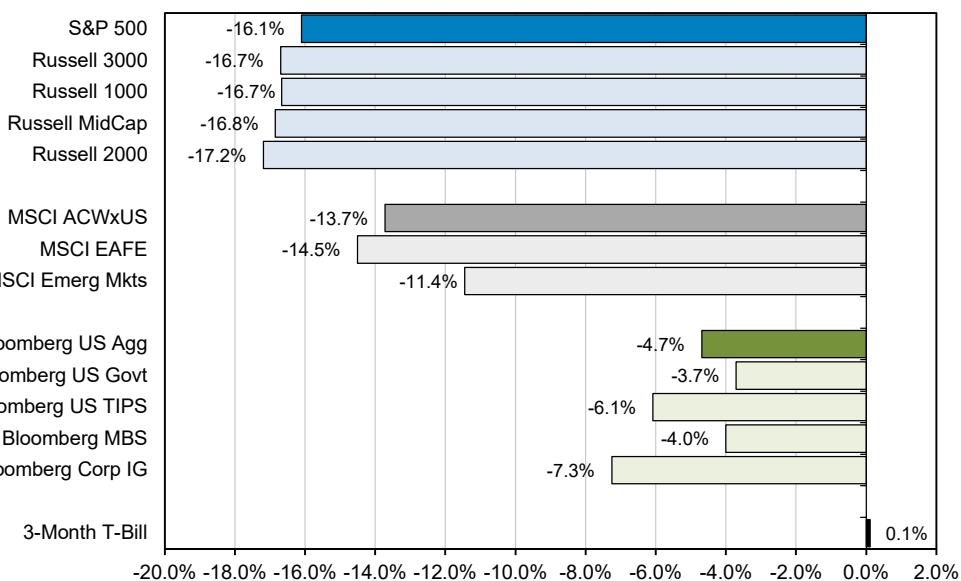
Market Themes

- The pace of global central bank monetary tightening increased during the quarter with both the Fed and Bank of England raising interest rates. The European Central Bank also hinted it would begin raising rates during the 3rd quarter.
- The crisis in Ukraine continues to negatively impact global economic growth. Specifically, recently imposed restrictions will likely result in higher energy costs in Europe just as economic growth begins to slow.
- US equity markets experienced their second consecutive negative quarter of performance and their worst start to a calendar year since the 1970s. Growth-oriented stocks significantly underperformed value stocks as investors' fears about rising inflation and future economic growth carried through to asset prices. Historically, growth stocks have underperformed value stocks as the economy slows.
- Interest rates continued to rise across the Treasury yield curve during the quarter as investors believe the Fed will continue to raise interest rates to fight inflation. The shape of the yield curve remained relatively flat between two- and ten-year maturities. Historically, the yield curve has been used as a leading indicator to predict the market's expectations of a recession.

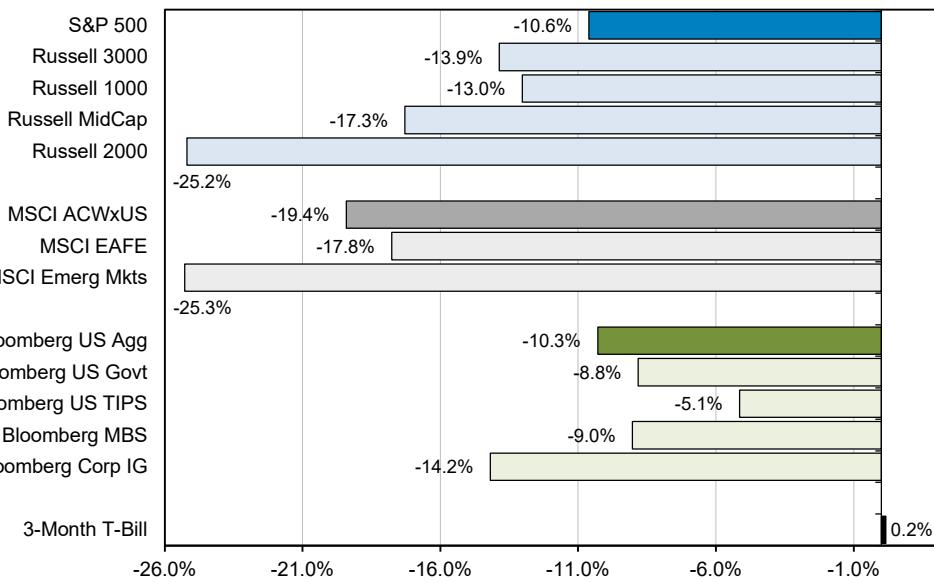


- Broad US equity markets continued their recent trend delivering negative returns during the 2nd quarter of 2022. A variety of factors contributed to performance including persistently high inflation, the potential for future interest rate increases, geopolitical events in Ukraine, and concerns related to slower economic growth. For the period, the S&P 500 large cap benchmark returned -16.1%, compared to -16.8% for mid-cap and -17.2% for small cap indices.
- Developed market international equities also suffered negative results for the 2nd quarter. Europe continues to be negatively impacted by the ongoing crisis in Ukraine. Recently, restrictions related to Russian energy imports were imposed leading to further energy cost increases. For the quarter, the MSCI EAFE Index declined by -14.5%.
- Emerging markets were also under pressure due to the continued conflict in Ukraine and China's "Zero Covid" policy. During the period, the MSCI Emerging Markets Index fell by -11.4%
- Bond market performance was broadly negative for the quarter due to rising inflation and the prospect of additional interest rate increases. The Bloomberg (BB) US Aggregate Index returned -4.7% for the period while Investment Grade Corporate bonds posted a return of -7.3%. US Treasury bonds held up the most for the period, but still declined by -3.7%.
- The quarter's negative performance added to challenged returns of developed equity markets over the trailing 1-year period. The primary drivers of returns during the period were rising inflation, the path of interest rates, and future economic growth. The S&P 500 large cap stock index led relative equity market performance for the year but still returned a disappointing -10.6%. The downside outlier was the Russell 2000 small cap index, which declined by -25.3% for the year.
- Similar to domestic equities, the developed international and emerging markets suffered negative returns over the trailing 1-year period. The developed market MSCI EAFE Index posted a return of -17.8% while the MSCI Emerging Markets Index pulled back by -25.3%. Economic growth slowed throughout the year as monetary stimulus wore off and it became increasingly clear that high inflation levels were not transitory.
- Bond market returns also disappointed over the trailing 1-year period with the BB US Aggregate Index dropping by -10.3%.

Quarter Performance



1-Year Performance

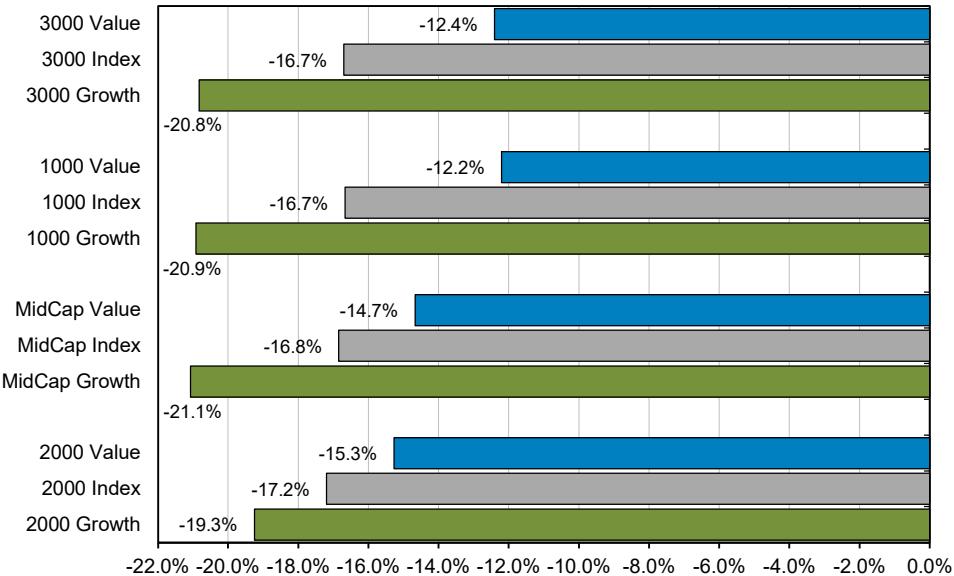


Source: Investment Metrics

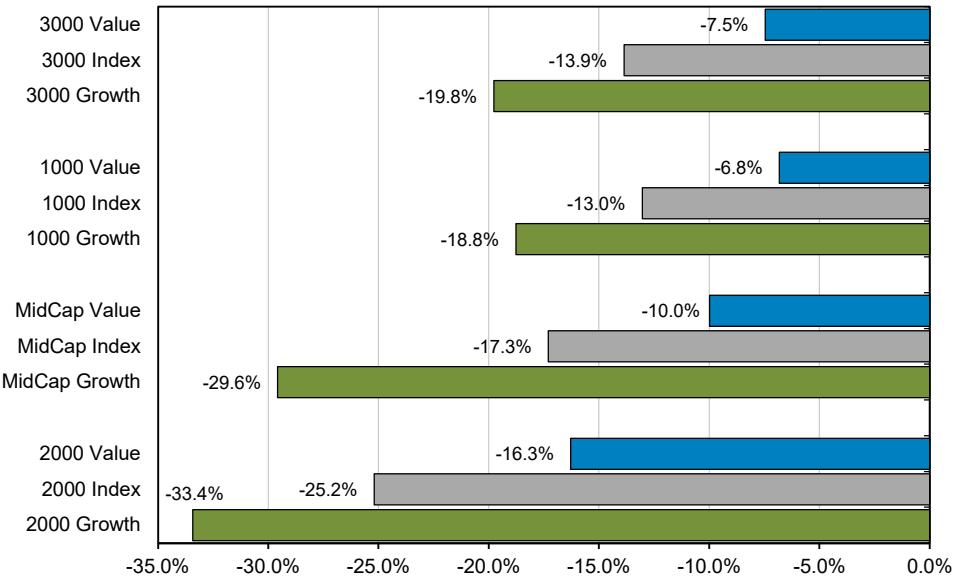
- Volatility increased during the 2nd quarter as each broad US equity benchmark posted negative results across both the style and market capitalization spectrums. Large cap stocks continued their leadership, followed by mid and small cap issues. The Russell 1000 Index declined by -16.7% for the quarter while the Russell Mid Cap Index and the Russell 2000 Index fell by -16.8% and -17.2%, respectively.
- Performance across styles and market capitalizations was disparate during the quarter. Value stocks handily outpaced their growth counterparts across market capitalizations. For the period, the Russell 1000 Value Index was the least negative performing style index, posting a weak return of -12.2%. Mid cap and large cap growth stocks fell even further with the Mid Cap Growth Index declining by -21.1% and the Russell 1000 Growth Index posting a return of -20.9%.

- Performance across all market capitalizations and styles were also negative over the trailing 1-year period. Much like the 2nd quarter, large cap stocks were down less than mid and small cap stocks for the 1-year period. The Russell 1000 Index returned -13.0% for the year but was down significantly less than both its mid and small cap growth index counterparts. The downside outlier during the period was the Russell 2000 Index which fell by -25.2%.
- The return dispersion across market styles was also wide for the trailing 1-year period and value stocks were down less than growth stocks by a two-to-one margin across large, mid and small style-based indexes. The return dispersion was extreme with the Russell 1000 Value Index returning -6.8%, and at the other end of the spectrum, the Russell 2000 Growth Index posting a return of -33.4%.

Quarter Performance - Russell Style Series

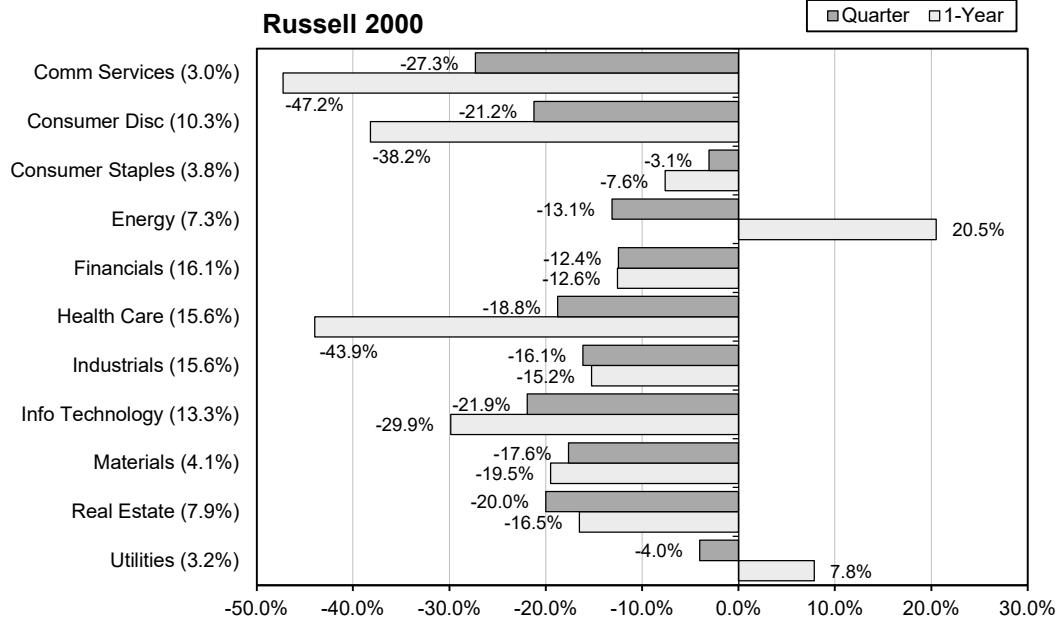
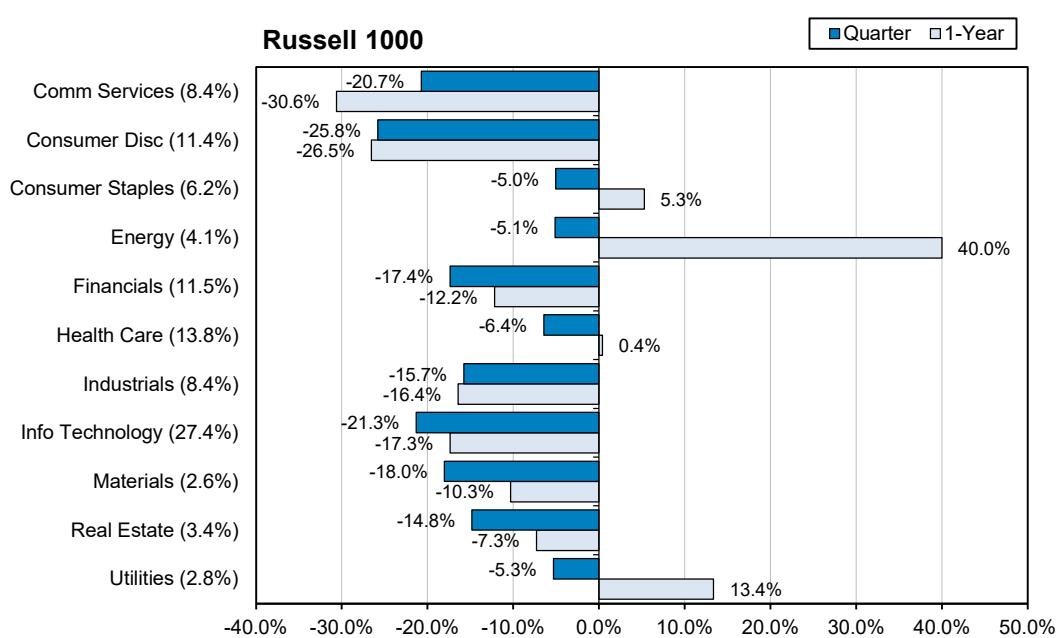


1-Year Performance - Russell Style Series



Source: Investment Metrics

- Economic sector performance was negative across all eleven large cap economic sectors for the 2nd quarter. Only four sectors were down less than the return of the broader Russell 1000 Index (-16.7%) on a relative basis during the period.
- Defensive sectors including consumer staples (-5.0%) energy (-5.1%), and utilities (-5.3%) were the least negative performing sectors for the quarter. Concerns about a potential economic slowdown drove the performance of consumer staples during the period. Energy prices remained elevated which acted as a tailwind for the sector. Economically sensitive sectors such as consumer discretionary (-25.8%), information technology (-21.3%), and communication services (-20.7%), significantly underperformed the broader index for the quarter.
- For the full year, seven sectors exceeded the return of the broad large cap benchmark: energy (40.0%), utilities (13.4%), consumer staples (5.3%), health care (0.4%), real estate (-7.3%), materials (-10.3%), and financials (-12.2%). The weakest economic sector performance in the Russell 1000 for the year was communication services (-30.6%).



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, 2022

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	5.92%	-21.6%	0.4%	Information Technology
Microsoft Corp	5.44%	-16.5%	-4.4%	Information Technology
Amazon.com Inc	2.67%	-34.8%	-38.3%	Consumer Discretionary
Alphabet Inc Class A	1.85%	-21.6%	-10.8%	Communication Services
Alphabet Inc Class C	1.70%	-21.7%	-12.7%	Communication Services
Tesla Inc	1.62%	-37.5%	-0.9%	Consumer Discretionary
Berkshire Hathaway Inc Class B	1.39%	-22.6%	-1.8%	Financials
UnitedHealth Group Inc	1.36%	1.1%	30.0%	Health Care
Johnson & Johnson	1.32%	0.8%	10.5%	Health Care
Meta Platforms Inc Class A	1.05%	-27.5%	-53.6%	Communication Services

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Biohaven Pharmaceutical Hldg Co Ltd	0.40%	22.9%	50.1%	Health Care
ShockWave Medical Inc	0.30%	-7.8%	0.8%	Health Care
Chart Industries Inc	0.27%	-2.6%	14.4%	Industrials
Halozyme Therapeutics Inc	0.26%	10.3%	-3.1%	Health Care
SailPoint Technologies Holdings Inc	0.26%	22.5%	22.7%	Information Technology
SouthState Corp	0.25%	-4.8%	-3.3%	Financials
Southwest Gas Holdings Inc	0.25%	12.0%	35.9%	Utilities
Stag Industrial Inc	0.24%	-24.5%	-14.5%	Real Estate
Agree Realty Corp	0.24%	9.8%	6.4%	Real Estate
RBC Bearings Inc	0.23%	-4.6%	-7.3%	Industrials

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Ollie's Bargain Outlet Holdings Inc	0.01%	36.8%	-30.2%	Consumer Discretionary
H&R Block Inc	0.02%	36.6%	56.7%	Consumer Discretionary
United Therapeutics Corp	0.03%	31.3%	31.3%	Health Care
Grocery Outlet Holding Corp	0.01%	30.0%	23.0%	Consumer Staples
Pilgrims Pride Corp	0.00%	24.4%	40.8%	Consumer Staples
Seagen Inc Ordinary Shares	0.07%	22.8%	12.1%	Health Care
Lamb Weston Holdings Inc	0.03%	19.7%	-10.0%	Consumer Staples
Post Holdings Inc	0.01%	18.9%	14.1%	Consumer Staples
Monster Beverage Corp	0.10%	16.0%	1.5%	Consumer Staples
American Campus Communities Inc	0.03%	15.2%	41.8%	Real Estate

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Redbox Entertainment Inc Class A	0.00%	213.6%	N/A	Communication Services
Turning Point Therapeutics Inc	0.15%	180.3%	-3.6%	Health Care
Veru Inc	0.03%	134.0%	40.0%	Consumer Staples
GTy Technology Holdings Inc Class A	0.01%	93.8%	-12.0%	Information Technology
Day One Biopharmaceuticals Inc	0.02%	80.4%	-21.4%	Health Care
SIGA Technologies Inc	0.02%	73.3%	95.7%	Health Care
Sierra Oncology Inc	0.04%	71.6%	182.4%	Health Care
Scorpio Tankers Inc	0.08%	62.0%	60.1%	Energy
Lulus Fashion Lounge Holdings Inc	0.00%	60.0%	N/A	Consumer Discretionary
Convey Health Solutions Hldg Ord Shrs	0.01%	59.0%	-8.6%	Health Care

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Carvana Co Class A	0.01%	-81.1%	-92.5%	Consumer Discretionary
Coinbase Global Inc Ord Shrs - Class A	0.02%	-75.2%	-81.4%	Financials
Upstart Holdings Inc Ordinary Shares	0.01%	-71.0%	-74.7%	Financials
Lyft Inc Class A	0.01%	-65.4%	-78.0%	Industrials
Peloton Interactive Inc	0.01%	-65.3%	-92.6%	Consumer Discretionary
Cloudflare Inc	0.03%	-63.5%	-58.7%	Information Technology
Unity Software Inc Ordinary Shares	0.02%	-62.9%	-66.5%	Information Technology
Affirm Holdings Inc Ord Shrs - Class A	0.01%	-61.0%	-73.2%	Information Technology
Wayfair Inc Class A	0.01%	-60.7%	-86.2%	Consumer Discretionary
Royal Caribbean Group	0.02%	-58.3%	-59.1%	Consumer Discretionary

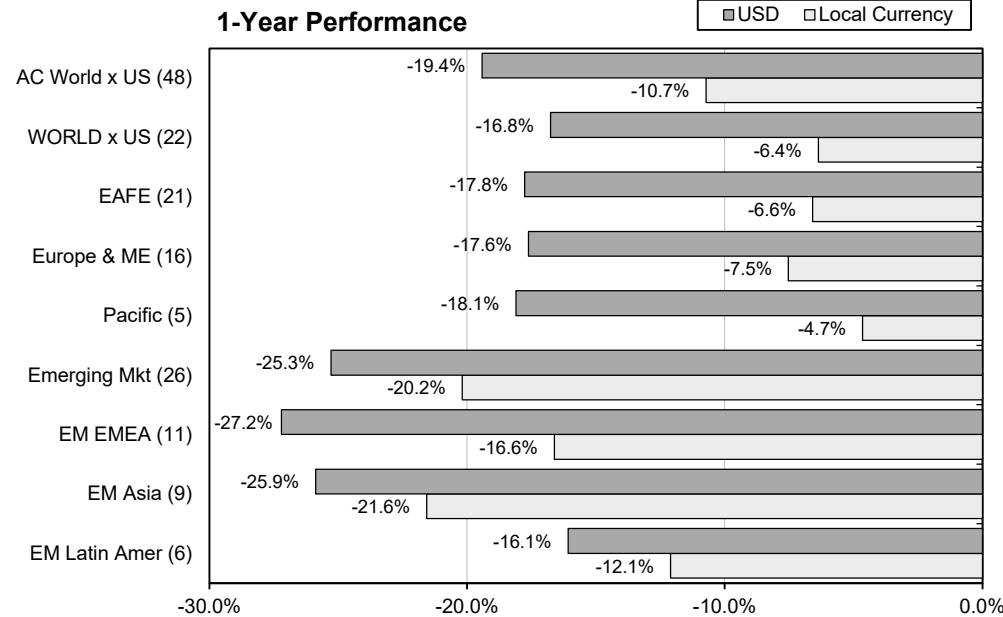
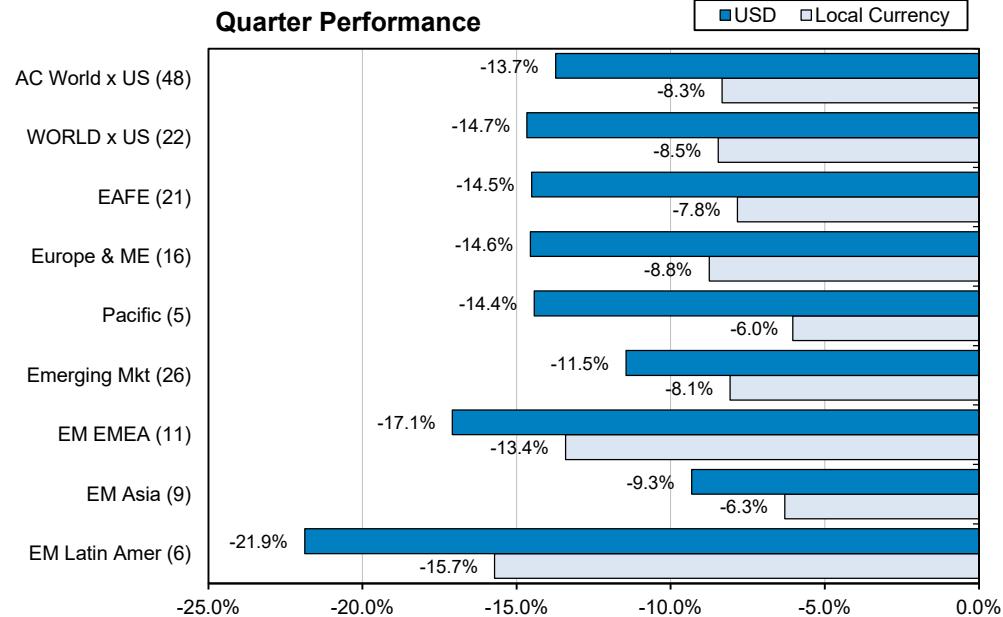
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Applied Blockchain Inc	0.00%	-93.3%	-90.1%	Information Technology
TeraWulf Inc	0.00%	-85.7%	N/A	Information Technology
Velo3D Inc	0.00%	-85.2%	N/A	Industrials
Avaya Holdings Corp	0.01%	-82.3%	-91.7%	Information Technology
Bird Global Inc Class A	0.00%	-82.2%	N/A	Industrials
Core Scientific Inc Ord Shares - Class A	0.01%	-81.9%	N/A	Information Technology
Boxed Inc	0.00%	-81.8%	N/A	Consumer Discretionary
Marathon Digital Holdings Inc	0.02%	-80.9%	-83.0%	Information Technology
Riot Blockchain Inc	0.02%	-80.2%	-88.9%	Information Technology
Endo International PLC	0.00%	-79.8%	-90.0%	Health Care

Source: Morningstar Direct



The Market Environment
International and Regional Market Index Performance (Country Count)
As of June 30, 2022

- Performance across all developed and emerging international equity indexes tracked in the chart were negative during the quarter in both US dollar (USD) and local currency (LC) terms. The developed market MSCI EAFE Index returned -14.5% in USD and -7.8% in LC terms for the period, while the MSCI Emerging Markets Index declined by -11.5% in USD and -8.1% in LC terms. Developed markets were negatively impacted by rising inflation and tighter monetary policy. Emerging markets, especially those that export commodities, held up better.



Source: MSCI Global Index Monitor (Returns are Net)

The Market Environment
US Dollar International Index Attribution & Country Detail
As of June 30, 2022

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.0%	-10.9%	-20.7%
Consumer Discretionary	11.3%	-15.5%	-27.6%
Consumer Staples	10.9%	-8.4%	-14.0%
Energy	4.8%	-4.1%	21.4%
Financials	17.7%	-13.9%	-12.3%
Health Care	13.9%	-9.5%	-9.9%
Industrials	14.9%	-18.5%	-24.4%
Information Technology	7.8%	-23.5%	-30.0%
Materials	7.5%	-21.0%	-18.6%
Real Estate	2.9%	-15.8%	-20.9%
Utilities	3.5%	-11.8%	-12.2%
Total	100.0%	-14.5%	-17.8%

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	6.5%	-10.7%	-26.6%
Consumer Discretionary	11.7%	-8.4%	-31.1%
Consumer Staples	8.9%	-7.6%	-14.0%
Energy	6.0%	-4.7%	8.2%
Financials	20.3%	-14.3%	-10.4%
Health Care	9.8%	-9.6%	-15.8%
Industrials	11.8%	-17.1%	-22.1%
Information Technology	11.0%	-22.6%	-31.6%
Materials	8.0%	-21.4%	-19.1%
Real Estate	2.5%	-13.5%	-22.5%
Utilities	3.4%	-9.5%	-7.5%
Total	100.0%	-13.7%	-19.4%

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	10.6%	-10.5%	-32.9%
Consumer Discretionary	14.9%	6.3%	-37.2%
Consumer Staples	6.1%	-4.6%	-17.7%
Energy	5.0%	-5.9%	-21.7%
Financials	21.2%	-14.1%	-8.7%
Health Care	4.0%	-8.8%	-42.3%
Industrials	5.6%	-9.5%	-17.8%
Information Technology	19.2%	-20.8%	-28.9%
Materials	8.4%	-20.6%	-24.2%
Real Estate	2.1%	-6.1%	-27.6%
Utilities	2.9%	-4.4%	3.3%
Total	100.0%	-11.5%	-25.3%

Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1- Year Return
Japan	22.3%	13.8%	-14.6%	-19.9%
United Kingdom	15.9%	9.9%	-10.5%	-4.0%
France	11.2%	7.0%	-14.8%	-18.3%
Switzerland	10.5%	6.5%	-14.5%	-12.7%
Australia	7.8%	4.9%	-18.1%	-13.1%
Germany	7.8%	4.8%	-18.1%	-31.2%
Netherlands	4.1%	2.6%	-19.0%	-28.4%
Sweden	3.4%	2.1%	-21.4%	-31.0%
Hong Kong	3.3%	2.1%	-1.1%	-15.2%
Denmark	2.8%	1.7%	-12.0%	-10.5%
Spain	2.5%	1.6%	-8.4%	-16.3%
Italy	2.3%	1.4%	-17.7%	-22.7%
Singapore	1.5%	0.9%	-16.8%	-21.0%
Belgium	1.0%	0.6%	-13.4%	-21.0%
Finland	1.0%	0.6%	-10.9%	-21.7%
Norway	0.8%	0.5%	-14.8%	-1.6%
Israel	0.8%	0.5%	-20.0%	-18.1%
Ireland	0.6%	0.4%	-19.6%	-35.4%
Portugal	0.2%	0.1%	-6.1%	1.4%
Austria	0.2%	0.1%	-17.2%	-23.1%
New Zealand	0.2%	0.1%	-16.9%	-25.8%
Total EAFE Countries	100.0%	62.2%	-14.5%	-17.8%
Canada			8.1%	-15.8%
Total Developed Countries	71.4%	-4.8%	3.0%	
China		10.5%	3.4%	-31.8%
Taiwan			4.3%	-19.8%
India			3.8%	-13.7%
Korea			3.4%	-20.9%
Brazil			1.4%	-24.4%
Saudi Arabia			1.3%	-12.5%
South Africa			1.1%	-23.0%
Mexico			0.6%	-15.2%
Thailand			0.6%	-10.6%
Indonesia			0.5%	-9.0%
Malaysia			0.4%	-12.8%
United Arab Emirates			0.4%	-19.4%
Qatar			0.3%	-10.8%
Kuwait			0.2%	-7.7%
Philippines			0.2%	-19.5%
Poland			0.2%	-27.1%
Chile			0.2%	-15.9%
Turkey			0.1%	-10.9%
Peru			0.1%	-30.2%
Greece			0.1%	-17.0%
Colombia			0.1%	-28.0%
Czech Republic			0.1%	-3.7%
Hungary			0.1%	-26.3%
Egypt			0.0%	-20.4%
Total Emerging Countries	29.7%	-11.5%	-25.3%	
Total ACWIxUS Countries	100.0%	-13.7%	-19.4%	

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

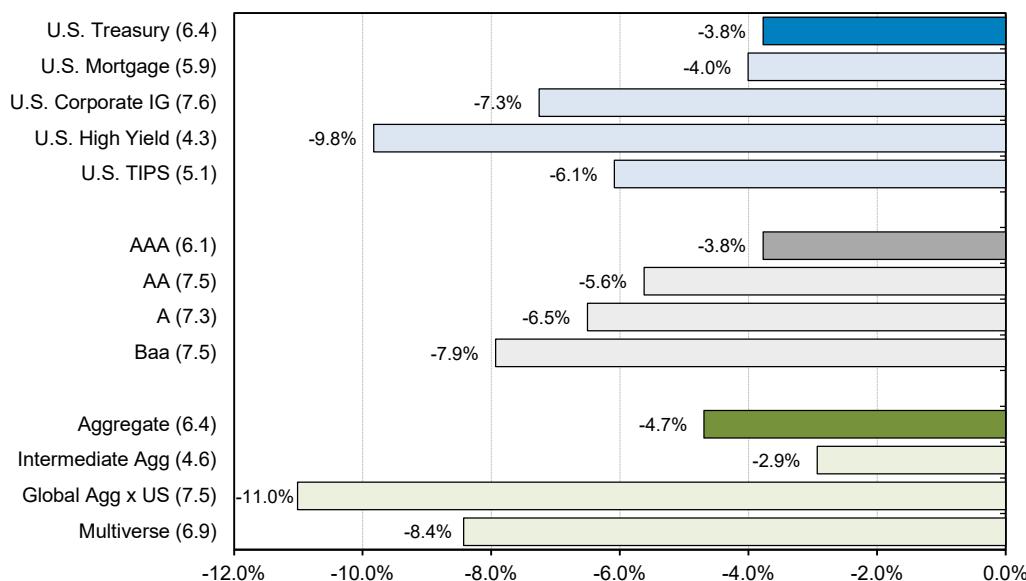
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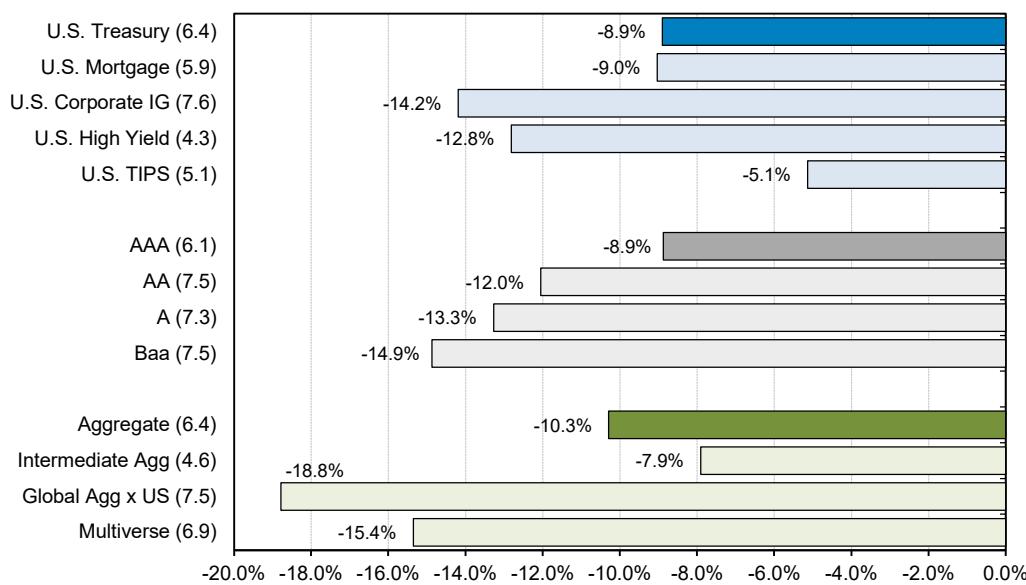
- Fixed income markets were broadly negative during the 2nd quarter. Investors remained focused on rising inflation and the potential of future Fed rate increases to combat it. As a result, US Treasury bond yields were higher across the maturity curve during the quarter.
- The return for the BB US Aggregate Bond Index, the bellwether investment grade benchmark, was down -4.7% for the period.
- Performance across the investment grade index's segments was also negative during the period with the US Corporate Investment Grade bonds declining -7.3% and the US Mortgage index component posting a return of -4.0%.
- US Treasury bonds were the quarter's least negative segment, returning -3.8% and high yield bonds were the worst performing, declining by -9.8%.
- Outside of domestic markets, the BB Global Aggregate ex US Index fell by -11.0% for the quarter. Like international stocks, global bond index performance was negatively impacted by the strengthening USD, which acted as a drag on USD index returns. Additionally, yields in both Germany and Japan, two of the largest issuers in the benchmark, moved markedly higher during the period.

- Over the trailing 1-year period, domestic investment grade benchmark performance was negative and led lower by investment grade corporate (-14.2%) and mortgage (-9.0%) bonds. US TIPS (-5.1%) were down less than nominal US Treasury bonds (-8.9%). The bellwether BB US Aggregate Bond Index declined by -10.3% for the year.
- Primarily due to their shorter maturity profile, lower quality high yield corporate bonds fell by less than their investment grade counterparts with the BB US High Yield Index returning -12.8% for the period.
- Non-US bonds have been under significant pressure over the past year with the developed market BB Global Aggregate ex US Index falling by -18.8%. The combination of rising inflation, higher interest rates, a longer maturity profile, and USD strength contributed to weak index performance for the year.

Quarter Performance

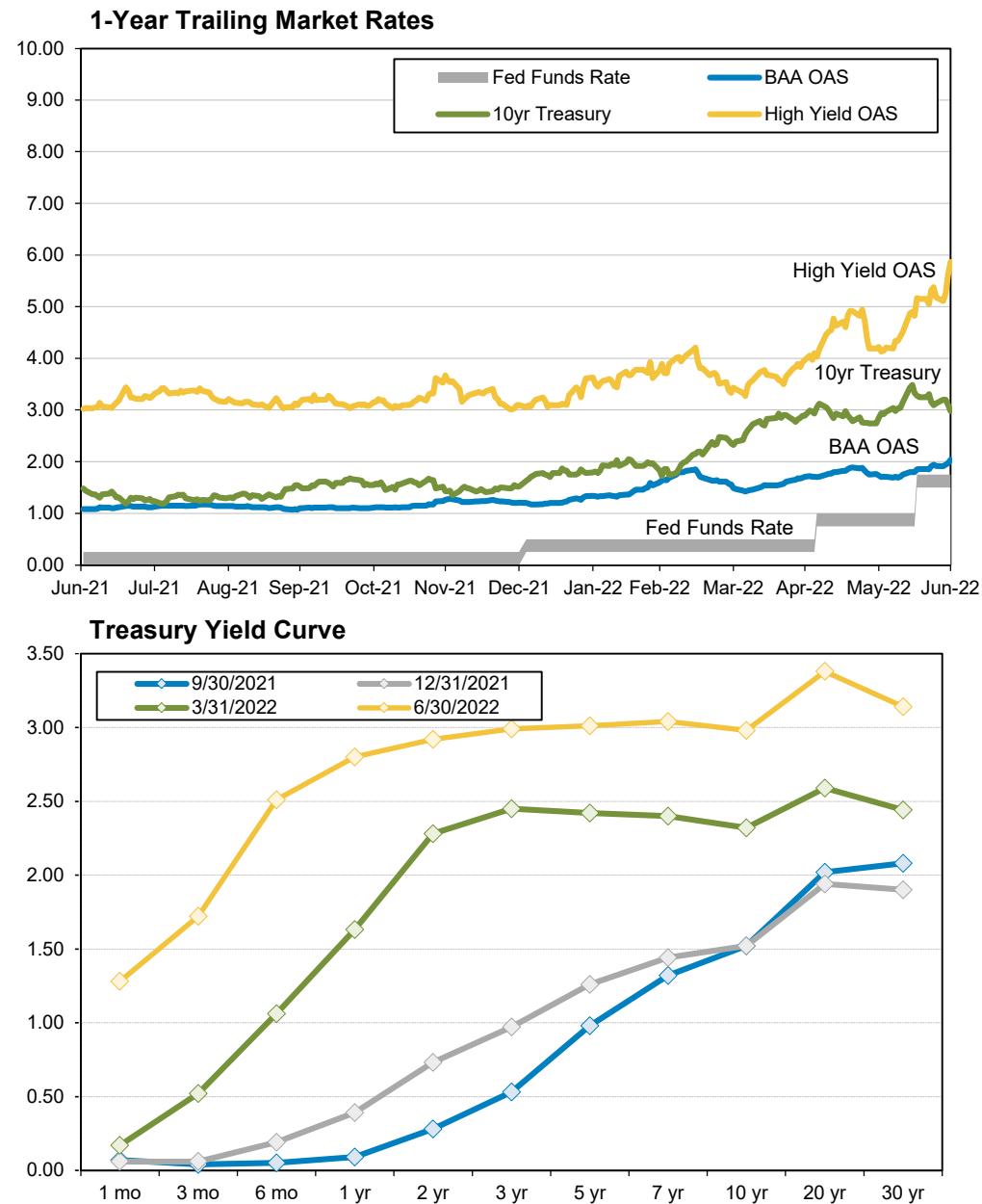


1-Year Performance



Source: Bloomberg

- The gray band across the graph illustrates the range of the current Fed Funds Rate. In the 2nd quarter this year, the Fed raised the upper end of its target rate range from 0.50% to 1.75%. During its recent June meeting, the Federal Open Market Committee (FOMC) stated that it remains committed to fighting higher inflation and will consider future interest rate increases. Importantly, the FOMC stated that it will begin lowering the size of the balance sheet by not reinvesting proceeds from maturing bonds.
- The yield on the US 10-year Treasury (green line) ended the period higher as concerns over the pace of inflation, combined with the Fed's announced rate increase, drove yields higher. After reaching a high of nearly 3.50% during June, interest rates traded fell for the remainder of the quarter. The yield on the US 10-year Treasury was 2.98% on June 30th.
- The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-US Treasury investment grade issues. For the full year, the spread widened to 2.04% from 1.07%. High Yield OAS moved significantly higher over the latter part of the year as spreads rose from 3.04% to 5.87%. High Yield spreads began moving wider during the year on concerns over slowing economic growth which raises the specter of a potential increase in defaults.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. The yield curve shifted significantly higher across all maturities during the 2nd quarter of 2022 following the Fed's decision to raise interest rates by 1.25%. The shape of the yield curve normalized during the quarter as longer-term interest rates moved above short-term rates. As of the end of the quarter, the spread between 2-year and 10-year rates was positive. Historically, market expectations for recession increase when longer-term interest rates trade below their short-term peers.



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

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

Comparative Performance
Total Fund
As of June 30, 2022

Comparative Performance Trailing Returns												Inception Date
	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception			
Total Fund Performance	-11.85 (75)	-16.70 (73)	-13.17 (69)	4.93 (65)	3.54 (88)	4.79 (85)	7.00 (61)	5.56 (46)	5.85 (36)			01/01/2001
Total Fund Policy	-11.37 (60)	-15.86 (53)	-12.29 (54)	5.54 (52)	4.25 (75)	5.23 (81)	7.21 (51)	5.93 (19)	5.99 (31)			
Allocation Index	-11.85 (75)	-16.70 (73)	-13.18 (69)	4.99 (65)	3.52 (88)	4.85 (84)	N/A	N/A	N/A			
All Public Plans-Total Fund Median	-10.97	-15.79	-12.09	5.64	5.05	6.05	7.21	5.51	5.61			
All Public Plan Sponsor Universes with 50% or Less Equities												
Total Fund Performance	-11.85 (86)	-16.70 (84)	-13.17 (80)	4.93 (51)	3.54 (66)	4.79 (65)	7.00 (45)	5.56 (30)	5.85 (23)			01/01/2001
Total Fund Policy	-11.37 (81)	-15.86 (74)	-12.29 (72)	5.54 (41)	4.25 (47)	5.23 (58)	7.21 (39)	5.93 (11)	5.99 (17)			
All Public Plans <= 50% Equities Median	-9.73	-14.08	-10.16	4.97	4.18	5.39	6.86	5.36	5.29			
All Public Plan Sponsor Universes with 60% or More Equities												
Total Fund Performance	-11.85 (53)	-16.70 (56)	-13.17 (54)	4.93 (75)	3.54 (90)	4.79 (95)	7.00 (77)	5.56 (59)	5.85 (66)			01/01/2001
Total Fund Policy	-11.37 (36)	-15.86 (36)	-12.29 (46)	5.54 (59)	4.25 (86)	5.23 (89)	7.21 (61)	5.93 (23)	5.99 (55)			
All Public Plans >=60% Equities Median	-11.78	-16.63	-12.64	5.87	5.46	6.39	7.45	5.67	6.03			

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



Comparative Performance

Total Fund

As of June 30, 2022

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Domestic Equity										
Total Fund Domestic Equity	-15.68	-19.75	-12.76	12.98	8.56	9.19	N/A	N/A	9.04	07/01/2014
Vanguard Inst'l Index Fund (VINIX)	-16.11 (14)	-19.97 (13)	-10.65 (12)	N/A	N/A	N/A	N/A	N/A	N/A	11/01/2020
S&P 500 Index	-16.10 (8)	-19.96 (6)	-10.62 (2)	12.18 (2)	10.60 (3)	11.31 (1)	12.96 (1)	8.54 (1)	10.83 (1)	
IM S&P 500 Index (MF) Median	-16.17	-20.07	-10.91	11.82	10.26	10.97	12.49	8.08	10.46	
Vanguard Growth Index (VIGIX)	-22.41 (63)	-30.40 (57)	-21.86 (36)	5.62 (27)	11.66 (13)	12.92 (20)	13.88 (20)	N/A	13.27 (14)	05/01/2010
Vanguard Growth Index Hybrid	-22.42 (63)	-30.39 (57)	-21.85 (36)	5.65 (27)	11.69 (13)	12.94 (20)	13.93 (18)	10.21 (16)	13.33 (13)	
Russell 1000 Growth Index	-20.92 (40)	-28.07 (28)	-18.77 (20)	7.59 (12)	12.58 (8)	14.29 (8)	14.80 (7)	10.67 (8)	14.05 (7)	
IM U.S. Large Cap Growth Equity (MF) Median	-21.94	-29.88	-24.16	3.11	8.57	11.53	12.93	9.18	12.04	
Vanguard Value Index (VIVIX)	-10.27 (26)	-9.38 (18)	-1.87 (19)	17.74 (21)	8.68 (41)	9.23 (28)	11.77 (16)	N/A	12.58 (17)	07/01/2009
Vanguard Value Index Hybrid	-10.27 (25)	-9.37 (17)	-1.85 (19)	17.77 (21)	8.68 (41)	9.23 (28)	11.81 (15)	6.97 (30)	12.62 (16)	
Russell 1000 Value Index	-12.21 (63)	-12.86 (54)	-6.82 (66)	15.71 (42)	6.87 (73)	7.17 (74)	10.50 (52)	6.10 (54)	11.70 (45)	
IM U.S. Large Cap Value Equity (MF) Median	-11.35	-12.36	-5.22	15.20	8.13	8.07	10.52	6.24	11.47	
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	-15.43 (77)	-19.57 (77)	-14.71 (80)	14.29 (48)	6.80 (47)	N/A	N/A	N/A	6.99 (67)	12/01/2018
S&P MidCap 400 Index	-15.42 (77)	-19.54 (76)	-14.64 (80)	14.37 (48)	6.87 (44)	7.02 (44)	10.90 (24)	8.04 (9)	7.06 (66)	
IM U.S. Mid Cap Core Equity (MF) Median	-13.63	-17.27	-10.76	14.15	6.62	6.73	9.95	6.40	7.67	
Vanguard Small-Cap 600 Index I (VSMSX)	-14.14 (42)	-18.99 (46)	-16.90 (56)	17.95 (35)	7.32 (26)	N/A	N/A	N/A	6.07 (39)	12/01/2018
S&P SmallCap 600 Index	-14.11 (41)	-18.94 (46)	-16.81 (55)	18.01 (34)	7.30 (26)	7.20 (15)	11.26 (4)	8.03 (6)	6.07 (39)	
IM U.S. Small Cap Core Equity (MF) Median	-14.56	-19.23	-15.84	15.99	5.77	5.49	9.30	6.23	5.64	

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



Comparative Performance

Total Fund

As of June 30, 2022

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
International Equity										
Total Fund Performance - International Equity	-13.00	-19.44	-21.65	4.07	0.65	1.97	N/A	N/A	1.73	07/01/2014
Vanguard Intl Value (VTRIX)	-11.38 (49)	-15.90 (67)	N/A	N/A	N/A	N/A	N/A	N/A	-11.78 (73)	12/01/2021
MSCI AC World ex USA Value	-11.65 (57)	-11.41 (28)	-12.14 (34)	10.24 (39)	1.17 (77)	1.85 (58)	4.36 (92)	1.20 (72)	-6.66 (26)	
IM International Multi-Cap Value Equity (MF) Median	-11.43	-13.40	-13.71	8.82	2.33	2.14	5.55	1.53	-8.81	
Vanguard Intl Growth (VWILX)	-18.13 (84)	-31.60 (83)	N/A	N/A	N/A	N/A	N/A	N/A	-32.49 (89)	12/01/2021
MSCI AC World ex USA Growth	-15.59 (55)	-24.63 (44)	-25.59 (58)	-0.12 (64)	1.92 (61)	3.77 (50)	6.07 (78)	2.75 (68)	-22.35 (48)	
IM International Multi-Cap Growth Equity (MF) Median	-15.09	-25.76	-24.52	1.99	2.63	3.69	6.80	3.42	-22.54	
Vanguard FTSE AW ex-US SC Index (VFSNX)	-16.63 (81)	-22.73 (69)	-22.20 (61)	5.72 (74)	N/A	N/A	N/A	N/A	15.65 (39)	04/01/2020
FTSE Global ex U.S. Small Cap Index (Net)	-17.69 (91)	-23.29 (70)	-22.64 (67)	5.64 (74)	1.58 (43)	1.46 (28)	N/A	N/A	15.14 (44)	
IM International SMID Cap Core Equity (MF) Median	-15.31	-21.02	-21.74	7.18	1.33	0.05	5.29	N/A	14.13	
Vanguard Developed Markets Index (VTMNX)	-14.04 (62)	-19.23 (50)	-18.11 (41)	5.45 (33)	2.12 (31)	2.71 (27)	5.86 (21)	N/A	5.92 (36)	07/01/2009
Vanguard Spliced Developed ex U.S. Index (Net)	-15.23 (77)	-19.70 (55)	-18.53 (45)	5.42 (33)	1.93 (36)	2.64 (29)	5.82 (23)	1.69 (42)	5.85 (38)	
MSCI EAFE (Net) Index	-14.51 (69)	-19.57 (54)	-17.77 (37)	4.32 (48)	1.07 (58)	2.20 (40)	5.40 (37)	1.42 (48)	5.53 (48)	
IM International Multi-Cap Equity (MF) Median	-13.30	-19.26	-19.19	4.14	1.33	1.89	5.14	1.34	5.43	
Vanguard Emerging Markets Index (VEMIX)	-9.18 (10)	-14.85 (10)	-21.10 (16)	4.65 (23)	2.07 (22)	3.14 (20)	3.26 (38)	N/A	1.93 (41)	10/01/2010
FTSE Emerging Mkts All Cap China A Inclusion Index	-10.40 (24)	-15.26 (13)	-20.96 (15)	5.16 (20)	2.42 (19)	3.48 (17)	4.00 (25)	2.70 (22)	2.45 (27)	
MSCI Emerging Markets (Net) Index	-11.45 (40)	-17.63 (28)	-25.28 (33)	2.60 (38)	0.57 (42)	2.18 (39)	3.06 (42)	2.00 (41)	1.78 (44)	
IM Emerging Markets Equity (MF) Median	-11.91	-20.54	-28.03	1.04	0.13	1.56	2.75	1.56	1.44	

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 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2022

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Fixed Income										
Total Fund Performance - Fixed Income	-5.69	-10.63	-10.26	-3.74	-0.68	1.10	N/A	N/A	1.51	07/01/2014
Vanguard Short Term Bond Index (VBITX)	-1.15 (44)	-4.60 (74)	-5.25 (80)	-2.50 (97)	0.07 (70)	1.03 (60)	N/A	N/A	1.08 (41)	04/01/2013
Bloomberg 1-5 Year Gov/Credit Idx	-1.14 (43)	-4.55 (73)	-5.20 (78)	-2.44 (97)	0.12 (66)	1.08 (52)	1.18 (42)	2.33 (16)	1.13 (36)	
IM U.S. Short Term Investment Grade (MF) Median	-1.28	-3.68	-4.02	-0.74	0.33	1.10	1.11	1.74	1.01	
Vanguard Total Bond Index (VBTIX)	-4.71 (17)	-10.41 (27)	-10.39 (23)	-5.53 (71)	N/A	N/A	N/A	N/A	-2.02 (57)	09/01/2019
Bloomberg U.S. Aggregate Index	-4.69 (15)	-10.35 (23)	-10.29 (18)	-5.45 (65)	-0.94 (51)	0.88 (40)	1.54 (53)	3.26 (45)	-1.96 (53)	
IM U.S. Broad Market Core Fixed Income (MF) Median	-5.35	-11.02	-11.17	-5.18	-0.93	0.80	1.60	3.20	-1.92	
Vanguard High Yield Bond Fund (VWEAX)	-8.62 (17)	-12.46 (25)	-11.22 (24)	-0.44 (71)	0.00 (40)	1.94 (28)	N/A	N/A	3.13 (18)	12/01/2014
Bloomberg U.S. Corp High Yield	-9.83 (50)	-14.19 (70)	-12.81 (60)	0.29 (51)	0.21 (32)	2.10 (22)	4.47 (13)	5.78 (3)	3.35 (12)	
IM U.S. High Yield Bonds (MF) Median	-9.83	-13.77	-12.48	0.34	-0.26	1.49	3.63	4.58	2.48	
Vanguard International Bond (VTIFX)	-5.19 (20)	-9.91 (33)	-10.05 (25)	-5.10 (28)	-2.13 (22)	0.84 (11)	N/A	N/A	1.45 (6)	05/01/2015
Bloomberg Global Agg ex-USD Flt Adj RIC Cpd (H)	-5.23 (20)	-10.01 (35)	-10.13 (30)	-5.13 (29)	-2.07 (21)	0.94 (9)	N/A	N/A	1.43 (6)	
IM International Fixed Income (MF) Median	-9.03	-13.51	-16.55	-6.61	-5.21	-2.39	-0.63	2.41	-1.45	
Vanguard EM Bond (VEGBX)	-11.41 (63)	-18.63 (66)	N/A	N/A	N/A	N/A	N/A	N/A	-17.21 (60)	12/01/2021
Bloomberg Emerging Markets USD Aggregate Index	-8.72 (22)	-17.14 (32)	-18.02 (26)	-6.63 (71)	-3.54 (47)	-0.29 (48)	2.48 (47)	4.61 (54)	-16.33 (43)	
IM Emerging Markets Debt (MF) Median	-11.03	-18.06	-19.27	-5.77	-3.69	-0.36	2.44	4.68	-16.71	
REIT										
Vanguard Real Estate Index Fund (VGSNX)	-15.48 (42)	-20.53 (55)	-8.03 (72)	11.18 (60)	4.78 (51)	5.72 (51)	7.50 (29)	N/A	9.04 (33)	10/01/2010
Vanguard Spliced REIT Index	-15.43 (38)	-20.47 (52)	-7.94 (70)	11.27 (58)	4.88 (49)	5.81 (49)	7.58 (27)	6.04 (28)	9.11 (31)	
IM Real Estate Sector (MF) Median	-15.81	-20.42	-7.15	11.88	4.80	5.73	7.01	5.30	8.55	

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 Returns are expressed as percentages.



Comparative Performance

Total Fund

As of June 30, 2022

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Total Fund - Domestic Equity	-15.68	-19.75	-12.76	12.98	8.56	9.19	N/A	N/A	9.04	07/01/2014
Total Domestic Large Cap Equity	-16.07	-19.95	-11.32	11.06	8.56	9.85	N/A	N/A	9.83	06/01/2014
S&P 500 Index	-16.10	-19.96	-10.62	12.18	10.60	11.31	12.96	8.54	10.83	
Large Cap Growth	-22.41	-30.40	-21.86	6.15	12.06	13.12	N/A	N/A	12.23	06/01/2014
Vanguard Growth Index Hybrid	-22.42	-30.39	-21.85	5.65	11.69	12.94	13.93	10.21	12.10	
Russell 1000 Growth Index	-20.92	-28.07	-18.77	7.59	12.58	14.29	14.80	10.67	13.21	
Large Cap Core	-16.11	-19.97	-11.14	10.06	6.85	8.62	N/A	N/A	8.92	06/01/2014
S&P 500 Index	-16.10	-19.96	-10.62	12.18	10.60	11.31	12.96	8.54	10.83	
Large Cap Value	-10.27	-9.38	-1.87	17.74	8.68	9.21	N/A	N/A	9.26	06/01/2014
Vanguard Value Index Hybrid	-10.27	-9.37	-1.85	17.77	8.68	9.23	11.81	6.97	9.23	
Russell 1000 Value Index	-12.21	-12.86	-6.82	15.71	6.87	7.17	10.50	6.10	7.50	
Mid Cap Equity	-15.43	-19.57	-14.71	14.29	6.80	7.05	N/A	N/A	7.76	06/01/2014
Mid Cap Hybrid Index	-15.42	-19.54	-14.64	14.37	6.87	7.05	10.87	N/A	7.76	
Small Cap Equity	-14.14	-18.99	-16.90	17.95	7.32	6.70	N/A	N/A	7.30	06/01/2014
Small Cap Hybrid Index	-14.11	-18.94	-16.81	18.01	7.30	6.72	10.35	N/A	7.31	
Total Fund - International Equity	-13.00	-19.44	-21.65	4.07	0.65	1.97	N/A	N/A	1.73	07/01/2014
Small Cap - International Equity	-16.63	-22.73	-22.20	5.72	N/A	N/A	N/A	N/A	15.65	04/01/2020
FTSE Global ex U.S. Small Cap Index (Net)	-17.69	-23.29	-22.64	5.64	1.58	1.46	N/A	N/A	15.14	
Developed Markets - International Equity	-14.04	-19.23	-18.11	5.45	2.12	2.71	N/A	N/A	2.46	06/01/2014
Vanguard Spliced Developed ex U.S. Index (Net)	-15.23	-19.70	-18.53	5.42	1.93	2.64	5.82	1.69	2.43	
Emerging Markets - International Equity	-9.18	-14.85	-20.96	4.74	2.13	3.17	N/A	N/A	2.53	06/01/2014
FTSE Emerging Mkts All Cap China A Inclusion Index	-10.40	-15.26	-20.96	5.16	2.42	3.48	4.00	2.70	3.17	
MSCI Emerging Markets (Net) Index	-11.45	-17.63	-25.28	2.60	0.57	2.18	3.06	2.00	2.07	

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



Comparative Performance

Total Fund

As of June 30, 2022

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Total Fund - Fixed Income	-5.69	-10.63	-10.26	-3.74	-0.68	1.10	N/A	N/A	1.51	07/01/2014
Short - Term Fixed Income	-1.15	-4.60	-5.25	-2.50	0.03	1.00	N/A	N/A	1.09	06/01/2014
Bloomberg 1-5 Year Gov/Credit Iidx	-1.14	-4.55	-5.20	-2.44	0.12	1.08	1.18	2.33	1.16	
High Yield - Fixed Income	-8.62	-12.46	-11.22	-0.44	0.00	1.94	N/A	N/A	3.12	11/01/2014
Blmbg. U.S. Corp High Yield	-9.83	-14.19	-12.81	0.29	0.21	2.10	4.47	5.78	3.22	
Non-US Fixed Income	-5.19	-9.91	-10.05	-5.10	-2.13	0.84	N/A	N/A	1.52	05/01/2015
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	-5.23	-10.01	-10.13	-5.13	-2.07	0.94	N/A	N/A	1.43	
Real Estate	-15.48	-20.53	-8.03	11.18	4.78	5.72	N/A	N/A	6.53	06/01/2014
Vanguard Spliced REIT Index	-15.43	-20.47	-7.94	11.27	4.88	5.81	7.58	6.04	6.78	

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



Comparative Performance Trailing Returns										
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund Performance	14.00	9.84	20.21	-5.76	13.91	8.58	-0.72	8.24	18.07	13.88
Total Fund Policy	13.81	11.44	19.49	-4.94	13.67	8.48	-0.69	8.15	16.99	14.31
Allocation Index	14.11	9.90	19.76	-5.32	14.25	7.44	-0.62	N/A	N/A	N/A
Domestic Equity										
Total Fund Domestic Equity	26.91	13.96	29.77	-7.16	20.07	13.45	-0.10	N/A	33.56	16.18
Twin Capital Low Volatility	N/A	5.51 (91)	29.24 (59)	-5.37 (55)	19.16 (79)	16.03 (10)	-1.31 (78)	12.91 (59)	N/A	N/A
S&P 500 Index	28.71 (37)	18.40 (43)	31.49 (35)	-4.38 (38)	21.83 (52)	11.96 (35)	1.38 (52)	13.69 (44)	32.39 (59)	16.00 (46)
IM U.S. Large Cap Core Equity (SA+CF) Median	27.83	17.26	29.99	-5.15	21.86	10.63	1.42	13.43	32.98	15.64
Twin Capital Enhanced Index	N/A	15.07 (54)	29.73 (55)	-6.43 (66)	20.37 (78)	11.66 (60)	2.42 (23)	13.42 (63)	N/A	N/A
S&P 500 Index	28.71 (54)	18.40 (41)	31.49 (32)	-4.38 (23)	21.83 (64)	11.96 (59)	1.38 (42)	13.69 (58)	32.39 (69)	16.00 (63)
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median	28.83	16.16	29.91	-5.35	22.45	12.45	1.02	14.03	33.34	16.65
Vanguard Inst'l Index Fund (VINIX)	28.67 (8)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P 500 Index	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)	16.00 (2)
IM S&P 500 Index (MF) Median	28.25	18.05	31.06	-4.66	21.37	11.55	0.96	13.17	31.77	15.44
Vanguard Growth Index (VIGIX)	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)	16.99 (30)
Vanguard Growth Index Hybrid	27.30 (19)	40.27 (28)	37.31 (11)	-3.34 (73)	27.86 (64)	6.16 (18)	3.38 (72)	13.69 (17)	32.51 (68)	17.14 (28)
Russell 1000 Growth Index	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)	15.26 (46)
IM U.S. Large Cap Growth Equity (MF) Median	22.39	35.62	33.26	-1.22	29.28	2.21	5.61	10.49	34.12	14.81
Vanguard Value Index (VIVIX)	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)	15.12 (60)
Vanguard Value Index Hybrid	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)	15.22 (58)
Russell 1000 Value Index	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)	17.51 (27)
IM U.S. Large Cap Value Equity (MF) Median	25.96	3.82	26.50	-8.61	16.95	13.85	-3.00	10.82	32.11	15.79
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	24.67 (59)	13.58 (26)	26.13 (72)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P MidCap 400 Index	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)	17.88 (25)
IM U.S. Mid Cap Core Equity (MF) Median	25.73	8.44	28.59	-11.64	14.94	14.51	-3.74	8.88	34.49	15.88
Vanguard Small-Cap 600 Index I (VSMSX)	26.74 (37)	11.46 (40)	22.74 (62)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P SmallCap 600 Index	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)	16.33 (33)
IM U.S. Small Cap Core Equity (MF) Median	25.12	9.89	23.94	-12.71	12.09	21.66	-4.35	4.71	36.85	14.81

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



Comparative Performance
Total Fund
As of June 30, 2022

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
International Equity										
Total Fund Performance - International Equity	6.98	10.24	21.55	-14.50	28.00	5.26	-5.56	N/A	13.97	19.18
Vanguard Intl Value (VTRIX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA Value	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)	17.69 (48)
IM International Multi-Cap Value Equity (MF) Median	12.67	3.54	18.80	-16.16	24.73	4.03	-2.29	-5.21	23.66	17.42
Vanguard Intl Growth (VWILX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MSCI AC World ex USA Growth	5.37 (74)	22.56 (39)	27.84 (49)	-14.10 (46)	32.47 (40)	0.50 (51)	-0.91 (77)	-2.29 (35)	15.86 (81)	17.07 (77)
IM International Multi-Cap Growth Equity (MF) Median	10.12	20.55	27.73	-14.42	30.71	0.51	1.34	-3.79	20.30	19.51
Vanguard FTSE AW ex-US SC Index (VFSNX)	12.76 (55)	N/A	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)	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	N/A
IM International SMID Cap Core Equity (MF) Median	13.19	5.76	19.58	-19.67	29.44	-0.75	4.70	-6.30	24.68	20.35
Vanguard Developed Markets Index (VTMNX)	11.44 (35)	10.27 (42)	22.14 (43)	-14.49 (35)	26.46 (46)	2.46 (35)	-0.19 (44)	-5.62 (55)	22.07 (34)	18.92 (27)
Vanguard Spliced Developed ex U.S. Index (Net)	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)	17.32 (55)
MSCI EAFE (Net) Index	11.26 (37)	7.82 (57)	22.01 (45)	-13.79 (25)	25.03 (62)	1.00 (52)	-0.81 (52)	-4.90 (45)	22.78 (27)	17.32 (55)
IM International Multi-Cap Equity (MF) Median	10.28	8.74	21.55	-15.87	25.85	1.12	-0.74	-5.32	20.36	17.65
Vanguard Emerging Markets Index (VEMIX)	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)	18.06 (57)
FTSE Emerging Mkts All Cap China A Inclusion Index	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 (60)	18.48 (54)
MSCI Emerging Markets (Net) Index	-2.54 (58)	18.31 (47)	18.44 (62)	-14.58 (30)	37.28 (43)	11.19 (29)	-14.92 (62)	-2.19 (43)	-2.60 (58)	18.23 (56)
IM Emerging Markets Equity (MF) Median	-1.63	17.67	20.15	-16.45	35.66	8.25	-13.73	-3.01	-1.45	18.78

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



Comparative Performance
Total Fund
As of June 30, 2022

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Fixed Income										
Total Fund Performance - Fixed Income	0.05	6.75	10.16	-0.71	3.82	4.79	-0.18	N/A	-3.65	7.39
Vanguard Short Term Bond Index (VBITX)	-0.97 (94)	4.71 (11)	4.84 (24)	1.37 (42)	1.19 (71)	1.51 (59)	0.98 (9)	1.32 (13)	N/A	N/A
Bloomberg 1-5 Year Gov/Credit Idx	-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)	2.24 (69)
IM U.S. Short Term Investment Grade (MF) Median	0.02	3.02	4.11	1.24	1.46	1.69	0.27	0.67	0.47	3.12
Vanguard Total Bond Index (VBTIX)	-1.65 (64)	7.73 (65)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg U.S. Aggregate Index	-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)	4.21 (81)
IM U.S. Broad Market Core Fixed Income (MF) Median	-1.33	8.15	8.76	-0.62	3.60	2.90	0.04	5.55	-1.97	6.04
Vanguard High Yield Bond Fund (VWEAX)	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	N/A
Bloomberg U.S. Corp High Yield	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)	15.81 (26)
IM U.S. High Yield Bonds (MF) Median	4.93	5.43	13.83	-2.97	6.63	13.80	-3.96	1.50	6.72	14.57
Vanguard International Bond (VTIFX)	-2.17 (20)	4.59 (75)	7.89 (25)	3.00 (2)	2.43 (86)	4.69 (35)	N/A	N/A	N/A	N/A
Bloomberg Global Agg ex-USD Flt Adj RIC Cpd (H)	-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)	N/A
IM International Fixed Income (MF) Median	-5.39	6.55	6.64	-2.47	9.80	3.34	-5.82	0.63	-3.74	7.43
Vanguard EM Bond (VEGBX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg Emerging Markets USD Aggregate Index	-1.65 (43)	6.52 (53)	13.11 (78)	-2.46 (16)	8.17 (94)	9.88 (77)	1.29 (17)	4.76 (31)	-4.12 (29)	17.95 (70)
IM Emerging Markets Debt (MF) Median	-1.98	6.76	14.75	-4.96	11.69	11.65	-1.16	2.39	-5.44	20.07
REIT										
Vanguard Real Estate Index Fund (VGSNX)	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)	17.64 (33)
Vanguard Spliced REIT Index	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)	17.77 (30)
IM Real Estate Sector (MF) Median	41.32	-4.31	27.32	-5.71	5.32	6.34	2.91	29.47	1.64	16.91

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



Comparative Performance
Total Fund
As of June 30, 2022

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund - Domestic Equity	26.91	13.96	29.77	-7.16	20.07	13.45	-0.10	N/A	33.56	16.18
Total Domestic Large Cap Equity	27.04	14.02	30.31	-5.16	20.67	13.09	1.00	N/A	N/A	N/A
S&P 500 Index	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39	16.00
Large Cap Growth	27.27	41.61	37.36	-3.51	27.82	5.87	3.78	N/A	N/A	N/A
Vanguard Growth Index Hybrid	27.30	40.27	37.31	-3.34	27.86	6.16	3.38	13.69	32.51	17.14
Russell 1000 Growth Index	27.60	38.49	36.39	-1.51	30.21	7.08	5.67	13.05	33.48	15.26
Large Cap Core	27.04	9.03	29.41	-5.71	19.57	14.29	0.18	N/A	N/A	N/A
S&P 500 Index	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39	16.00
Large Cap Value	26.48	2.30	25.83	-5.50	17.14	16.87	-0.27	N/A	N/A	N/A
Vanguard Value Index Hybrid	26.51	2.26	25.85	-5.40	17.16	16.93	-0.86	13.29	33.20	15.22
Russell 1000 Value Index	25.16	2.80	26.54	-8.27	13.66	17.34	-3.83	13.45	32.53	17.51
Mid Cap Equity	24.67	13.58	26.13	-10.44	19.29	11.23	-1.31	N/A	N/A	N/A
Mid Cap Hybrid Index	24.76	13.66	26.20	-10.67	19.30	11.25	-1.28	13.83	35.21	16.04
Small Cap Equity	26.74	11.46	22.74	-10.45	16.25	18.32	-3.63	N/A	N/A	N/A
Small Cap Hybrid Index	26.82	11.29	22.78	-10.32	16.24	18.26	-3.68	7.54	37.77	18.20
Total Fund - International Equity	6.98	10.24	21.55	-14.50	28.00	5.26	-5.56	N/A	13.97	19.18
Small Cap - International Equity	12.76	N/A	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)	13.02	11.40	21.55	-18.91	29.78	3.93	-0.61	-4.34	N/A	N/A
Developed Markets - International Equity	11.44	10.27	22.14	-14.49	26.46	2.46	-0.41	N/A	N/A	N/A
Vanguard Spliced Developed ex U.S. Index (Net)	11.57	10.00	22.34	-14.79	26.31	2.29	-0.28	-4.85	22.71	17.32
Emerging Markets - International Equity	1.10	15.26	20.37	-14.54	31.43	11.76	-15.80	N/A	N/A	N/A
FTSE Emerging Mkts All Cap China A Inclusion Index	1.76	15.84	20.81	-14.49	31.46	10.66	-13.28	2.96	-2.82	18.48
MSCI Emerging Markets (Net) Index	-2.54	18.31	18.44	-14.58	37.28	11.19	-14.92	-2.19	-2.60	18.23

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



Comparative Performance
Total Fund
As of June 30, 2022

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Total Fund - Fixed Income	0.05	6.75	10.16	-0.71	3.82	4.79	-0.18	N/A	-3.65	7.39
Short - Term Fixed Income	-0.97	4.71	4.71	1.37	1.19	1.51	0.98	N/A	N/A	N/A
Bloomberg 1-5 Year Gov/Credit Idx	-0.97	4.71	5.01	1.38	1.27	1.56	0.97	1.42	0.28	2.24
High Yield - Fixed Income	3.78	5.38	15.90	-2.87	6.65	10.89	-1.28	N/A	N/A	N/A
Blmbg. U.S. Corp High Yield	5.28	7.11	14.32	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81
Non-US Fixed Income	-2.17	4.59	7.89	3.00	2.43	4.69	N/A	N/A	N/A	N/A
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	-2.10	4.75	8.06	3.16	2.57	4.90	1.34	9.14	1.26	N/A
Real Estate	40.47	-4.67	29.02	-5.93	4.93	8.51	2.56	N/A	N/A	N/A
Vanguard Spliced REIT Index	40.56	-4.55	29.03	-5.86	5.07	8.60	2.52	30.38	2.47	17.77

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, 2022

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	3.54		12.70		0.29		4.79		11.34		0.37	
Total Fund Policy	4.24		12.46		0.34		5.23		11.02		0.42	
Vanguard Instl Indx;Inst (VINIX) *	10.58	(9)	18.38	(34)	0.60	(7)	11.28	(6)	16.81	(34)	0.66	(5)
S&P 500 Index	10.60		18.38		0.61		11.31		16.80		0.66	
IM S&P 500 Index (MF) Median	10.26		18.37		0.59		10.97		16.80		0.64	
Vanguard Growth Index (VIGIX)	11.66	(13)	21.28	(28)	0.60	(19)	12.92	(20)	19.13	(36)	0.68	(24)
Vanguard Growth Index Hybrid	11.69		21.29		0.60		12.94		19.14		0.68	
IM U.S. Large Cap Growth Equity (MF) Median	8.57		20.61		0.47		11.53		18.71		0.62	
Vanguard Value Index (VIVIX)	8.68	(41)	18.08	(65)	0.52	(37)	9.23	(28)	16.44	(68)	0.55	(25)
Vanguard Value Index Hybrid	8.68		18.09		0.52		9.23		16.44		0.55	
IM U.S. Large Cap Value Equity (MF) Median	8.13		18.64		0.48		8.07		16.91		0.47	
Vanguard S&P MC400;Inst (VSPMX) *	6.80	(47)	22.08	(23)	0.38	(54)	6.96	(44)	20.21	(21)	0.38	(51)
S&P MidCap 400 Index	6.87		22.08		0.39		7.02		20.21		0.38	
IM U.S. Mid Cap Core Equity (MF) Median	6.62		21.09		0.39		6.73		19.00		0.38	
Vanguard S&P SC600;Inst (VSMSX) *	7.32	(26)	23.52	(57)	0.39	(25)	7.20	(15)	21.85	(46)	0.38	(14)
S&P SmallCap 600 Index	7.30		23.51		0.39		7.20		21.85		0.38	
IM U.S. Small Cap Core Equity (MF) Median	5.77		23.88		0.33		5.49		21.83		0.31	

* 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, 2022

	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)*	2.42	(53)	19.67	(15)	0.19	(53)	3.02	(47)	17.16	(30)	0.20	(47)
MSCI EAFE Index	1.54		17.75		0.14		2.69		15.72		0.18	
IM International Large Cap Core Equity (MF) Median	2.66		17.80		0.20		2.87		15.78		0.19	
Vanguard Intl Gro;Adm (VWILX)*	6.67	(13)	21.48	(4)	0.38	(19)	7.86	(7)	19.73	(2)	0.43	(12)
MSCI EAFE Growth Index	1.64		16.93		0.14		3.84		15.19		0.25	
IM International Large Cap Growth Equity (MF) Median	3.34		17.63		0.24		4.21		16.27		0.27	
Vanguard FTSEUSSC;Ins (VFSNX) *	1.92	(35)	21.28	(30)	0.17	(35)	1.76	(53)	18.49	(46)	0.13	(52)
FTSE Global ex U.S. Small Cap Index (Net)	1.58		21.49		0.15		1.46		18.60		0.11	
IM International SMID Cap Growth Equity (MF) Median	1.15		20.79		0.13		1.84		18.36		0.13	
Vanguard Developed Markets Index (VTMNX)	2.12	(31)	18.38	(51)	0.17	(31)	2.71	(27)	16.32	(56)	0.18	(28)
Vanguard Spliced Developed ex U.S. Index (Net)	1.93		18.43		0.16		2.64		16.30		0.17	
IM International Multi-Cap Equity (MF) Median	1.33		18.38		0.13		1.89		16.51		0.13	
Vanguard Emerging Markets Index (VEMIX)	2.07	(22)	17.51	(93)	0.17	(23)	3.14	(20)	16.51	(90)	0.20	(20)
FTSE Emerging Mkts All Cap China A Inclusion Index	2.42		17.54		0.19		3.48		16.43		0.22	
IM Emerging Markets Equity (MF) Median	0.13		19.27		0.07		1.56		17.86		0.12	
Vanguard Short Term Bond Index (VBITX)	0.07	(70)	2.05	(68)	-0.27	(80)	1.03	(60)	1.86	(56)	-0.04	(61)
Bloomberg 1-5 Year Gov/Credit Idx	0.12		2.08		-0.24		1.08		1.88		-0.01	
IM U.S. Short Term Investment Grade (MF) Median	0.33		2.38		-0.09		1.10		1.93		0.00	
Vanguard Tot Bd:Inst (VBTIX) *	-0.92	(50)	4.65	(73)	-0.31	(63)	0.86	(42)	4.10	(70)	-0.04	(45)
Blmbg. U.S. Aggregate Index	-0.94		4.49		-0.33		0.88		4.01		-0.04	
IM U.S. Broad Market Core Fixed Income (MF) Median	-0.93		5.04		-0.28		0.80		4.35		-0.05	
Vanguard High Yield Bond Fund (VWEAX)	0.00	(40)	8.80	(84)	-0.03	(45)	1.94	(28)	7.53	(82)	0.15	(25)
Vanguard High Yield Corporate Composite Index	0.42		9.05		0.02		2.26		7.50		0.19	
IM U.S. High Yield Bonds (MF) Median	-0.26		9.85		-0.04		1.49		8.22		0.09	

* 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, 2022

	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) *	-2.14	(24)	4.13	(87)	-0.66	(54)	0.84	(11)	3.62	(88)	-0.06	(11)
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	-2.07		4.10		-0.64		0.94		3.60		-0.03	
IM International Fixed Income (MF) Median	-5.21		7.45		-0.64		-2.39		6.98		-0.35	
Vanguard Em Mkt Bond;Adm (VEGBX)*	-0.91	(7)	11.86	(79)	-0.07	(7)	N/A		N/A		N/A	
JPM GBI-EM Diversified	-8.46		12.03		-0.72		-4.57		11.74		-0.43	
IM Emerging Markets Debt - LC (MF) Median	-4.28		12.98		-0.32		-1.21		12.23		-0.12	
Vanguard Real Estate Index Fund (VGSNX)	4.78	(51)	19.87	(46)	0.31	(51)	5.72	(51)	17.74	(30)	0.34	(51)
Vanguard Spliced REIT Index	4.88		19.86		0.31		5.81		17.72		0.35	
IM Real Estate Sector (MF) Median	4.80		19.80		0.31		5.73		17.36		0.34	

* 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, 2022

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	7.00		10.62		0.63		5.56		11.86		0.45	
Total Fund Policy	7.21		10.42		0.66		5.93		11.88		0.48	
Vanguard Instl Indx;Inst (VINIX) *	12.93	(3)	14.94	(12)	0.86	(3)	8.53	(2)	17.47	(14)	0.52	
S&P 500 Index	12.96		14.93		0.86		8.54		17.47		0.52	
IM S&P 500 Index (MF) Median	12.49		14.91		0.83		8.08		17.44		0.49	
Vanguard Growth Index (VIGIX)	13.88	(20)	17.59	(44)	0.80	(26)	N/A		N/A		N/A	
Vanguard Growth Index Hybrid	13.93		17.61		0.80		10.21		19.26		0.57	
IM U.S. Large Cap Growth Equity (MF) Median	12.93		17.47		0.76		9.18		19.55		0.52	
Vanguard Value Index (VIVIX)	11.77	(16)	14.14	(71)	0.82	(13)	N/A		N/A		N/A	
Vanguard Value Index Hybrid	11.81		14.14		0.82		6.97		17.36		0.44	
IM U.S. Large Cap Value Equity (MF) Median	10.52		14.85		0.72		6.24		18.18		0.39	
Vanguard S&P MC400;Inst (VSPMX)	10.83	(17)	18.80	(65)	0.62	(14)	N/A		N/A		N/A	
S&P MidCap 400 Index	10.90		18.81		0.62		8.04		21.08		0.44	
IM U.S. SMID Cap Core Equity (MF) Median	9.51		19.26		0.54		6.40		21.74		0.37	
Vanguard S&P SC600;Inst (VSMSX)	11.25	(4)	20.88	(51)	0.59	(6)	N/A		N/A		N/A	
S&P SmallCap 600 Index	11.26		20.87		0.59		8.03		22.54		0.43	
IM U.S. Small Cap Core Equity (MF) Median	9.30		20.88		0.50		6.23		22.95		0.35	

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, 2022

	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)	5.73	(45)	16.58	(31)	0.38	(69)	1.88	(56)	20.31	(25)	0.16	(56)
MSCI EAFE Index	5.89		14.98		0.42		1.90		19.19		0.16	
IM International Large Cap Core Equity (MF) Median	5.60		15.51		0.39		1.93		19.86		0.16	
Vanguard Intl Gro;Adm (VWILX)	9.52	(3)	20.88	(2)	0.51	(25)	5.25	(8)	23.26	(1)	0.30	(17)
MSCI EAFE Growth Index	6.67		15.28		0.46		2.90		18.91		0.21	
IM International Large Cap Growth Equity (MF) Median	6.78		15.99		0.44		3.73		19.93		0.25	
Vanguard FTSEUSSC;Ins (VFSNX)	5.36	(77)	18.52	(52)	0.35	(78)	N/A		N/A		N/A	
FTSE Global ex U.S. Small Cap Index (Net)	N/A		N/A		N/A		N/A		N/A		N/A	
IM International SMID Cap Growth Equity (MF) Median	6.21		18.81		0.39		2.67		22.89		0.20	
Vanguard Developed Markets Index (VTMNX)	5.86	(21)	15.62	(65)	0.41	(19)	N/A		N/A		N/A	
Vanguard Spliced Developed ex U.S. Index (Net)	5.82		15.60		0.40		1.69		19.51		0.15	
IM International Multi-Cap Equity (MF) Median	5.14		16.10		0.35		1.34		20.02		0.13	
Vanguard EM St I;Inst (VEMIX)*	3.27	(37)	16.94	(91)	0.24	(36)	2.13	(35)	22.63	(77)	0.18	(37)
Vanguard Spliced Emerging Markets Index (Net)	3.35		16.79		0.25		2.19		22.51		0.18	
IM Emerging Markets Equity (MF) Median	2.75		18.50		0.21		1.56		23.28		0.16	
Vanguard Sh-Tm B;Inst (VBITX)	1.12	(47)	1.96	(50)	0.28	(48)	N/A		N/A		N/A	
Bloomberg 1-5 Year Gov/Credit Idx	1.18		1.96		0.31		2.33		2.25		0.77	
IM U.S. Short Term Investment Grade (MF) Median	1.11		1.96		0.27		1.74		2.41		0.42	
Vanguard Tot Bd;Inst (VBTIX)	1.50	(56)	4.17	(69)	0.23	(54)	3.26	(46)	4.10	(76)	0.64	(22)
Blmbg. U.S. Aggregate Index	1.54		4.07		0.25		3.26		4.01		0.66	
IM U.S. Broad Market Core Fixed Income (MF) Median	1.60		4.36		0.24		3.20		4.60		0.55	
Vanguard HY Corp;Adm (VWEAX)	4.08	(25)	7.09	(92)	0.51	(13)	5.12	(19)	8.95	(91)	0.51	(3)
Blmbg. U.S. Corp High Yield	4.47		8.37		0.49		5.78		11.64		0.47	
IM U.S. High Yield Bonds (MF) Median	3.63		8.27		0.39		4.58		10.76		0.40	

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.

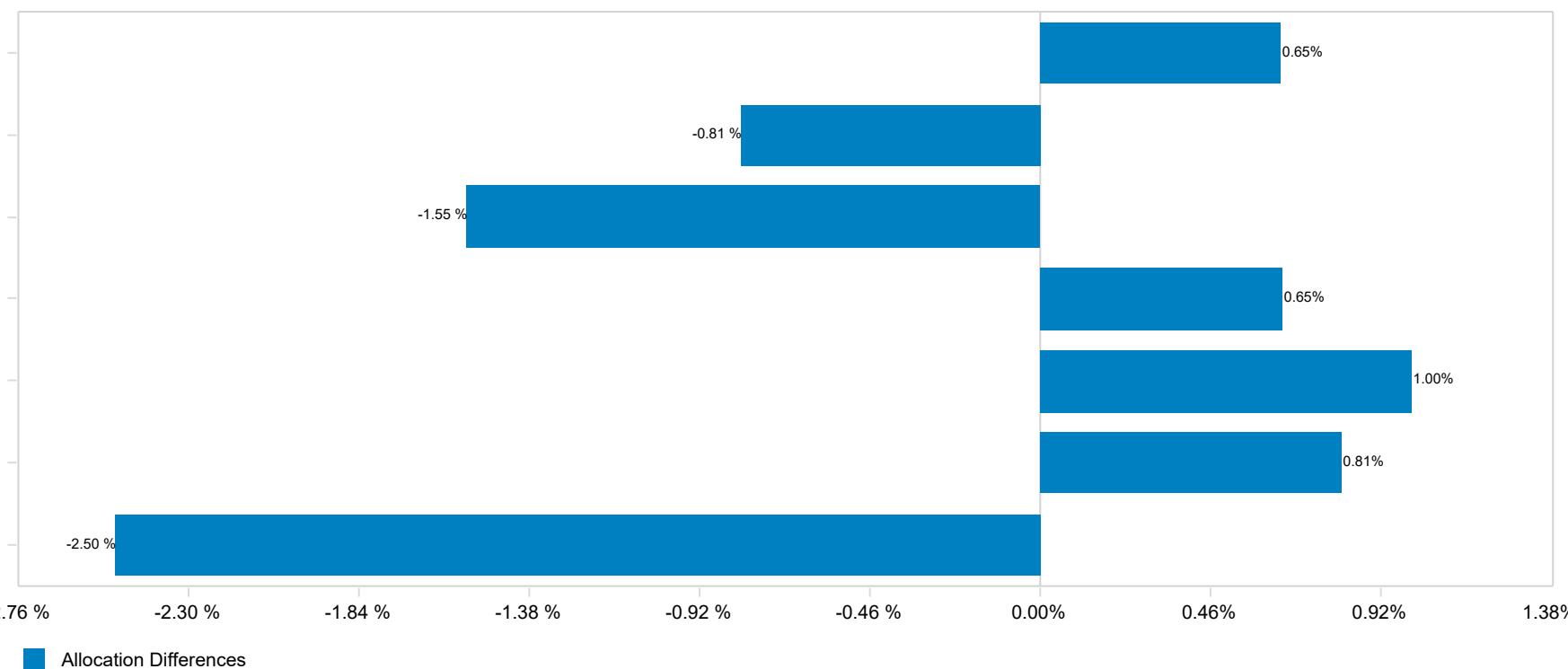


Multi Time Period Statistics
Butler County Employees Retirement Plan
As of June 30, 2022

	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)	N/A	N/A	N/A	N/A	N/A	N/A						
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	N/A	N/A	N/A	N/A	N/A	N/A						
IM International Fixed Income (MF) Median	-0.63	8.39	-0.11	2.41	9.15	0.23						
Vanguard Em Mkt Bond;Adm (VEGBX)	N/A	N/A	N/A	N/A	N/A	N/A						
JPM GBI-EM Diversified	-2.24	11.99	-0.18	1.26	12.21	0.10						
IM Emerging Markets Debt - LC (MF) Median	-0.35	12.77	-0.01	N/A	N/A	N/A						
Vanguard RE Idx;Inst (VGSNX)	7.49	(29)	16.27	(36)	0.49	(37)	6.04	(28)	23.66	(36)	0.34	(33)
Vanguard Spliced REIT Index	7.58		16.28		0.50		6.04		23.66		0.34	
IM Real Estate Sector (MF) Median	7.01		15.98		0.47		5.30		23.36		0.32	

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	40.65	40.00	15.00	65.00
International Equity	14.19	15.00	5.00	25.00
Domestic Fixed Income	30.95	32.50	15.00	50.00
Emerging Fixed Income	3.15	2.50	0.00	5.00
Global Fixed Income	3.50	2.50	0.00	5.00
Real Estate	5.81	5.00	0.00	10.00
Cash Equivalent	0.00	2.50	0.00	5.00
Total Fund	100.00	100.00	N/A	N/A

1. Over most periods of time, the following investment managers have met performance expectations net of fees:

- Vanguard Institutional Index Fund.
- Vanguard Growth Index Fund.
- Vanguard Value Index Fund.
- Vanguard S&P 400 Mid Cap Index Fund.
- Vanguard S&P 600 Small Cap Index Fund.
- Vanguard Developed Markets Index Fund.
- Vanguard Small Cap International Index Fund.
- Vanguard Emerging Markets Index Fund.
- Vanguard Total Bond Index Fund.
- Vanguard Short-Term Bond Index Fund.
- Vanguard High Yield Bond Fund.
- Vanguard Total International Bond Fund. The Vanguard High Yield Bond Fund is an actively managed high yield bond fund that invests in higher-rated bonds to minimize default risk and principal loss.
- Vanguard Real Estate Index Fund.

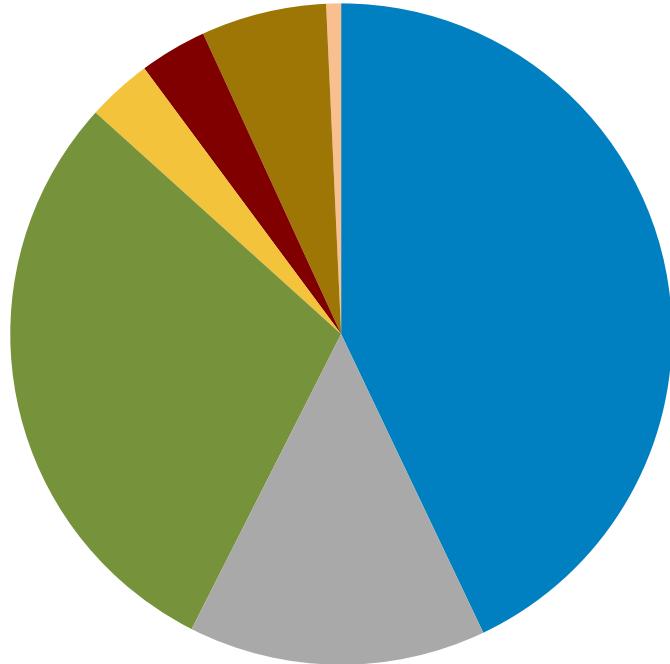
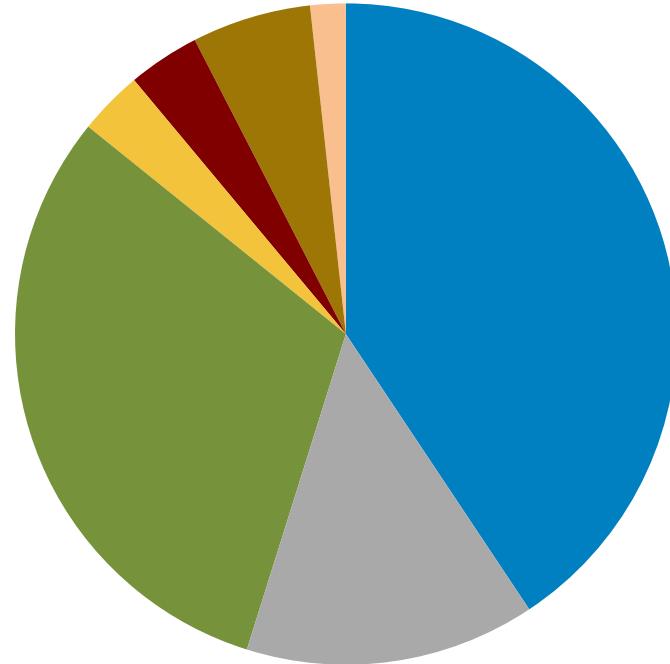
2. Over most periods of the time, the following investment managers have trailed performance expectations net of fees:

- None.

3. The following investment managers do not have enough history to make any meaningful conclusions:

- Vanguard International Value Fund.
- Vanguard International Growth Fund.
- Vanguard Emerging Markets Bond Fund.

4. At this time, all investment managers should continue to be retained.

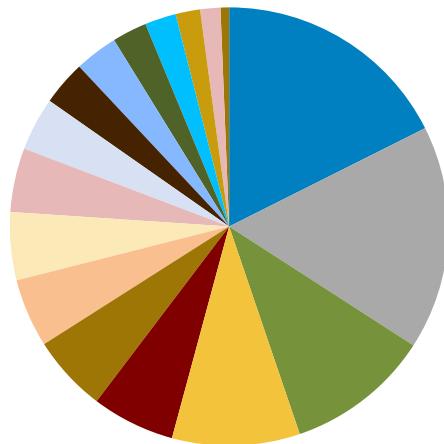
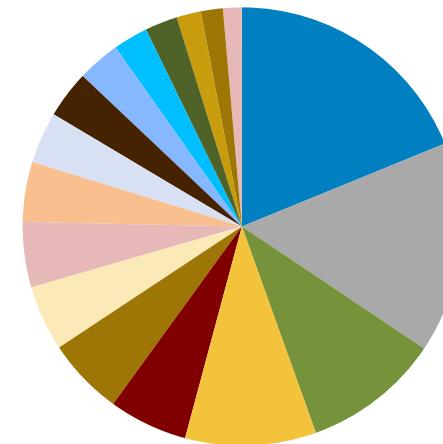
Asset Allocation By Segment as of
March 31, 2022 : \$258,429,371Asset Allocation By Segment as of
June 30, 2022 : \$230,147,657

Allocation

Segments	Market Value	Allocation
Domestic Equity	110,961,126	42.9
International Equity	37,543,209	14.5
Domestic Fixed Income	75,516,126	29.2
Emerging Fixed Income	8,192,729	3.2
Global Fixed Income	8,502,377	3.3
Real Estate	15,828,936	6.1
Cash	1,884,868	0.7

Allocation

Segments	Market Value	Allocation
Domestic Equity	93,556,803	40.7
International Equity	32,660,777	14.2
Domestic Fixed Income	71,231,224	31.0
Emerging Fixed Income	7,256,758	3.2
Global Fixed Income	8,060,216	3.5
Real Estate	13,378,348	5.8
Cash	4,003,531	1.7

Asset Allocation By Manager as of
March 31, 2022 : \$258,429,371Asset Allocation By Manager as of
June 30, 2022 : \$230,147,657

Allocation

	Market Value	Allocation
Vanguard Total Bond Index (VBTIX)	45,450,598	17.6
Vanguard Inst'l Index Fund (VINIX)	42,728,699	16.5
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	27,567,012	10.7
Vanguard High Yield Bond Fund (VWEAX)	24,321,408	9.4
Vanguard Real Estate Index Fund (VGSNX)	15,828,936	6.1
Vanguard Value Index (VIVIX)	14,631,242	5.7
Vanguard Growth Index (VIGIX)	13,087,605	5.1
Vanguard Small-Cap 600 Index I (VSMSX)	12,946,569	5.0
Vanguard Emerging Markets Index (VEMIX)	12,203,496	4.7
Vanguard Developed Markets Index (VTMNX)	10,183,040	3.9
Vanguard International Bond (VTIFX)	8,508,555	3.3
Vanguard EM Bond (VEGBX)	8,222,503	3.2
Vanguard FTSE AW ex-US SC Index (VFSNX)	6,618,492	2.6
Vanguard Short Term Bond Index (VBITX)	5,956,638	2.3
Vanguard Intl Value (VTRIX)	4,683,556	1.8
Vanguard Intl Growth (VWILX)	3,854,625	1.5
NMA	1,602,385	0.6
Cash	34,014	0.0
Twin Capital Enhanced Index	-	0.0

Allocation

	Market Value	Allocation
Vanguard Total Bond Index (VBTIX)	43,309,592	18.8
Vanguard Inst'l Index Fund (VINIX)	35,844,997	15.6
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	23,313,027	10.1
Vanguard High Yield Bond Fund (VWEAX)	22,224,865	9.7
Vanguard Real Estate Index Fund (VGSNX)	13,378,348	5.8
Vanguard Value Index (VIVIX)	13,128,269	5.7
Vanguard Small-Cap 600 Index I (VSMSX)	11,116,361	4.8
Vanguard Emerging Markets Index (VEMIX)	11,083,158	4.8
Vanguard Growth Index (VIGIX)	10,154,148	4.4
Vanguard Developed Markets Index (VTMNX)	8,753,398	3.8
Vanguard International Bond (VTIFX)	8,067,250	3.5
Vanguard EM Bond (VEGBX)	7,283,958	3.2
Vanguard Short Term Bond Index (VBITX)	5,887,972	2.6
Vanguard FTSE AW ex-US SC Index (VFSNX)	5,517,819	2.4
Vanguard Intl Value (VTRIX)	4,150,632	1.8
NMA	3,743,172	1.6
Vanguard Intl Growth (VWILX)	3,155,771	1.4
Cash	34,920	0.0
Twin Capital Enhanced Index	-	0.0

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)	35,845	100.0	-	-	-	-	-	-	-	-	-	-	-	-	35,845	15.6	
Vanguard Value Index (VIVIX)	13,128	100.0	-	-	-	-	-	-	-	-	-	-	-	-	13,128	5.7	
Vanguard Small-Cap 600 Index I (VSMSX)	11,116	100.0	-	-	-	-	-	-	-	-	-	-	-	-	11,116	4.8	
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	23,313	100.0	-	-	-	-	-	-	-	-	-	-	-	-	23,313	10.1	
Vanguard Growth Index (VIGIX)	10,154	100.0	-	-	-	-	-	-	-	-	-	-	-	-	10,154	4.4	
Twin Capital Enhanced Index	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	
Vanguard Intl Value (VTRIX)	-	-	4,151	100.0	-	-	-	-	-	-	-	-	-	-	4,151	1.8	
Vanguard Intl Growth (VWILX)	-	-	3,156	100.0	-	-	-	-	-	-	-	-	-	-	3,156	1.4	
Vanguard FTSE AW ex-US SC Index (VFSNX)	-	-	5,518	100.0	-	-	-	-	-	-	-	-	-	-	5,518	2.4	
Vanguard Developed Markets Index (VTMNX)	-	-	8,753	100.0	-	-	-	-	-	-	-	-	-	-	8,753	3.8	
Vanguard Emerging Markets Index (VEMIX)	-	-	11,083	100.0	-	-	-	-	-	-	-	-	-	-	11,083	4.8	
Vanguard High Yield Bond Fund (VWEAX)	-	-	-	-	22,126	99.6	-	-	-	-	-	-	-	99	0.4	22,225	9.7
Vanguard Short Term Bond Index (VBITX)	-	-	-	-	5,881	99.9	-	-	-	-	-	-	-	7	0.1	5,888	2.6
Vanguard Total Bond Index (VBTIX)	-	-	-	-	43,224	99.8	-	-	-	-	-	-	-	85	0.2	43,310	18.8
Vanguard International Bond (VTIFX)	-	-	-	-	-	-	-	-	8,060	99.9	-	-	-	7	0.1	8,067	3.5
Vanguard EM Bond (VEGBX)	-	-	-	-	-	-	7,257	99.6	-	-	-	-	-	27	0.4	7,284	3.2
Vanguard Real Estate Index Fund (VGSNX)	-	-	-	-	-	-	-	-	-	-	13,378	100.0	-	-	13,378	5.8	
Cash	-	-	-	-	-	-	-	-	-	-	-	-	-	35	100.0	35	0.0
NMA	-	-	-	-	-	-	-	-	-	-	-	-	-	3,743	100.0	3,743	1.6
Total Fund	93,557	40.7	32,661	14.2	71,231	31.0	7,257	3.2	8,060	3.5	13,378	5.8	4,004	1.7	230,148	100.0	

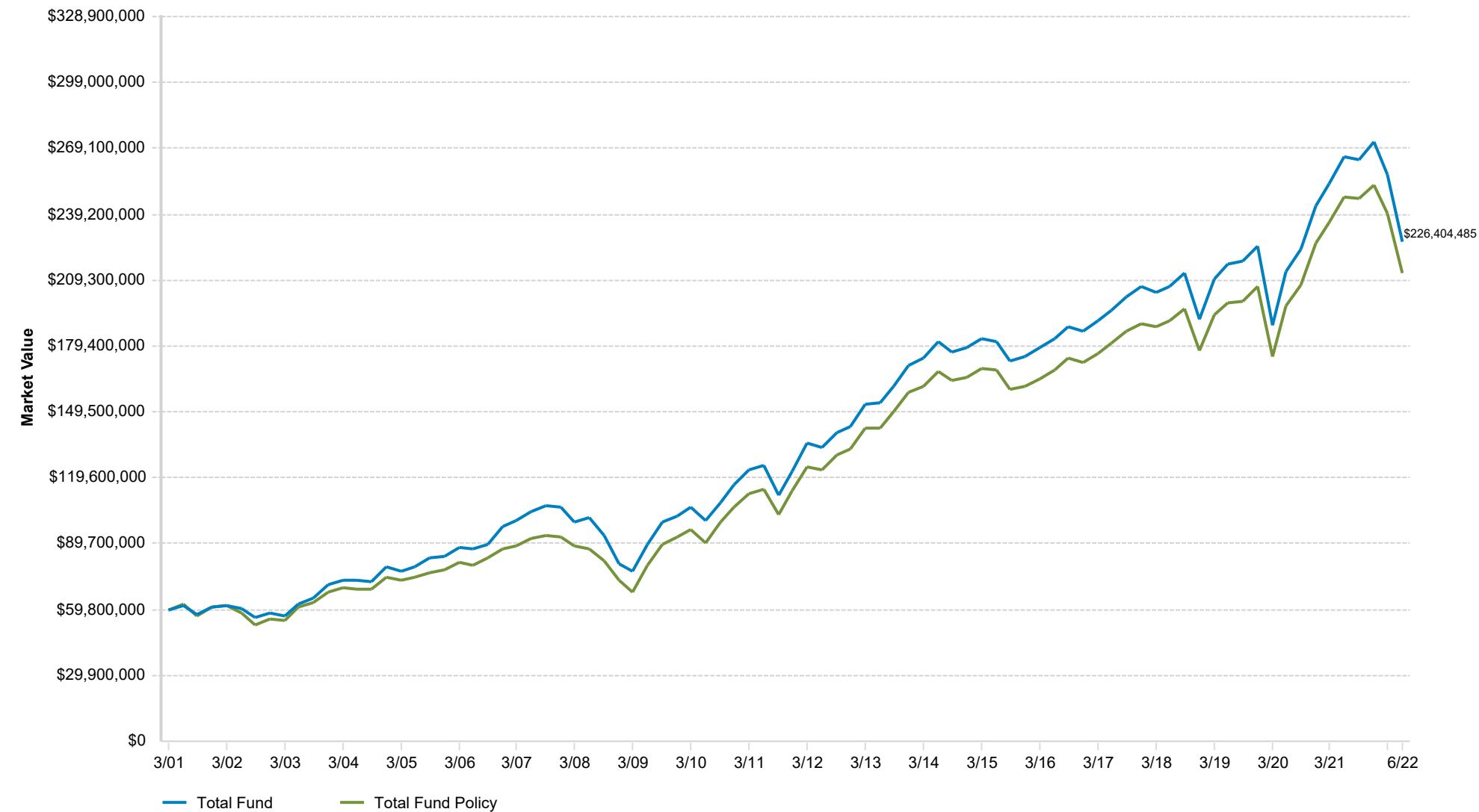


Schedule of Investable Assets

Total Fund

January 1, 2001 To June 30, 2022

Schedule of Investable Assets

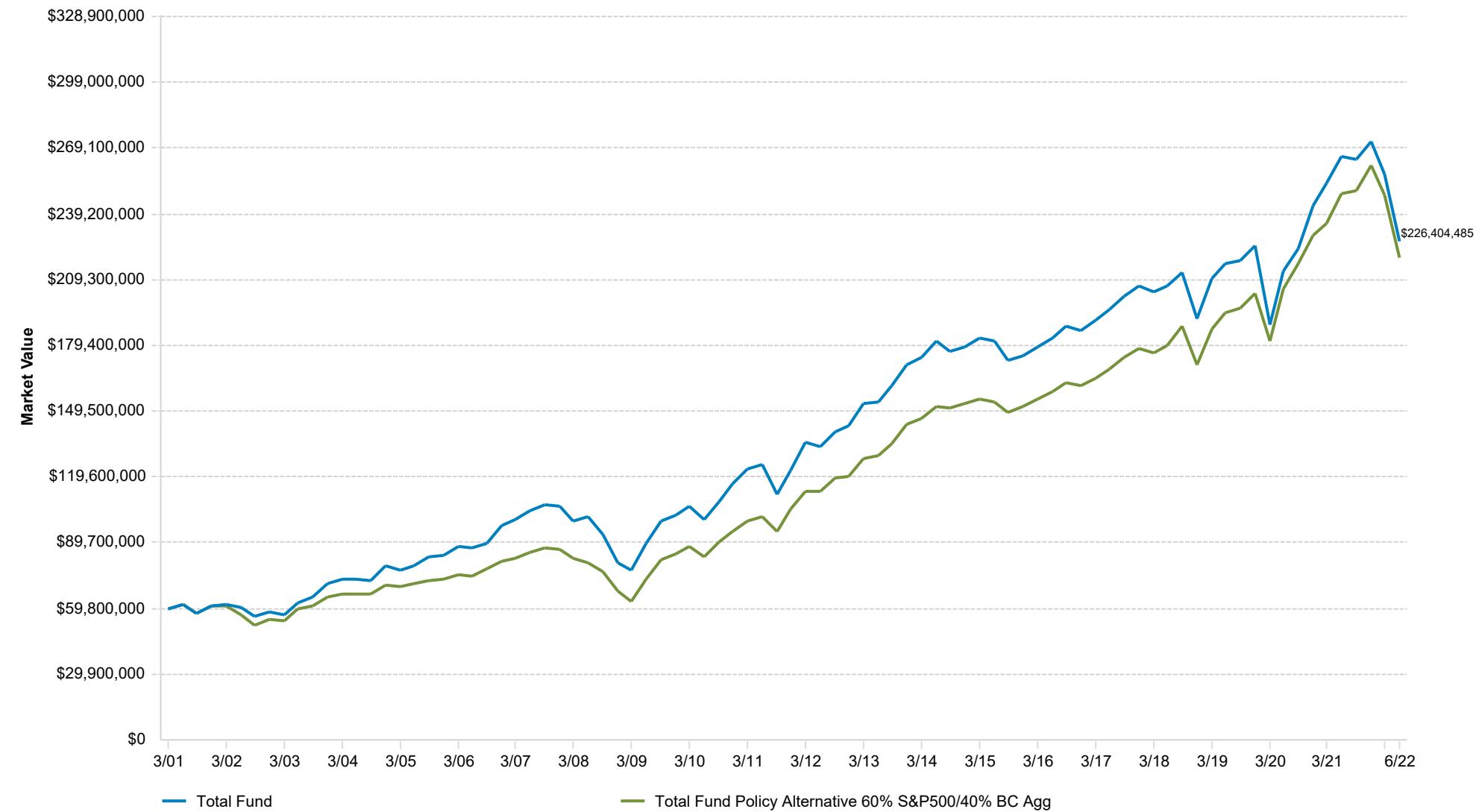


Schedule of Investable Assets

Periods Ending	Beginning Market Value \$	Net Cash Flow \$	Gain/Loss \$	Ending Market Value \$	%Return
Jan-2001 To Jun-2022	59,528,253	-19,554,123	186,430,355	226,404,485	254.23

Does not include Non-Measured Assets (NMA).



Schedule of Investable Assets
Total Fund
January 1, 2001 To June 30, 2022
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-2022	59,528,253	-19,554,123	186,430,355	226,404,485	254.23

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	35,844,997	10,754	0.03 % of Assets
Vanguard Growth Index (VIGIX)	0.04	10,154,148	4,062	0.04 % of Assets
Vanguard Value Index (VIVIX)	0.04	13,128,269	5,251	0.04 % of Assets
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	0.08	23,313,027	18,650	0.08 % of Assets
Vanguard Small-Cap 600 Index I (VSMSX)	0.08	11,116,361	8,893	0.08 % of Assets
Vanguard Intl Value (VTRIX)	0.35	4,150,632	14,527	0.35 % of Assets
Vanguard Intl Growth (VWILX)	0.33	3,155,771	10,414	0.33 % of Assets
Vanguard FTSE AW ex-US SC Index (VFSNX)	0.11	5,517,819	6,070	0.11 % of Assets
Vanguard Developed Markets Index (VTMNX)	0.05	8,753,398	4,377	0.05 % of Assets
Vanguard Emerging Markets Index (VEMIX)	0.10	11,083,158	11,083	0.10 % of Assets
Vanguard Short Term Bond Index (VBITX)	0.05	5,887,972	2,944	0.05 % of Assets
Vanguard Total Bond Index (VBTIX)	0.03	43,309,592	12,993	0.03 % of Assets
Vanguard High Yield Bond Fund (VWEAX)	0.13	22,224,865	28,892	0.13 % of Assets
Vanguard International Bond (VTIFX)	0.07	8,067,250	5,647	0.07 % of Assets
Vanguard EM Bond (VEGBX)	0.45	7,283,958	32,778	0.45 % of Assets
Vanguard Real Estate Index Fund (VGSNX)	0.10	13,378,348	13,378	0.10 % of Assets
Total Fund Performance	0.08	226,404,485	190,713	

Does not include Non-Measured Assets (NMA).



Financial Reconciliation
Total Fund
as of June 30, 2022

Quarter To Date	Market Value 04/01/2022	Management Fees	Net Flows	Return On Investment	Market Value 06/30/2022
Domestic Equity					
Vanguard Inst'l Index Fund (VINIX)	42,728,699	-	-	-6,883,701	35,844,997
Vanguard Value Index (VIVIX)	14,631,242	-	-	-1,502,974	13,128,269
Vanguard Small-Cap 600 Index I (VSMSX)	12,946,569	-	-	-1,830,208	11,116,361
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	27,567,012	-	-	-4,253,984	23,313,027
Vanguard Growth Index (VIGIX)	13,087,605	-	-	-2,933,457	10,154,148
Twin Capital Enhanced Index	-	-	-	-	-
International Equity					
Vanguard Intl Value (VTRIX)	4,683,556	-	-	-532,924	4,150,632
Vanguard Intl Growth (VWILX)	3,854,625	-	-	-698,854	3,155,771
Vanguard FTSE AW ex-US SC Index (VFSNX)	6,618,492	-	-	-1,100,673	5,517,819
Vanguard Developed Markets Index (VTMNX)	10,183,040	-	-	-1,429,642	8,753,398
Vanguard Emerging Markets Index (VEMIX)	12,203,496	-	-	-1,120,339	11,083,158
Fixed Income					
Vanguard Short Term Bond Index (VBITX)	5,956,638	-	-	-68,666	5,887,972
Vanguard Total Bond Index (VBTIX)	45,450,598	-	-	-2,141,006	43,309,592
Vanguard High Yield Bond Fund (VWEAX)	24,321,408	-	-	-2,096,543	22,224,865
Vanguard International Bond (VTIFX)	8,508,555	-	-	-441,304	8,067,250
Vanguard EM Bond (VEGBX)	8,222,503	-	-	-938,545	7,283,958
REIT					
Vanguard Real Estate Index Fund (VGSNX)	15,828,936	-	-	-2,450,589	13,378,348
Cash	34,014	-	-	906	34,920
Total Fund Performance	256,826,986	-	-	-30,422,501	226,404,485
NMA	1,602,385	-	2,140,786	-	3,743,172
Total Fund	258,429,371	-	2,140,786	-30,422,501	230,147,657

Financial Reconciliation
Total Fund
as of June 30, 2022

Year To Date	Market Value 01/01/2022	Management Fees	Net Flows	Return On Investment	Market Value 06/30/2022
Domestic Equity					
Vanguard Inst'l Index Fund (VINIX)	44,790,891	-	-	-8,945,894	35,844,997
Vanguard Value Index (VIVIX)	14,487,646	-	-	-1,359,377	13,128,269
Vanguard Small-Cap 600 Index I (VSMSX)	13,722,499	-	-	-2,606,138	11,116,361
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	28,985,592	-	-	-5,672,565	23,313,027
Vanguard Growth Index (VIGIX)	14,588,707	-	-	-4,434,559	10,154,148
Twin Capital Enhanced Index	15,820	-	-16,212	392	-
International Equity					
Vanguard Intl Value (VTRIX)	4,935,181	-	-	-784,549	4,150,632
Vanguard Intl Growth (VWILX)	4,613,759	-	-	-1,457,988	3,155,771
Vanguard FTSE AW ex-US SC Index (VFSNX)	7,140,659	-	-	-1,622,840	5,517,819
Vanguard Developed Markets Index (VTMINX)	10,837,143	-	-	-2,083,746	8,753,398
Vanguard Emerging Markets Index (VEMIX)	13,016,328	-	-	-1,933,170	11,083,158
Fixed Income					
Vanguard Short Term Bond Index (VBITX)	6,171,714	-	-	-283,742	5,887,972
Vanguard Total Bond Index (VBTIX)	48,343,193	-	-	-5,033,601	43,309,592
Vanguard High Yield Bond Fund (VWEAX)	25,387,557	-	-	-3,162,692	22,224,865
Vanguard International Bond (VTIFX)	8,954,893	-	-	-887,643	8,067,250
Vanguard EM Bond (VEGBX)	8,951,542	-	-	-1,667,584	7,283,958
REIT					
Vanguard Real Estate Index Fund (VGSNX)	16,834,302	-	-	-3,455,954	13,378,348
Cash	17,519	-	16,492	909	34,920
Total Fund Performance	271,794,945	-	280	-45,390,740	226,404,485
NMA	2,929,815	-	813,356	-	3,743,172
Total Fund	274,724,760	-	813,636	-45,390,740	230,147,657

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.

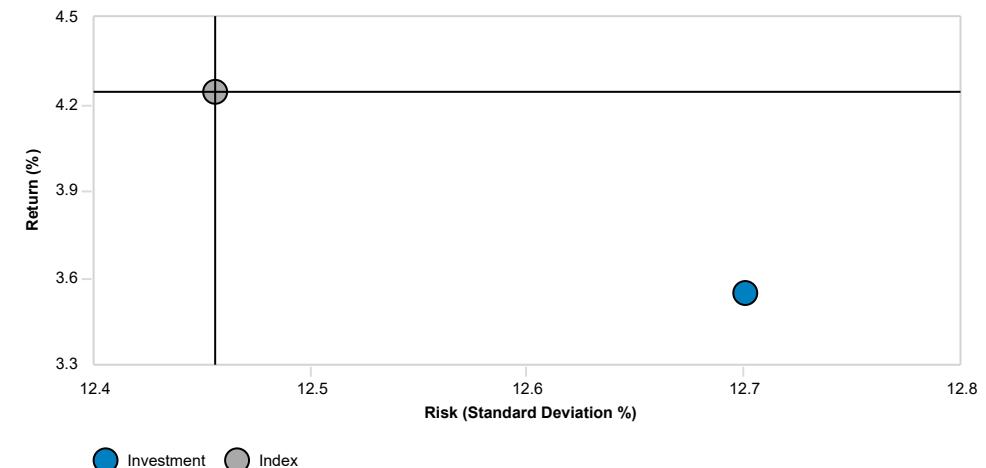
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.54	12.70	0.29	99.97	8	104.68	4
Index	4.25	12.46	0.34	100.00	8	100.00	4

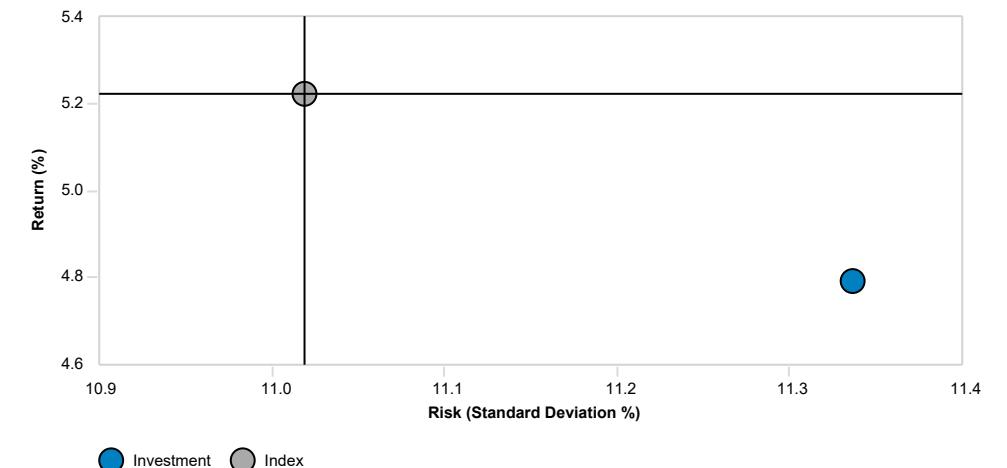
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.79	11.34	0.37	101.06	14	104.88	6
Index	5.23	11.02	0.42	100.00	14	100.00	6

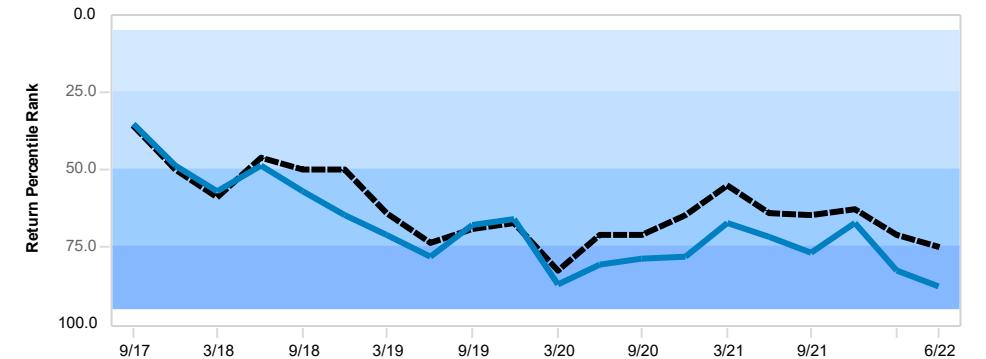
Risk and Return 3 Years



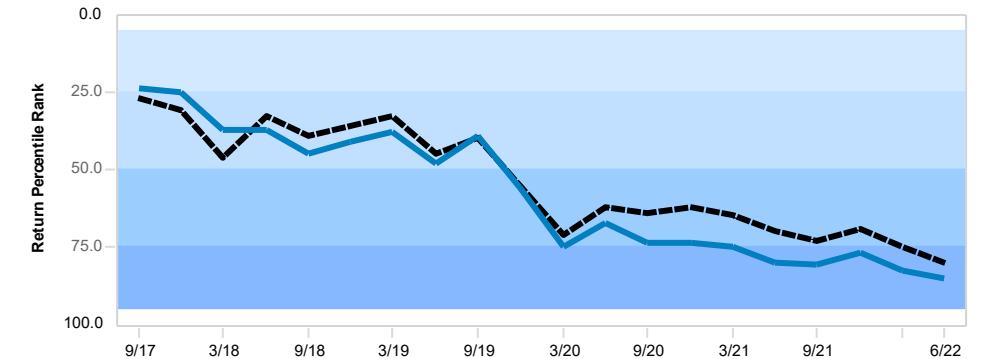
Risk and Return 5 Years



3 Year Rolling Percentile Rank All Public Plans-Total Fund



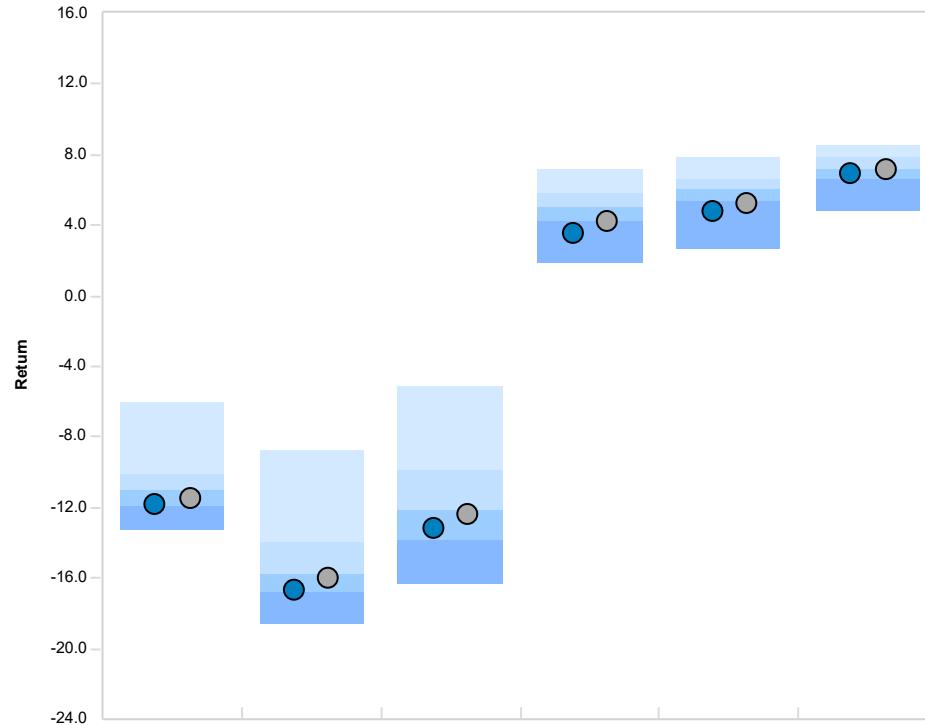
5 Year Rolling Percentile Rank All Public Plans-Total Fund



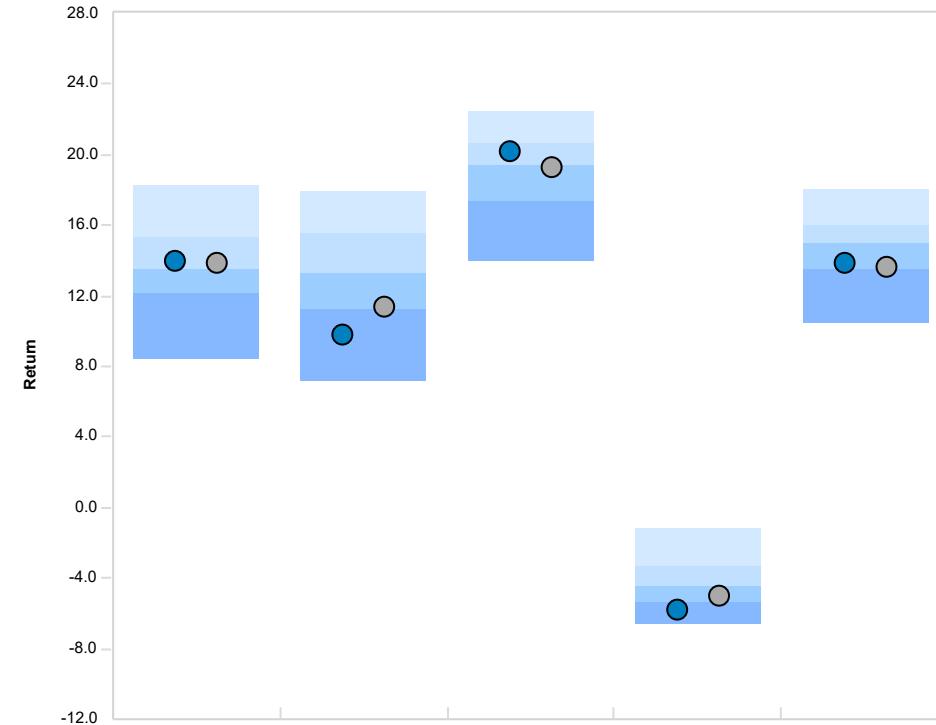
Does not include Non-Measured Assets (NMA).



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	-11.85 (75)	-16.70 (73)	-13.17 (69)	3.54 (88)	4.79 (85)	7.00 (61)
Index	-11.50 (66)	-15.96 (55)	-12.41 (55)	4.24 (75)	5.24 (80)	7.21 (51)
Median	-10.97	-15.79	-12.09	5.05	6.05	7.21

	2021	2020	2019	2018	2017
Investment	14.00 (43)	9.84 (87)	20.21 (36)	-5.76 (86)	13.91 (68)
Index	13.87 (47)	11.44 (73)	19.29 (51)	-4.94 (64)	13.67 (74)
Median	13.57	13.34	19.36	-4.45	14.98

Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 04/01/2001	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	59,528,253	-20,400,163	187,276,395	226,404,485

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-5.51	5.02	-0.74	4.84	4.32	10.59
Index	-5.06	4.75	-0.48	4.86	4.12	11.04

Does not include Non-Measured Assets (NMA).



Strategy Review
Vanguard Instl Indx;Inst (VINIX) | S&P 500 Index
As of June 30, 2022

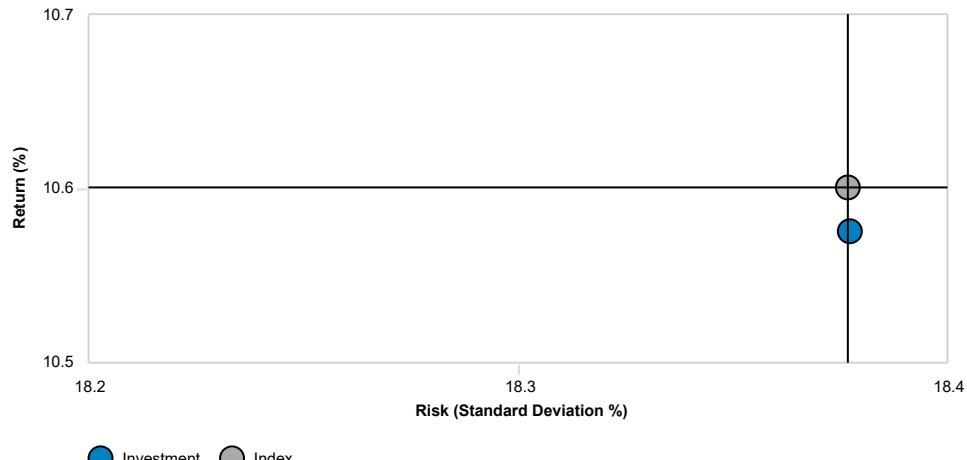
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	10.58	18.38	0.60	99.96	9	100.05	3
Index	10.60	18.38	0.61	100.00	9	100.00	3

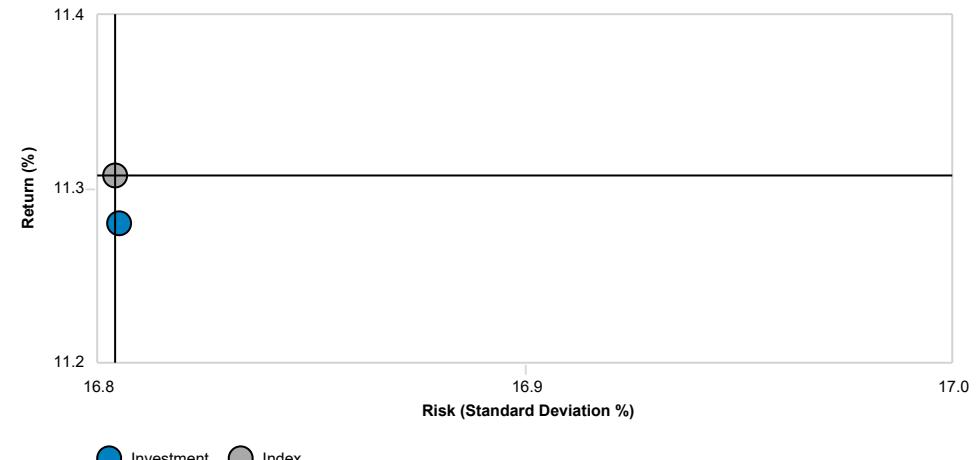
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.28	16.81	0.66	99.95	15	100.05	5
Index	11.31	16.80	0.66	100.00	15	100.00	5

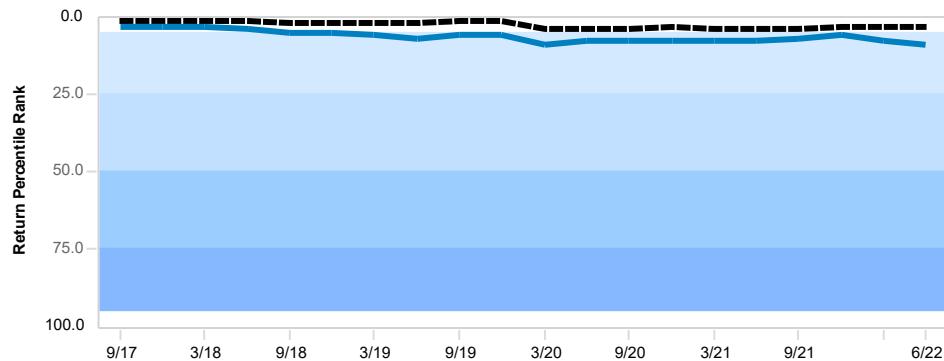
Risk and Return 3 Years



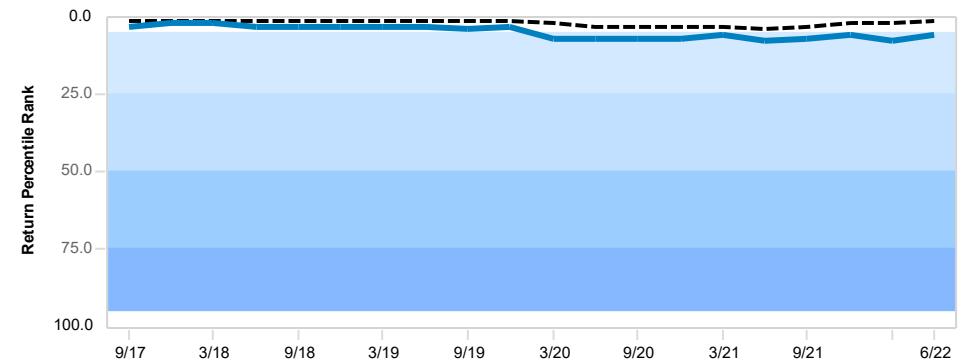
Risk and Return 5 Years



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



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



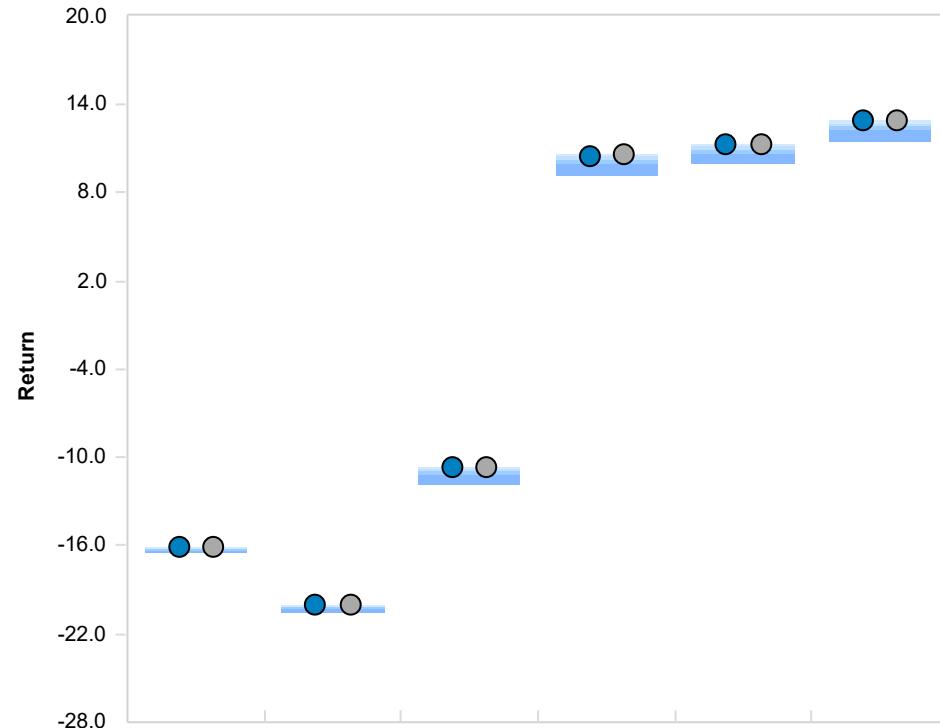
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

	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%)

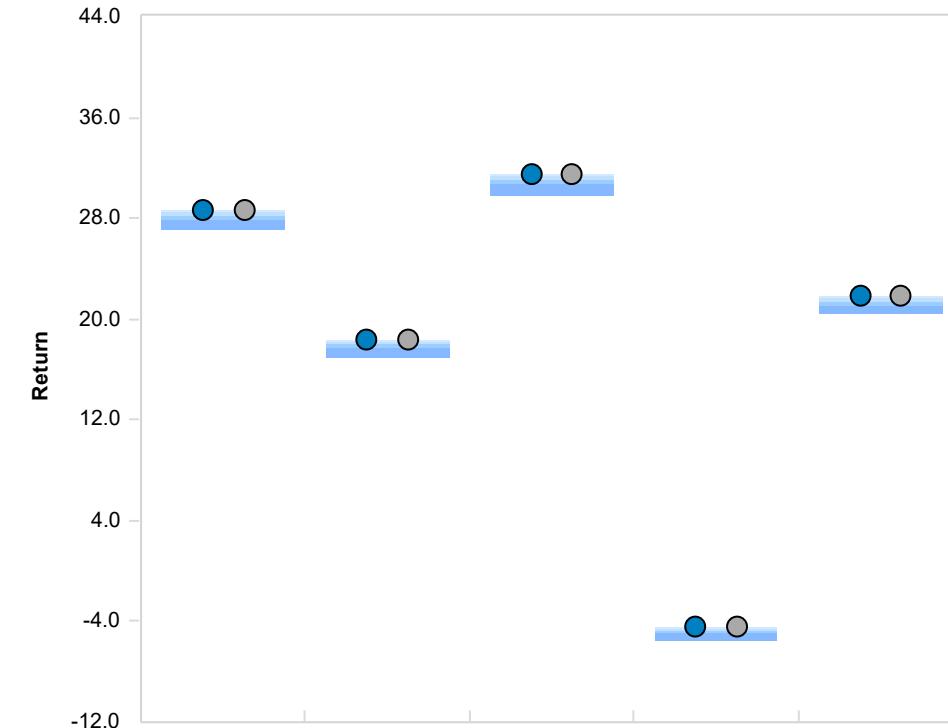
Inception date for VINIX is 12/2020. Manager returns for VINIX have been used for this report.



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	-16.11 (14)	-19.97 (13)	-10.65 (12)	10.58 (9)	11.28 (6)	12.93 (3)
Index	-16.10 (8)	-19.96 (6)	-10.62 (2)	10.60 (3)	11.31 (1)	12.96 (1)
Median	-16.17	-20.07	-10.91	10.26	10.97	12.49

	2021	2020	2019	2018	2017
Investment	28.67 (7)	18.39 (12)	31.46 (5)	-4.42 (15)	21.79 (7)
Index	28.71 (1)	18.40 (9)	31.49 (3)	-4.38 (7)	21.83 (1)
Median	28.25	18.05	31.06	-4.66	21.37

Financial Reconciliation Since Inception Ending June 30, 2022

No data found.

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-4.60 (9)	11.02 (13)	0.57 (10)	8.54 (12)	6.18 (9)	12.15 (10)
Index	-4.60 (6)	11.03 (3)	0.58 (1)	8.55 (3)	6.17 (10)	12.15 (9)
Median	-4.68	10.94	0.51	8.46	6.08	12.05

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 :	\$261,632 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 :	\$108,263 Million	Style Benchmark :	S&P 500 Index
Portfolio Turnover :	3%		

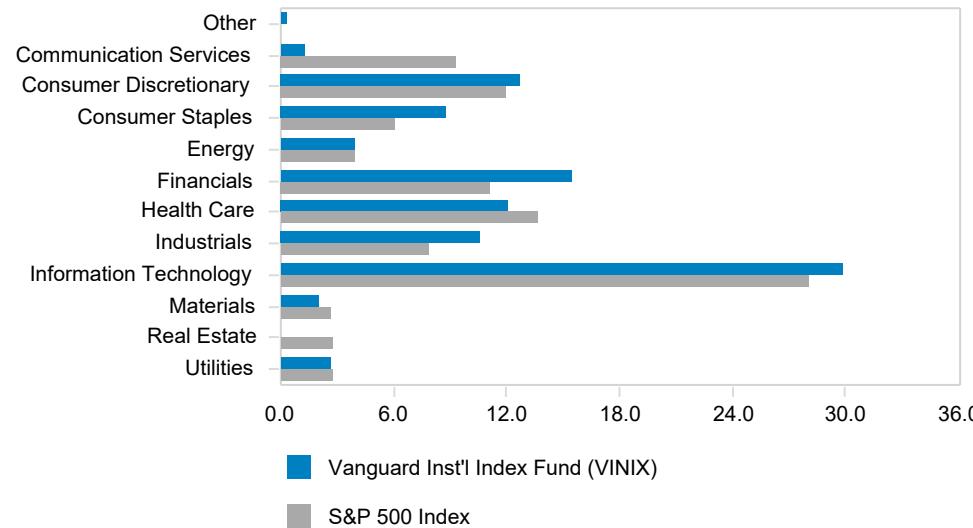
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	506	505
Avg. Market Cap (\$)	602,753,824,315	31,784,514,200
Price/Earnings (P/E)	30.16	22.25
Price/Book (P/B)	9.93	4.51
Dividend Yield	1.71	1.39
Annual EPS	52.69	14.89
5 Yr EPS	19.77	21.17
3 Yr EPS Growth	19.77	N/A
Beta	N/A	1.00

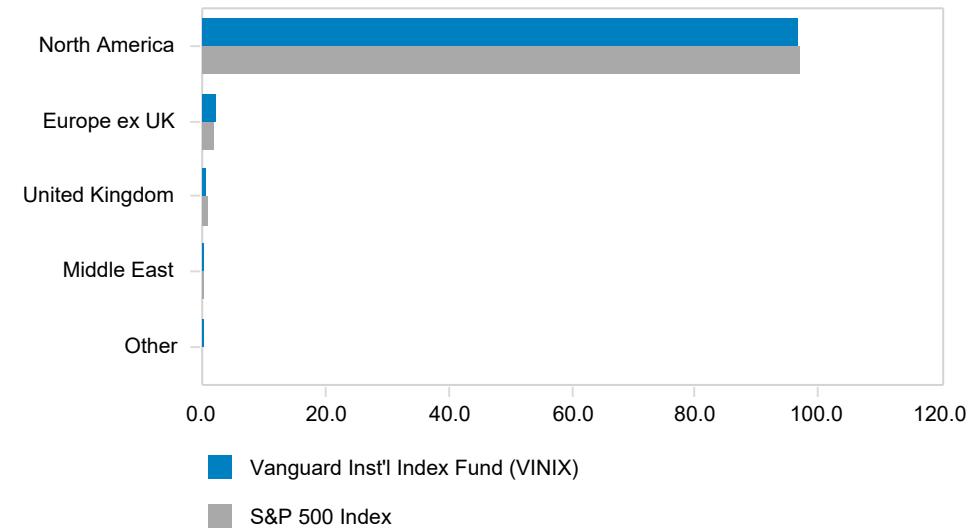
Top Ten Securities As of 03/31/2022

Apple Inc ORD	7.1 %
Microsoft Corp ORD	6.0 %
Amazon.com Inc ORD	3.7 %
Tesla Inc ORD	2.4 %
Alphabet Inc Class A ORD	2.2 %
Alphabet Inc Class C ORD	2.0 %
NVIDIA Corp ORD	1.8 %
Berkshire Hathaway Inc ORD	1.7 %
Meta Platforms Inc ORD	1.3 %
UnitedHealth Group Inc ORD	1.3 %

Sector Weights As of 03/31/2022



Region Weights As of 03/31/2022



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Growth Index (VIGIX) | Vanguard Growth Index Hybrid
As of June 30, 2022

Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.66	21.28	0.60	99.91	9	100.00	3
Index	11.69	21.29	0.60	100.00	9	100.00	3

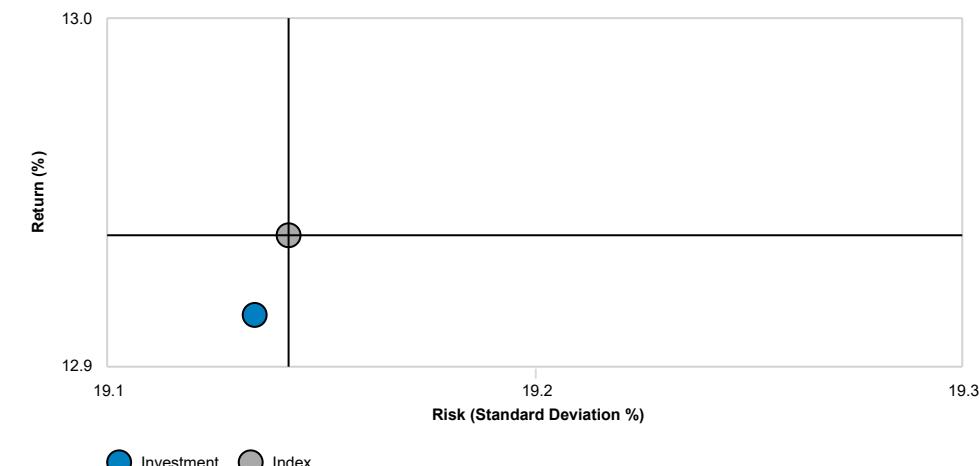
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	12.92	19.13	0.68	99.94	16	100.00	4
Index	12.94	19.14	0.68	100.00	16	100.00	4

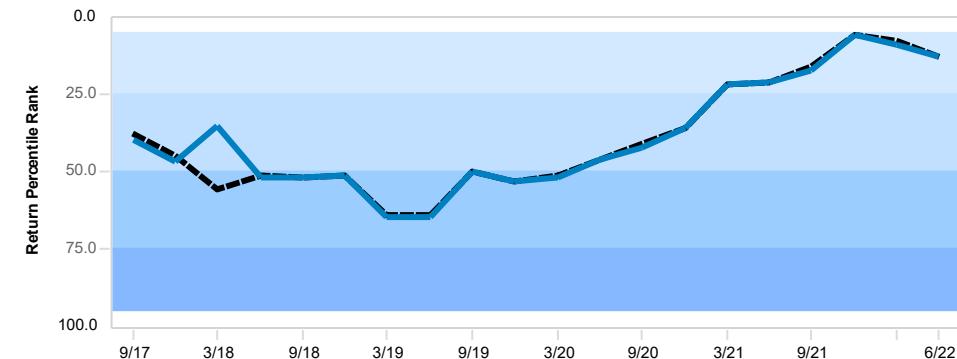
Risk and Return 3 Years



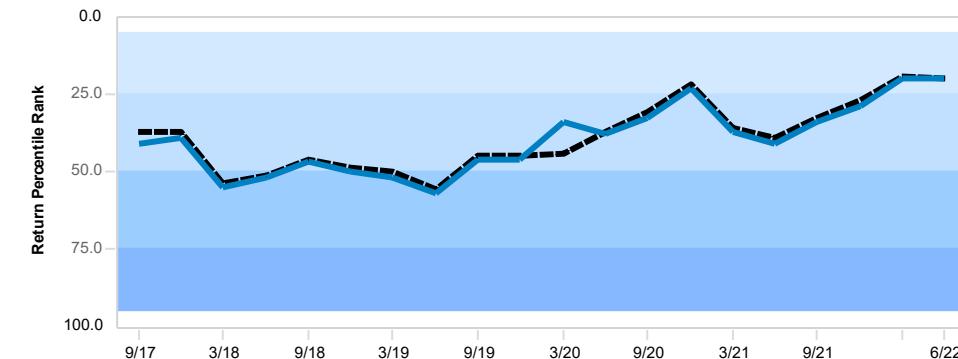
Risk and Return 5 Years



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



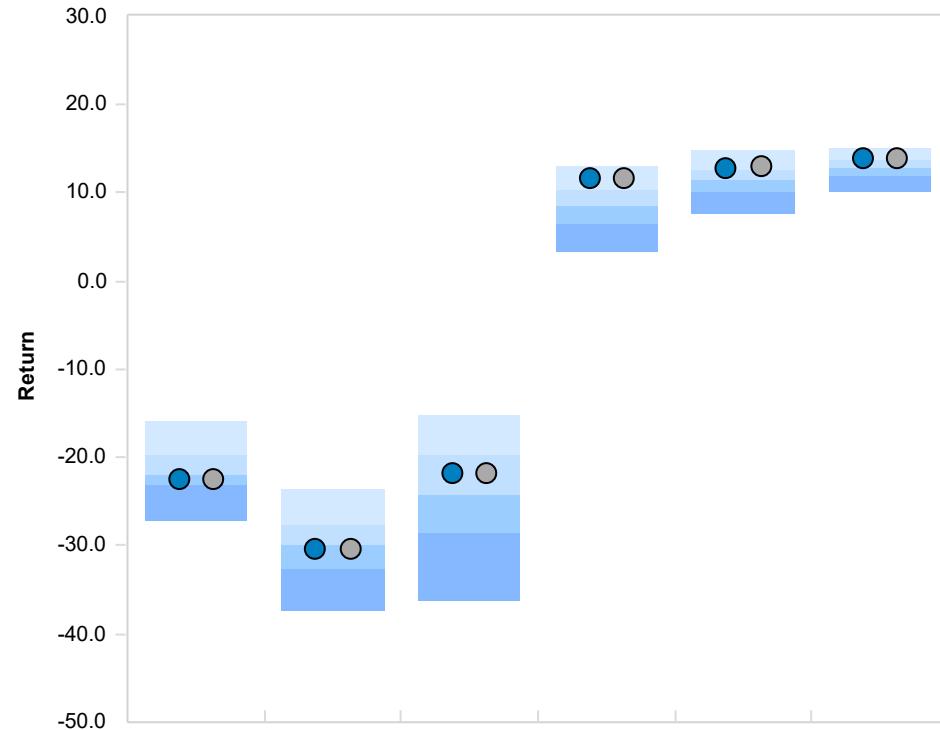
5 Year Rolling Percentile Rank IM U.S. Large Cap Growth Equity (MF)



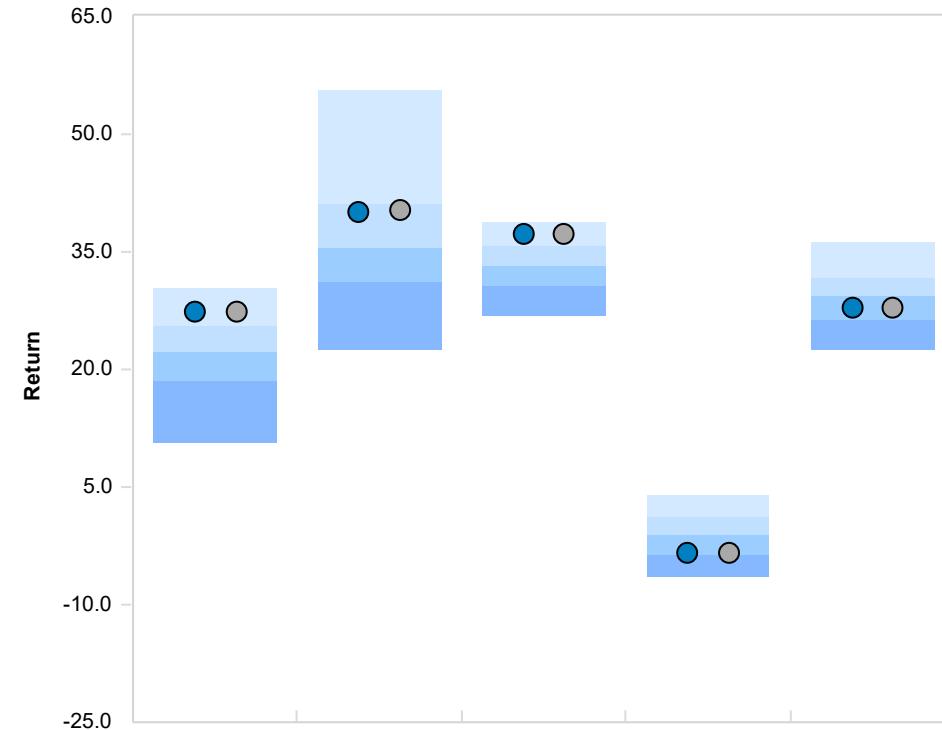
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	6 (30%)	7 (35%)	7 (35%)	0 (0%)
Index	20	6 (30%)	6 (30%)	8 (40%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	3 (15%)	13 (65%)	4 (20%)	0 (0%)
Index	20	3 (15%)	14 (70%)	3 (15%)	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	-22.41 (63)	-30.40 (57)	-21.86 (36)	11.66 (13)	12.92 (20)	13.88 (20)
Index	-22.42 (63)	-30.39 (57)	-21.85 (36)	11.69 (13)	12.94 (20)	13.93 (18)
Median	-21.94	-29.88	-24.16	8.57	11.53	12.93

	2021	2020	2019	2018	2017
Investment	27.27 (20)	40.20 (28)	37.25 (12)	-3.32 (72)	27.82 (64)
Index	27.30 (19)	40.27 (28)	37.31 (11)	-3.34 (73)	27.86 (64)
Median	22.39	35.62	33.26	-1.22	29.28

Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 05/01/2010	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	16,642,537	-27,644,975	21,156,586	10,154,148

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-10.29	10.73	1.38	11.70	1.49	11.45
Index	-10.28	10.74	1.39	11.71	1.50	11.46



Fund Information

Fund Name :	Vanguard Index Funds: Vanguard Growth Index Fund; Institutional Class Shares	Portfolio Assets :	\$150,439 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 :	\$21,451 Million	Style Benchmark :	CRSP U.S. Large Cap Growth TR Index
Portfolio Turnover :	8%		

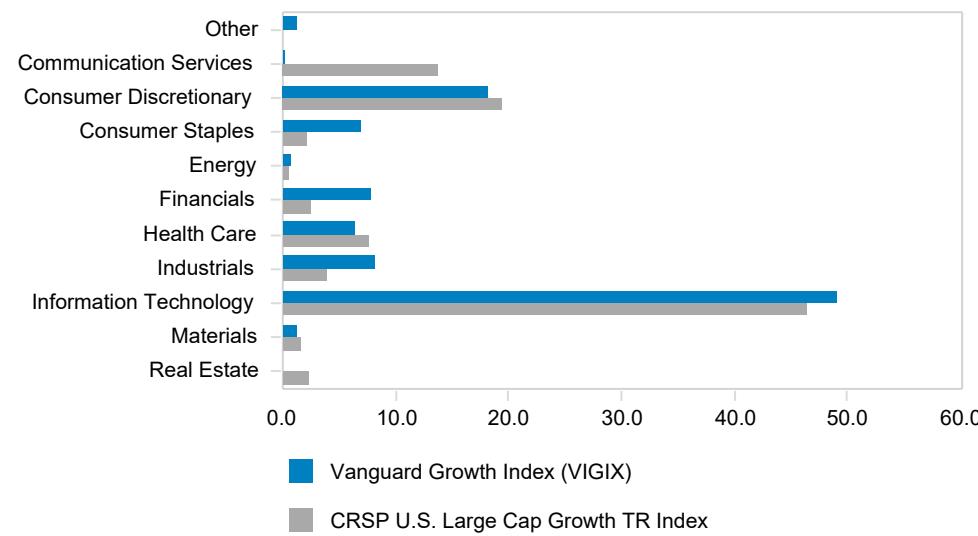
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	268	266
Avg. Market Cap (\$)	943,035,216,981	30,509,885,860
Price/Earnings (P/E)	37.56	32.98
Price/Book (P/B)	14.47	9.69
Dividend Yield	0.87	0.53
Annual EPS	51.57	19.15
5 Yr EPS	26.97	28.68
3 Yr EPS Growth	24.75	N/A
Beta (5 Years, Monthly)	1.00	1.00

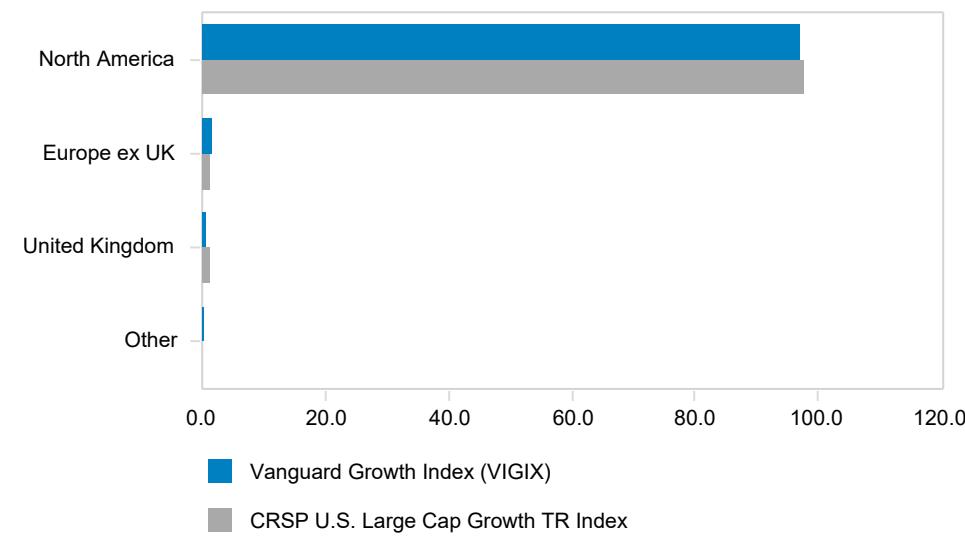
Top Ten Securities As of 03/31/2022

Apple Inc ORD	12.7 %
Microsoft Corp ORD	10.9 %
Amazon.com Inc ORD	6.6 %
Tesla Inc ORD	4.2 %
Alphabet Inc Class A ORD	3.9 %
Alphabet Inc Class C ORD	3.5 %
NVIDIA Corp ORD	3.1 %
Meta Platforms Inc ORD	2.4 %
Visa Inc ORD	1.7 %
Home Depot Inc ORD	1.5 %

Sector Weights As of 03/31/2022



Region Weights As of 03/31/2022



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Value Index (VIVIX) | Vanguard Value Index Hybrid
As of June 30, 2022

Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.68	18.08	0.52	99.95	9	99.94	3
Index	8.68	18.09	0.52	100.00	9	100.00	3

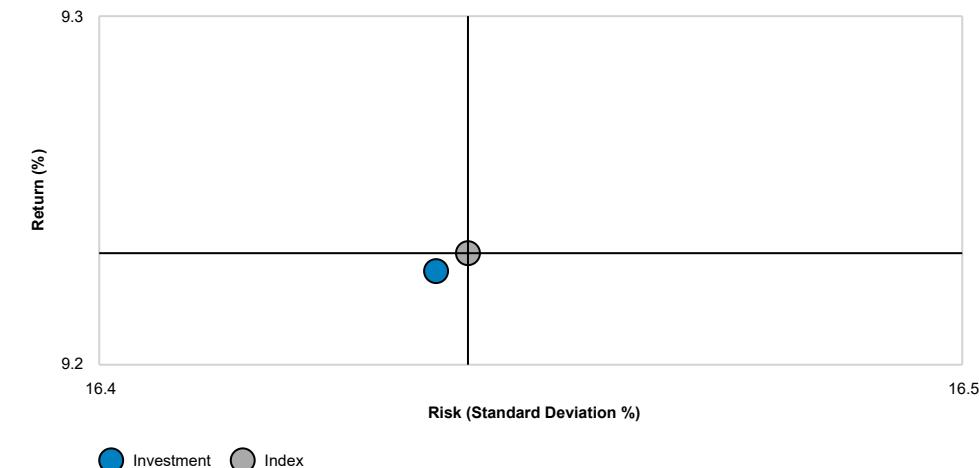
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.23	16.44	0.55	100.00	15	100.03	5
Index	9.23	16.44	0.55	100.00	15	100.00	5

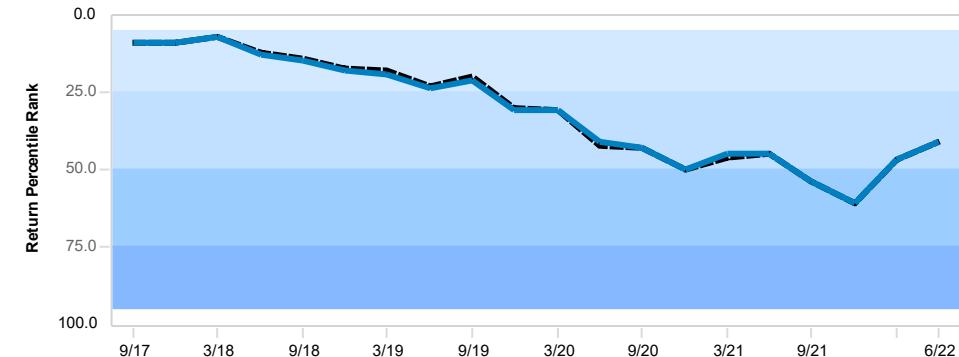
Risk and Return 3 Years



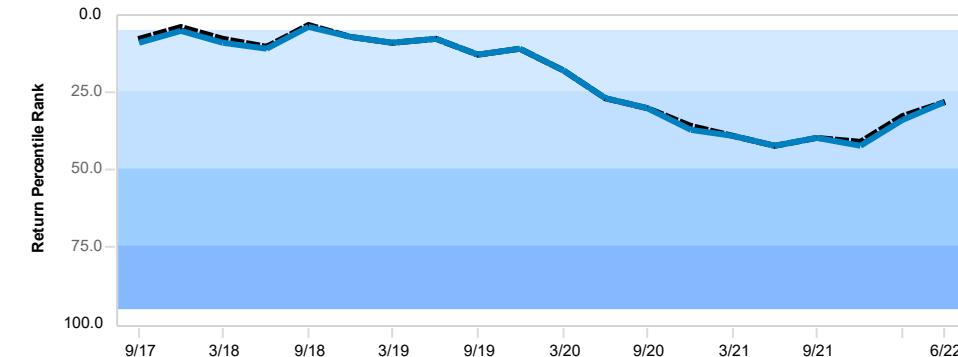
Risk and Return 5 Years



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



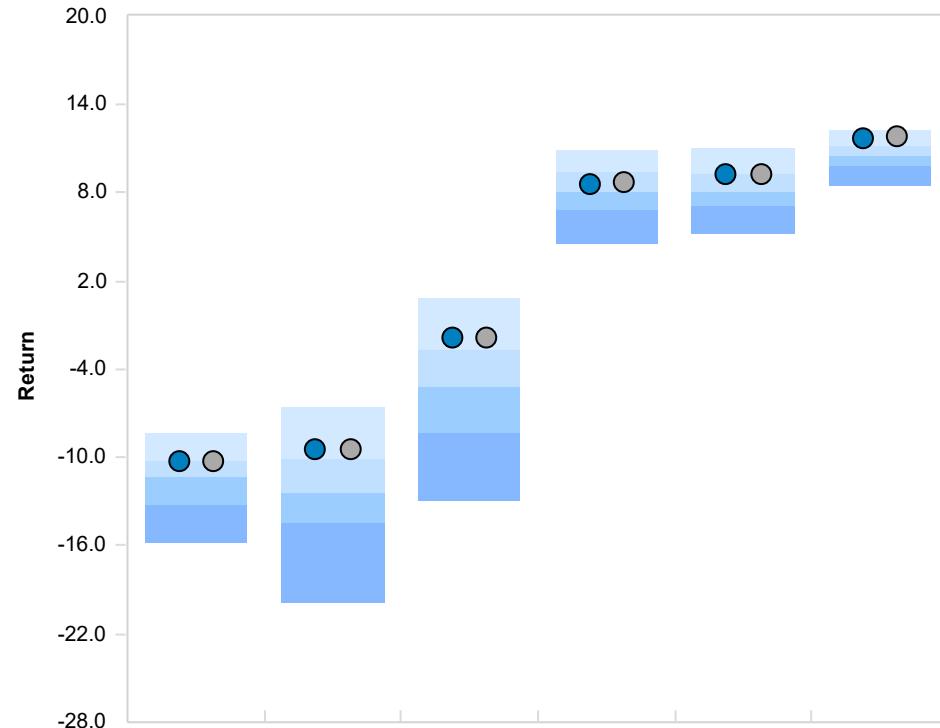
5 Year Rolling Percentile Rank IM U.S. Large Cap Value Equity (MF)



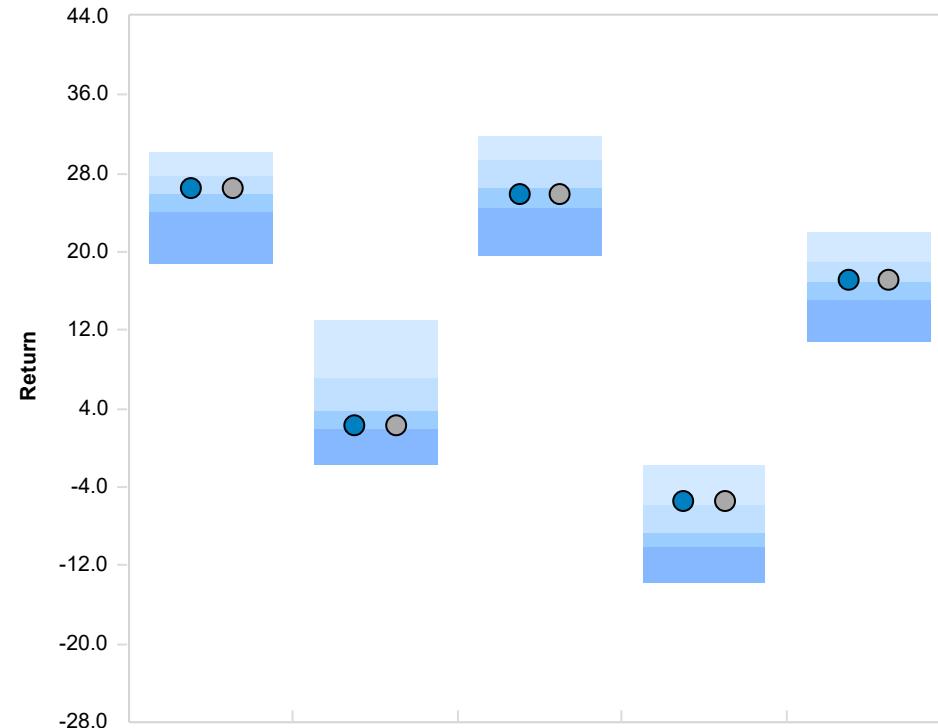
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	9 (45%)	9 (45%)	2 (10%)	0 (0%)
Index	20	9 (45%)	9 (45%)	2 (10%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	11 (55%)	9 (45%)	0 (0%)	0 (0%)
Index	20	11 (55%)	9 (45%)	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	-10.27 (26)	-9.38 (18)	-1.87 (19)	8.68 (41)	9.23 (28)	11.77 (16)
Index	-10.27 (25)	-9.37 (17)	-1.85 (19)	8.68 (41)	9.23 (28)	11.81 (15)
Median	-11.35	-12.36	-5.22	8.13	8.07	10.52

	2021	2020	2019	2018	2017
Investment	26.48 (44)	2.30 (70)	25.83 (59)	-5.42 (22)	17.14 (47)
Index	26.51 (43)	2.26 (71)	25.85 (59)	-5.40 (22)	17.16 (46)
Median	25.96	3.82	26.50	-8.61	16.95

Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 07/01/2009	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	1,021,656	-963,564	13,070,177	13,028,269

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	0.99	9.31	-0.94	5.24	10.99	14.52
Index	1.00	9.33	-0.94	5.25	10.99	14.53



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 : \$15,315 Million
 Portfolio Turnover : 9%

Portfolio Assets : \$146,760 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

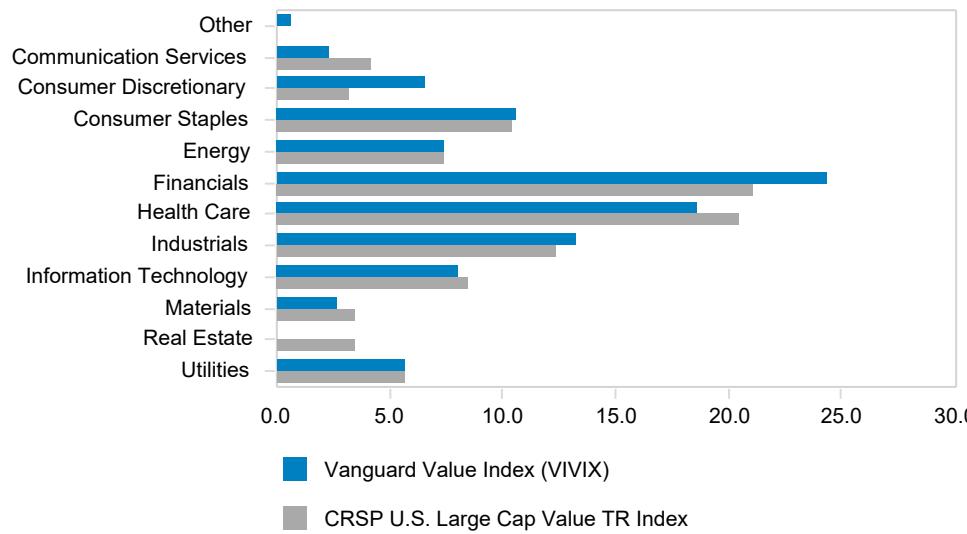
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	351	350
Avg. Market Cap (\$)	165,790,875,519	30,244,361,915
Price/Earnings (P/E)	22.49	16.51
Price/Book (P/B)	5.16	2.86
Dividend Yield	2.31	2.31
Annual EPS	51.00	596.00
5 Yr EPS	12.40	13.41
3 Yr EPS Growth	15.05	N/A
Beta (5 Years, Monthly)	1.00	1.00

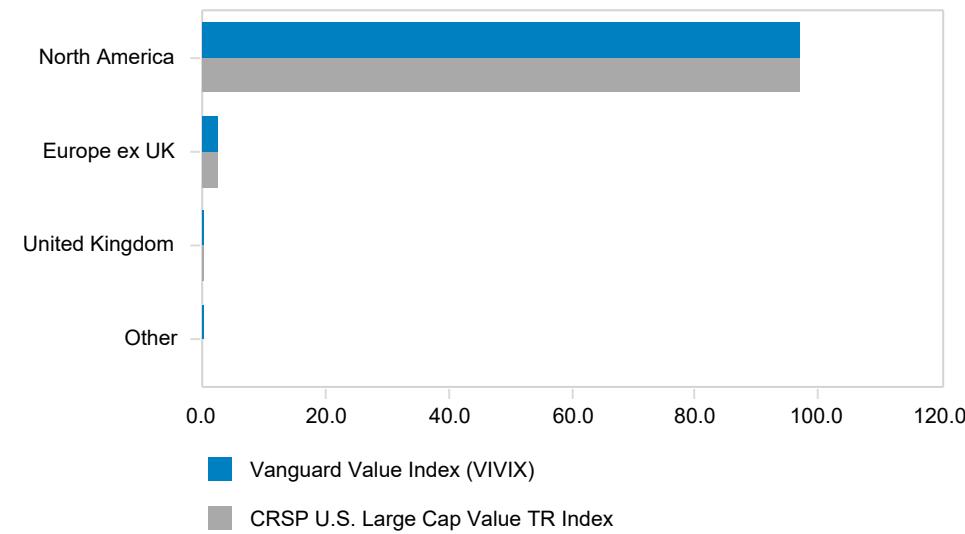
Top Ten Securities As of 03/31/2022

Berkshire Hathaway Inc ORD	3.4 %
UnitedHealth Group Inc ORD	2.6 %
Johnson & Johnson ORD	2.6 %
JPMorgan Chase & Co ORD	2.2 %
Procter & Gamble Co ORD	2.0 %
Exxon Mobil Corp ORD	1.9 %
Chevron Corp ORD	1.7 %
Pfizer Inc ORD	1.6 %
AbbVie Inc ORD	1.6 %
Bank of America Corp ORD	1.6 %

Sector Weights As of 03/31/2022

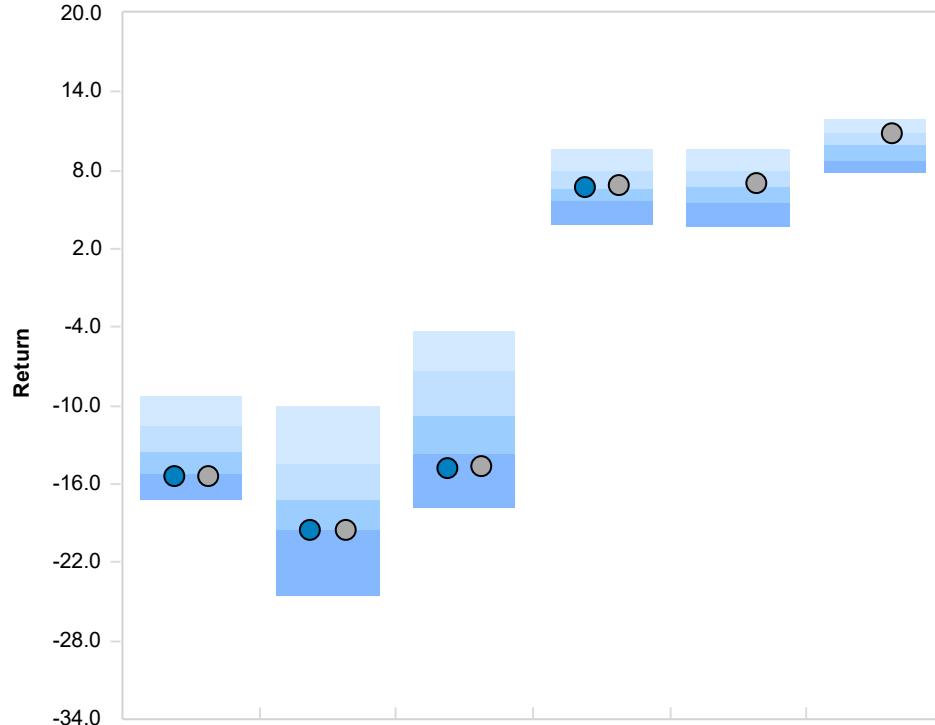


Region Weights As of 03/31/2022

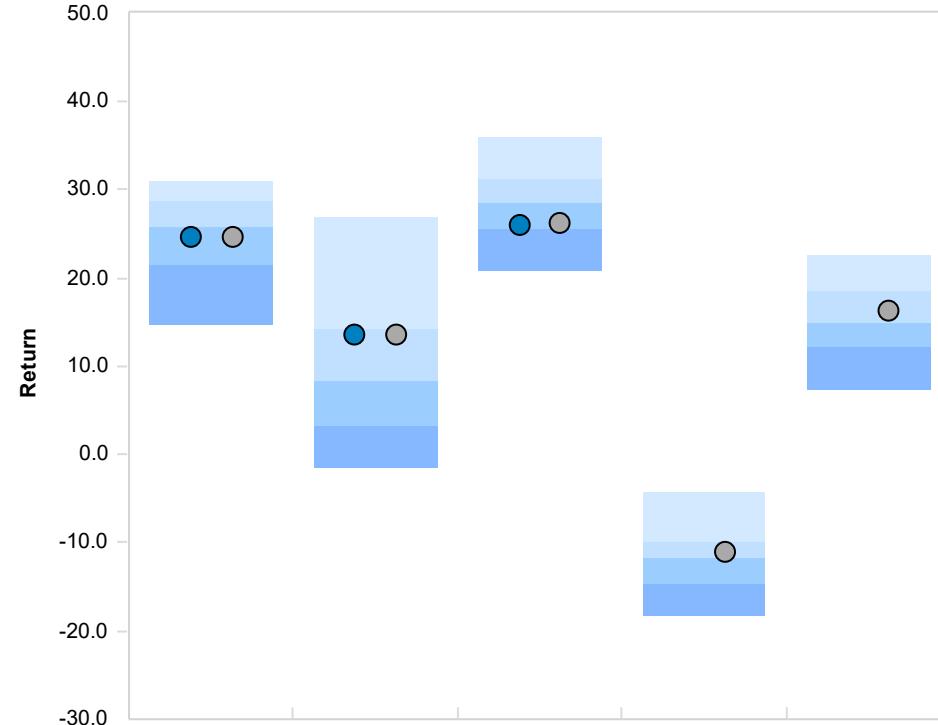


Statistics provided by Lipper. Most recent available data shown.

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	-15.43 (77)	-19.57 (77)	-14.71 (80)	6.80 (47)	N/A	N/A
Index	-15.42 (77)	-19.54 (76)	-14.64 (80)	6.87 (44)	7.02 (44)	10.90 (24)
Median	-13.63	-17.27	-10.76	6.62	6.73	9.95

	2021	2020	2019	2018	2017
Investment	24.67 (59)	13.58 (26)	26.13 (72)	N/A	N/A
Index	24.76 (59)	13.66 (26)	26.20 (72)	-11.08 (40)	16.24 (38)
Median	25.73	8.44	28.59	-11.64	14.94

Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 12/01/2018	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	21,384,601	-4,500,000	6,428,426	23,313,027

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-4.89 (59)	7.97 (59)	-1.78 (76)	3.62 (85)	13.45 (24)	24.36 (6)
Index	-4.88 (58)	8.00 (58)	-1.76 (76)	3.64 (84)	13.47 (23)	24.37 (6)
Median	-4.08	8.20	-0.87	5.14	10.47	19.44



Mutual Fund Holdings Analysis
Vanguard Mid-Cap 400 Index Fund I (VSPMX)
June 30, 2022

Fund Information

Fund Name :	Vanguard Admiral Funds: Vanguard S&P Mid-Cap 400 Index Fund; Institutional Shares	Portfolio Assets :	\$2,779 Million
Fund Family :	Vanguard	Portfolio Manager :	Coleman/Khan
Ticker :	VSPMX	PM Tenure :	2015-2017
Inception Date :	12/15/2010	Fund Style :	IM S&P Midcap 400 Index Funds (MF)
Fund Assets :	\$1,352 Million	Style Benchmark :	S&P MidCap 400 Index
Portfolio Turnover :	16%		

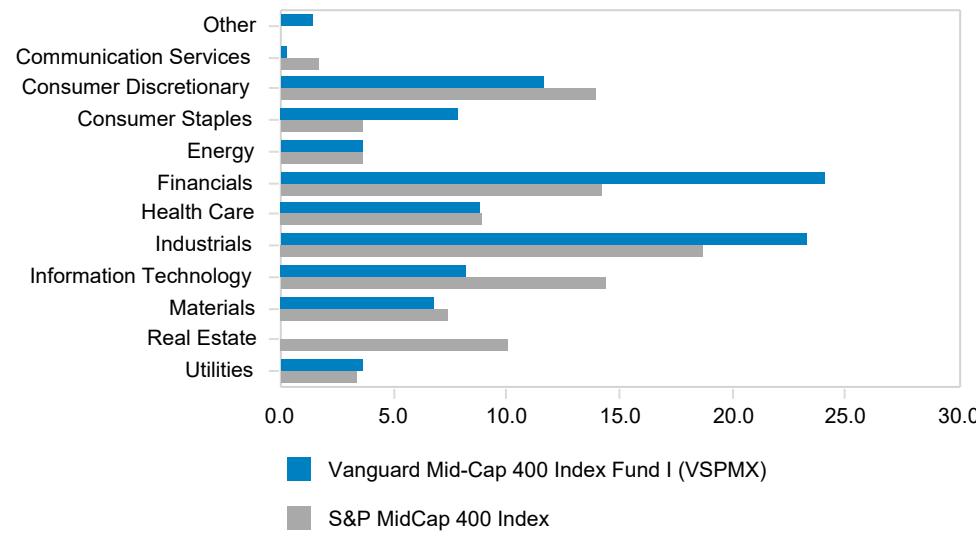
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	402	400
Avg. Market Cap (\$)	7,481,891,703	5,511,180,150
Price/Earnings (P/E)	25.47	15.76
Price/Book (P/B)	4.47	2.71
Dividend Yield	1.96	1.46
Annual EPS	52.54	4.91
5 Yr EPS	17.08	17.73
3 Yr EPS Growth	18.95	N/A
Beta (3 Years, Monthly)	1.00	1.00

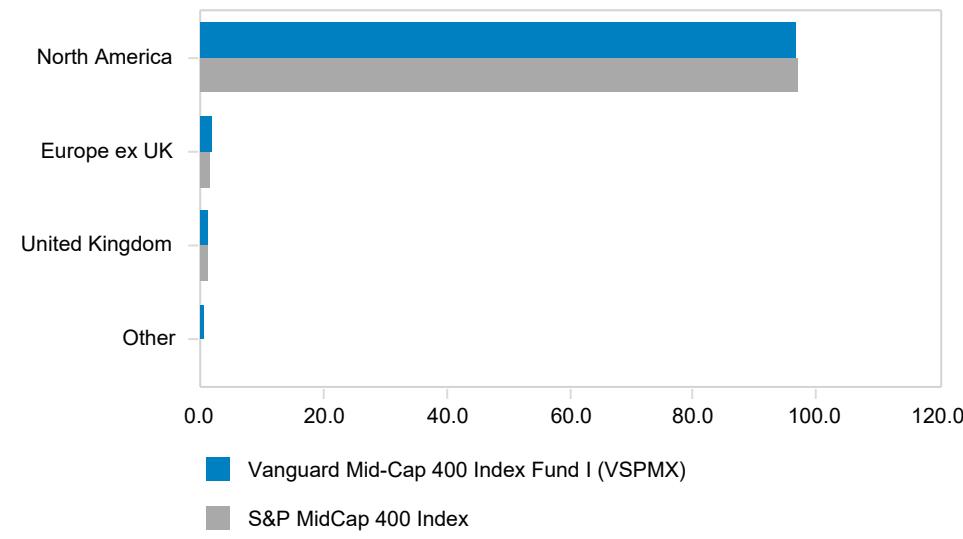
Top Ten Securities As of 03/31/2022

Targa Resources Corp ORD	0.7 %
Camden Property Trust ORD	0.7 %
Alcoa Corp ORD	0.7 %
Steel Dynamics Inc ORD	0.7 %
Cleveland-Cliffs Inc ORD	0.7 %
Vanguard Market Liquidity Fund	0.7 %
Wolfspeed Inc ORD	0.6 %
Cognex Corp ORD	0.6 %
Darling Ingredients Inc ORD	0.6 %
Carlisle Companies Inc ORD	0.6 %

Sector Weights As of 03/31/2022



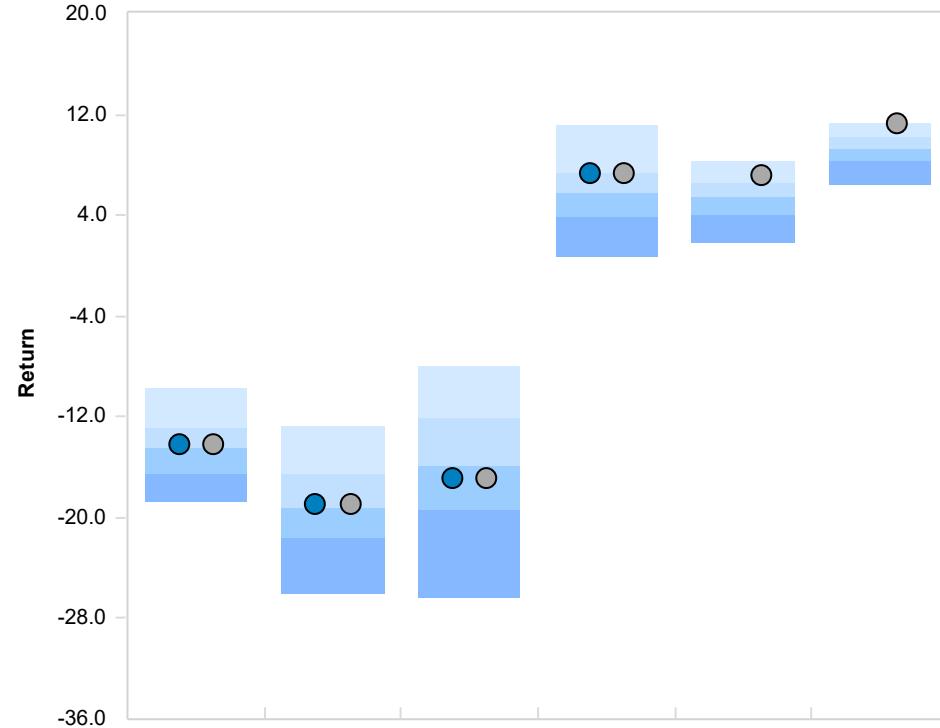
Region Weights As of 03/31/2022



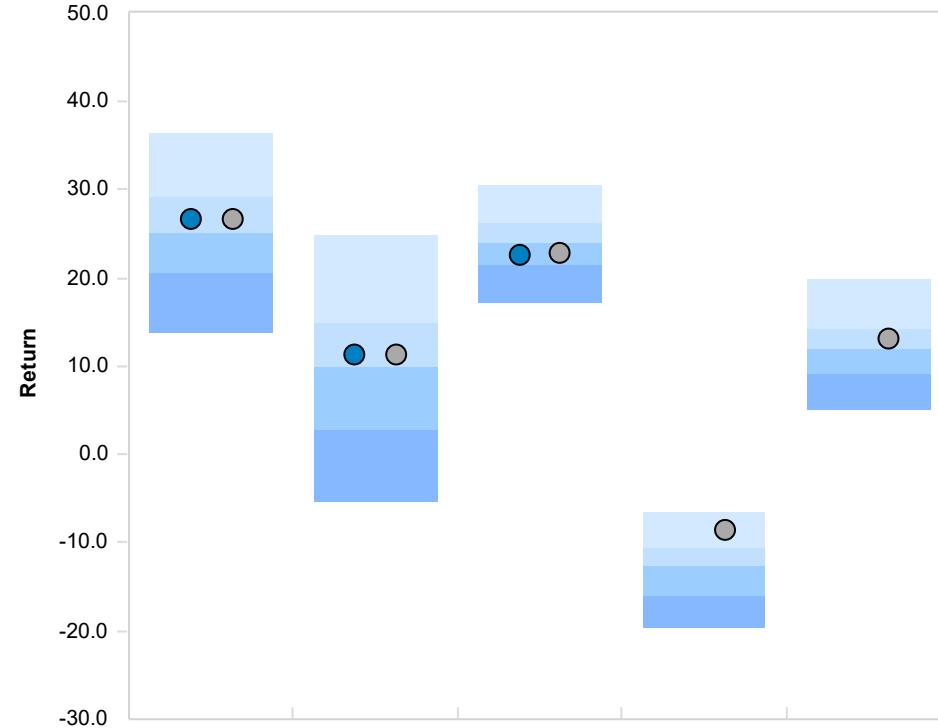
Statistics provided by Lipper. Most recent available data shown.



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	-14.14 (42)	-18.99 (46)	-16.90 (56)	7.32 (26)	N/A	N/A
Index	-14.11 (41)	-18.94 (46)	-16.81 (55)	7.30 (26)	7.20 (15)	11.26 (4)
Median	-14.56	-19.23	-15.84	5.77	5.49	9.30

	2021	2020	2019	2018	2017
Investment	26.74 (37)	11.46 (40)	22.74 (62)	N/A	N/A
Index	26.82 (36)	11.29 (41)	22.78 (61)	-8.48 (9)	13.23 (38)
Median	25.12	9.89	23.94	-12.71	12.09

Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 12/01/2018	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	10,695,104	-2,500,000	2,921,257	11,116,361

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-5.65 (51)	5.61 (57)	-2.86 (61)	4.49 (37)	18.24 (29)	31.31 (28)
Index	-5.62 (50)	5.64 (56)	-2.84 (61)	4.51 (36)	18.24 (29)	31.31 (28)
Median	-5.65	5.94	-2.38	4.05	15.68	29.11



Fund Information

Fund Name :	Vanguard Admiral Funds: Vanguard S&P Small-Cap 600 Index Fund; Institutional Shares	Portfolio Assets :	\$3,858 Million
Fund Family :	Vanguard	Portfolio Manager :	Coleman/Butler
Ticker :	VSMSX	PM Tenure :	2013–2015
Inception Date :	12/15/2010	Fund Style :	IM U.S. Small Cap Core Equity (MF)
Fund Assets :	\$2,017 Million	Style Benchmark :	S&P SmallCap 600 Index
Portfolio Turnover :	18%		

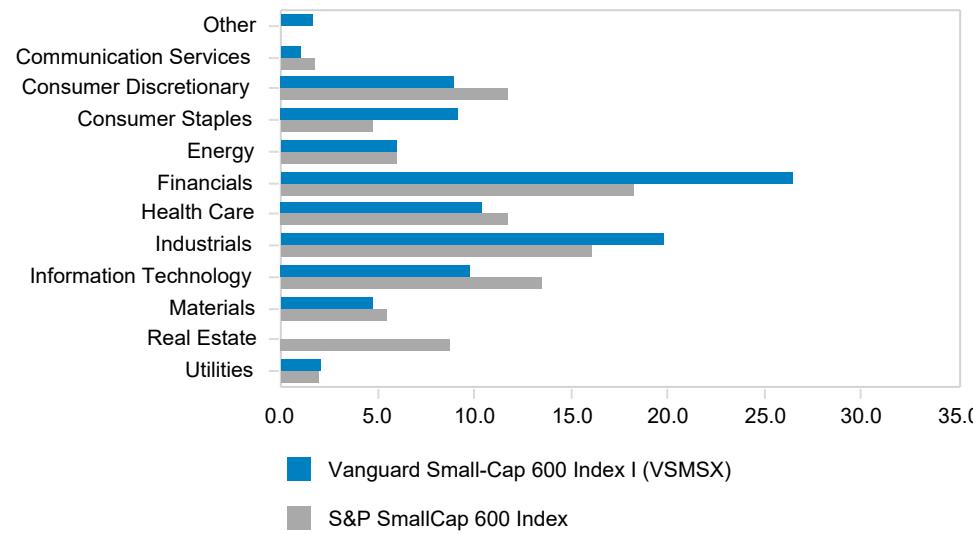
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	606	601
Avg. Market Cap (\$)	2,576,109,297	1,534,974,000
Price/Earnings (P/E)	25.13	14.39
Price/Book (P/B)	3.29	2.26
Dividend Yield	2.24	1.36
Annual EPS	45.98	2.92
5 Yr EPS	13.73	16.69
3 Yr EPS Growth	14.00	N/A
Beta (3 Years, Monthly)	1.00	1.00

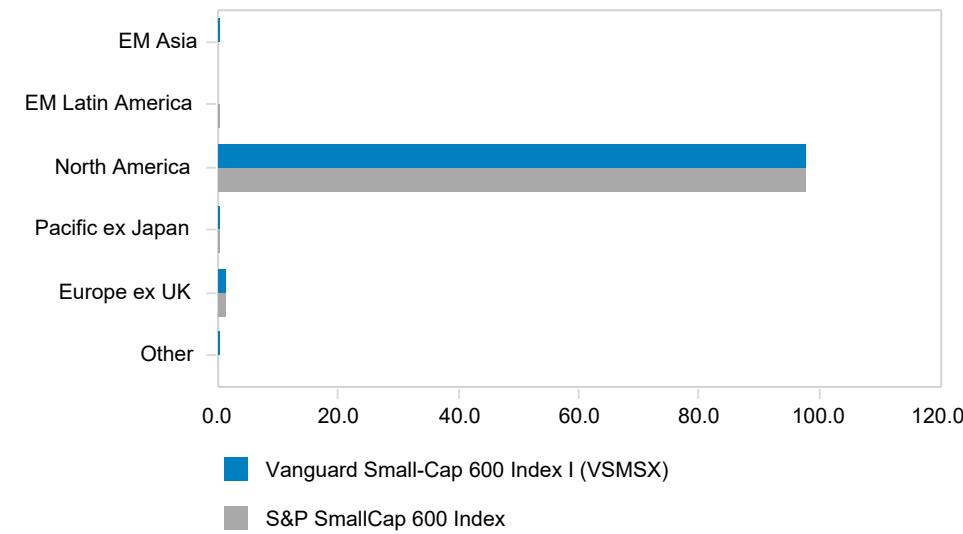
Top Ten Securities As of 03/31/2022

Southwestern Energy Co ORD	0.8 %
Matador Resources Co ORD	0.6 %
Independence Realty Trust Inc ORD	0.6 %
Omnicell Inc ORD	0.6 %
Exponent Inc ORD	0.6 %
Innovative Industrial Properties	0.5 %
Vonage Holdings Corp ORD	0.5 %
Rogers Corp ORD	0.5 %
Matson Inc ORD	0.5 %
AMN Healthcare Services Inc ORD	0.5 %

Sector Weights As of 03/31/2022



Region Weights As of 03/31/2022



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, 2022

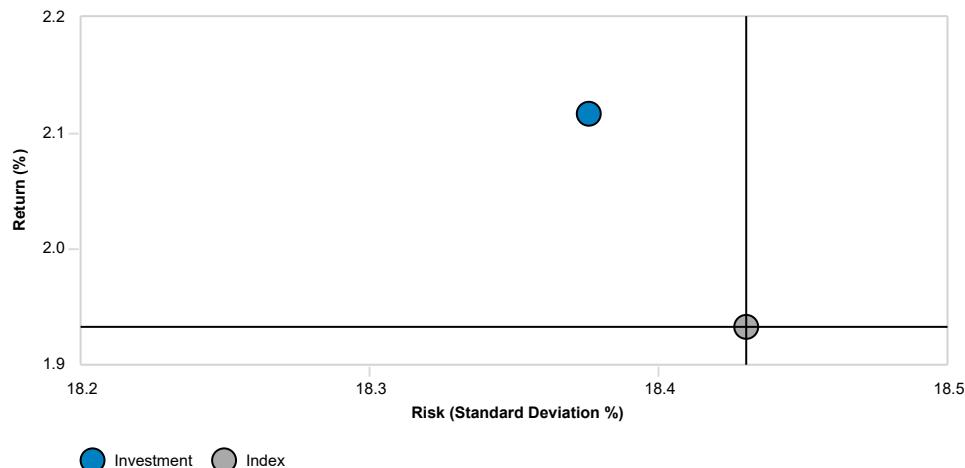
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.12	18.38	0.17	101.15	7	100.55	5
Index	1.93	18.43	0.16	100.00	7	100.00	5

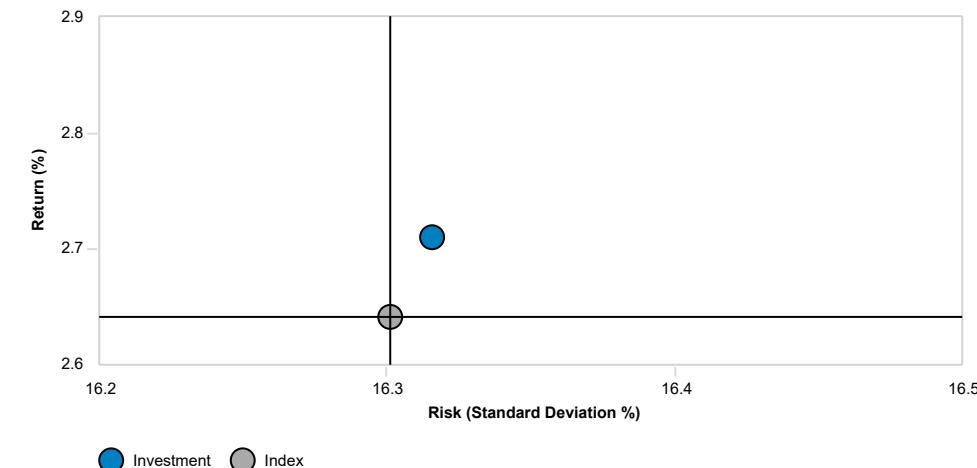
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.71	16.32	0.18	100.62	12	100.37	8
Index	2.64	16.30	0.17	100.00	12	100.00	8

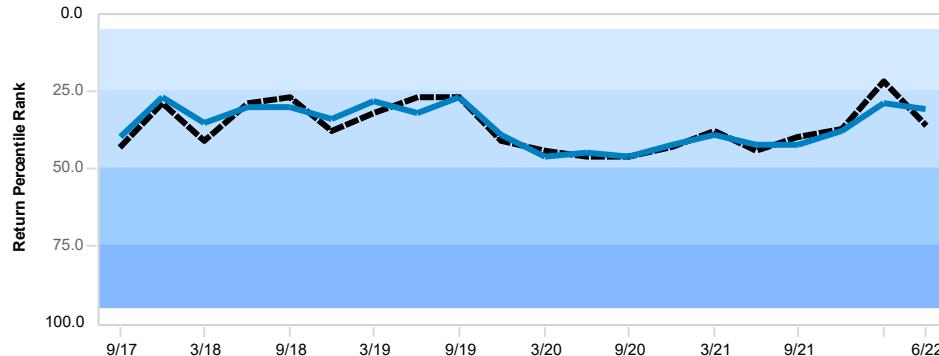
Risk and Return 3 Years



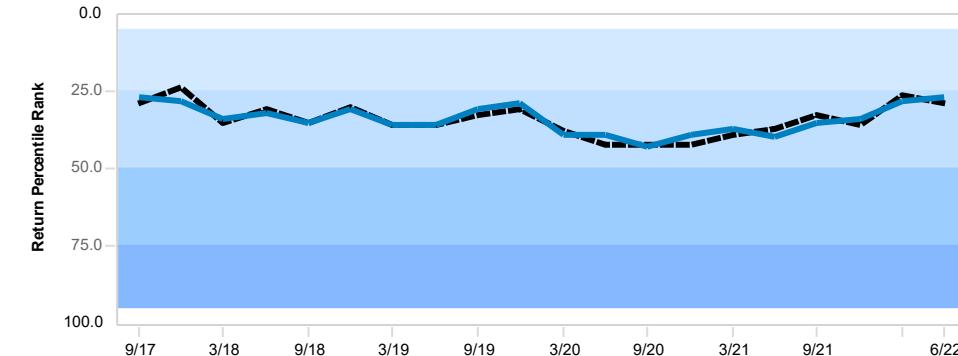
Risk and Return 5 Years



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



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

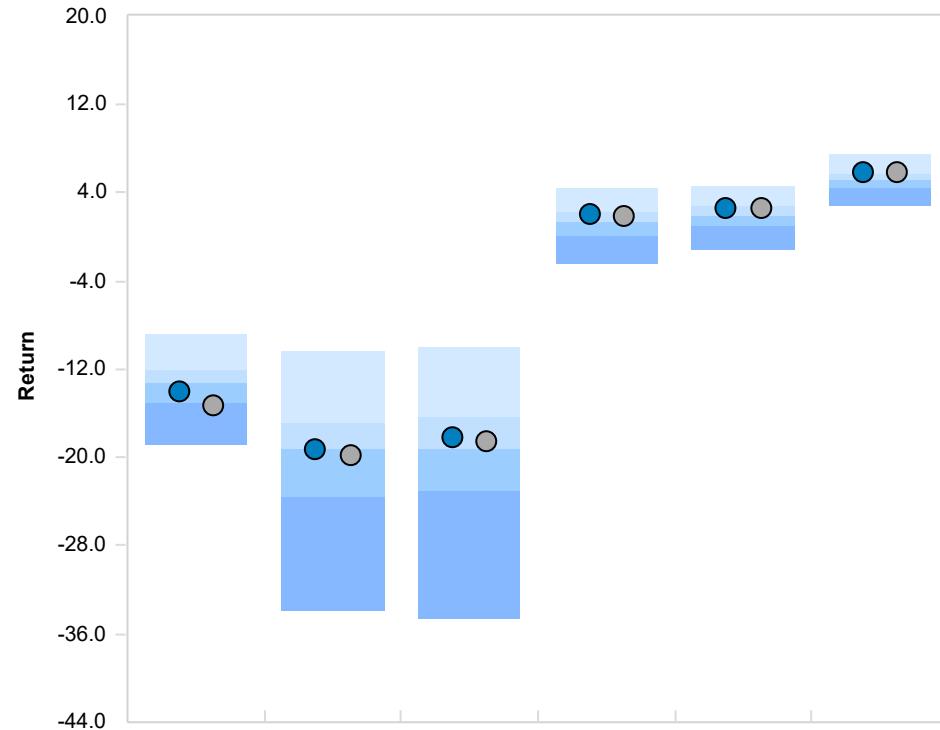


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	20 (100%)	0 (0%)	0 (0%)
Index	20	1 (5%)	19 (95%)	0 (0%)	0 (0%)

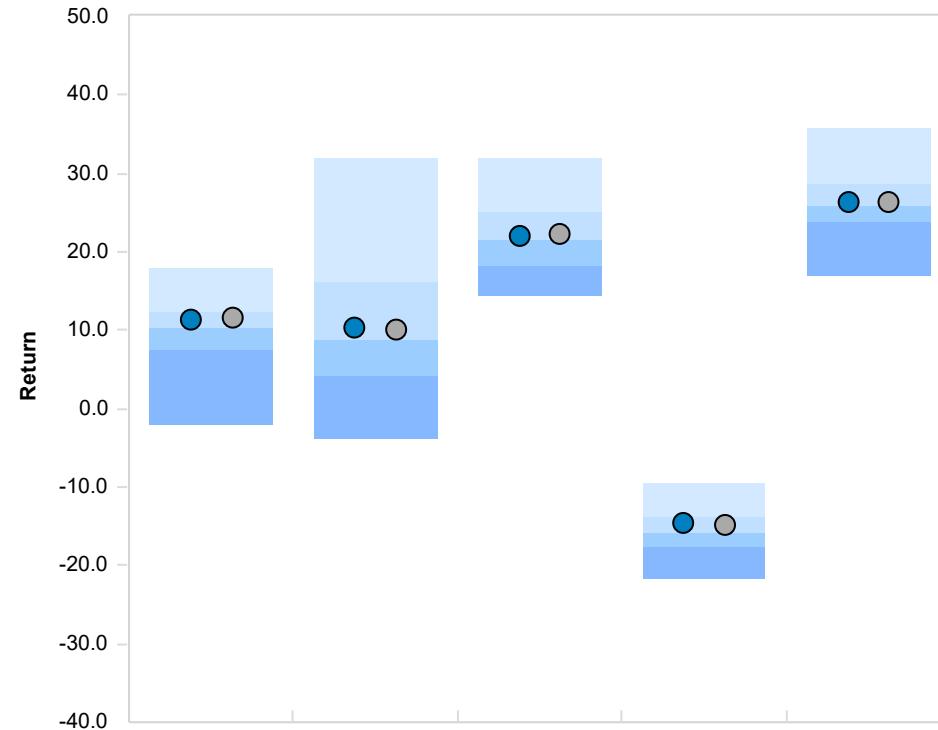
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	20 (100%)	0 (0%)	0 (0%)
Index	20	1 (5%)	19 (95%)	0 (0%)	0 (0%)

Strategy Review
Vanguard Developed Markets Index (VTMNX) | Vanguard Spliced Developed ex U.S. Index (Net)
As of June 30, 2022

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



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



Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 07/01/2009	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	253,831	45,927	8,453,639	8,753,398

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-6.04	2.99	-1.56	5.66	4.03	17.00
Index	-5.27	2.55	-1.06	5.69	4.05	17.08



Fund Information

Fund Name :	Vanguard Tax-Managed Funds: Vanguard Developed Markets Index Fund; Institutional Shares	Portfolio Assets :	\$151,256 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 :	\$13,694 Million	Style Benchmark :	FTSE Developed x North America Index (Net)
Portfolio Turnover :	3%		

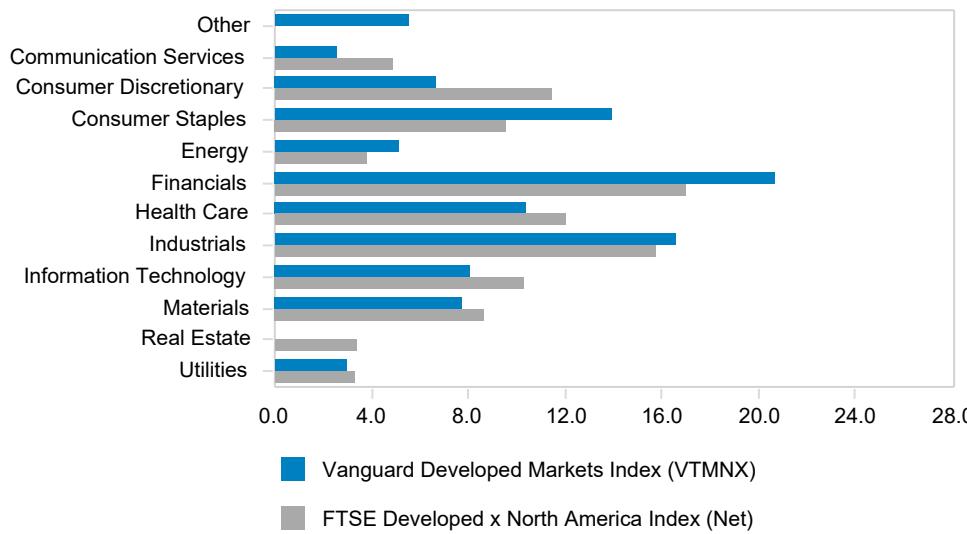
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	4,170	1,549
Avg. Market Cap (\$)	69,283,908,947	7,030,669,576
Price/Earnings (P/E)	21.99	13.64
Price/Book (P/B)	3.86	2.43
Dividend Yield	2.81	2.90
Annual EPS	41.98	716.35
5 Yr EPS	11.93	14.56
3 Yr EPS Growth	8.27	N/A
Beta (5 Years, Monthly)	1.01	1.00

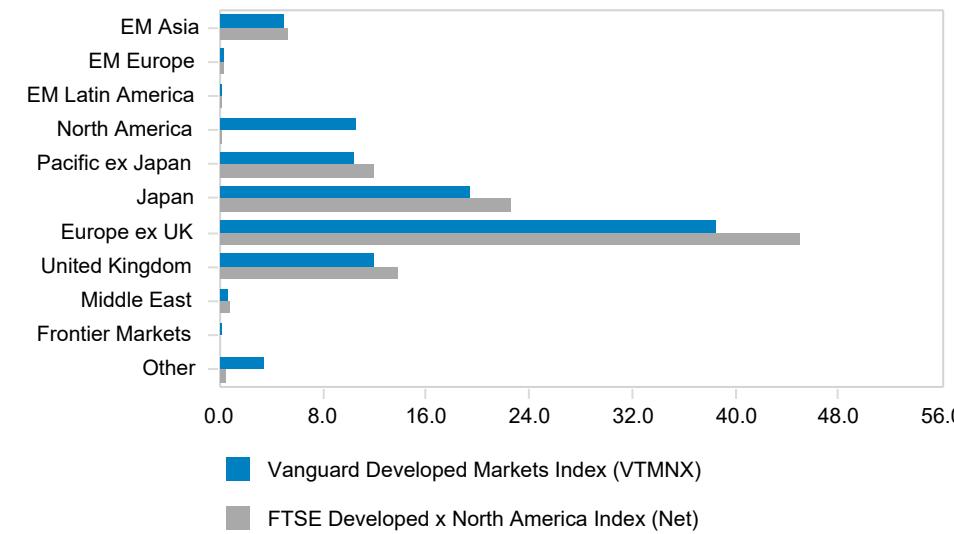
Top Ten Securities As of 03/31/2022

Vanguard Market Liquidity Fund	2.6 %
Nestle SA ORD	1.6 %
Roche Holding AG	1.2 %
Samsung Electronics Co Ltd ORD	1.2 %
ASML Holding NV ORD	1.1 %
Toyota Motor Corp ORD	1.0 %
Shell PLC ORD	0.9 %
AstraZeneca PLC ORD	0.9 %
BHP Group Ltd ORD	0.9 %
Novartis AG ORD	0.8 %

Sector Weights As of 03/31/2022



Region Weights As of 03/31/2022



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, 2022

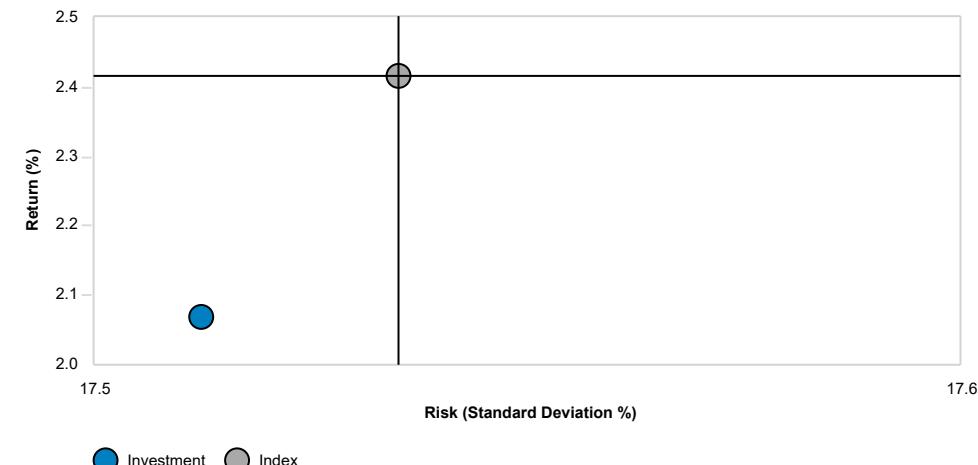
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.07	17.51	0.17	98.70	6	100.04	6
Index	2.42	17.54	0.19	100.00	6	100.00	6

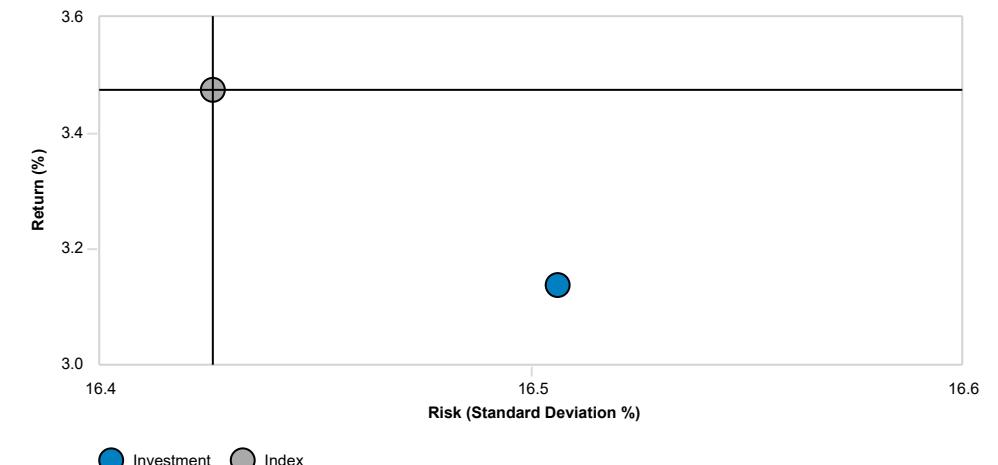
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.14	16.51	0.20	99.36	11	100.75	9
Index	3.48	16.43	0.22	100.00	11	100.00	9

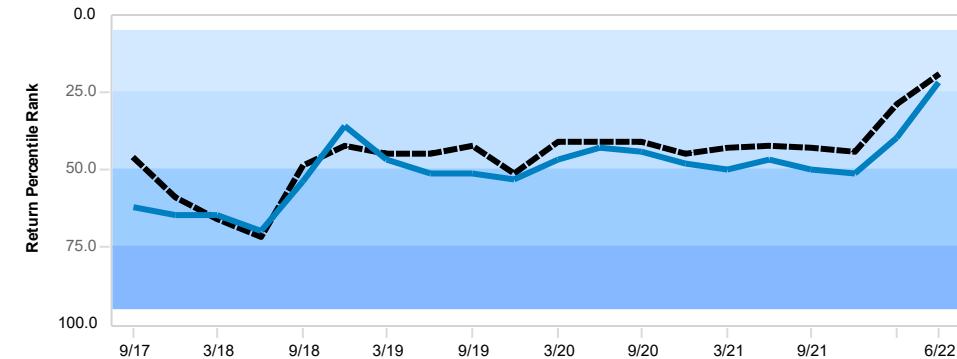
Risk and Return 3 Years



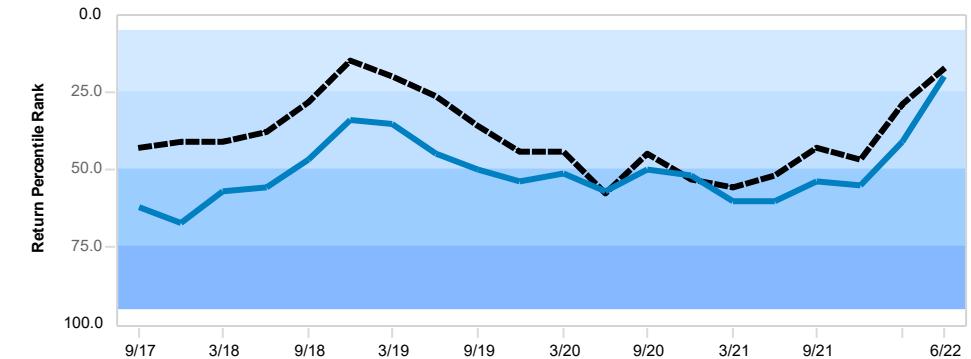
Risk and Return 5 Years



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



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

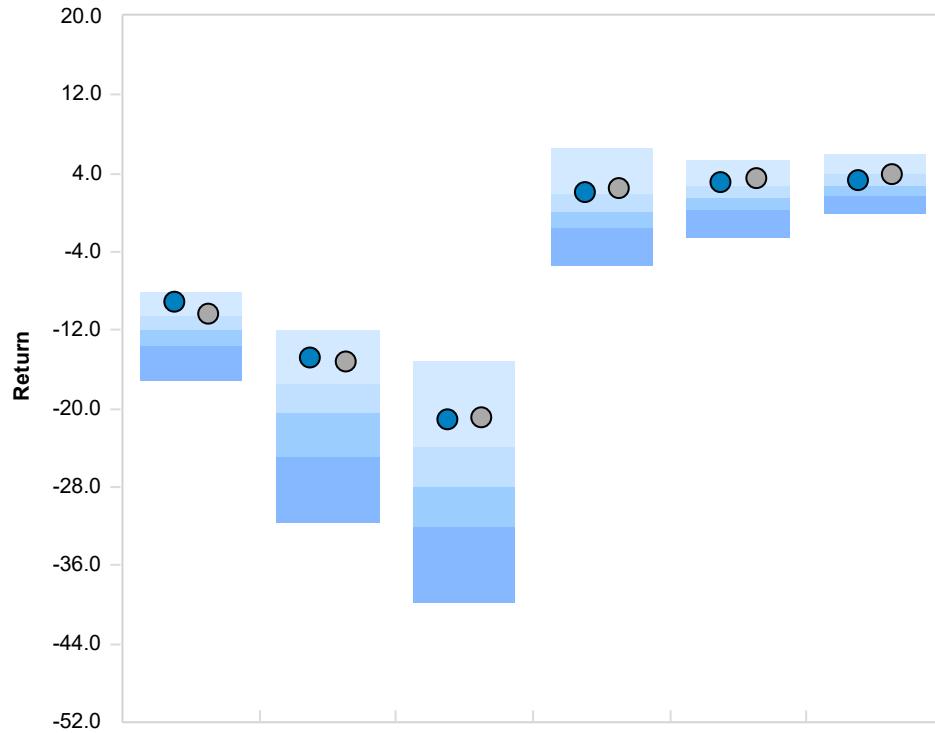


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	1 (5%)	10 (50%)	9 (45%)	0 (0%)
Index	20	1 (5%)	15 (75%)	4 (20%)	0 (0%)

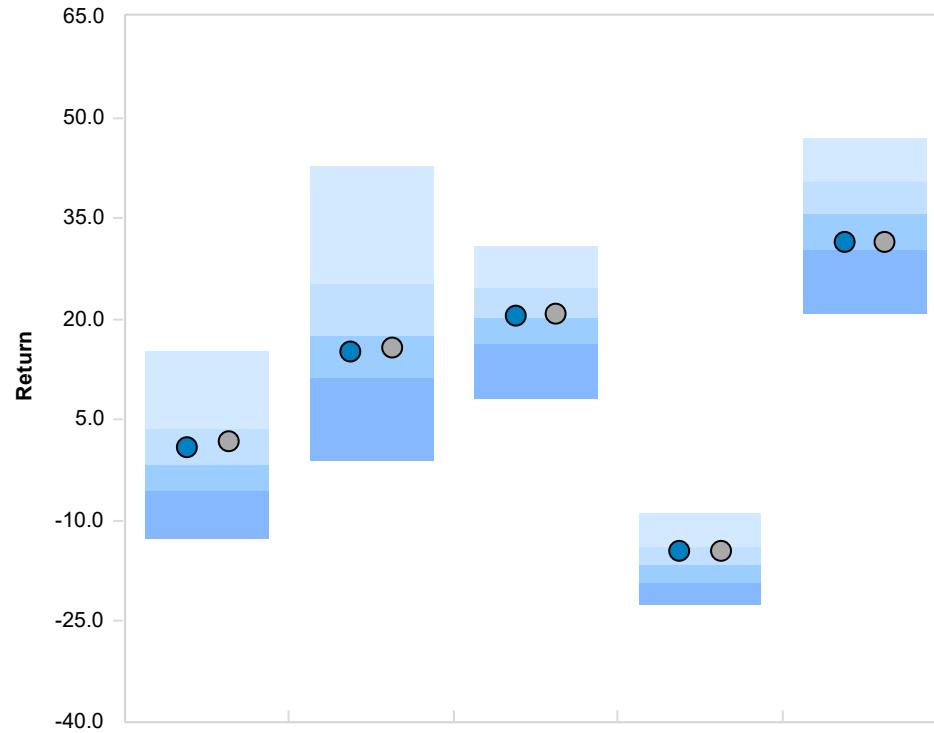
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	1 (5%)	7 (35%)	12 (60%)	0 (0%)
Index	20	3 (15%)	13 (65%)	4 (20%)	0 (0%)

Strategy Review
Vanguard Emerging Markets Index (VEMIX) | FTSE Emerging Mkts All Cap China A Inclusion Index
As of June 30, 2022

Peer Group Analysis - IM Emerging Markets Equity (MF)



Peer Group Analysis - IM Emerging Markets Equity (MF)



Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 10/01/2010	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	5,147,163	3,164,289	2,771,705	11,083,158

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-6.24	-0.40	-6.97	5.16	3.57	16.87
Index	-5.42	-0.45	-6.31	5.78	3.14	17.53



Fund Information

Fund Name :	Vanguard International Equity Index Funds: Vanguard Emerging Markets Stock Index Fund; Instl Class Shares	Portfolio Assets :	\$101,700 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 :	\$6,776 Million	Style Benchmark :	FTSE Emerging Mkts All Cap China A Inclusion Index
Portfolio Turnover :	9%		

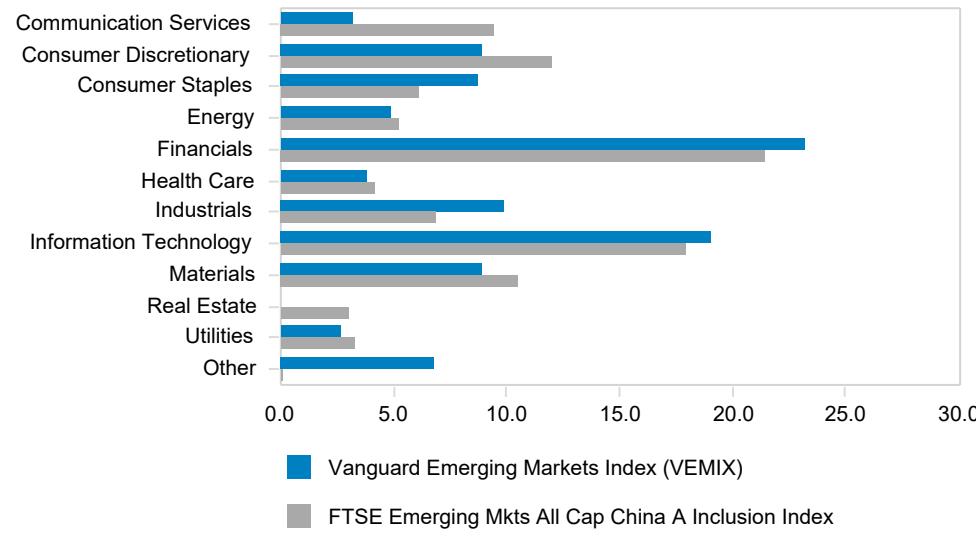
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	4,556	4,322
Avg. Market Cap (\$)	99,783,516,276	1,918,398,382
Price/Earnings (P/E)	22.77	12.64
Price/Book (P/B)	4.19	2.77
Dividend Yield	3.06	2.69
Annual EPS	30.87	32.75
5 Yr EPS	16.31	17.90
3 Yr EPS Growth	18.86	N/A
Beta (5 Years, Monthly)	1.00	1.00

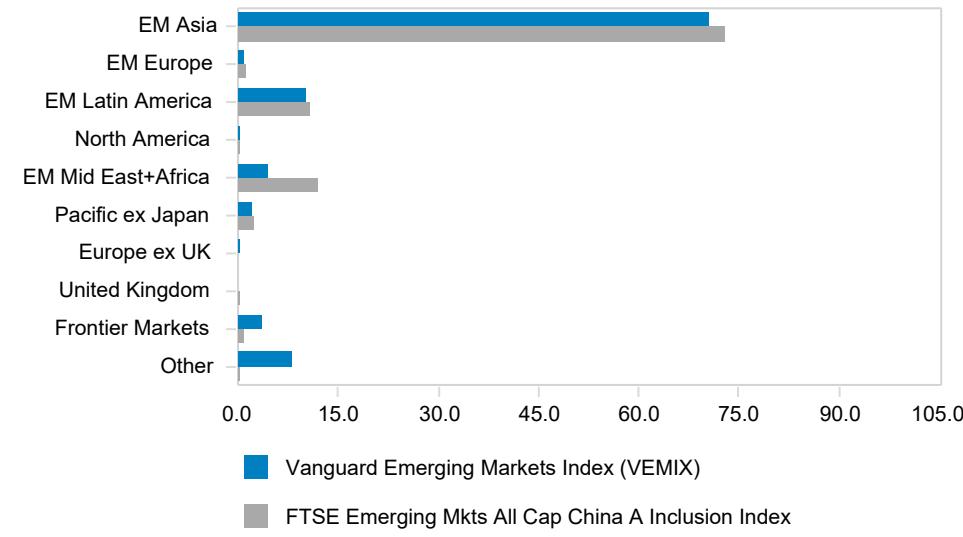
Top Ten Securities As of 03/31/2022

Taiwan Semiconductor Manufacturing	5.1 %
Tencent Holdings Ltd ORD	3.6 %
Vanguard Market Liquidity Fund	3.2 %
Alibaba Group Holding Ltd ORD	2.5 %
Reliance Industries Ltd ORD	1.5 %
Taiwan Semiconductor Manufacturing	1.3 %
Infosys Ltd ORD	1.1 %
Vale SA ORD	1.0 %
Meituan ORD	1.0 %
China Construction Bank Corp ORD	0.9 %

Sector Weights As of 03/31/2022



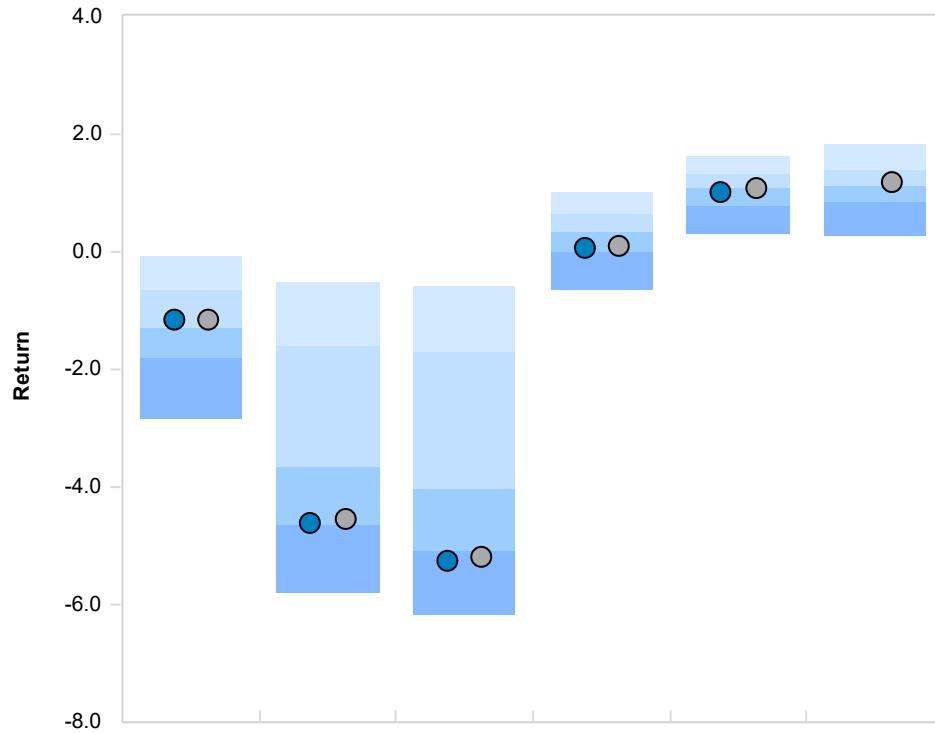
Region Weights As of 03/31/2022



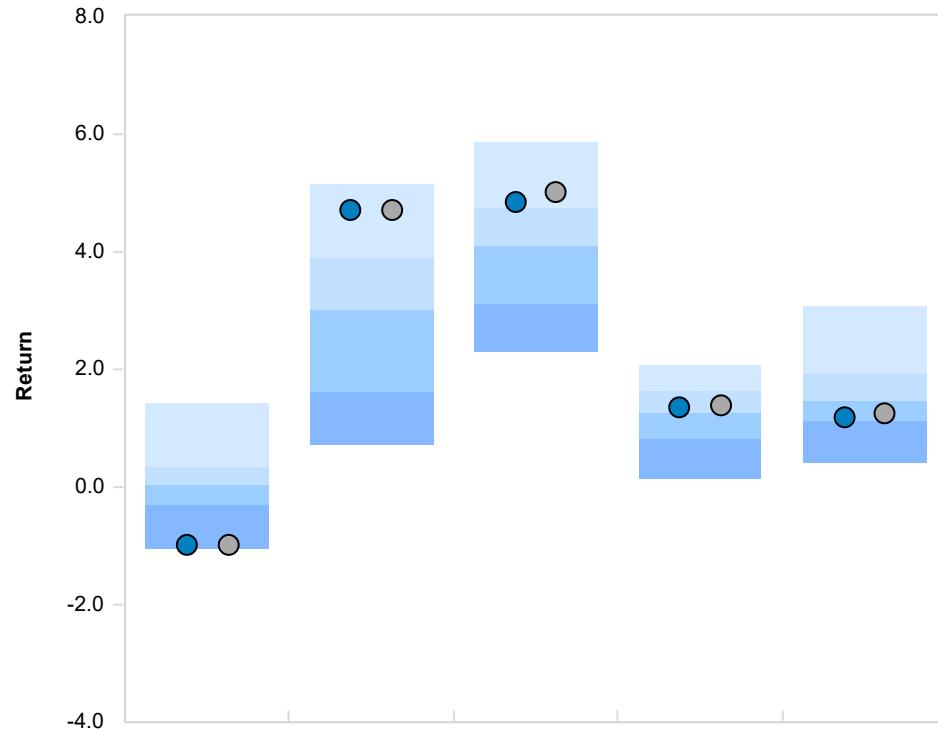
Statistics provided by Lipper. Most recent available data shown.



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, 2022

	Market Value 04/01/2013	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	10,001,804	-5,569,350	1,455,518	5,887,972

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-3.48	-0.68	0.00	0.30	-0.60	0.28
Index	-3.45	-0.72	0.05	0.27	-0.57	0.33

Mutual Fund Holdings Analysis
Vanguard Short Term Bond Index (VBITX)

June 30, 2022

Fund Information

Fund Name :	Vanguard Bond Index Funds: Vanguard Short-Term Bond Index Fund; Institutional Class Shares	Portfolio Assets :	\$72,034 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 :	\$6,359 Million	Style Benchmark :	Bloomberg U.S. Aggregate 1-3 Yrs
Portfolio Turnover :	37%		

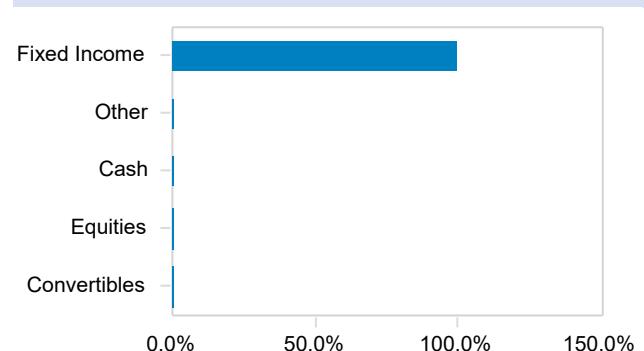
Fund Characteristics As of 09/30/2021

Avg. Coupon	1.90 %
Nominal Maturity	N/A
Effective Maturity	2.90 Years
Duration	2.80 Years
SEC 30 Day Yield	N/A
Avg. Credit Quality	AA

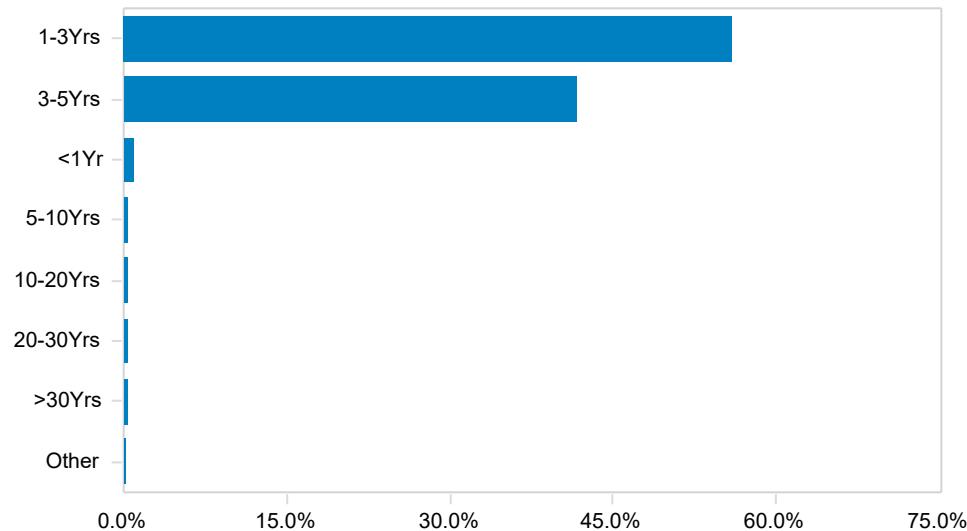
Top Ten Securities As of 09/30/2021

Government Agency Securities	33.8 %
Treasury Notes/Bonds	33.8 %
Corporate Notes/Bonds	26.1 %
Fgn. Currency Denominated Bonds	6.2 %

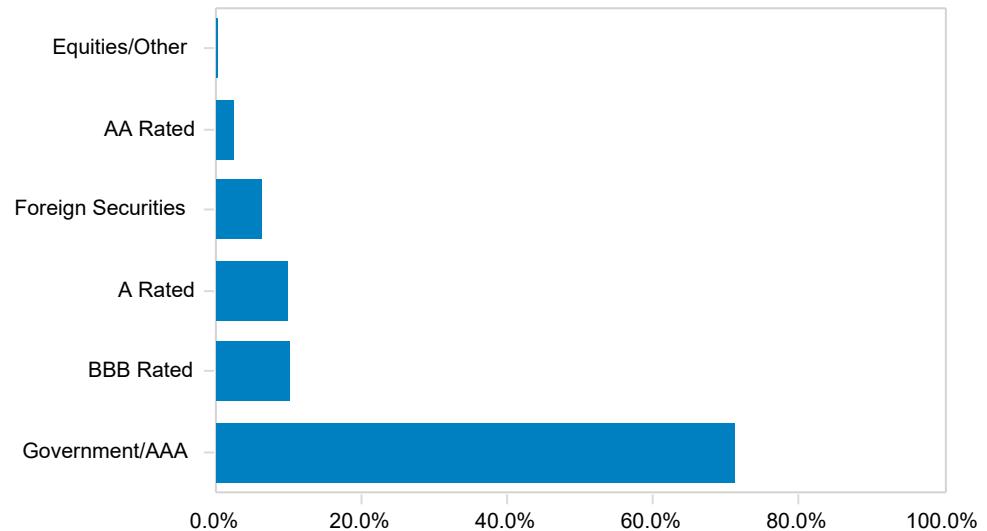
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



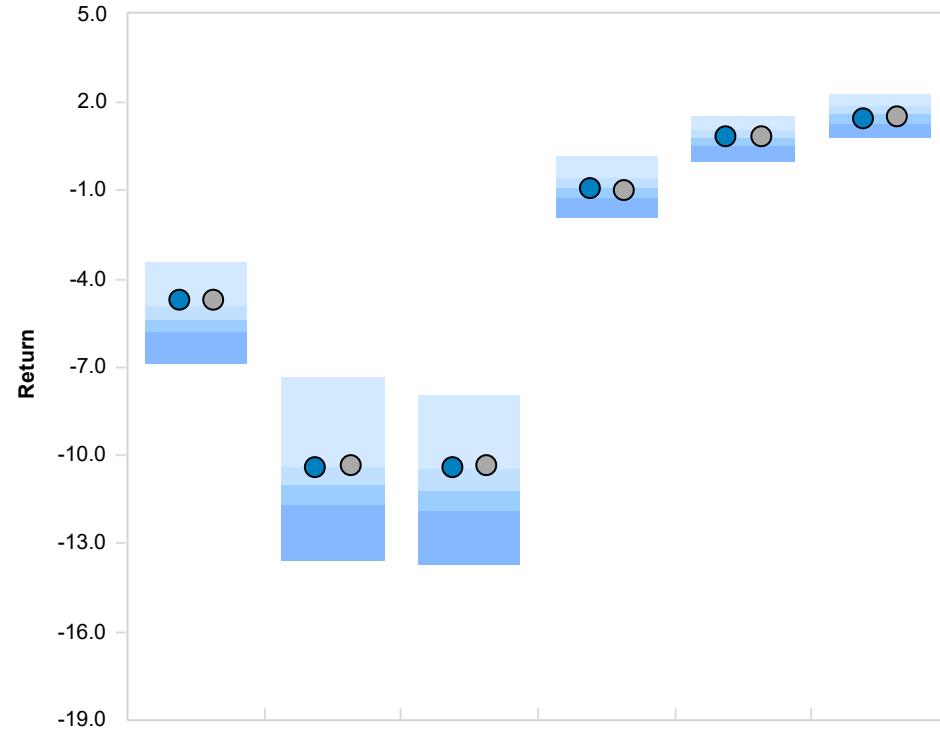
Sector/Quality Allocation As of 09/30/2021



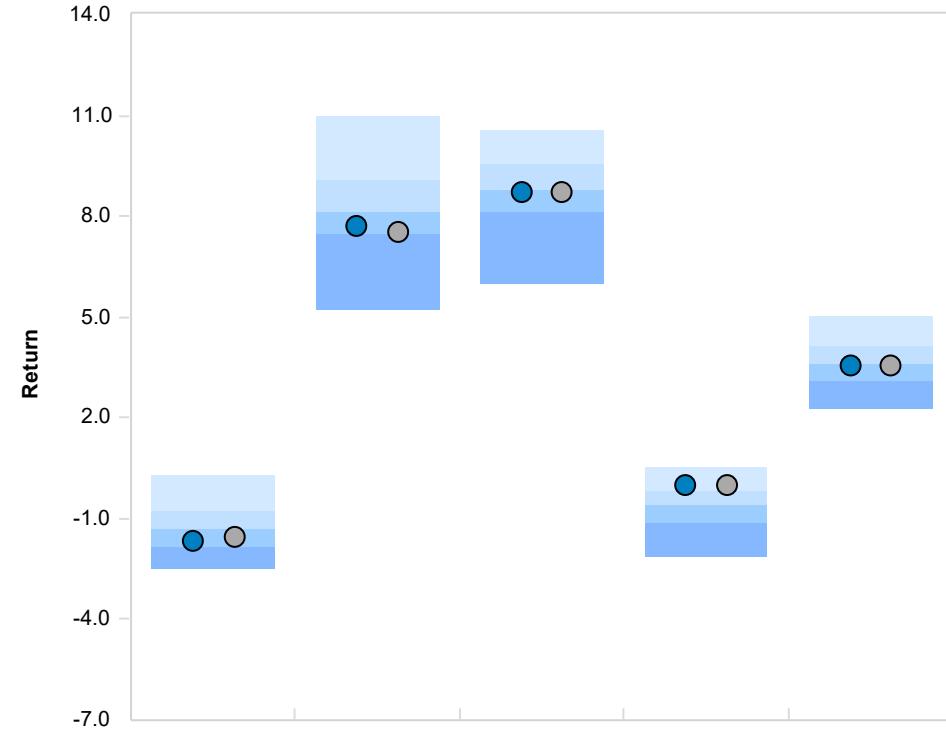
Statistics provided by Lipper. Most recent available data shown.



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



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



Financial Reconciliation Since Inception Ending June 30, 2022

No data found.

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-5.98 (51)	-0.08 (39)	0.11 (29)	2.00 (42)	-3.61 (88)	0.67 (89)
Index	-5.93 (47)	0.01 (21)	0.05 (45)	1.83 (64)	-3.38 (73)	0.67 (89)
Median	-5.98	-0.14	0.03	1.94	-3.07	1.36

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 :	\$291,077 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 :	\$43,652 Million	Style Benchmark :	Bloomberg U.S. Aggregate
Portfolio Turnover :	69%		

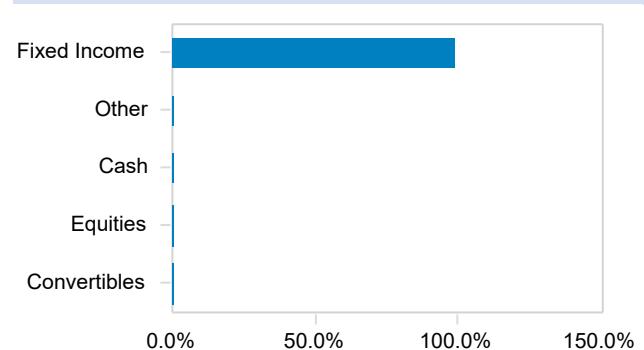
Fund Characteristics As of 09/30/2021

Avg. Coupon	2.70 %
Nominal Maturity	8.70 Years
Effective Maturity	N/A
Duration	6.80 Years
SEC 30 Day Yield	2.7
Avg. Credit Quality	AA

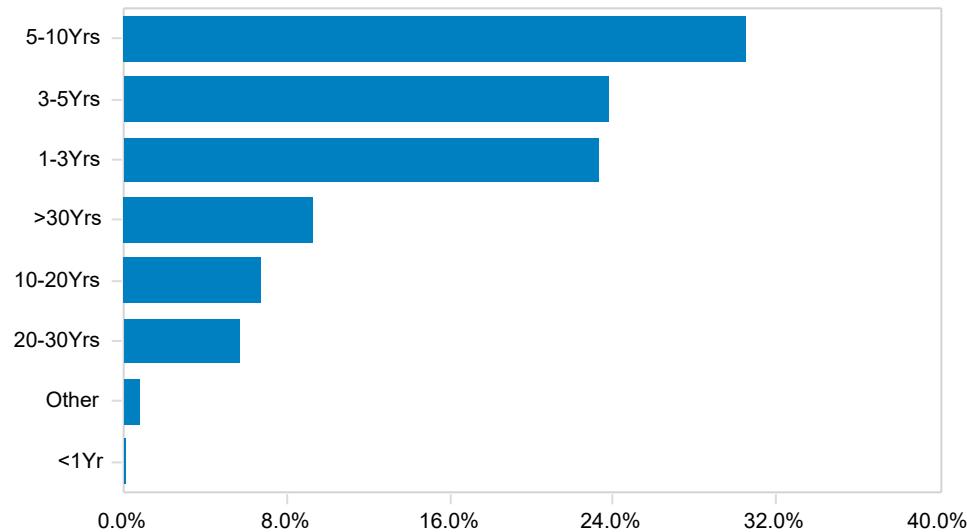
Top Ten Securities As of 09/30/2021

Corporate Notes/Bonds	28.5 %
GNMA and Other Mtg Backed	22.5 %
Government Agency Securities	22.1 %
Treasury Notes/Bonds	22.1 %
Fgn. Currency Denominated Bonds	3.7 %
Asset Backed Securities	0.4 %

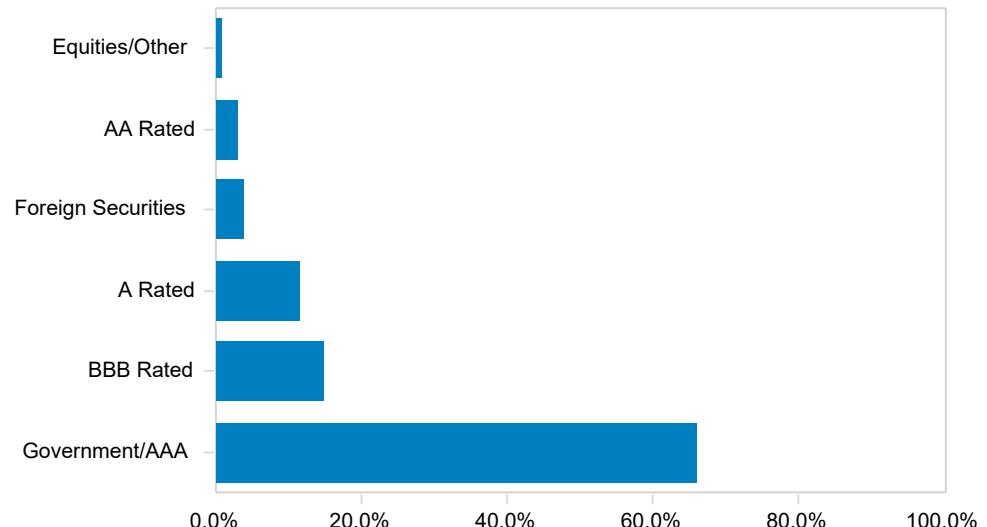
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



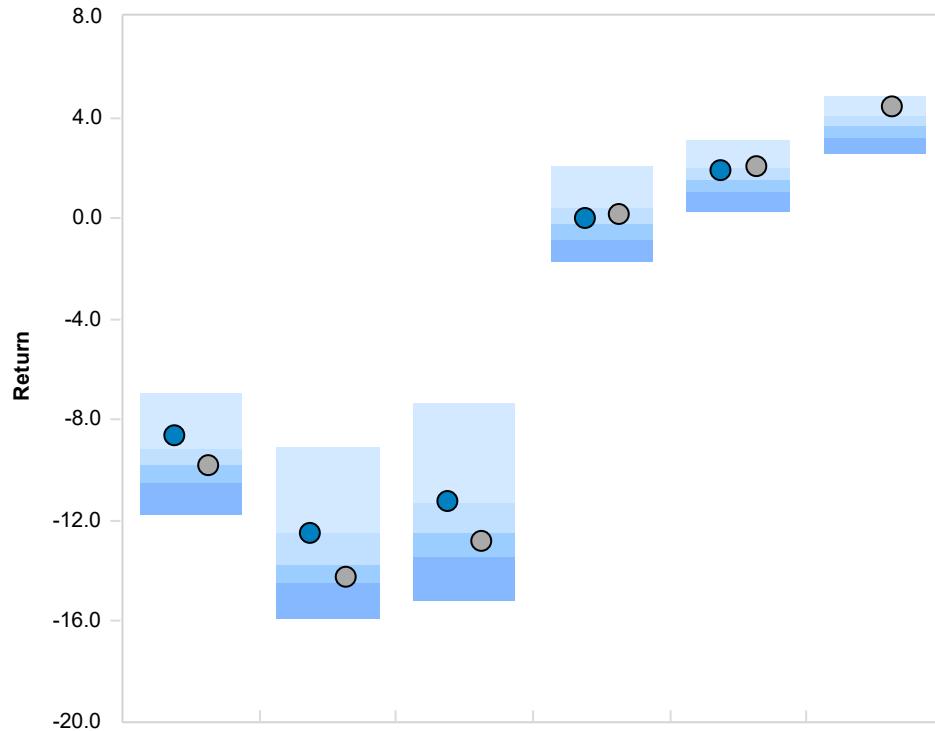
Sector/Quality Allocation As of 09/30/2021



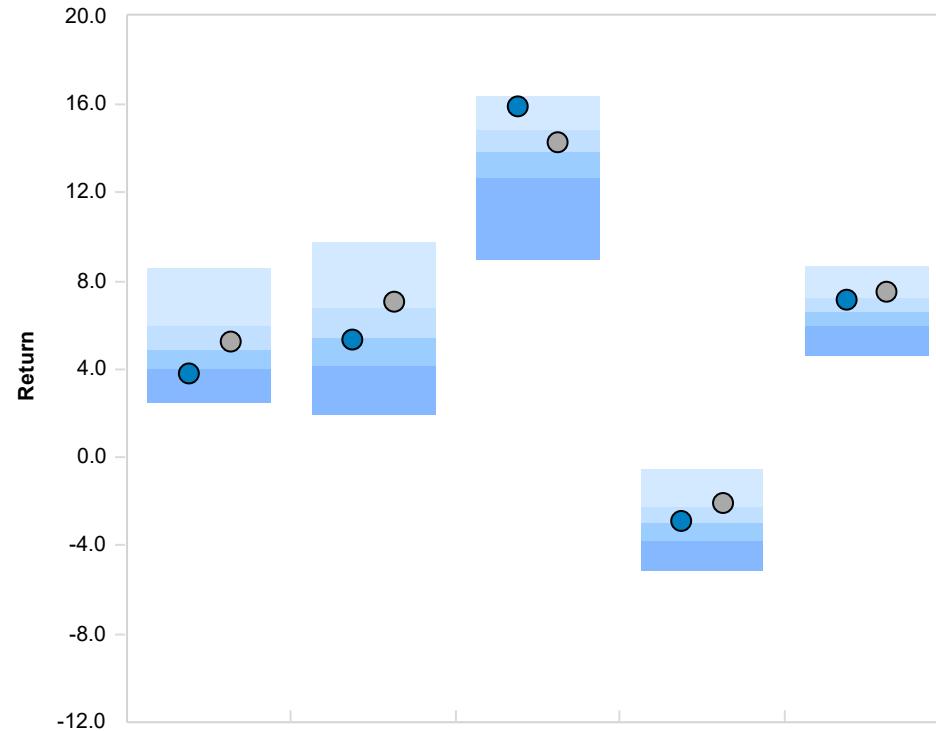
Statistics provided by Lipper. Most recent available data shown.



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	-8.62 (17)	-12.46 (25)	-11.22 (24)	0.00 (40)	1.94 (28)	N/A
Index	-9.83 (50)	-14.19 (70)	-12.81 (60)	0.21 (32)	2.10 (22)	4.47 (13)
Median	-9.83	-13.77	-12.48	-0.26	1.49	3.63

	2021	2020	2019	2018	2017
Investment	3.78 (79)	5.38 (51)	15.90 (9)	-2.87 (46)	7.13 (31)
Index	5.28 (42)	7.11 (20)	14.32 (38)	-2.08 (22)	7.50 (21)
Median	4.93	5.43	13.83	-2.97	6.63

Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 12/01/2014	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	12,642,764	5,350,000	4,232,101	22,224,865

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-4.20	0.53	0.88	2.42	-0.09	4.63
Index	-4.84	0.71	0.89	2.74	0.85	6.45



Mutual Fund Holdings Analysis
Vanguard High Yield Bond Fund (VWEAX)
June 30, 2022

Fund Information

Fund Name :	Vanguard Fixed Income Securities Funds: Vanguard High-Yield Corporate Fund; Admiral Shares	Portfolio Assets :	\$26,347 Million
Fund Family :	Vanguard	Portfolio Manager :	Michael L. Hong
Ticker :	VWEAX	PM Tenure :	2008
Inception Date :	11/12/2001	Fund Style :	IM U.S. High Yield Bonds (MF)
Fund Assets :	\$23,087 Million	Style Benchmark :	FTSE High Yield Market Index
Portfolio Turnover :	31%		

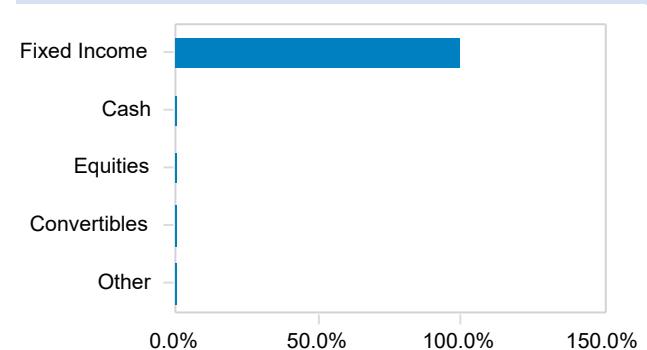
Fund Characteristics As of 03/31/2022

Avg. Coupon	N/A
Nominal Maturity	N/A
Effective Maturity	N/A
Duration	N/A
SEC 30 Day Yield	6.5
Avg. Credit Quality	BB

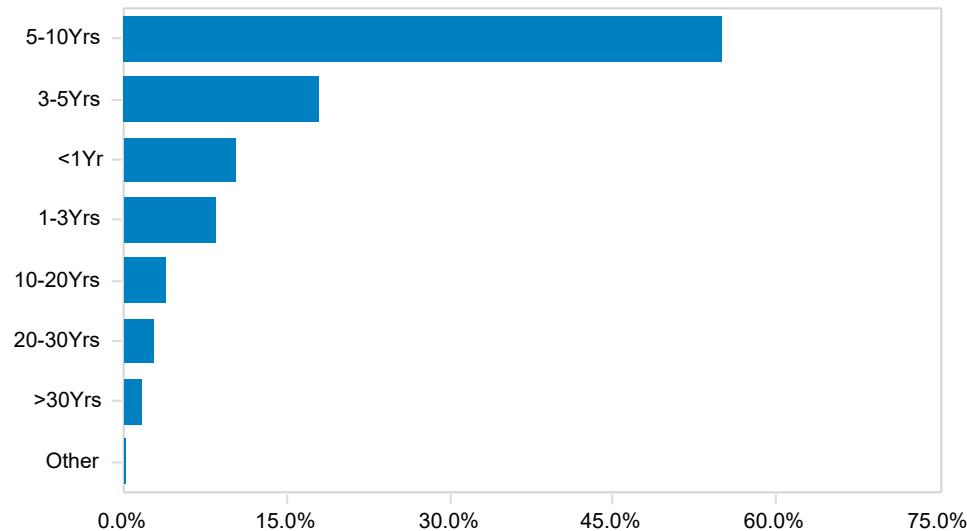
Top Ten Securities As of 09/30/2021

Corporate Notes/Bonds	95.1 %
Government Agency Securities	2.5 %
Treasury Notes/Bonds	2.5 %

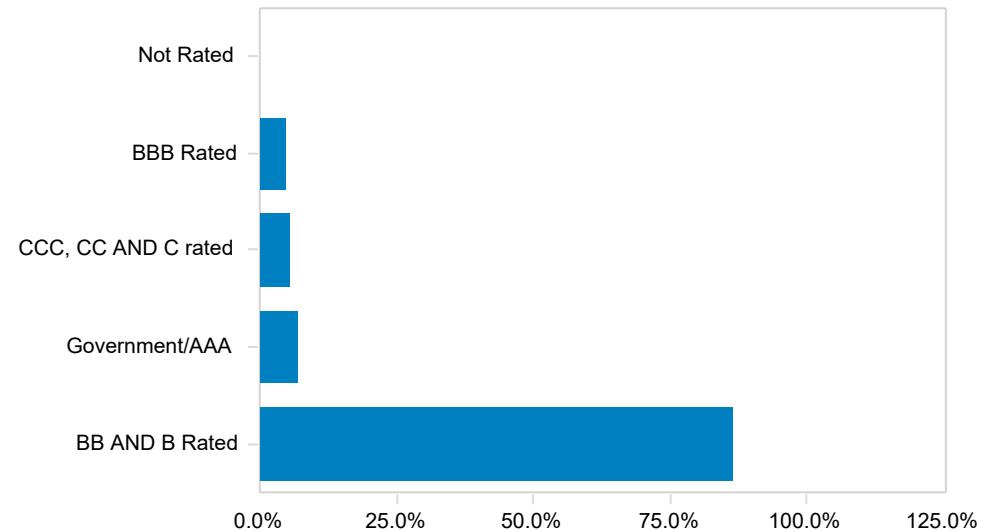
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



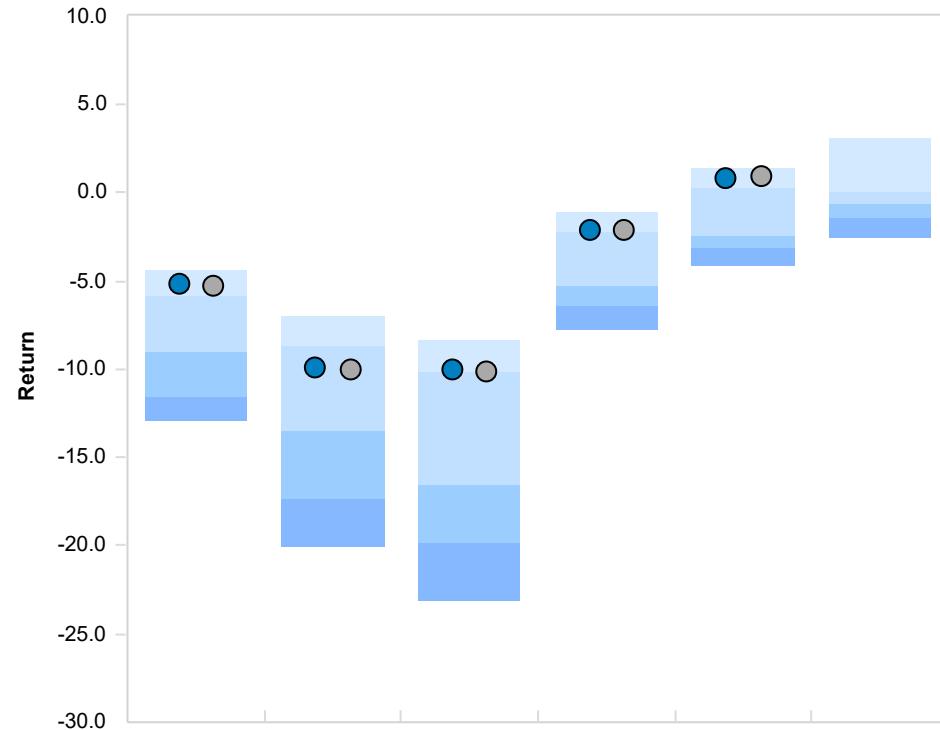
Sector/Quality Allocation As of 09/30/2021



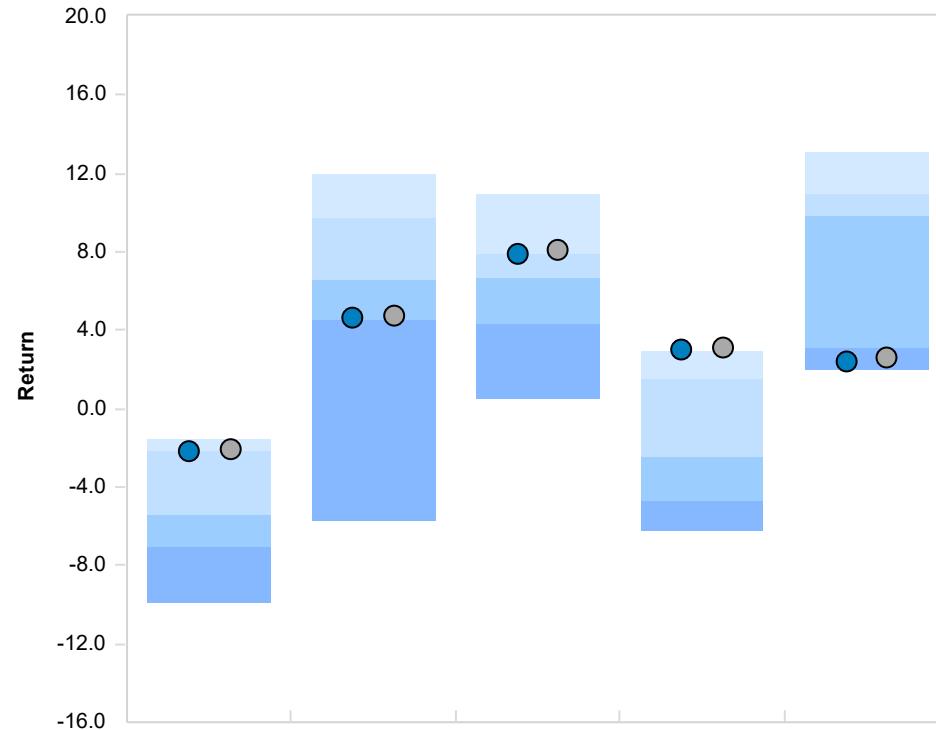
Statistics provided by Lipper. Most recent available data shown.



Peer Group Analysis - IM International Fixed Income (MF)



Peer Group Analysis - IM International Fixed Income (MF)



Financial Reconciliation Since Inception Ending June 30, 2022

	Market Value 06/01/2015	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	9,329,282	-2,425,000	1,162,968	8,067,250

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-4.98	-0.18	0.03	0.30	-2.32	1.03
Index	-5.04	-0.12	-0.01	0.26	-2.22	1.08
Median	-5.04	-0.12	-0.01	0.26	-2.22	1.08



Fund Information

Fund Name :	Vanguard Charlotte Funds: Vanguard Total International Bond Index Fund; Institutional Class Shares	Portfolio Assets :	\$89,508 Million
Fund Family :	Vanguard	Portfolio Manager :	Joshua C. Barrickman
Ticker :	VTIFX	PM Tenure :	2013
Inception Date :	05/31/2013	Fund Style :	IM International Fixed Income (MF)
Fund Assets :	\$11,903 Million	Style Benchmark :	FTSE Non-U.S. World Government Bond
Portfolio Turnover :	25%		

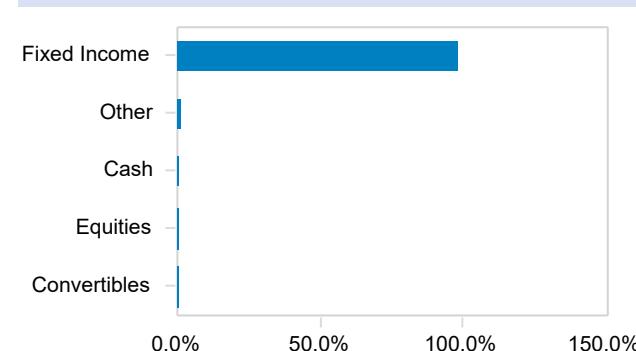
Fund Characteristics As of 03/31/2022

Avg. Coupon	N/A
Nominal Maturity	N/A
Effective Maturity	N/A
Duration	N/A
SEC 30 Day Yield	N/A
Avg. Credit Quality	N/A

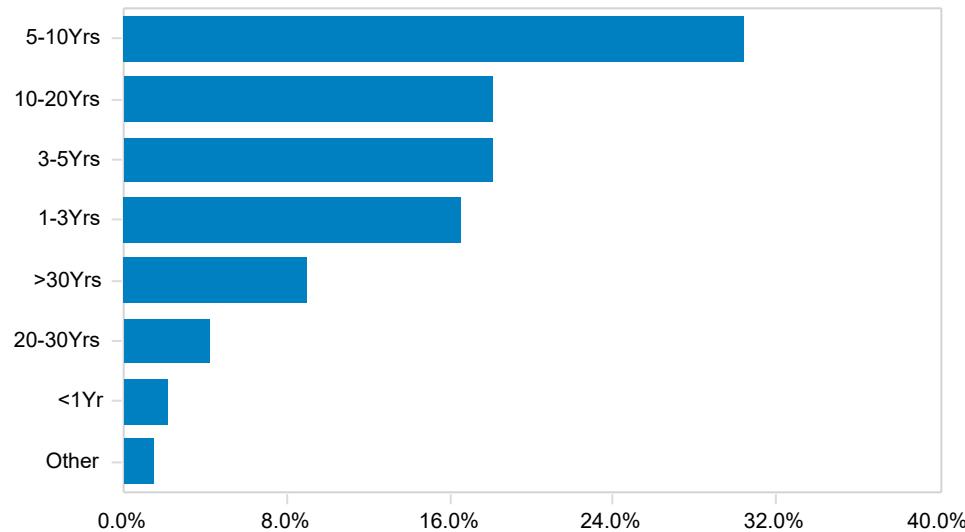
Top Ten Securities As of 09/30/2021

Fgn. Currency Denominated Bonds	79.5 %
Corporate Notes/Bonds	14.4 %
Asset Backed Securities	4.6 %

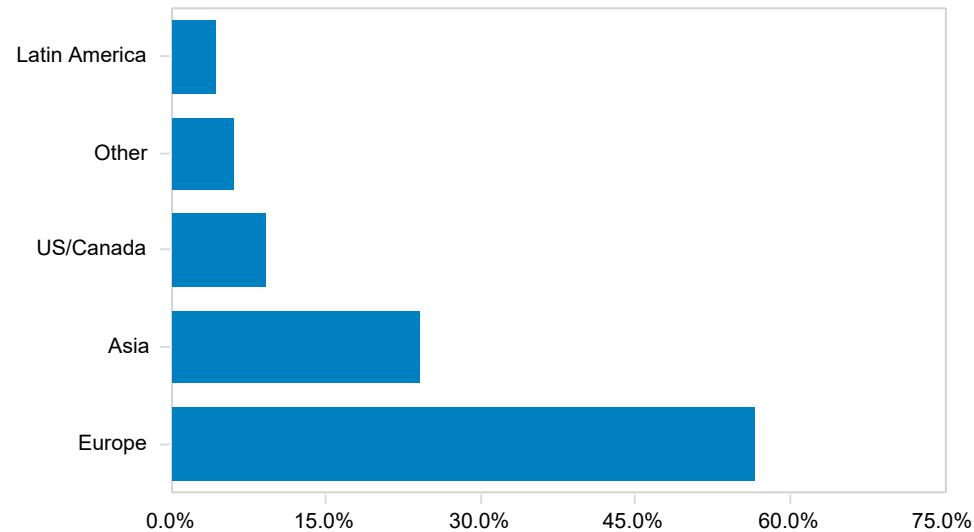
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



Sector/Quality Allocation As of 09/30/2021



Statistics provided by Lipper. Most recent available data shown.

Strategy Review
Vanguard Real Estate Index Fund (VGSNX) | Vanguard Spliced REIT Index
As of June 30, 2022

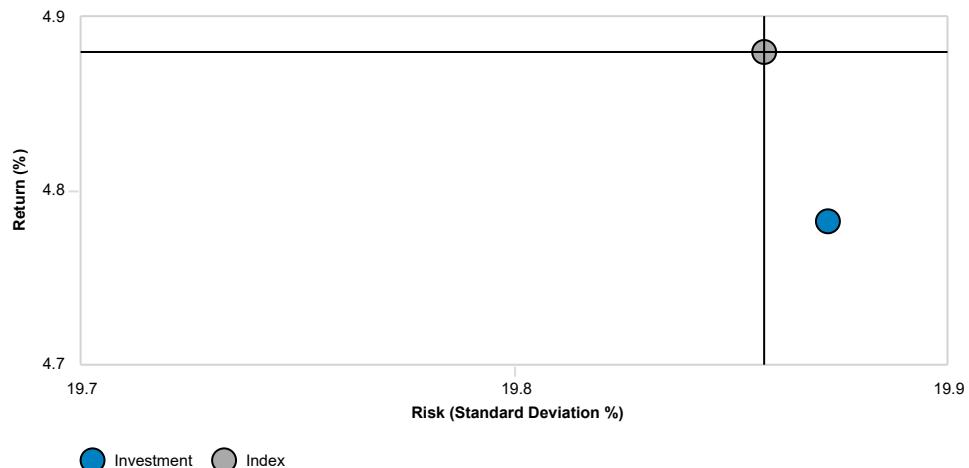
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.78	19.87	0.31	99.86	9	100.21	3
Index	4.88	19.86	0.31	100.00	9	100.00	3

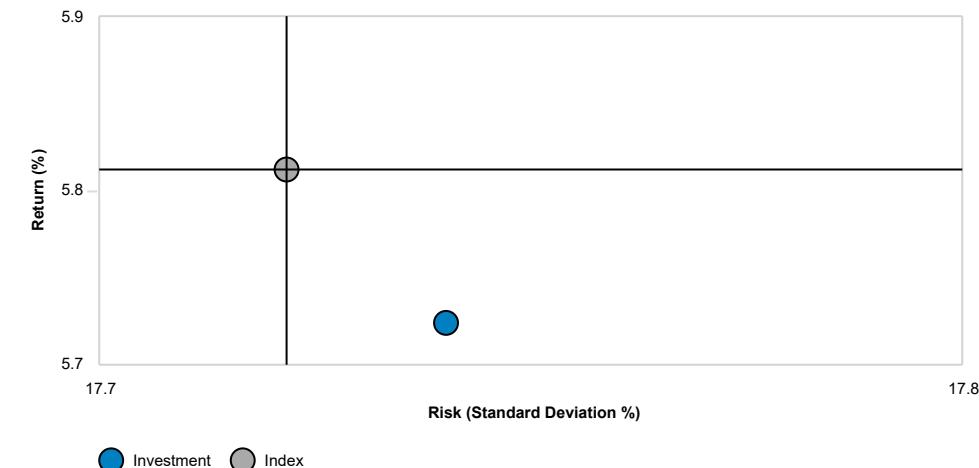
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	5.72	17.74	0.34	99.88	15	100.25	5
Index	5.81	17.72	0.35	100.00	15	100.00	5

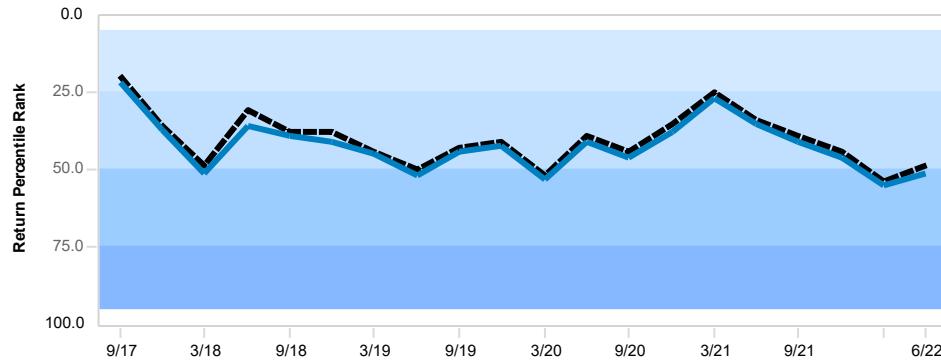
Risk and Return 3 Years



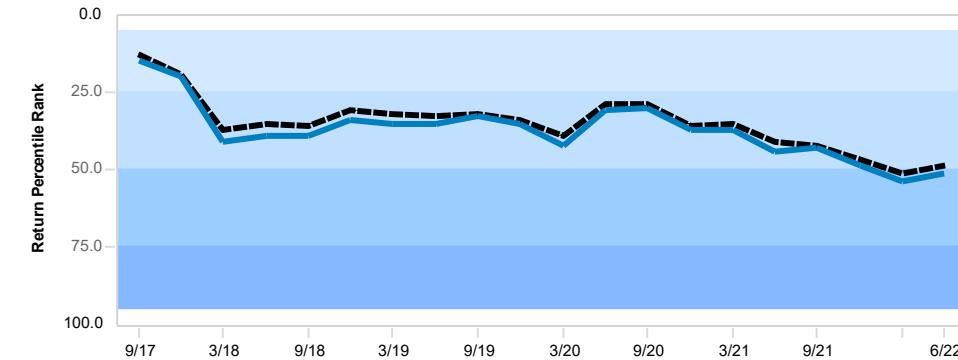
Risk and Return 5 Years



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



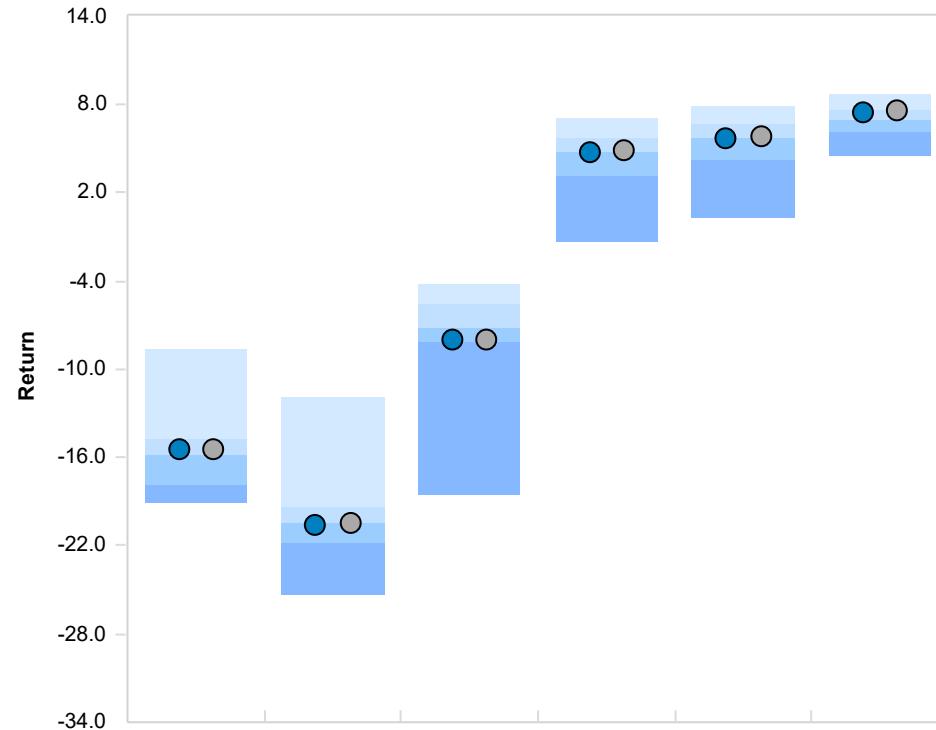
5 Year Rolling Percentile Rank IM Real Estate Sector (MF)



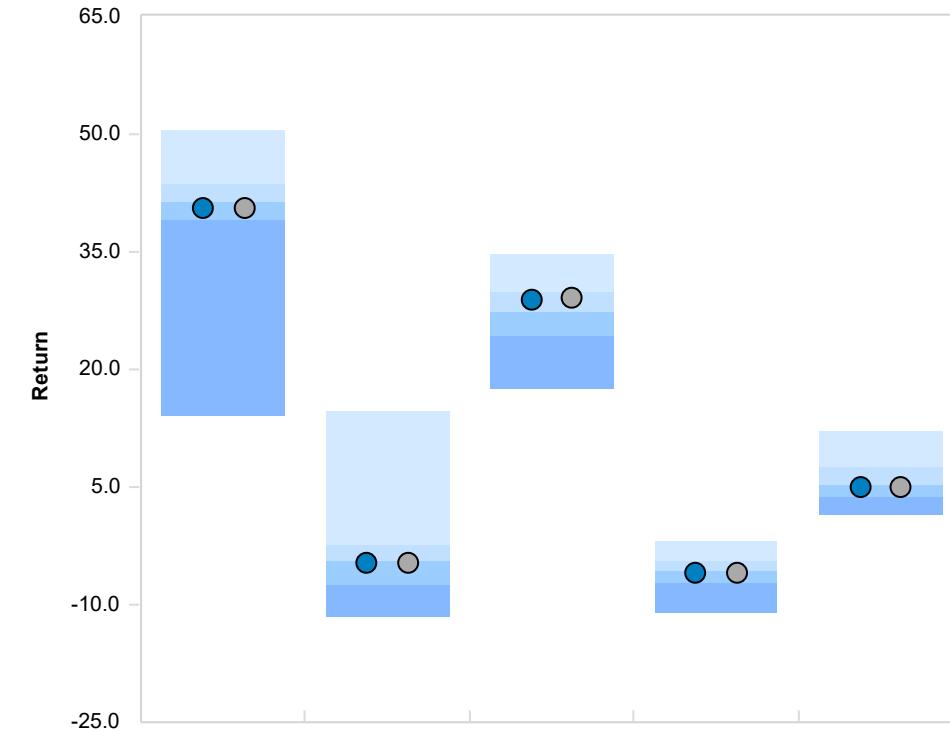
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	1 (5%)	14 (70%)	5 (25%)	0 (0%)
Index	20	2 (10%)	16 (80%)	2 (10%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	2 (10%)	16 (80%)	2 (10%)	0 (0%)
Index	20	2 (10%)	17 (85%)	1 (5%)	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, 2022

	Market Value 10/01/2010	Net Flows	Return On Investment	Market Value 06/30/2022
Investment	4,801,552	-1,776,630	10,353,425	13,378,348

Comparative Performance

	1 Qtr Ending Mar-2022	1 Qtr Ending Dec-2021	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020
Investment	-5.97 (64)	14.96 (66)	0.67 (64)	11.67 (69)	8.69 (29)	9.24 (50)
Index	-5.95 (61)	14.94 (66)	0.70 (62)	11.69 (69)	8.73 (26)	9.28 (48)
Median	-5.29	15.66	1.07	12.08	7.84	9.23



Fund Information

Fund Name :	Vanguard Specialized Funds: Vanguard Real Estate Index Fund; Institutional Class Shares	Portfolio Assets :	\$84,373 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 :	\$12,121 Million	Style Benchmark :	Vanguard Spliced REIT Index
Portfolio Turnover :	7%		

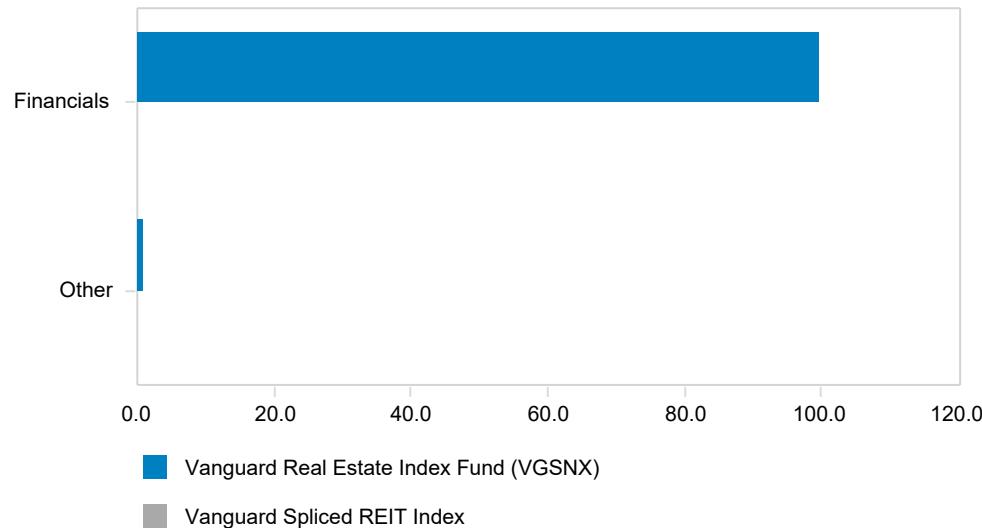
Portfolio Characteristics As of 03/31/2022

	Portfolio	Benchmark
Total Securities	167	N/A
Avg. Market Cap (\$)	45,720,413,750	-
Price/Earnings (P/E)	46.67	N/A
Price/Book (P/B)	6.44	N/A
Dividend Yield	3.02	N/A
Annual EPS	54.34	N/A
5 Yr EPS	8.37	N/A
3 Yr EPS Growth	14.74	N/A
Beta (5 Years, Monthly)	1.00	1.00

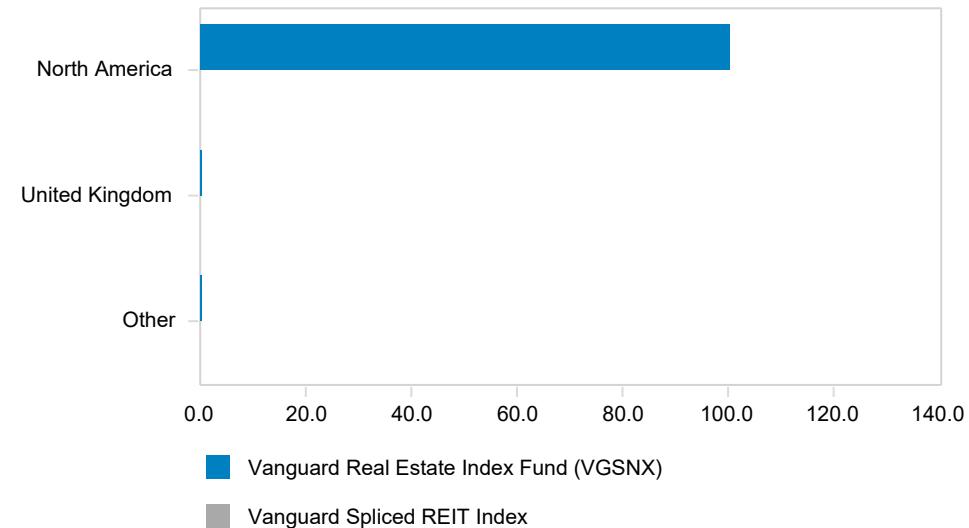
Top Ten Securities As of 03/31/2022

Vanguard Real Estate II Index Fund;Insti	11.4 %
Prologis Inc ORD	6.7 %
American Tower Corp ORD	6.4 %
Crown Castle International Corp	4.4 %
Equinix Inc ORD	3.7 %
Public Storage ORD	3.4 %
Simon Property Group Inc ORD	2.4 %
Welltower Inc ORD	2.3 %
Digital Realty Trust Inc ORD	2.2 %
Realty Income Corp ORD	2.2 %

Sector Weights As of 03/31/2022



Region Weights As of 03/31/2022



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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