

Investment Performance Review
Period Ending December 31, 2021

Butler County Employees Retirement Plan



On behalf of everyone at AndCo, we want to Thank You for the opportunity to serve and the trust you place in us! 2021 marked another unique year as society continued to deal with the effects of the global pandemic. While this environment caused all organizations to reassess their business models and service approach, AndCo has remained 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. These four AndCo principles drive our service approach and desire to exceed your expectations. We take our role as your consultant and trusted advisor seriously and will continue working hard to maintain your confidence.

Looking back at 2021, we would like to provide a brief update on the firm. We advise on approximately \$123 billion in client assets, as of June 30, 2021. 2021 also marked the 21st straight year of revenue growth for the firm. We continue to reinvest 100% of our net profits back into the organization so that we can continue to evolve and adapt within a market environment that is constantly changing and challenging. Put simply, stasis is not an effective strategy, and we are convicted in our belief that a firm not focused on moving forward in our industry is moving backward.

To execute on our commitment, we continued to make personnel and technology investments within the firm. Our personnel investments focused on further enhancing departmental service levels and narrowing perceived gaps. We continued to invest in our proprietary software system to more effectively and efficiently compile and share information across departments and ultimately better serve our clients. We also continued to build out our internal site (the intranet) so colleagues could stay connected with the firm and gain a deeper understanding of standard operating procedures and collectively service our clients the AndCo way. Our intranet also helped strengthen our internal brand and culture by pushing out a variety of daily firm updates, videos, and interactive posts to increase team member bonds to our values, core philosophies, and ultimately, brought the firm closer together. We believe these connections are increasingly important in the COVID environment when many team members remain wholly or partially remote and we will continue to explore innovative ways to be together in 2022.

As we start 2022, we are 87 team members strong with plans to grow. We are targeting several new positions for the year as we thoughtfully continue to invest in our firm to provide the quality services you expect from AndCo. These talent enhancements cover multiple departments including Research and Client Solutions, which will strengthen our alternative and public market research as well as our client service. We are also looking to add team members to our Consulting, Finance, Marketing, and IT departments.

While adding so many resources to a firm our size is a significant investment, it is one we embrace due to the impact we believe it will have on our ability to continue serving our clients at a high level and push us closer to our vision of being a transformational organization viewed as the leader in our industry.

At the beginning of each year, we discuss the AndCo partnership and, when earned, announce new partners. This year I am thrilled to share two new team members were named partners at AndCo – Brian Green and Kerry Richardville. Brian has been with the firm for over 6 years and is currently a consultant based out of our Detroit, Michigan office. Kerry has been with AndCo for over 5 years and is a consultant based in Orlando. We could not be happier for both Brian and Kerry or more grateful for the contributions they have made to AndCo since joining the firm. Brian and Kerry represent what it means to be an AndCo team member, and we are honored and fortunate to have them serving our clients. With the addition of Brian and Kerry, we have 13 partners representing various departments at AndCo, which provides diverse perspectives and insight. Our growing partnership group continues to strengthen AndCo and reaffirm our belief that 100% employee management is vital to protecting our mission, vision, values, and the long-term success of our organization. We enter 2022 with an unwavering commitment to serve you the best we possibly can.

Coming off a year that provided many of our clients record returns, we recognize results going forward may be more challenging to obtain. Please know we will continue to invest and evolve our firm in aiming to meet these realities. We do not take any client relationship for granted and will continue to work tirelessly to serve, earn your trust, add value, and exceed your expectations. We are honored and humbled you have chosen AndCo as your partner.

In closing, and 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. As we continue to discuss strategic decisions and reinvestments regarding our firm, please know that our decisions are filtered through the following question: "How does this keep our clients' interests first?" If it doesn't meet this standard, we don't do it - it's that simple.

Thank you again for your valued partnership and the opportunity to serve you. Happy New Year!



Mike Welker, CFA
CEO



Organizational Chart

PARTNERSHIP

Mike Welker, CFA® Jacob Peacock, CPFA
Brian Green Jason Purdy
Bryan Bakardjiev, CFA® **Kerry Richardville, CFA®**
Dan Johnson Kim Spurlin, CPA
Dan Osika, CFA® Steve Gordon
Donna Sullivan **Troy Brown, CFA®**
Evan Scussel, CFA®, CAIA®

LEADERSHIP & MANAGEMENT

Mike Welker, CFA® **Daniel Kwasny, CIPM®**
 CEO Client Solutions Director
Bryan Bakardjiev, CFA® **Evan Scussel, CFA®, CAIA®**
 COO Research Director
Kim Spurlin, CPA **Jack Evatt**
 CFO Consulting Director
Sara Searle **Jacob Peacock, CPFA**
 CCO Consulting Director
Stacie Runion **Jason Purdy**
 CHRO I.T. Director
Steve Gordon **Molly Halcom**
 Partner Marketing Director
Troy Brown, CFA® **Philip Schmitt**
 Executive Director Research Director
Brooke Wilson, CIPM® **Rachel Brignoni, MHR**
 Client Solutions Director People & Culture Director
Dan Johnson

INVESTMENT POLICY COMMITTEE

Mike Welker, CFA®
Bryan Bakardjiev, CFA®
Troy Brown, CFA®
Sara Searle

CONSULTING

Annette Bidart **Jennifer Gainfort, CFA®, CPFA**
Brad Hess, CFA®, CPFA **John Mellinger**
Brendon Vavrica, CFP® **John Thinnes, CFA®, CAIA®**
Brian Green **Jon Breth, CFP®**
Chris Kuhn, CFA®, CAIA® **Justin Lauver, Esq.**
Christiaan Brokaw, CFA® **Kevin Vandolder, CFA®**
Dave West, CFA® **Kerry Richardville, CFA®**
Doug Anderson **Mary Nye**
Gwelda Swilley **Michael Fleiner**
Ian Jones **Michael Holycross, CIMA®**
James Ross **Mike Bostler**
Jeff Kuchta, CFA®, CPFA
Jennifer Brozstek

CLIENT SOLUTIONS

Donna Sullivan **Donnell Lehrer, CPFA** **Julio Garcia Rengifo**
Albert Sauerland **Grace Niebrzydowski** **Kim Hummel**
Amy Foster **James Reno** **Meghan Haines**
David Gough, CPFA **Jeff Pruniski** **Misha Bell**
Don Delaney **Joe Carter, CPFA** **Yoon Lee-Choi**

OPERATIONS

FINANCE **H.R.** **MARKETING**
Kahjeelia Pope **Sara Schmedinghoff** **Dan Osika, CFA®**
Robert Marquetti **OPERATIONS** **John Rodak, CIPM®**
COMPLIANCE **Jerry Camel** **Kayleigh Greaser**
Allen Caldwell
Thay Arroyo **Kim Goodearl**
Lauren Kaufmann

RESEARCH

Ben Baldrige, CFA®, CAIA®
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Chester Wyche
 Real Estate & Real Assets
Dan Lomelino, CFA®
 Fixed Income
David Julier
 Real Estate & Real Assets
Elizabeth Wolfe
 Capital Markets & Asset Allocation
Evan Scussel, CFA®, CAIA®
 Private & Public Equity
Joseph Ivaszuk
 Operational Due Diligence
Josue Christiansen, CFA®, CIPM®
 Public Equity
Julie Baker, CFA®, CAIA®
 Private & Hedged Equity
Justin Ellsesser, CFA®, CAIA®
 Private Equity
Kevin Laake, CFA®, CAIA®
 Private Equity
Michael Kosoff
 Hedge Funds
Philip Schmitt
 Fixed Income & Capital Markets
Ryan McCuskey
 Real Estate & Real Assets
Zac Chichinski, CFA®, CIPM®
 Public Equity



87
EMPLOYEES

38 ADVANCED DEGREES

23 CFA®

8 CAIA®

8 CPFA

6 CIPM®



4th Quarter 2021 Market Environment

The Economy

- The US economy faced headwinds from the Omicron variant during the quarter which likely had a negative impact on economic growth. Fortunately, despite higher transmission rates, the variant appears to be less likely to result in hospitalizations or significant health risks.
- Even with the variant, the demand for goods and services remained strong during the quarter and market expectations for 4th quarter US GDP growth range from 4% to 7%.
- The US labor market is nearing full employment with the unemployment rate falling to 3.9% in December. The pace of job growth slowed during the quarter with a three-month average of roughly +365,000. Despite the continued improvement in the labor market, workers are continuing to leave their employers in record numbers. This condition means the number of jobs available exceeds the number of unemployed workers. As a result, wage growth remains strong as employers compete to fill job openings.
- Persistently higher inflation readings forced the Fed to announce it was planning to end its bond purchase program earlier than expected. In addition, the Fed's December statement suggested that it could also begin raising short-term interest rates sooner than expected.

Equity (Domestic and International)

- US equities rose to all-time highs during the 4th quarter as investors expressed optimism about future economic growth and continued monetary support from the Fed. Large cap growth was the best performing domestic segment of the equity market relative to other US market capitalizations and styles.
- International equities lagged far behind their US counterparts during the 4th quarter. A key contributor to the muted performance was US dollar strength, which rose against both the Euro and Yen developed market currencies and most emerging market currencies. Emerging markets came under pressure as the Chinese property developer Evergrande defaulted during the quarter.

Fixed Income

- The combination of concerns related to the potential for rising US interest rates and persistent inflation acted as headwinds for fixed income performance during the quarter. US interest rates moved modestly higher during the quarter with the US 10-Year Treasury bond rising 2 basis points to close at 1.51%.
- Generally, performance across most bond markets sectors was positive during the quarter, led by US high yield corporate bonds and US Treasury Inflation-Protected Securities (TIPS).
- High yield bond's combination of higher coupons and a shorter maturity profile relative to high quality government bonds was the primary driver of their performance during the period.
- TIPS outperformed all other sectors during the quarter. US inflation remained substantially higher than the Fed's stated 2% long-term target average, and as a result, investors' expectations of future inflation increased.

Market Themes

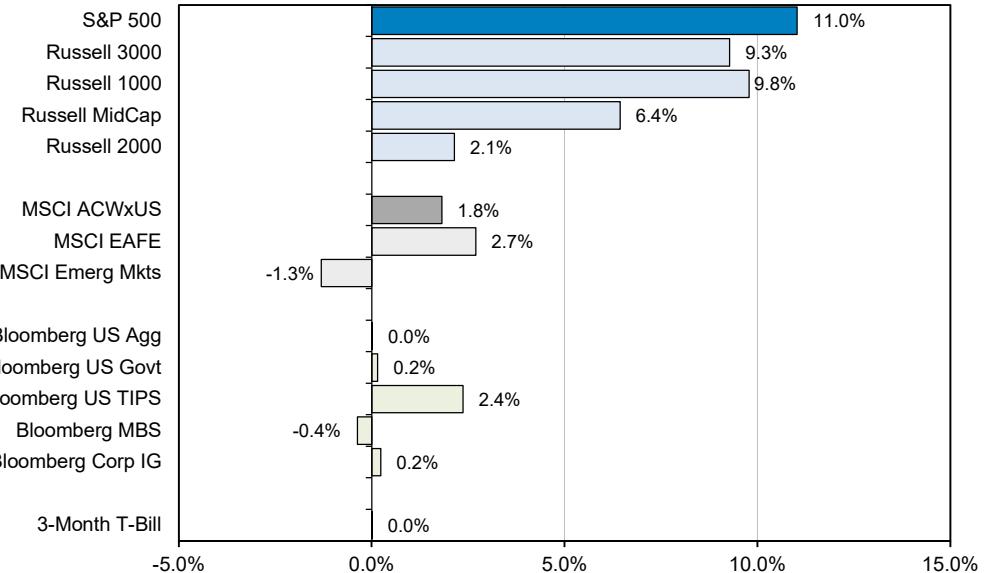
- Global central bank monetary policy diverged somewhat during the quarter as the Fed stated its intention to taper its bond purchases and potentially be raising interest rates in 2022. Both the European Central Bank and the Bank of Japan reiterated their intent to remain accommodative as localized inflation remains low.
- While US economic growth remained strong, overall global economic growth slowed during the quarter primarily due to the rise in pandemic-related cases and shutdowns. It is likely that economic growth could face headwinds in 2022 as central bank stimulus begins to wear off.
- US equity markets – as measured by the S&P 500 Index – experienced their third consecutive year of double-digit positive performance led by large, growth-oriented companies. While equities have historically performed well during periods of rising inflation due to their links with strong economic growth, companies may face headwinds if they are unable to pass along price increases, which would result in lower profit margins.
- Longer-dated fixed income markets were negatively impacted by rising interest rates during the year. Despite the potential for increasing risks due to deteriorating credit conditions, corporate bonds could outperform given their higher coupons and shorter maturity profiles compared to higher quality, longer duration bonds.



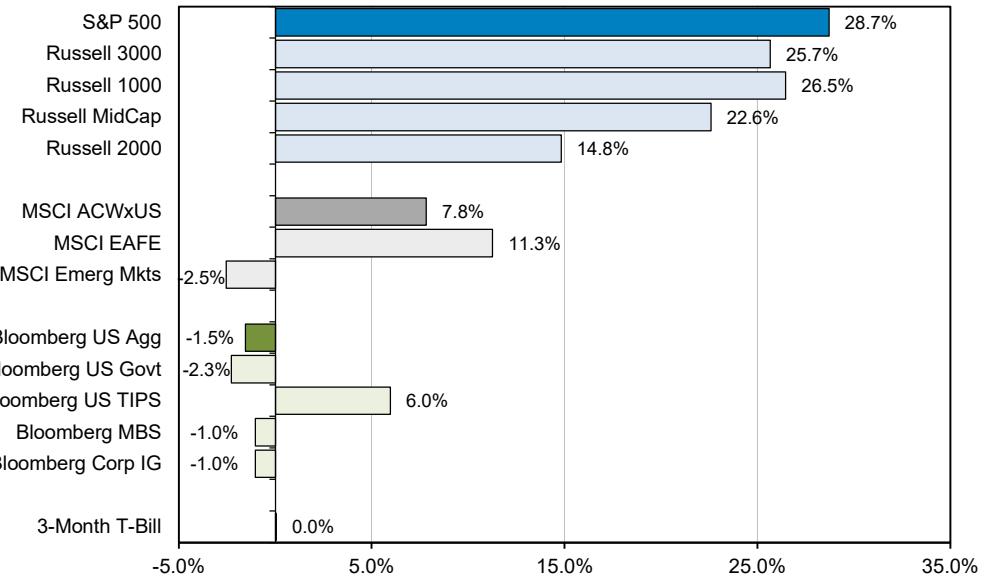
- Broad US equity markets experienced strong returns during the 4th quarter of 2021. There were a variety of factors that contributed to performance including improving corporate earnings, increased consumer spending and demand, and continued accommodative monetary support from the Fed. For the period, the S&P 500 large cap benchmark returned 11.0%, compared to 6.4% for the mid-cap and 2.1% for small cap indices.
- Similar to domestic markets, developed market international equities also posted positive results for the 4th quarter, albeit more muted. Europe and the UK were negatively affected by the increase in COVID cases related to the Omicron variant. Emerging markets declined primarily due to concerns related to future economic growth in China and the default of property developer Evergrande. China is the second largest country in the developed market index (9.4%) and its weight dominates the emerging markets index (32.5%). During the period, the MSCI EAFE Index returned of 2.7% while the MSCI Emerging Markets Index declined by -1.3%
- For the quarter, bond market performance was generally muted as concerns about higher interest rates and rising inflation acted as sizable headwinds. The outlier during the period was TIPS, which are highly sensitive to future inflation expectations and posted a return of 2.4%. The Bloomberg Barclays (BB) US Aggregate Index returned 0.0%, for the period, trailing Investment Grade Corporate bonds, which returned 0.2%.

- Developed equity markets were sharply higher over the trailing 1-year period. The combination of Improving economic fundamentals, continued support from the Fed, and improving investor expectations all combined to drive equity markets higher. All broad US equity market indexes traded at near-record levels during the quarter. The S&P 500 large cap stock index led equity market performance for the year with a return of 28.7%. The Russell 2000 small cap index returned a lower, but still strong, 14.8% for the year.
- Over the trailing 1-year period the developed market MSCI EAFE Index return of 11.3% outpaced the MSCI Emerging Markets Index return of -2.5%. While growth in developed markets improved throughout the year, emerging markets were negatively impacted from concerns related to index's dominant country weight to China.
- Bond market returns over the trailing 1-year period were broadly negative as rising interest rates and concerns regarding inflation detracted from performance. TIPS were the lone bright spot in the bond market with the TIPS Index returning 6.0% for the year.

Quarter Performance



1-Year Performance

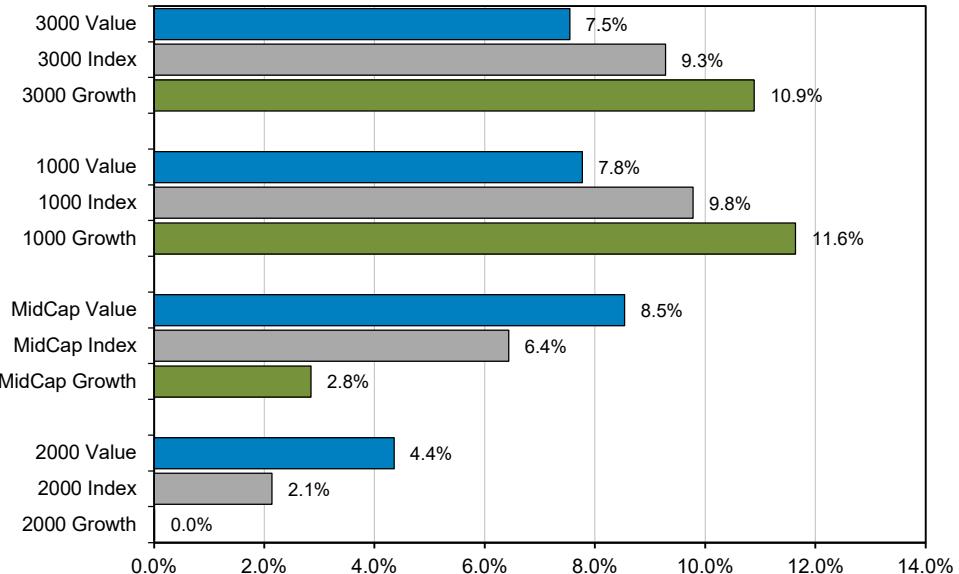


Source: Investment Metrics

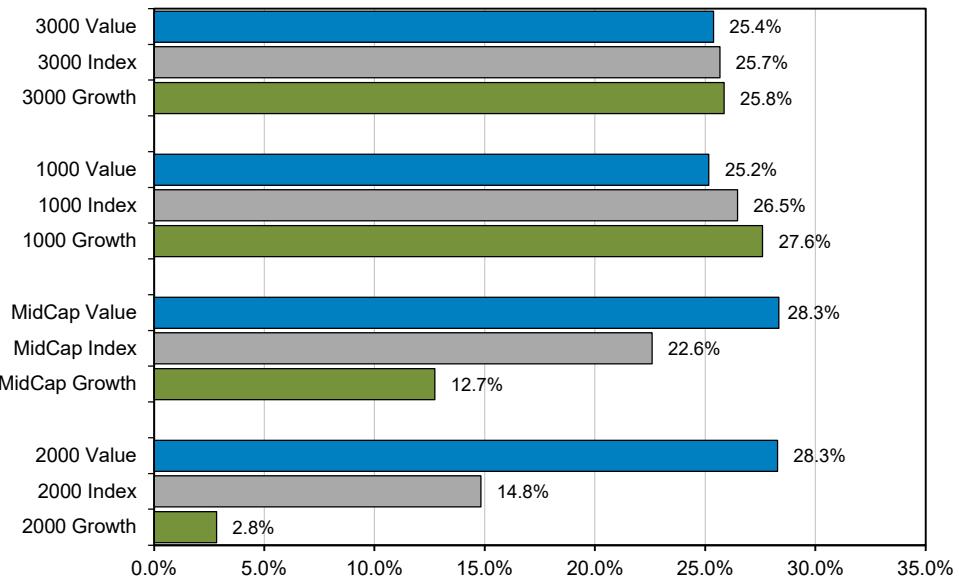
- The equity market resumed its solid momentum during the 4th quarter as nearly all US equity benchmarks posted positive returns across both the style and market capitalization spectrums. Large cap stocks continued their leadership followed by mid and small cap issues. The Russell 1000 Index returned a strong 9.8% for the quarter and outpaced a 6.4% return of the Russell Mid Cap Index and a Russell 2000 Index return of 2.1%.
- Performance across styles and market capitalizations was disparate during the quarter. Large cap growth stocks sizably outpaced their value counterparts while mid and small cap value stocks outperformed growth stocks by an even wider margin. For the period, the Russell 1000 Growth Index was the best performing style index, posting a return of 11.6%. Mid cap value index performance was the next best performing segment, returning 8.5% for the quarter. Small cap growth stocks were the laggards during the period with the Russell 2000 Growth Index returning 0.0%.
- Performance across all market capitalizations and styles was broadly robust over the trailing 1-year period. Much like the 4th quarter, the outlier for the year was small cap growth stocks. The Russell 2000 Growth Index return of 2.8% for the year significantly lagged both its mid and large cap growth index counterparts and Russell 2000 Value index return of 28.3%.
- While large cap style returns were relatively similar for the year, there was wide dispersion across mid and small style-based index performance. For the year, the Russell 1000 Growth Index rose by 27.6% compared to a still robust 25.2% return for the Russell 1000 Value Index. Within mid and small cap benchmark performance, value dominated growth by double digits. The Russell 2000 Value Index and Russell Mid Cap Value Index both returned 28.3% for the period. In comparison, the Russell Mid Cap Growth Index returned 12.7%, while the Russell 2000 Growth Index returned only 2.8%.

Source: Investment Metrics

Quarter Performance - Russell Style Series

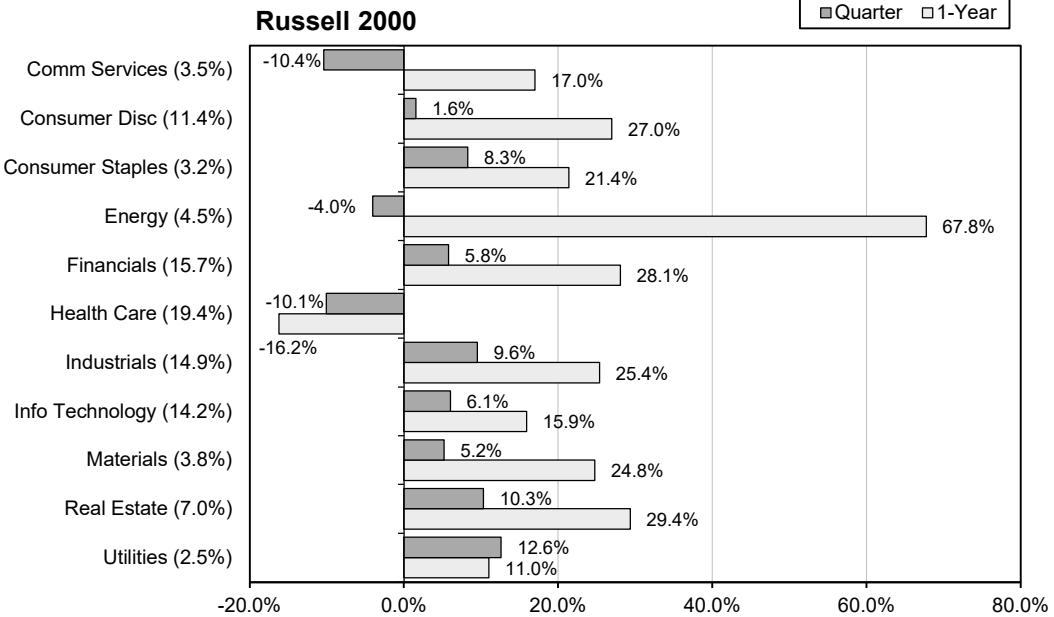
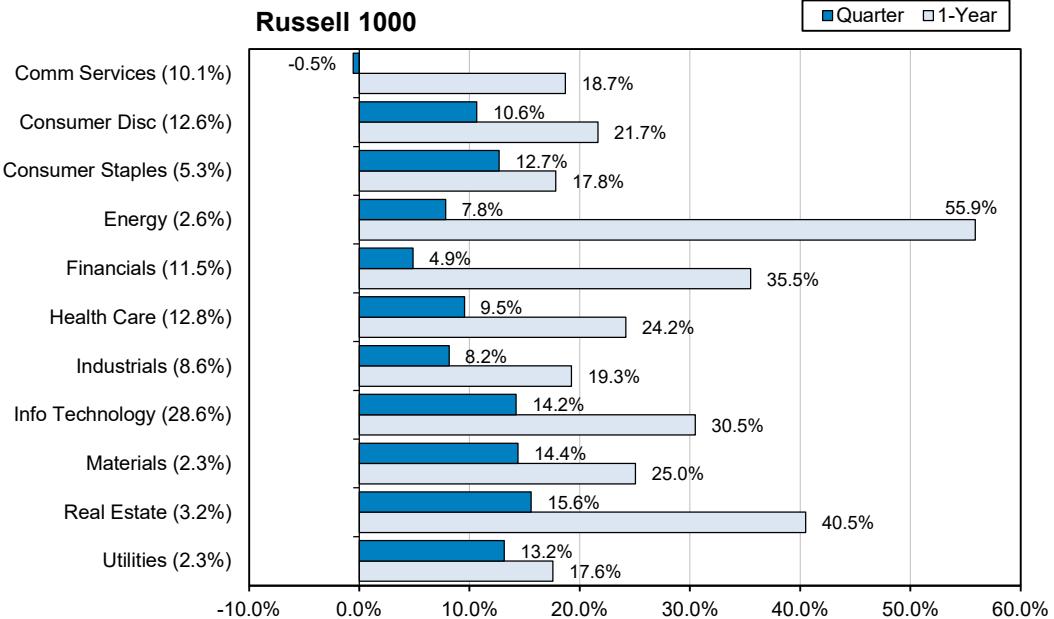


1-Year Performance - Russell Style Series



- Economic sector performance was positive across ten of the eleven large cap economic sectors for the 4th quarter. Six sectors outpaced the return of the broad index during the period.
- Economically sensitive sectors like real estate (15.6%), materials (14.4%), information technology (14.2%), and utilities (13.2%) were the best performing sectors for the quarter. In general, companies in sectors with the ability to grow earnings and either guard against, or pass along, inflation experienced the strongest returns. While nearly all sectors experienced positive results, the communication services sector (-0.5%) lagged its peers and was the sole negative performer for the quarter.
- For the full year, four sectors exceeded the return of the broad large cap benchmark: energy (55.9%), real estate (40.5%), financials (35.5%), and information technology (30.5%). The weakest economic sector performance in the Russell 1000 for the year was utilities, which still managed to solid return of 17.6%.

- Small cap sector performance was more mixed with eight of the eleven economic sectors posting positive performance for the quarter and seven of them outpacing the return of the broader Russell 2000 Index. Utilities were the best performing sector during the quarter, returning 12.6%. The real estate (10.3%), industrials (9.6%), and consumer staples (8.3%) sectors also performed well during the period.
- For the trailing 1-year period, nine of the eleven sectors outpaced the broad benchmark's return. Outperforming sectors included energy (67.8%), real estate (29.4%), financials (28.1%), consumer discretionary (27.0%), industrials (25.4%), materials (24.8%), consumer staples (21.4%), communication services (17.0%), and information technology (15.9%). The combination of a steadily improving economy, improving corporate fundamentals, easy monetary policy, and rising inflationary pressures were all tailwinds for the robust performance in these sectors.



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 December 31, 2021

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Apple Inc	6.11%	25.7%	34.6%	Information Technology
Microsoft Corp	5.65%	19.5%	52.5%	Information Technology
Amazon.com Inc	3.23%	1.5%	2.4%	Consumer Discretionary
Alphabet Inc Class A	1.94%	8.4%	65.3%	Communication Services
Tesla Inc	1.91%	36.3%	49.8%	Consumer Discretionary
Alphabet Inc Class C	1.81%	8.6%	65.2%	Communication Services
Meta Platforms Inc Class A	1.77%	-0.9%	23.1%	Communication Services
NVIDIA Corp	1.57%	42.0%	125.5%	Information Technology
Berkshire Hathaway Inc Class B	1.22%	9.5%	29.0%	Financials
UnitedHealth Group Inc	1.05%	28.9%	45.2%	Health Care

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
AMC Entmt Hldgs Inc Class A	0.47%	-28.5%	1,183.0%	Communication Services
Synaptics Inc	0.38%	61.1%	200.3%	Information Technology
Lattice Semiconductor Corp	0.35%	19.2%	68.2%	Information Technology
EastGroup Properties Inc	0.31%	37.4%	68.4%	Real Estate
BJ's Wholesale Club Holdings Inc	0.31%	21.9%	79.6%	Consumer Staples
Tetra Tech Inc	0.31%	13.8%	47.5%	Industrials
Saia Inc	0.30%	41.6%	86.4%	Industrials
Ovintiv Inc	0.30%	3.0%	138.4%	Energy
Tenet Healthcare Corp	0.29%	23.0%	104.6%	Health Care
WillScot Mobile Mini Holdings Corp	0.29%	28.8%	76.3%	Industrials

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Arista Networks Inc	0.08%	67.3%	97.9%	Information Technology
Builders FirstSource Inc	0.04%	65.7%	110.0%	Industrials
New Relic Inc	0.01%	53.2%	68.1%	Information Technology
Teradyne Inc	0.06%	49.9%	36.8%	Information Technology
Ciena Corp	0.03%	49.9%	45.6%	Information Technology
ON Semiconductor Corp	0.06%	48.4%	107.5%	Information Technology
Ford Motor Co	0.18%	47.4%	137.5%	Consumer Discretionary
Dollar Tree Inc	0.07%	46.8%	30.1%	Consumer Discretionary
Marvell Technology Inc	0.16%	45.2%	84.6%	Information Technology
Rexford Industrial Realty Inc	0.03%	43.4%	67.8%	Real Estate

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Adicet Bio Inc Ordinary Shares	0.01%	123.1%	24.5%	Health Care
Yellow Corp Ordinary Shares	0.02%	122.9%	184.3%	Industrials
R.R. Donnelley & Sons Co	0.03%	119.1%	398.2%	Industrials
ChemoCentryx Inc	0.07%	112.9%	-41.2%	Health Care
iRhythm Technologies Inc	0.12%	101.0%	-50.4%	Health Care
BlueLinx Holdings Inc	0.03%	95.9%	227.3%	Industrials
Kezar Life Sciences Inc	0.02%	93.5%	220.3%	Health Care
Alpha & Omega Semiconductor Ltd	0.04%	93.1%	156.2%	Information Technology
Protagonist Therapeutics Inc	0.05%	93.0%	69.6%	Health Care
Clearfield Inc	0.03%	91.2%	241.5%	Information Technology

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Peloton Interactive Inc	0.02%	-58.9%	-76.4%	Consumer Discretionary
Everbridge Inc	0.01%	-55.4%	-54.8%	Information Technology
Chegg Inc	0.01%	-54.9%	-66.0%	Consumer Discretionary
Upstart Holdings Inc Ordinary Shares	0.02%	-52.2%	271.3%	Financials
StoneCo Ltd Class A	0.01%	-51.4%	-79.9%	Information Technology
Vroom Inc Ordinary Shares	0.00%	-51.1%	-73.7%	Consumer Discretionary
Paysafe Ltd Ord Shares - Class A	0.01%	-49.5%	N/A	Information Technology
Virgin Galactic Holdings Inc Shs A	0.01%	-47.1%	-43.6%	Industrials
DraftKings Inc Ord Shares - Class A	0.02%	-43.0%	-41.0%	Consumer Discretionary
DocuSign Inc	0.07%	-40.8%	-31.5%	Information Technology

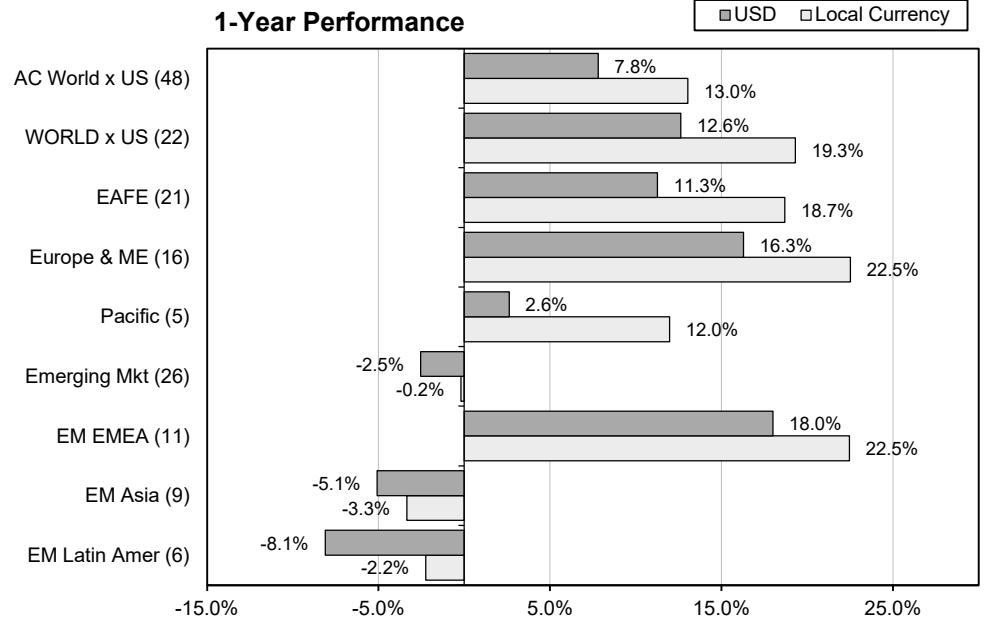
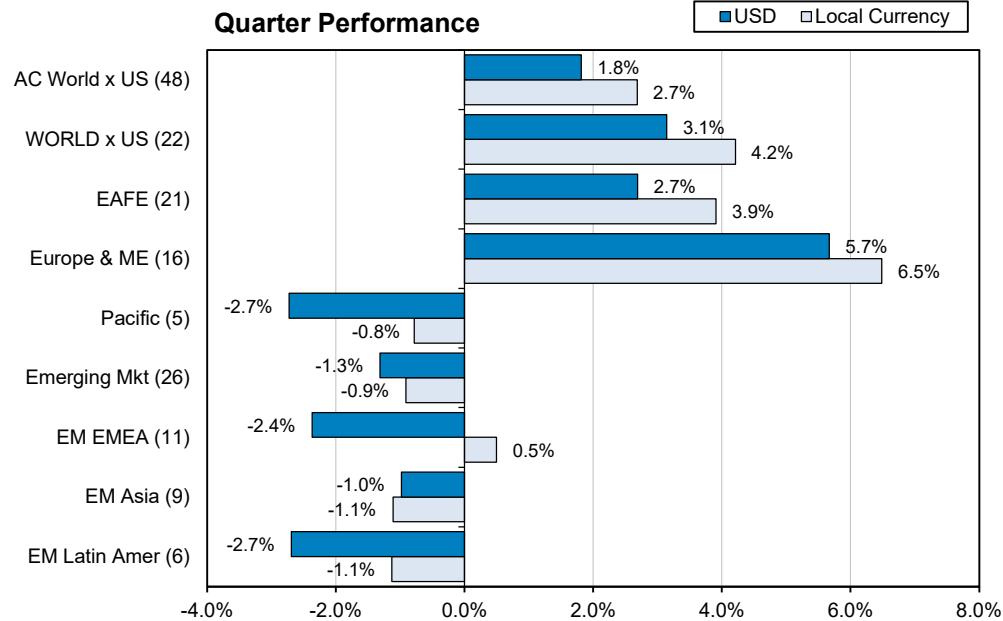
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Allakos Inc	0.01%	-90.8%	-93.0%	Health Care
Cortexyme Inc	0.01%	-86.2%	-54.6%	Health Care
Rafael Hldgs Inc Ord Shares - B	0.00%	-83.4%	-78.1%	Real Estate
Adagio Therapeutics Inc Ord Shares	0.01%	-82.8%	N/A	Health Care
Atea Pharmaceuticals Inc Ord Shs	0.02%	-74.5%	-78.6%	Health Care
Eros STX Global Corp	0.00%	-73.9%	-86.8%	Communication Services
Reata Pharmaceuticals Inc A	0.02%	-73.8%	-78.7%	Health Care
Generation Bio Co Ordinary Shares	0.01%	-71.8%	-75.0%	Health Care
BeyondSpring Inc	0.00%	-71.3%	-62.9%	Health Care
Deciphera Pharmaceuticals Inc	0.01%	-71.2%	-82.9%	Health Care

Source: Morningstar Direct



The Market Environment
International and Regional Market Index Performance (Country Count)
As of December 31, 2021

- Most developed market international equity indexes tracked in the chart posted positive returns in both US dollar (USD) and local currency terms for the 4th quarter. The provincial outlier during the period was the Pacific region which declined during the period on concerns about China and the country's future economic growth. The developed market MSCI EAFE Index returned 2.7% in USD and 3.9% in local currency (LC) terms for the period, while the MSCI Emerging Markets Index declined by -1.3% in USD and -0.9% in local currency terms.



Source: MSCI Global Index Monitor (Returns are Net)



The Market Environment
US Dollar International Index Attribution & Country Detail
As of December 31, 2021

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	4.5%	-5.6%	-5.7%
Consumer Discretionary	12.5%	2.9%	10.7%
Consumer Staples	10.3%	5.2%	7.3%
Energy	3.4%	-0.5%	22.9%
Financials	16.9%	1.2%	16.6%
Health Care	12.8%	3.0%	8.6%
Industrials	16.2%	2.6%	13.6%
Information Technology	9.7%	3.8%	20.9%
Materials	7.6%	5.9%	10.4%
Real Estate	2.8%	-0.5%	4.1%
Utilities	3.4%	8.8%	0.0%
Total	100.0%	2.7%	11.3%

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	6.1%	-2.8%	-6.9%
Consumer Discretionary	12.1%	-0.9%	-6.0%
Consumer Staples	8.6%	3.8%	5.3%
Energy	4.8%	-0.4%	26.0%
Financials	19.2%	1.9%	16.4%
Health Care	9.4%	0.1%	3.7%
Industrials	12.6%	2.6%	12.9%
Information Technology	13.6%	5.2%	15.4%
Materials	8.1%	3.6%	9.7%
Real Estate	2.4%	-2.3%	-2.2%
Utilities	3.1%	6.8%	3.1%
Total	100.0%	1.8%	7.8%

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	10.7%	-0.5%	-9.1%
Consumer Discretionary	13.5%	-8.2%	-29.1%
Consumer Staples	5.9%	-2.1%	-4.9%
Energy	5.6%	-3.8%	21.0%
Financials	19.4%	-0.4%	8.2%
Health Care	4.2%	-15.4%	-19.8%
Industrials	5.1%	-0.3%	8.4%
Information Technology	22.7%	7.4%	9.9%
Materials	8.6%	-2.9%	9.3%
Real Estate	2.0%	-8.5%	-21.8%
Utilities	2.4%	0.7%	12.4%
Total	100.0%	-1.3%	-2.5%

Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1- Year Return
Japan	22.5%	14.3%	-4.0%	1.7%
United Kingdom	14.6%	9.3%	5.6%	18.5%
France	11.7%	7.5%	7.1%	19.5%
Switzerland	10.5%	6.7%	12.8%	19.3%
Germany	8.9%	5.6%	0.8%	5.3%
Australia	6.9%	4.4%	2.1%	9.4%
Netherlands	4.9%	3.1%	3.5%	27.6%
Sweden	4.0%	2.5%	6.1%	21.9%
Hong Kong	2.8%	1.8%	-3.6%	-3.9%
Denmark	2.7%	1.7%	5.8%	19.1%
Italy	2.5%	1.6%	5.6%	15.0%
Spain	2.2%	1.4%	-1.4%	1.4%
Singapore	1.2%	0.8%	-3.4%	5.7%
Finland	1.0%	0.7%	3.0%	9.0%
Belgium	0.9%	0.6%	1.7%	2.2%
Israel	0.7%	0.5%	7.0%	15.2%
Ireland	0.7%	0.4%	0.6%	8.5%
Norway	0.7%	0.4%	-0.3%	22.0%
Austria	0.2%	0.2%	5.2%	41.5%
New Zealand	0.2%	0.1%	-4.0%	-17.1%
Portugal	0.2%	0.1%	1.9%	0.2%
Total EAFE Countries	100.0%	63.6%	2.7%	11.3%
Canada		7.5%	7.2%	26.0%
Total Developed Countries		71.1%	3.1%	12.6%
China		9.4%	-6.1%	-21.7%
Taiwan		4.7%	8.4%	26.1%
Korea		3.7%	-0.9%	-8.4%
India		3.6%	-0.2%	26.2%
Brazil		1.2%	-6.5%	-17.4%
Russia		1.0%	-9.2%	19.0%
Saudi Arabia		1.0%	-0.7%	37.7%
South Africa		0.9%	-0.5%	3.6%
Mexico		0.6%	6.2%	22.5%
Thailand		0.5%	3.0%	-1.4%
Indonesia		0.4%	6.4%	2.1%
Malaysia		0.4%	1.8%	-6.2%
United Arab Emirates		0.3%	10.3%	50.2%
Poland		0.2%	-2.4%	8.5%
Qatar		0.2%	2.6%	15.2%
Philippines		0.2%	3.7%	-3.9%
Kuwait		0.2%	2.3%	30.9%
Chile		0.1%	-10.5%	-17.3%
Hungary		0.1%	-9.7%	12.1%
Turkey		0.1%	-11.2%	-28.4%
Peru		0.1%	10.4%	-19.9%
Greece		0.1%	-3.6%	8.0%
Colombia		0.1%	-2.7%	-13.8%
Czech Republic		0.0%	12.3%	55.0%
Egypt		0.0%	18.3%	7.5%
Argentina		0.0%	-0.4%	21.0%
Pakistan		0.0%	-2.7%	-24.9%
Total Emerging Countries		28.9%	-1.3%	-2.5%
Total ACWIxUS Countries		100.0%	1.8%	7.8%

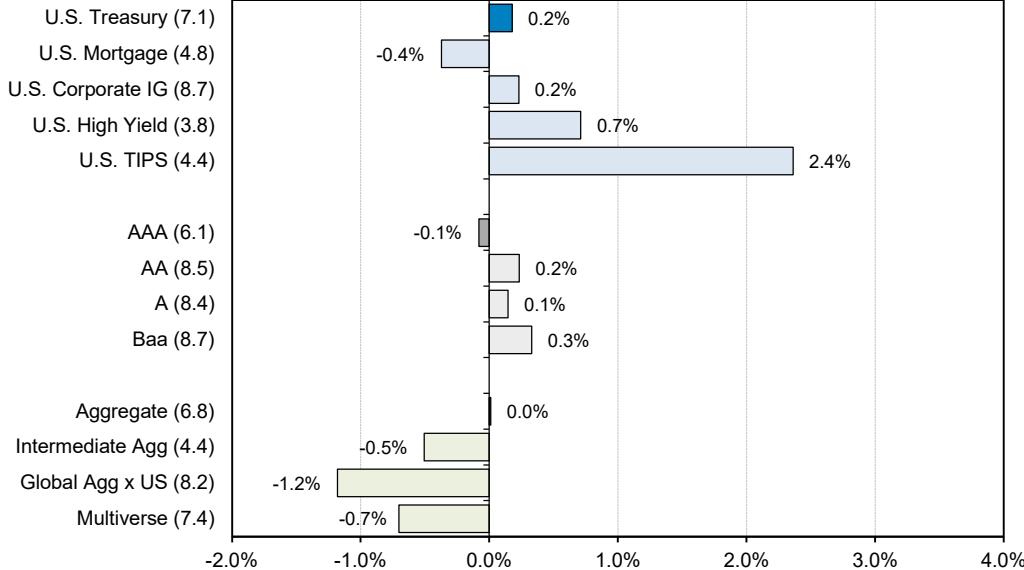
Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)

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.

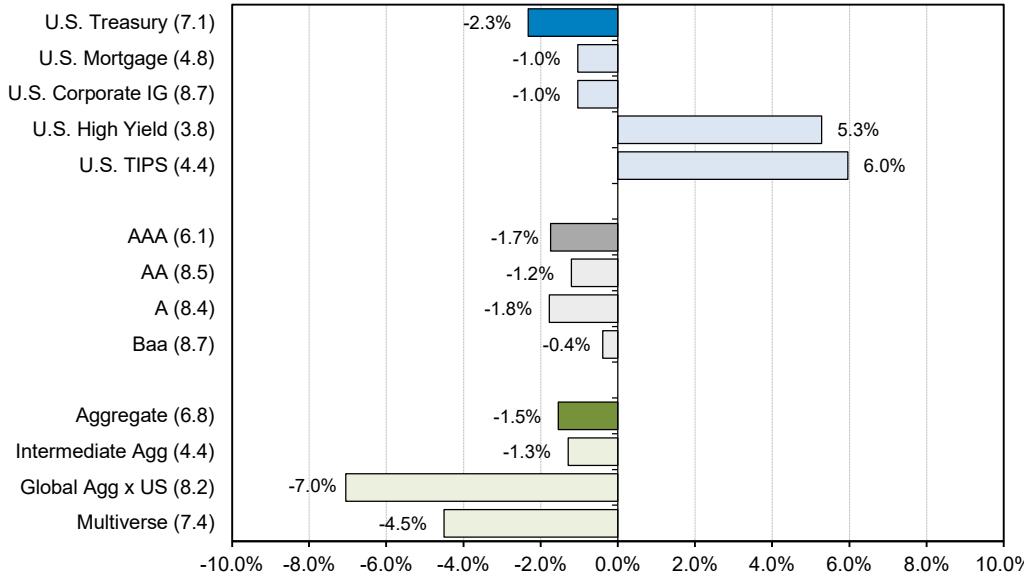


- Fixed income market results were mixed during the 4th quarter. While the Fed remained supportive with bond purchases, concerns about rising inflation and potentially higher interest rates detracted from performance. US Treasury yields were mixed across the maturity curve but remained low.
- The return for the Bloomberg US Aggregate Bond Index, the bellwether investment grade benchmark, was flat for the period at 0.0%.
- Performance across the investment grade index's segments was mixed during the period with the US Corporate Investment Grade bonds returning 0.2% while the US Mortgage index component fell -0.4%.
- US TIPS posted the quarter's strongest bond performance with a return of 2.4%. High yield issues were also positive, posting a return of 0.7%.
- Outside of domestic markets, the BB Global Aggregate ex US Index posted a return of -1.2% for the quarter. Like international stocks, global bond index performance was negatively impacted by the strengthening USD, which acted as a drag on domestic index returns.

Quarter Performance



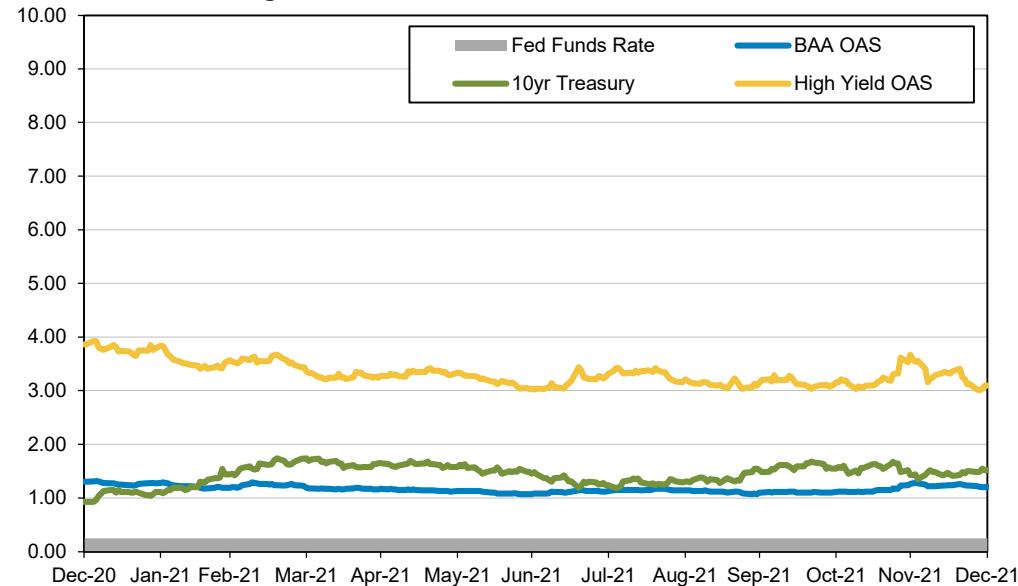
1-Year Performance



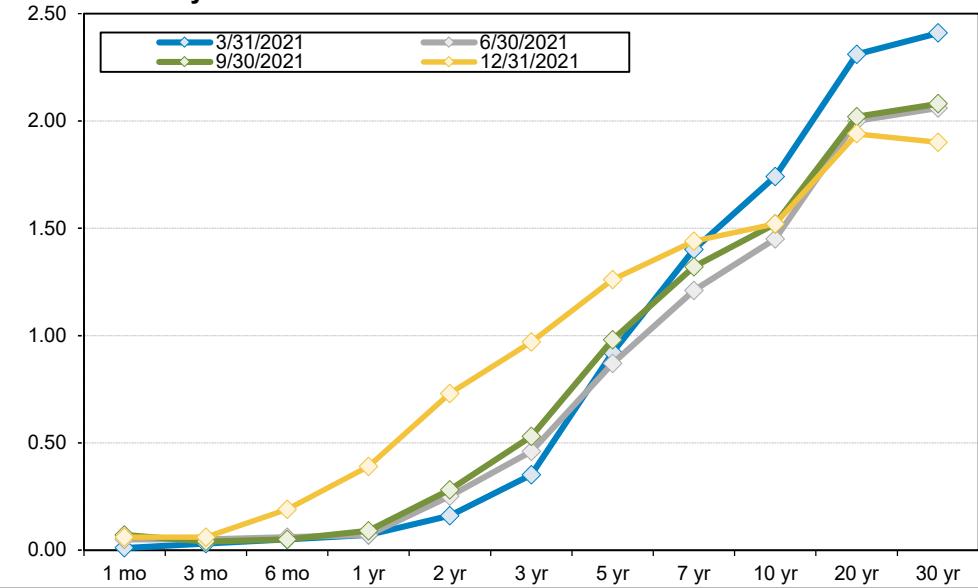
Source: Bloomberg

- The gray band across the graph illustrates the range of the current Fed Funds Rate. Over the past year, the Fed's target rate range has remained unchanged at 0.00% to 0.25%. During its recent December meeting, the Federal Open Market Committee (FOMC) stated its intent to keep interest rates unchanged in the near-term, while also signaling that it would end its bond purchase program earlier than expected and foreshadowing that interest rates could begin to rise early next year.
- The yield on the US 10-year Treasury (green line) ended the year higher as economic growth accelerated in anticipation of the Fed beginning the process of normalizing interest rates. After reaching a high of 1.74% during the 1st quarter of 2021, interest rates traded within a narrow range for the remainder of the year. The yield on the US 10-year Treasury was 1.52% on December 31st.
- 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 narrowed slightly from 1.30% to 1.21%. A narrowing of the premium measured by the High Yield OAS showed investors' willingness to take on credit risk during the year as the spread tightened from 3.86% to 3.10% over the course of the year.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four quarters. While short-term rates are largely pinned to the Fed Funds Rate, beginning in the 1st quarter of 2021, intermediate-term interest rates began to move higher as investors expectations for higher future interest rates increased. In contrast, longer-term interest rates declined throughout the year over concerns that future economic growth may slow due to rising interest rates.

1-Year Trailing Market Rates



Treasury Yield Curve



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

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

Comparative Performance
Total Fund
As of December 31, 2021

Comparative Performance Trailing Returns												
	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date		
Total Fund Performance	5.02	(15)	14.00	(27)	14.00	(27)	11.90	(86)	14.61	(83)	10.08	(85)
Total Fund Policy	4.75	(25)	13.81	(33)	13.81	(33)	12.65	(80)	14.89	(77)	10.34	(81)
Allocation Index	4.99	(16)	14.11	(25)	14.11	(25)	11.99	(86)	14.52	(84)	10.19	(83)
All Public Plans-Total Fund Median	3.98	12.75	12.75		13.88		15.90		11.34		9.74	
All Public Plan Sponsor Universes with 50% or Less Equities												
Total Fund Performance	5.02	(8)	14.00	(7)	14.00	(7)	11.90	(47)	14.61	(36)	10.08	(37)
Total Fund Policy	4.75	(11)	13.81	(7)	13.81	(7)	12.65	(40)	14.89	(31)	10.34	(34)
All Public Plans <= 50% Equities Median	3.90	10.92	10.92		11.45		13.52		8.86		N/A	
All Public Plan Sponsor Universes with 60% or More Equities												
Total Fund Performance	5.02	(20)	14.00	(37)	14.00	(37)	11.90	(93)	14.61	(92)	10.08	(92)
Total Fund Policy	4.75	(26)	13.81	(43)	13.81	(43)	12.65	(87)	14.89	(86)	10.34	(90)
All Public Plans >=60% Equities Median	4.20	13.34	13.34		14.09		16.29		11.49		9.88	

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



Comparative Performance
Total Fund
As of December 31, 2021

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Domestic Equity										
Total Fund Domestic Equity	9.50	26.91	26.91	20.26	23.35	15.91	N/A	N/A	12.94	07/01/2014
Vanguard Inst'l Index Fund (VINIX)	11.02 (8)	28.67 (8)	28.67 (8)	N/A	N/A	N/A	N/A	N/A	N/A	11/01/2020
S&P 500 Index	11.03 (3)	28.71 (1)	28.71 (1)	23.44 (6)	26.07 (3)	18.47 (2)	16.55 (1)	10.66 (2)	40.17 (2)	
IM S&P 500 Index (MF) Median	10.94	28.25	28.25	23.05	25.64	18.06	16.04	10.19	39.67	
Vanguard Growth Index (VIGIX)	10.73 (20)	27.27 (18)	27.27 (18)	33.58 (11)	34.79 (8)	24.79 (29)	19.30 (20)	N/A	17.47 (16)	05/01/2010
Vanguard Growth Index Hybrid	10.74 (20)	27.30 (17)	27.30 (17)	33.63 (11)	34.84 (7)	24.82 (28)	19.36 (19)	13.49 (19)	17.53 (14)	
Russell 1000 Growth Index	11.64 (8)	27.60 (15)	27.60 (15)	32.93 (13)	34.08 (10)	25.32 (19)	19.79 (13)	13.72 (14)	17.98 (8)	
IM U.S. Large Cap Growth Equity (MF) Median	7.69	22.03	22.03	29.18	30.72	23.41	18.19	12.54	16.24	
Vanguard Value Index (VIVIX)	9.31 (18)	26.48 (47)	26.48 (47)	13.75 (59)	17.64 (54)	12.52 (25)	13.74 (13)	N/A	14.01 (12)	07/01/2009
Vanguard Value Index Hybrid	9.33 (18)	26.51 (46)	26.51 (46)	13.74 (59)	17.65 (54)	12.53 (25)	13.78 (12)	8.14 (26)	14.05 (12)	
Russell 1000 Value Index	7.77 (58)	25.16 (62)	25.16 (62)	13.43 (63)	17.64 (54)	11.16 (62)	12.97 (33)	7.51 (48)	13.44 (23)	
IM U.S. Large Cap Value Equity (MF) Median	8.23	26.24	26.24	14.21	17.86	11.60	12.54	7.43	12.73	
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	7.97 (52)	24.67 (52)	24.67 (52)	19.00 (35)	21.33 (40)	N/A	N/A	N/A	16.08 (50)	12/01/2018
S&P MidCap 400 Index	8.00 (50)	24.76 (52)	24.76 (52)	19.08 (35)	21.41 (38)	13.09 (36)	14.20 (22)	10.45 (6)	16.16 (49)	
IM U.S. Mid Cap Core Equity (MF) Median	7.99	24.87	24.87	17.27	20.79	12.35	12.85	8.70	16.02	
Vanguard Small-Cap 600 Index I (VSMSX)	5.61 (56)	26.74 (35)	26.74 (35)	18.85 (34)	20.14 (39)	N/A	N/A	N/A	14.66 (41)	12/01/2018
S&P SmallCap 600 Index	5.64 (55)	26.82 (34)	26.82 (34)	18.80 (35)	20.11 (40)	12.42 (23)	14.50 (7)	10.15 (5)	14.63 (42)	
IM U.S. Small Cap Core Equity (MF) Median	5.89	24.55	24.55	17.43	19.55	10.97	12.54	8.43	14.19	

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 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of December 31, 2021

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
International Equity										
Total Fund Performance - International Equity	0.68	6.98	6.98	8.60	12.75	9.42	N/A	N/A	4.83	07/01/2014
Vanguard Intl Value (VTRIX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.90 (80)	12/01/2021
MSCI AC World ex USA Value	1.34 (66)	11.13 (72)	11.13 (72)	5.31 (87)	8.90 (90)	6.64 (82)	5.90 (96)	2.78 (80)	5.36 (54)	
IM International Multi-Cap Value Equity (MF) Median	1.98	12.90	12.90	8.05	11.68	7.50	7.04	3.35	5.44	
Vanguard Intl Growth (VWILX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.30 (96)	12/01/2021
MSCI AC World ex USA Growth	2.40 (55)	5.37 (76)	5.37 (76)	13.64 (61)	18.19 (60)	13.44 (48)	9.51 (66)	5.59 (55)	3.03 (63)	
IM International Multi-Cap Growth Equity (MF) Median	2.71	10.52	10.52	14.83	19.05	13.40	10.18	5.75	3.90	
Vanguard FTSE AW ex-US SC Index (VFSNX)	2.08 (1)	12.76 (53)	12.76 (53)	N/A	N/A	N/A	N/A	N/A	39.69 (15)	04/01/2020
FTSE Global ex U.S. Small Cap Index (Net)	1.65 (9)	13.02 (48)	13.02 (48)	12.21 (21)	15.24 (29)	10.00 (41)	N/A	N/A	39.48 (15)	
IM International SMID Cap Core Equity (MF) Median	0.38	12.87	12.87	10.71	13.93	8.91	8.92	5.18	37.05	
Vanguard Developed Markets Index (VTMNX)	2.99 (41)	11.44 (35)	11.44 (35)	10.85 (41)	14.49 (44)	10.17 (38)	8.56 (36)	N/A	8.00 (46)	07/01/2009
Vanguard Spliced Developed ex U.S. Index (Net)	2.55 (50)	11.57 (33)	11.57 (33)	10.78 (42)	14.51 (44)	10.07 (40)	8.48 (39)	3.89 (49)	7.97 (46)	
MSCI EAFE (Net) Index	2.69 (47)	11.26 (37)	11.26 (37)	9.53 (56)	13.54 (56)	9.55 (53)	8.03 (51)	3.60 (55)	7.61 (55)	
IM International Multi-Cap Equity (MF) Median	2.52	10.10	10.10	9.97	13.88	9.65	8.05	3.79	7.76	
Vanguard Emerging Markets Index (VEMIX)	-0.40 (37)	0.92 (36)	0.92 (36)	7.86 (53)	11.88 (49)	9.48 (53)	5.32 (56)	N/A	3.48 (57)	10/01/2010
FTSE Emerging Mkts All Cap China A Inclusion Index	-0.45 (39)	1.76 (32)	1.76 (32)	8.57 (47)	12.51 (42)	9.87 (46)	6.18 (41)	5.14 (30)	4.08 (44)	
MSCI Emerging Markets (Net) Index	-1.31 (52)	-2.54 (59)	-2.54 (59)	7.38 (58)	10.94 (62)	9.87 (46)	5.49 (52)	4.45 (45)	3.63 (54)	
IM Emerging Markets Equity (MF) Median	-1.26	-1.60	-1.60	8.11	11.81	9.59	5.62	4.25	3.79	
Fixed Income										
Total Fund Performance - Fixed Income	0.06	0.05	0.05	3.34	5.57	3.93	N/A	N/A	3.15	07/01/2014
Vanguard Short Term Bond Index (VBITX)	-0.68 (84)	-0.97 (94)	-0.97 (94)	1.83 (34)	2.82 (28)	2.20 (32)	N/A	N/A	1.69 (30)	04/01/2013
Bloomberg 1-5 Year Gov/Credit Idx	-0.72 (90)	-0.97 (94)	-0.97 (94)	1.83 (34)	2.88 (26)	2.25 (28)	1.77 (41)	2.78 (14)	1.74 (27)	
IM U.S. Short Term Investment Grade (MF) Median	-0.38	0.01	0.01	1.42	2.33	1.89	1.65	2.13	1.46	
Vanguard Total Bond Index (VBTIX)	-0.08 (40)	-1.65 (65)	-1.65 (65)	2.93 (68)	N/A	N/A	N/A	N/A	2.26 (71)	09/01/2019
Bloomberg U.S. Aggregate Index	0.01 (22)	-1.55 (61)	-1.55 (61)	2.88 (71)	4.79 (70)	3.57 (61)	2.90 (64)	4.09 (48)	2.31 (68)	
IM U.S. Broad Market Core Fixed Income (MF) Median	-0.14	-1.32	-1.32	3.39	5.17	3.71	3.10	4.03	2.71	
Vanguard High Yield Bond Fund (VWEAX)	0.53 (52)	3.78 (71)	3.78 (71)	4.58 (62)	8.23 (35)	5.70 (30)	N/A	N/A	5.32 (20)	12/01/2014
Bloomberg U.S. Corp High Yield	0.71 (29)	5.28 (38)	5.28 (38)	6.19 (19)	8.83 (17)	6.30 (12)	6.83 (10)	7.07 (3)	5.86 (7)	
IM U.S. High Yield Bonds (MF) Median	0.55	4.71	4.71	5.00	7.78	5.28	5.82	5.80	4.66	
Vanguard International Bond (VTIFX)	-0.18 (9)	-2.17 (23)	-2.17 (23)	1.16 (39)	3.35 (37)	3.10 (40)	N/A	N/A	3.16 (9)	05/01/2015
Bloomberg Global Agg ex-USD Flt Adj RIC Cpd (H)	-0.12 (6)	-2.10 (22)	-2.10 (22)	1.26 (33)	3.48 (28)	3.24 (30)	N/A	N/A	3.15 (9)	
IM International Fixed Income (MF) Median	-1.20	-5.46	-5.46	0.88	2.66	2.69	1.32	3.60	1.31	

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



Comparative Performance
Total Fund
As of December 31, 2021

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Vanguard EM Bond (VEGBX)	N/A	N/A	1.75 (21)	12/01/2021						
Blmbg. Emerging Markets USD Aggregate Index	-0.52 (14)	-1.65 (43)	-1.65 (43)	2.35 (54)	5.82 (69)	4.57 (76)	5.12 (63)	6.00 (64)	0.98 (79)	
IM Emerging Markets Debt (MF) Median	-0.98	-1.95	-1.95	2.57	6.60	5.07	5.33	6.37	1.52	
REIT										
Vanguard Real Estate Index Fund (VGSNX)	14.96 (65)	40.47 (61)	40.47 (61)	15.72 (55)	19.99 (46)	11.27 (49)	11.53 (28)	N/A	11.72 (29)	10/01/2010
Vanguard Spliced REIT Index	14.94 (66)	40.56 (59)	40.56 (59)	15.83 (53)	20.07 (44)	11.35 (47)	11.61 (26)	7.21 (28)	11.78 (28)	
IM Real Estate Sector (MF) Median	15.65	41.16	41.16	16.02	19.72	11.23	10.97	6.39	11.11	

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



Comparative Performance

Total Fund

As of December 31, 2021

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Total Fund - Domestic Equity	9.50	26.91	26.91	20.26	23.35	15.91	N/A	N/A	12.94	07/01/2014
Total Domestic Large Cap Equity	10.63	27.04	27.04	20.35	23.59	16.65	N/A	N/A	13.80	06/01/2014
S&P 500 Index	11.03	28.71	28.71	23.44	26.07	18.47	16.55	10.66	14.91	
Large Cap Growth	10.73	27.27	27.27	34.25	35.28	25.01	N/A	N/A	18.62	06/01/2014
Vanguard Growth Index Hybrid	10.74	27.30	27.30	33.63	34.84	24.82	19.36	13.49	18.48	
Russell 1000 Growth Index	11.64	27.60	27.60	32.93	34.08	25.32	19.79	13.72	19.21	
Large Cap Core	10.93	27.04	27.04	17.69	21.47	15.11	N/A	N/A	12.80	06/01/2014
S&P 500 Index	11.03	28.71	28.71	23.44	26.07	18.47	16.55	10.66	14.91	
Large Cap Value	9.31	26.48	26.48	13.75	17.64	12.50	N/A	N/A	11.34	06/01/2014
Vanguard Value Index Hybrid	9.33	26.51	26.51	13.74	17.65	12.53	13.78	8.14	11.30	
Russell 1000 Value Index	7.77	25.16	25.16	13.43	17.64	11.16	12.97	7.51	10.00	
Mid Cap Equity	7.97	24.67	24.67	19.00	21.33	13.79	N/A	N/A	11.44	06/01/2014
Mid Cap Hybrid Index	8.00	24.76	24.76	19.08	21.41	13.78	14.10	N/A	11.45	
Small Cap Equity	5.61	26.74	26.74	18.85	20.14	12.54	N/A	N/A	10.84	06/01/2014
Small Cap Hybrid Index	5.64	26.82	26.82	18.80	20.11	12.55	13.68	N/A	10.83	
Total Fund - International Equity	0.68	6.98	6.98	8.60	12.75	9.42	N/A	N/A	4.83	07/01/2014
Small Cap - International Equity	2.08	12.76	12.76	N/A	N/A	N/A	N/A	N/A	39.69	04/01/2020
FTSE Global ex U.S. Small Cap Index (Net)	1.65	13.02	13.02	12.21	15.24	10.00	N/A	N/A	39.48	
Developed Markets - International Equity	2.99	11.44	11.44	10.85	14.49	10.17	N/A	N/A	5.55	06/01/2014
Vanguard Spliced Developed ex U.S. Index (Net)	2.55	11.57	11.57	10.78	14.51	10.07	8.48	3.89	5.60	
Emerging Markets - International Equity	-0.22	1.10	1.10	7.95	11.94	9.52	N/A	N/A	4.89	06/01/2014
FTSE Emerging Mkts All Cap China A Inclusion Index	-0.45	1.76	1.76	8.57	12.51	9.87	6.18	5.14	5.66	
MSCI Emerging Markets (Net) Index	-1.31	-2.54	-2.54	7.38	10.94	9.87	5.49	4.45	4.86	

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



Comparative Performance
Total Fund
As of December 31, 2021

	QTR	FYTD	1 YR	2 YR	3 YR	5 YR	10 YR	15 YR	Inception	Inception Date
Total Fund - Fixed Income	0.06	0.05	0.05	3.34	5.57	3.93	N/A	N/A	3.15	07/01/2014
Short - Term Fixed Income	-0.68	-0.97	-0.97	1.83	2.78	2.18	N/A	N/A	1.79	06/01/2014
Bloomberg 1-5 Year Gov/Credit Iidx	-0.72	-0.97	-0.97	1.83	2.88	2.25	1.77	2.78	1.86	
High Yield - Fixed Income	0.53	3.78	3.78	4.58	8.23	5.60	N/A	N/A	5.27	11/01/2014
Blmbg. U.S. Corp High Yield	0.71	5.28	5.28	6.19	8.83	6.30	6.83	7.07	5.68	
Non-US Fixed Income	-0.18	-2.17	-2.17	1.16	3.35	3.10	N/A	N/A	3.23	05/01/2015
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	-0.12	-2.10	-2.10	1.26	3.48	3.24	N/A	N/A	3.15	
Real Estate	14.96	40.47	40.47	15.72	19.99	11.27	N/A	N/A	10.27	06/01/2014
Vanguard Spliced REIT Index	14.94	40.56	40.56	15.83	20.07	11.35	11.61	7.21	10.53	

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



Comparative Performance
Total Fund
As of December 31, 2021

Comparative Performance Trailing Returns										
	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Fund Performance	9.84	20.21	-5.76	13.91	8.58	-0.72	8.24	18.07	13.88	1.26
Total Fund Policy	11.44	19.49	-4.94	13.67	8.48	-0.69	8.15	16.99	14.31	2.15
Allocation Index	9.90	19.76	-5.32	14.25	7.44	-0.62	N/A	N/A	N/A	N/A
Domestic Equity										
Total Fund Domestic Equity	13.96	29.77	-7.16	20.07	13.45	-0.10	N/A	33.56	16.18	-0.54
Twin Capital Low Volatility	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	N/A
S&P 500 Index	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)	2.11 (50)
IM U.S. Large Cap Core Equity (SA+CF) Median	17.25	30.00	-5.16	21.86	10.63	1.42	13.43	32.98	15.64	2.02
Twin Capital Enhanced Index	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	N/A
S&P 500 Index	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)	2.11 (63)
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median	16.16	29.91	-5.35	22.45	12.45	1.02	14.03	33.34	16.65	2.85
Vanguard Inst'l Index Fund (VINIX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P 500 Index	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 (1)	2.11 (3)
IM S&P 500 Index (MF) Median	18.05	31.06	-4.66	21.35	11.54	0.95	13.16	31.76	15.43	1.63
Vanguard Growth Index (VIGIX)	40.20 (30)	37.25 (13)	-3.32 (77)	27.82 (66)	6.11 (17)	3.23 (77)	13.70 (15)	32.44 (66)	16.99 (32)	1.80 (16)
Vanguard Growth Index Hybrid	40.27 (30)	37.31 (13)	-3.34 (78)	27.86 (65)	6.16 (16)	3.38 (76)	13.69 (15)	32.51 (65)	17.14 (29)	1.95 (15)
Russell 1000 Growth Index	38.49 (36)	36.39 (21)	-1.51 (58)	30.21 (41)	7.08 (8)	5.67 (54)	13.05 (22)	33.48 (55)	15.26 (46)	2.64 (11)
IM U.S. Large Cap Growth Equity (MF) Median	36.17	33.38	-0.85	29.46	2.19	6.00	10.47	33.94	14.81	-1.76
Vanguard Value Index (VIVIX)	2.30 (56)	25.83 (54)	-5.42 (13)	17.14 (37)	16.87 (22)	-0.81 (11)	13.20 (11)	33.01 (43)	15.12 (61)	1.17 (21)
Vanguard Value Index Hybrid	2.26 (57)	25.85 (54)	-5.40 (13)	17.16 (36)	16.93 (22)	-0.86 (11)	13.29 (11)	33.20 (40)	15.22 (59)	1.26 (21)
Russell 1000 Value Index	2.80 (48)	26.54 (45)	-8.27 (36)	13.66 (76)	17.34 (19)	-3.83 (58)	13.45 (9)	32.53 (48)	17.51 (28)	0.39 (28)
IM U.S. Large Cap Value Equity (MF) Median	2.62	26.07	-9.06	16.29	13.82	-3.53	10.82	32.30	15.85	-2.20
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	13.58 (34)	26.13 (71)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P MidCap 400 Index	13.66 (34)	26.20 (70)	-11.08 (42)	16.24 (42)	20.74 (10)	-2.18 (31)	9.77 (40)	33.50 (61)	17.88 (25)	-1.73 (28)
IM U.S. Mid Cap Core Equity (MF) Median	9.97	28.07	-11.52	15.44	14.23	-3.40	8.91	35.08	15.84	-3.38
Vanguard Small-Cap 600 Index I (VSMSX)	11.46 (43)	22.74 (62)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P SmallCap 600 Index	11.29 (44)	22.78 (62)	-8.48 (10)	13.23 (40)	26.56 (14)	-1.97 (24)	5.76 (34)	41.31 (18)	16.33 (33)	1.02 (8)
IM U.S. Small Cap Core Equity (MF) Median	10.36	23.89	-12.66	12.38	21.34	-4.34	4.65	36.97	14.57	-3.78

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



Comparative Performance
Total Fund
As of December 31, 2021

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
International Equity										
Total Fund Performance - International Equity	10.24	21.55	-14.50	28.00	5.26	-5.56	N/A	13.97	19.18	-16.04
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	-0.21 (77)	16.45 (75)	-13.45 (10)	23.35 (66)	9.59 (17)	-9.59 (92)	-4.60 (44)	15.65 (97)	17.69 (46)	-12.71 (59)
IM International Multi-Cap Value Equity (MF) Median	3.86	18.86	-16.18	24.30	3.65	-2.30	-5.18	23.72	17.39	-11.58
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	22.56 (38)	27.84 (52)	-14.10 (47)	32.47 (37)	0.50 (49)	-0.91 (78)	-2.29 (39)	15.86 (86)	17.07 (80)	-13.93 (69)
IM International Multi-Cap Growth Equity (MF) Median	19.67	28.22	-14.37	29.79	0.33	1.33	-3.65	21.01	19.78	-12.59
Vanguard FTSE AW ex-US SC Index (VFSNX)	N/A	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)	11.40 (22)	21.55 (32)	-18.91 (48)	29.78 (65)	3.93 (34)	-0.61 (85)	-4.34 (24)	N/A	N/A	N/A
IM International SMID Cap Core Equity (MF) Median	8.92	20.74	-19.09	32.40	-0.71	5.09	-6.28	24.95	20.35	-17.32
Vanguard Developed Markets Index (VTMNX)	10.27 (48)	22.14 (47)	-14.49 (36)	26.46 (47)	2.46 (30)	-0.19 (45)	-5.62 (55)	22.07 (37)	18.92 (30)	-12.54 (41)
Vanguard Spliced Developed ex U.S. Index (Net)	10.00 (49)	22.34 (45)	-14.79 (39)	26.31 (48)	2.29 (32)	-0.28 (46)	-4.85 (46)	22.71 (30)	17.32 (58)	-12.14 (35)
MSCI EAFE (Net) Index	7.82 (61)	22.01 (49)	-13.79 (25)	25.03 (65)	1.00 (47)	-0.81 (53)	-4.90 (46)	22.78 (29)	17.32 (58)	-12.14 (35)
IM International Multi-Cap Equity (MF) Median	9.53	21.85	-15.72	25.99	0.66	-0.69	-5.28	20.57	17.79	-13.46
Vanguard Emerging Markets Index (VEMIX)	15.26 (63)	20.37 (49)	-14.54 (30)	31.43 (70)	11.76 (26)	-15.39 (68)	0.72 (18)	-5.06 (79)	18.06 (57)	-18.73 (40)
FTSE Emerging Mkts All Cap China A Inclusion Index	15.84 (60)	20.81 (47)	-14.49 (30)	31.46 (70)	10.66 (34)	-13.28 (47)	2.96 (10)	-2.82 (60)	18.48 (54)	-19.81 (52)
MSCI Emerging Markets (Net) Index	18.31 (45)	18.44 (62)	-14.58 (30)	37.28 (42)	11.19 (30)	-14.92 (63)	-2.19 (43)	-2.60 (58)	18.23 (56)	-18.42 (36)
IM Emerging Markets Equity (MF) Median	17.46	20.09	-16.39	35.37	8.35	-13.66	-2.93	-1.38	18.78	-19.54
Fixed Income										
Total Fund Performance - Fixed Income	6.75	10.16	-0.71	3.82	4.79	-0.18	N/A	-3.65	7.39	12.20
Vanguard Short Term Bond Index (VBITX)	4.71 (11)	4.84 (24)	1.37 (42)	1.19 (72)	1.51 (60)	0.98 (9)	1.32 (12)	N/A	N/A	N/A
Bloomberg 1-5 Year Gov/Credit Idx	4.71 (11)	5.01 (18)	1.38 (41)	1.27 (67)	1.56 (56)	0.97 (9)	1.42 (10)	0.28 (64)	2.24 (70)	3.14 (4)
IM U.S. Short Term Investment Grade (MF) Median	3.03	4.11	1.25	1.47	1.69	0.28	0.67	0.48	3.12	1.08
Vanguard Total Bond Index (VBTIX)	7.73 (65)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. U.S. Aggregate Index	7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)	0.55 (20)	5.97 (26)	-2.02 (53)	4.21 (81)	7.84 (11)
IM U.S. Broad Market Core Fixed Income (MF) Median	8.19	8.76	-0.63	3.59	2.86	0.09	5.55	-1.98	5.99	6.66
Vanguard High Yield Bond Fund (VWEAX)	5.38 (47)	15.90 (8)	-2.87 (49)	7.13 (35)	11.27 (80)	-1.31 (17)	N/A	N/A	N/A	N/A
Blmbg. U.S. Corp High Yield	7.11 (19)	14.32 (34)	-2.08 (28)	7.50 (24)	17.13 (7)	-4.47 (62)	2.45 (24)	7.44 (30)	15.81 (29)	4.98 (16)
IM U.S. High Yield Bonds (MF) Median	5.28	13.51	-2.91	6.65	13.52	-3.85	1.49	6.61	14.72	3.32
Vanguard International Bond (VTIFX)	4.59 (76)	7.89 (24)	3.00 (2)	2.43 (86)	4.69 (35)	N/A	N/A	N/A	N/A	N/A
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	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	N/A
IM International Fixed Income (MF) Median	6.92	6.60	-2.68	9.80	3.34	-5.82	0.63	-3.74	7.43	2.56

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Comparative Performance
Total Fund
As of December 31, 2021

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Vanguard EM Bond (VEGBX)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Emerging Markets USD Aggregate Index	6.52 (52)	13.11 (76)	-2.46 (15)	8.17 (94)	9.88 (78)	1.29 (17)	4.76 (30)	-4.12 (31)	17.95 (70)	6.97 (39)
IM Emerging Markets Debt (MF) Median	6.69	14.79	-4.96	11.67	11.64	-1.19	2.36	-5.42	20.11	6.55
REIT										
Vanguard Real Estate Index Fund (VGSNX)	-4.67 (56)	29.02 (34)	-5.93 (54)	4.93 (56)	8.51 (19)	2.56 (58)	30.17 (35)	2.46 (28)	17.64 (32)	8.73 (35)
Vanguard Spliced REIT Index	-4.55 (54)	29.03 (34)	-5.86 (52)	5.07 (52)	8.60 (19)	2.52 (58)	30.38 (30)	2.47 (28)	17.77 (30)	8.69 (37)
IM Real Estate Sector (MF) Median	-4.24	27.44	-5.74	5.21	6.28	2.92	29.42	1.66	16.90	7.86

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 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of December 31, 2021

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Fund - Domestic Equity	13.96	29.77	-7.16	20.07	13.45	-0.10	N/A	33.56	16.18	-0.54
Total Domestic Large Cap Equity	14.02	30.31	-5.16	20.67	13.09	1.00	N/A	N/A	N/A	N/A
S&P 500 Index	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39	16.00	2.11
Large Cap Growth	41.61	37.36	-3.51	27.82	5.87	3.78	N/A	N/A	N/A	N/A
Vanguard Growth Index Hybrid	40.27	37.31	-3.34	27.86	6.16	3.38	13.69	32.51	17.14	1.95
Russell 1000 Growth Index	38.49	36.39	-1.51	30.21	7.08	5.67	13.05	33.48	15.26	2.64
Large Cap Core	9.03	29.41	-5.71	19.57	14.29	0.18	N/A	N/A	N/A	N/A
S&P 500 Index	18.40	31.49	-4.38	21.83	11.96	1.38	13.69	32.39	16.00	2.11
Large Cap Value	2.30	25.83	-5.50	17.14	16.87	-0.27	N/A	N/A	N/A	N/A
Vanguard Value Index Hybrid	2.26	25.85	-5.40	17.16	16.93	-0.86	13.29	33.20	15.22	1.26
Russell 1000 Value Index	2.80	26.54	-8.27	13.66	17.34	-3.83	13.45	32.53	17.51	0.39
Mid Cap Equity	13.58	26.13	-10.44	19.29	11.23	-1.31	N/A	N/A	N/A	N/A
Mid Cap Hybrid Index	13.66	26.20	-10.67	19.30	11.25	-1.28	13.83	35.21	16.04	-1.91
Small Cap Equity	11.46	22.74	-10.45	16.25	18.32	-3.63	N/A	N/A	N/A	N/A
Small Cap Hybrid Index	11.29	22.78	-10.32	16.24	18.26	-3.68	7.54	37.77	18.20	-2.75
Total Fund - International Equity	10.24	21.55	-14.50	28.00	5.26	-5.56	N/A	13.97	19.18	-16.04
Small Cap - International Equity	N/A	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)	11.40	21.55	-18.91	29.78	3.93	-0.61	-4.34	N/A	N/A	N/A
Developed Markets - International Equity	10.27	22.14	-14.49	26.46	2.46	-0.41	N/A	N/A	N/A	N/A
Vanguard Spliced Developed ex U.S. Index (Net)	10.00	22.34	-14.79	26.31	2.29	-0.28	-4.85	22.71	17.32	-12.14
Emerging Markets - International Equity	15.26	20.37	-14.54	31.43	11.76	-15.80	N/A	N/A	N/A	N/A
FTSE Emerging Mkts All Cap China A Inclusion Index	15.84	20.81	-14.49	31.46	10.66	-13.28	2.96	-2.82	18.48	-19.81
MSCI Emerging Markets (Net) Index	18.31	18.44	-14.58	37.28	11.19	-14.92	-2.19	-2.60	18.23	-18.42

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 Returns are expressed as percentages.



Comparative Performance
Total Fund
As of December 31, 2021

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Total Fund - Fixed Income	6.75	10.16	-0.71	3.82	4.79	-0.18	N/A	-3.65	7.39	12.20
Short - Term Fixed Income	4.71	4.71	1.37	1.19	1.51	0.98	N/A	N/A	N/A	N/A
Bloomberg 1-5 Year Gov/Credit Idx	4.71	5.01	1.38	1.27	1.56	0.97	1.42	0.28	2.24	3.14
High Yield - Fixed Income	5.38	15.90	-2.87	6.65	10.89	-1.28	N/A	N/A	N/A	N/A
Blmbg. U.S. Corp High Yield	7.11	14.32	-2.08	7.50	17.13	-4.47	2.45	7.44	15.81	4.98
Non-US Fixed Income	4.59	7.89	3.00	2.43	4.69	N/A	N/A	N/A	N/A	N/A
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	4.75	8.06	3.16	2.57	4.90	1.34	9.14	1.26	N/A	N/A
Real Estate	-4.67	29.02	-5.93	4.93	8.51	2.56	N/A	N/A	N/A	N/A
Vanguard Spliced REIT Index	-4.55	29.03	-5.86	5.07	8.60	2.52	30.38	2.47	17.77	8.69

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 Returns are expressed as percentages.



Multi Timeperiod Statistics
Butler County Employees Retirement Plan
As of December 31, 2021

Multi Timeperiod 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	14.61		11.79		1.13		10.08		10.20		0.88	
Total Fund Policy	14.82		11.55		1.16		10.34		9.94		0.92	
Vanguard Instl Indx;Inst (VINIX) *	26.05	(6)	17.17	(45)	1.38	(10)	18.44	(6)	15.26	(40)	1.11	(7)
S&P 500 Index	26.07		17.17		1.38		18.47		15.26		1.11	
IM S&P 500 Index (MF) Median	25.64		17.17		1.36		18.06		15.25		1.09	
Vanguard Growth Index (VIGIX)	34.79	(8)	18.26	(37)	1.68	(9)	24.79	(29)	16.49	(38)	1.36	(30)
Vanguard Growth Index Hybrid	34.84		18.27		1.68		24.82		16.50		1.36	
IM U.S. Large Cap Growth Equity (MF) Median	30.71		17.83		1.54		23.41		16.31		1.30	
Vanguard Value Index (VIVIX)	17.64	(54)	18.09	(76)	0.94	(42)	12.52	(25)	15.73	(79)	0.76	(20)
Vanguard Value Index Hybrid	17.65		18.10		0.94		12.53		15.73		0.76	
IM U.S. Large Cap Value Equity (MF) Median	17.86		18.91		0.90		11.60		16.45		0.67	
Vanguard S&P MC400;Inst (VSPMX) *	21.33	(40)	21.83	(29)	0.95	(57)	13.02	(37)	19.00	(25)	0.68	(52)
S&P MidCap 400 Index	21.41		21.83		0.96		13.09		19.01		0.68	
IM U.S. Mid Cap Core Equity (MF) Median	20.79		20.54		0.98		12.35		17.92		0.69	
Vanguard S&P SC600;Inst (VSMSX) *	20.14	(39)	23.57	(46)	0.86	(41)	12.45	(22)	20.81	(41)	0.62	(26)
S&P SmallCap 600 Index	20.11		23.57		0.86		12.42		20.82		0.62	
IM U.S. Small Cap Core Equity (MF) Median	19.55		23.53		0.84		10.97		20.52		0.56	

* 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 Timeperiod Statistics
Butler County Employees Retirement Plan
As of December 31, 2021

	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)*	N/A	N/A	N/A	N/A	N/A	N/A						
MSCI EAFE Index	14.08	16.89	0.81	10.07	14.70	0.65						
IM International Large Cap Core Equity (MF) Median	14.46	18.28	0.79	9.91	16.28	0.62						
Vanguard Intl Gro;Adm (VWILX)*	N/A	N/A	N/A	N/A	N/A	N/A						
MSCI EAFE Growth Index	19.37	14.66	1.22	14.00	13.34	0.96						
IM International Large Cap Growth Equity (MF) Median	18.76	16.71	1.04	13.40	14.95	0.81						
Vanguard FTSEUSSC;Ins (VFSNX) *	15.39	(67)	20.19	(17)	0.76	(72)	10.31	(73)	17.33	(32)	0.59	(75)
FTSE Global ex U.S. Small Cap Index (Net)	15.24		20.21		0.76		10.00		17.32		0.57	
IM International SMID Cap Growth Equity (MF) Median	17.83		19.29		0.90		12.65		17.10		0.73	
Vanguard Developed Markets Index (VTMNX)	14.49	(44)	17.61	(42)	0.80	(46)	10.17	(38)	15.29	(50)	0.63	(43)
Vanguard Spliced Developed ex U.S. Index (Net)	14.51		17.52		0.80		10.07		15.19		0.63	
IM International Multi-Cap Equity (MF) Median	13.88		17.35		0.78		9.65		15.29		0.61	
Vanguard Emerging Markets Index (VEMIX)	11.88	(49)	17.87	(83)	0.66	(42)	9.48	(53)	16.09	(80)	0.57	(47)
FTSE Emerging Mkts All Cap China A Inclusion Index	12.51		17.82		0.70		9.87		16.02		0.60	
IM Emerging Markets Equity (MF) Median	11.81		19.13		0.63		9.59		17.05		0.56	
Vanguard Short Term Bond Index (VBIX)	2.82	(28)	1.41	(79)	1.41	(2)	2.20	(32)	1.34	(74)	0.84	(3)
Bloomberg 1-5 Year Gov/Credit Idx	2.88		1.46		1.39		2.25		1.36		0.86	
IM U.S. Short Term Investment Grade (MF) Median	2.33		2.19		0.52		1.90		1.78		0.41	
Vanguard Tot Bd;Inst (VBTIX) *	4.83	(69)	3.55	(77)	1.10	(40)	3.59	(58)	3.14	(72)	0.79	(35)
Blmbg. U.S. Aggregate Index	4.79		3.36		1.15		3.57		3.04		0.81	
IM U.S. Broad Market Core Fixed Income (MF) Median	5.17		3.93		1.05		3.71		3.39		0.74	
Vanguard High Yield Bond Fund (VWEAX)	8.23	(35)	8.02	(79)	0.90	(17)	5.70	(31)	6.58	(78)	0.70	(17)
Vanguard High Yield Corporate Composite Index	8.74		8.02		0.95		6.14		6.48		0.77	
IM U.S. High Yield Bonds (MF) Median	7.78		8.95		0.77		5.28		7.32		0.58	

* 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 Timeperiod Statistics
Butler County Employees Retirement Plan
As of December 31, 2021

	3 YR Return		3 YR Standard Deviation		3 YR Sharpe Ratio		5 YR Return		5 YR Standard Deviation		5 YR Sharpe Ratio	
Vanguard Tot Itl Bl;Inst (VTIFX) *	3.46	(30)	3.56	(88)	0.70	(14)	3.16	(33)	2.99	(87)	0.68	(8)
Blmbg. Global Agg ex-USD Flt Adj RIC Cpd (H)	3.48		3.53		0.71		3.24		2.97		0.71	
IM International Fixed Income (MF) Median	2.66		6.01		0.32		2.69		5.77		0.30	
Vanguard Em Mkt Bond;Adm (VEGBX)*	N/A		N/A		N/A		N/A		N/A		N/A	
JPM GBI-EM Diversified	1.02		11.06		0.06		1.85		10.63		0.12	
IM Emerging Markets Debt - LC (MF) Median	3.52		13.01		0.26		3.69		11.52		0.28	
Vanguard Real Estate Index Fund (VGSNX)	19.99	(46)	18.61	(26)	1.02	(53)	11.27	(49)	16.38	(29)	0.67	(54)
Vanguard Spliced REIT Index	20.07		18.59		1.03		11.35		16.36		0.67	
IM Real Estate Sector (MF) Median	19.72		18.15		1.04		11.23		15.84		0.67	

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Multi Timeperiod Statistics
Butler County Employees Retirement Plan
As of December 31, 2021

Multi Timeperiod 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	9.75		9.73		0.94		7.33		11.19		0.61	
Total Fund Policy	9.85		9.53		0.97		7.53		11.24		0.62	
Vanguard Instl Indx;Inst (VINIX) *	16.52	(4)	13.73	(12)	1.15	(4)	10.65	(3)	16.71	(14)	0.64	
S&P 500 Index	16.55		13.73		1.15		10.66		16.71		0.64	
IM S&P 500 Index (MF) Median	16.04		13.71		1.12		10.19		16.68		0.62	
Vanguard Growth Index (VIGIX)	19.30	(20)	15.36	(58)	1.20	(19)	N/A		N/A		N/A	
Vanguard Growth Index Hybrid	19.36		15.37		1.20		13.49		17.77		0.76	
IM U.S. Large Cap Growth Equity (MF) Median	18.19		15.44		1.14		12.53		18.14		0.70	
Vanguard Value Index (VIVIX)	13.74	(13)	13.77	(82)	0.97	(5)	N/A		N/A		N/A	
Vanguard Value Index Hybrid	13.78		13.77		0.97		8.14		17.08		0.49	
IM U.S. Large Cap Value Equity (MF) Median	12.54		14.87		0.83		7.43		17.89		0.44	
Vanguard S&P MC400;Inst (VSPMX)	14.13	(19)	18.12	(71)	0.80	(6)	N/A		N/A		N/A	
S&P MidCap 400 Index	14.20		18.12		0.80		10.45		20.48		0.55	
IM U.S. SMID Cap Core Equity (MF) Median	12.99		18.58		0.73		9.12		21.04		0.48	
Vanguard S&P SC600;Inst (VSMSX)	14.48	(7)	20.20	(51)	0.75	(8)	N/A		N/A		N/A	
S&P SmallCap 600 Index	14.50		20.19		0.75		10.15		22.01		0.51	
IM U.S. Small Cap Core Equity (MF) Median	12.54		20.20		0.66		8.43		22.22		0.44	

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 Timeperiod Statistics
Butler County Employees Retirement Plan
As of December 31, 2021

	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)	N/A		N/A		N/A	N/A	N/A	N/A
MSCI EAFE Index	8.53		14.40		0.60	4.09	18.75	0.26
IM International Large Cap Core Equity (MF) Median	7.73		16.16		0.52	4.18	19.65	0.27
Vanguard Intl Gro;Adm (VWILX)	N/A		N/A		N/A	N/A	N/A	N/A
MSCI EAFE Growth Index	10.48		13.97		0.74	5.86	18.06	0.36
IM International Large Cap Growth Equity (MF) Median	10.13		15.38		0.66	6.48	19.11	0.38
Vanguard FTSEUSSC;Ins (VFSNX)	8.57	(94)	18.01	(44)	0.52	(94)	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	10.59		17.91		0.62	6.13	21.97	0.35
Vanguard Developed Markets Index (VTMNX)	8.56	(36)	15.12	(61)	0.58	(33)	N/A	N/A
Vanguard Spliced Developed ex U.S. Index (Net)	8.48		14.97		0.58	3.89	19.03	0.25
IM International Multi-Cap Equity (MF) Median	8.05		15.38		0.55	3.79	19.47	0.24
Vanguard EM St I;Inst (VEMIX)*	5.43	(53)	17.19	(82)	0.36	(51)	4.39	(45)
Vanguard Spliced Emerging Markets Index (Net)	5.50		17.01		0.37	4.46	22.50	0.27
IM Emerging Markets Equity (MF) Median	5.62		18.13		0.36	4.25	22.97	0.26
Vanguard Sh-Tm B;Inst (VBITX)	1.71	(45)	1.48	(65)	0.81	(16)	N/A	N/A
Bloomberg 1-5 Year Gov/Credit Idx	1.77		1.46		0.87	2.78	1.95	1.05
IM U.S. Short Term Investment Grade (MF) Median	1.66		1.63		0.60	2.13	2.34	0.51
Vanguard Tot Bd;Inst (VBTIX)	2.87	(65)	3.26	(64)	0.72	(59)	4.07	(49)
Blmbg. U.S. Aggregate Index	2.90		3.14		0.76	4.09	3.32	0.97
IM U.S. Broad Market Core Fixed Income (MF) Median	3.10		3.36		0.75	4.03	3.84	0.81
Vanguard HY Corp;Adm (VWEAX)	6.15	(32)	6.20	(90)	0.89	(7)	6.18	(28)
Blmbg. U.S. Corp High Yield	6.83		7.41		0.84	7.07	11.13	0.58
IM U.S. High Yield Bonds (MF) Median	5.82		7.37		0.71	5.80	10.37	0.52

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.
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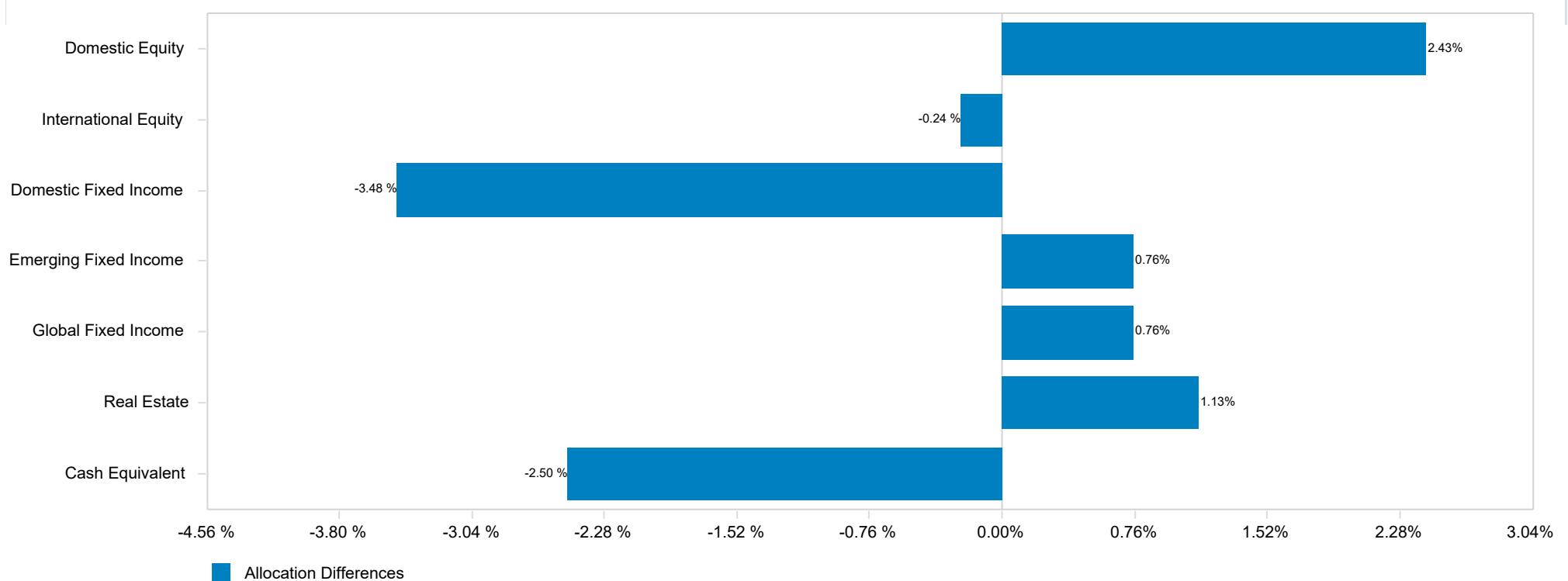


Multi Timeperiod Statistics
Butler County Employees Retirement Plan
As of December 31, 2021

	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	1.32	7.17	0.13	3.60	8.43	0.33						
Vanguard Em Mkt Bond;Adm (VEGBX)	N/A	N/A	N/A	N/A	N/A	N/A						
JPM GBI-EM Diversified	0.91	11.43	0.08	3.30	11.54	0.26						
IM Emerging Markets Debt - LC (MF) Median	1.59	12.58	0.14	N/A	N/A	N/A						
Vanguard RE Idx;Inst (VGSNX)	11.52	(28)	15.21	(27)	0.76	(36)	7.22	(28)	23.31	(33)	0.39	(32)
Vanguard Spliced REIT Index	11.61		15.22		0.76		7.21		23.31		0.39	
IM Real Estate Sector (MF) Median	10.97		14.77		0.74		6.39		22.95		0.36	

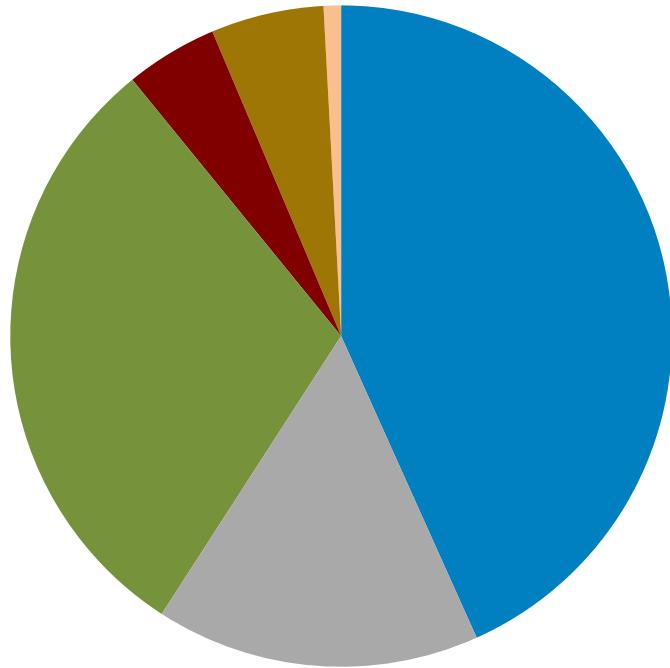
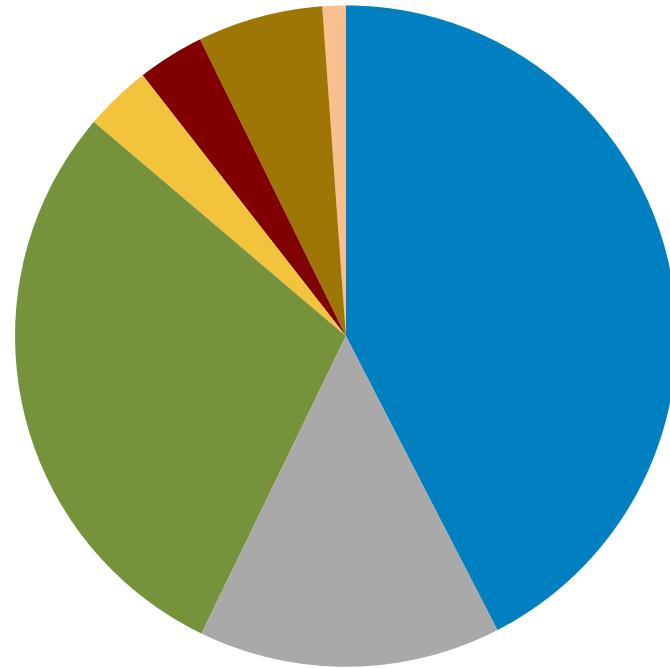
The Vanguard Emerging Market Stock Index Fund performance shown may be different than actual performance as the client was invested in the ETF before transferring to the mutual fund.
All performance is reported net of fees.





Asset Allocation Compliance

	Current Allocation (%)	Target Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)
Domestic Equity	42.43	40.00	15.00	65.00
International Equity	14.76	15.00	5.00	25.00
Domestic Fixed Income	29.02	32.50	15.00	50.00
Emerging Fixed Income	3.26	2.50	0.00	5.00
Global Fixed Income	3.26	2.50	0.00	5.00
Real Estate	6.13	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

Asset Allocation By Segment as of
September 30, 2021 : \$265,594,253Asset Allocation By Segment as of
December 31, 2021 : \$274,724,760

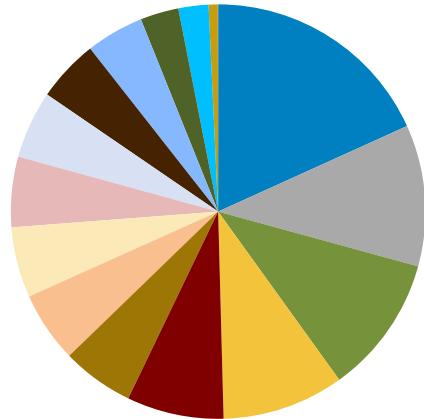
Allocation

Segments	Market Value	Allocation
Domestic Equity	114,957,898	43.3
International Equity	42,068,791	15.8
Domestic Fixed Income	79,684,161	30.0
Emerging Fixed Income	-	0.0
Global Fixed Income	11,973,123	4.5
Real Estate	14,643,869	5.5
Cash	2,266,411	0.9

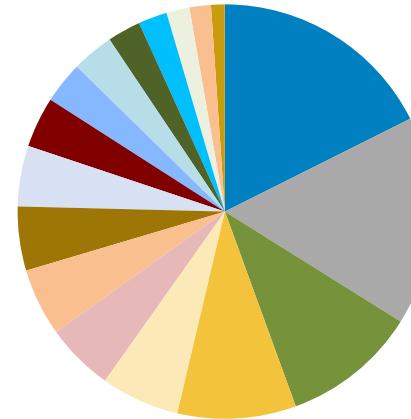
Allocation

Segments	Market Value	Allocation
Domestic Equity	116,575,335	42.4
International Equity	40,543,070	14.8
Domestic Fixed Income	79,732,457	29.0
Emerging Fixed Income	8,951,542	3.3
Global Fixed Income	8,954,893	3.3
Real Estate	16,834,302	6.1
Cash	3,133,161	1.1

Asset Allocation By Manager as of September 30, 2021 : \$265,594,253



Asset Allocation By Manager as of December 31, 2021 : \$274,724,760



Allocation

	Market Value	Allocation
Vanguard Total Bond Index (VBTIX)	48,383,263	18.2
Vanguard Inst'l Index Fund (VINIX)	29,322,266	11.0
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	28,732,175	10.8
Vanguard High Yield Bond Fund (VWEAX)	25,253,871	9.5
Vanguard Developed Markets Index (VTMNX)	20,075,213	7.6
Vanguard Small-Cap 600 Index I (VSMSX)	14,921,406	5.6
Vanguard Value Index (VIVIX)	14,657,397	5.5
Vanguard Real Estate Index Fund (VGSNX)	14,643,869	5.5
Vanguard Growth Index (VIGIX)	14,545,356	5.5
Vanguard Emerging Markets Index (VEMIX)	14,036,415	5.3
Twin Capital Enhanced Index	12,894,819	4.9
Vanguard International Bond (VTIFX)	11,980,934	4.5
Vanguard FTSE AW ex-US SC Index (VFSNX)	7,957,163	3.0
Vanguard Short Term Bond Index (VBITX)	6,213,844	2.3
NMA	1,919,088	0.7
Twin Capital Low Volatility	52,340	0.0
Cash	4,833	0.0
Vanguard Intl Growth (VWILX)	-	0.0
Vanguard Intl Value (VTRIX)	-	0.0
Vanguard EM Bond (VEGBX)	-	0.0

Allocation

	Market Value	Allocation
Vanguard Total Bond Index (VBTIX)	48,343,193	17.6
Vanguard Inst'l Index Fund (VINIX)	44,790,891	16.3
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	28,985,592	10.6
Vanguard High Yield Bond Fund (VWEAX)	25,387,557	9.2
Vanguard Real Estate Index Fund (VGSNX)	16,834,302	6.1
Vanguard Growth Index (VIGIX)	14,588,707	5.3
Vanguard Value Index (VIVIX)	14,487,646	5.3
Vanguard Small-Cap 600 Index I (VSMSX)	13,722,499	5.0
Vanguard Emerging Markets Index (VEMIX)	13,016,328	4.7
Vanguard Developed Markets Index (VTMNX)	10,837,143	3.9
Vanguard International Bond (VTIFX)	8,954,893	3.3
Vanguard EM Bond (VEGBX)	8,951,542	3.3
Vanguard FTSE AW ex-US SC Index (VFSNX)	7,140,659	2.6
Vanguard Short Term Bond Index (VBITX)	6,171,714	2.2
Vanguard Intl Value (VTRIX)	4,935,181	1.8
Vanguard Intl Growth (VWILX)	4,613,759	1.7
NMA	2,929,815	1.1
Cash	17,519	0.0
Twin Capital Enhanced Index	15,820	0.0
Twin Capital Low Volatility	-	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)	44,791	100.0	-	-	-	-	-	-	-	-	-	-	-	-	44,791	16.3	
Vanguard Value Index (VIVIX)	14,488	100.0	-	-	-	-	-	-	-	-	-	-	-	-	14,488	5.3	
Vanguard Small-Cap 600 Index I (VSMSX)	13,722	100.0	-	-	-	-	-	-	-	-	-	-	-	-	13,722	5.0	
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	28,986	100.0	-	-	-	-	-	-	-	-	-	-	-	-	28,986	10.6	
Vanguard Growth Index (VIGIX)	14,589	100.0	-	-	-	-	-	-	-	-	-	-	-	-	14,589	5.3	
Twin Capital Enhanced Index	-	-	-	-	-	-	-	-	-	-	-	-	-	16	100.0	16	0.0
Vanguard Intl Value (VTRIX)	-	-	4,935	100.0	-	-	-	-	-	-	-	-	-	-	4,935	1.8	
Vanguard Intl Growth (VWILX)	-	-	4,614	100.0	-	-	-	-	-	-	-	-	-	-	4,614	1.7	
Vanguard FTSE AW ex-US SC Index (VFSNX)	-	-	7,141	100.0	-	-	-	-	-	-	-	-	-	-	7,141	2.6	
Vanguard Developed Markets Index (VTMNX)	-	-	10,837	100.0	-	-	-	-	-	-	-	-	-	-	10,837	3.9	
Vanguard Emerging Markets Index (VEMIX)	-	-	13,016	100.0	-	-	-	-	-	-	-	-	-	-	13,016	4.7	
Vanguard High Yield Bond Fund (VWEAX)	-	-	-	-	25,302	99.7	-	-	-	-	-	-	-	86	0.3	25,388	9.2
Vanguard Short Term Bond Index (VBITX)	-	-	-	-	6,166	99.9	-	-	-	-	-	-	-	5	0.1	6,172	2.2
Vanguard Total Bond Index (VBTIX)	-	-	-	-	48,265	99.8	-	-	-	-	-	-	-	79	0.2	48,343	17.6
Vanguard International Bond (VTIFX)	-	-	-	-	-	-	-	-	8,955	100.0	-	-	-	-	8,955	3.3	
Vanguard EM Bond (VEGBX)	-	-	-	-	-	-	8,952	100.0	-	-	-	-	-	-	8,952	3.3	
Vanguard Real Estate Index Fund (VGSNX)	-	-	-	-	-	-	-	-	-	-	16,834	100.0	-	-	16,834	6.1	
Cash	-	-	-	-	-	-	-	-	-	-	-	-	-	18	100.0	18	0.0
NMA	-	-	-	-	-	-	-	-	-	-	-	-	-	2,930	100.0	2,930	1.1
Total Fund	116,575	42.4	40,543	14.8	79,732	29.0	8,952	3.3	8,955	3.3	16,834	6.1	3,133	1.1	274,725	100.0	

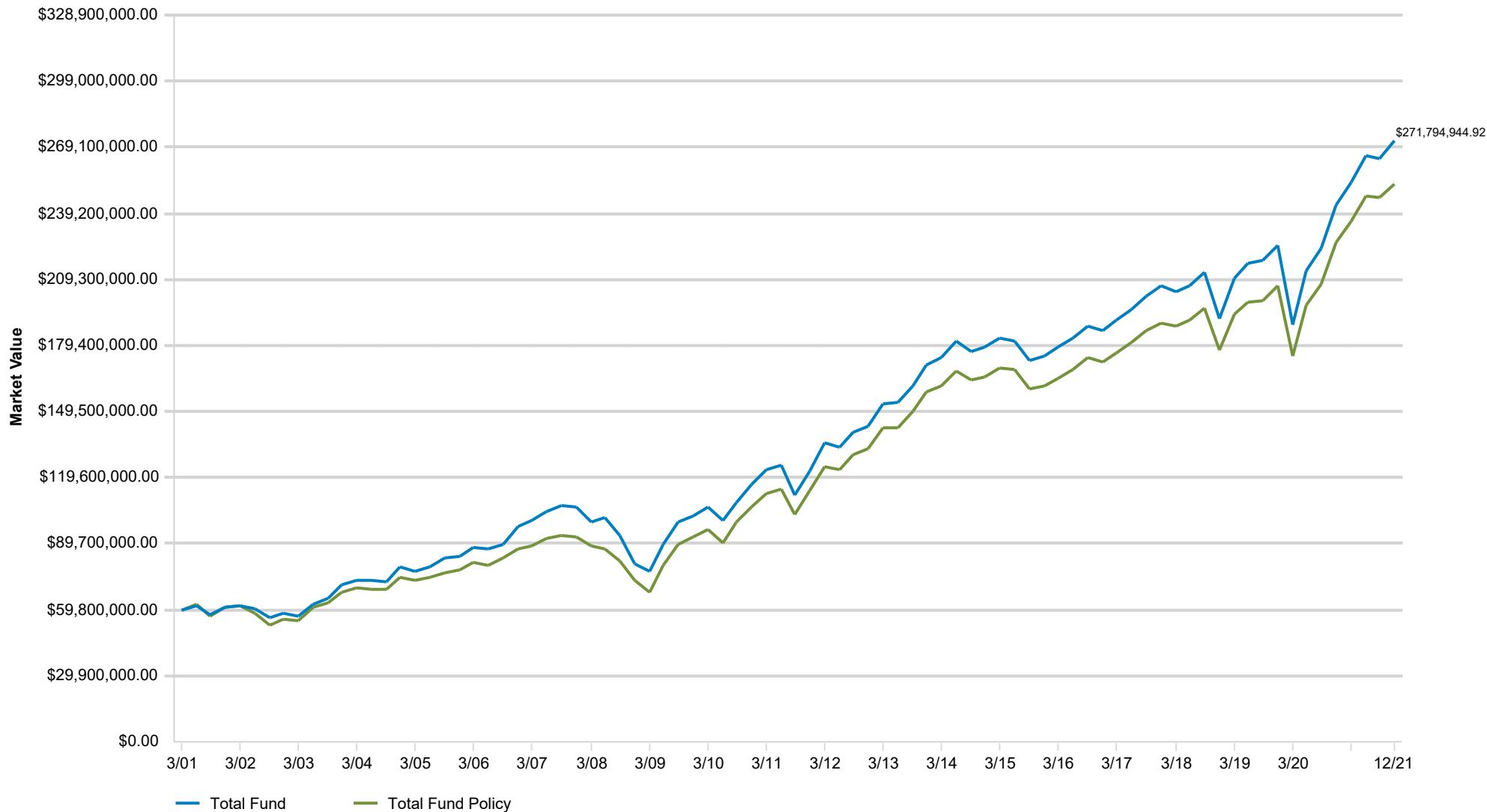


Schedule of Investable Assets

Total Fund

January 1, 2001 To December 31, 2021

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 Dec-2021	59,528,253	-19,554,403	231,821,095	271,794,945	325.25

Does not include Non-Measured Assets (NMA).

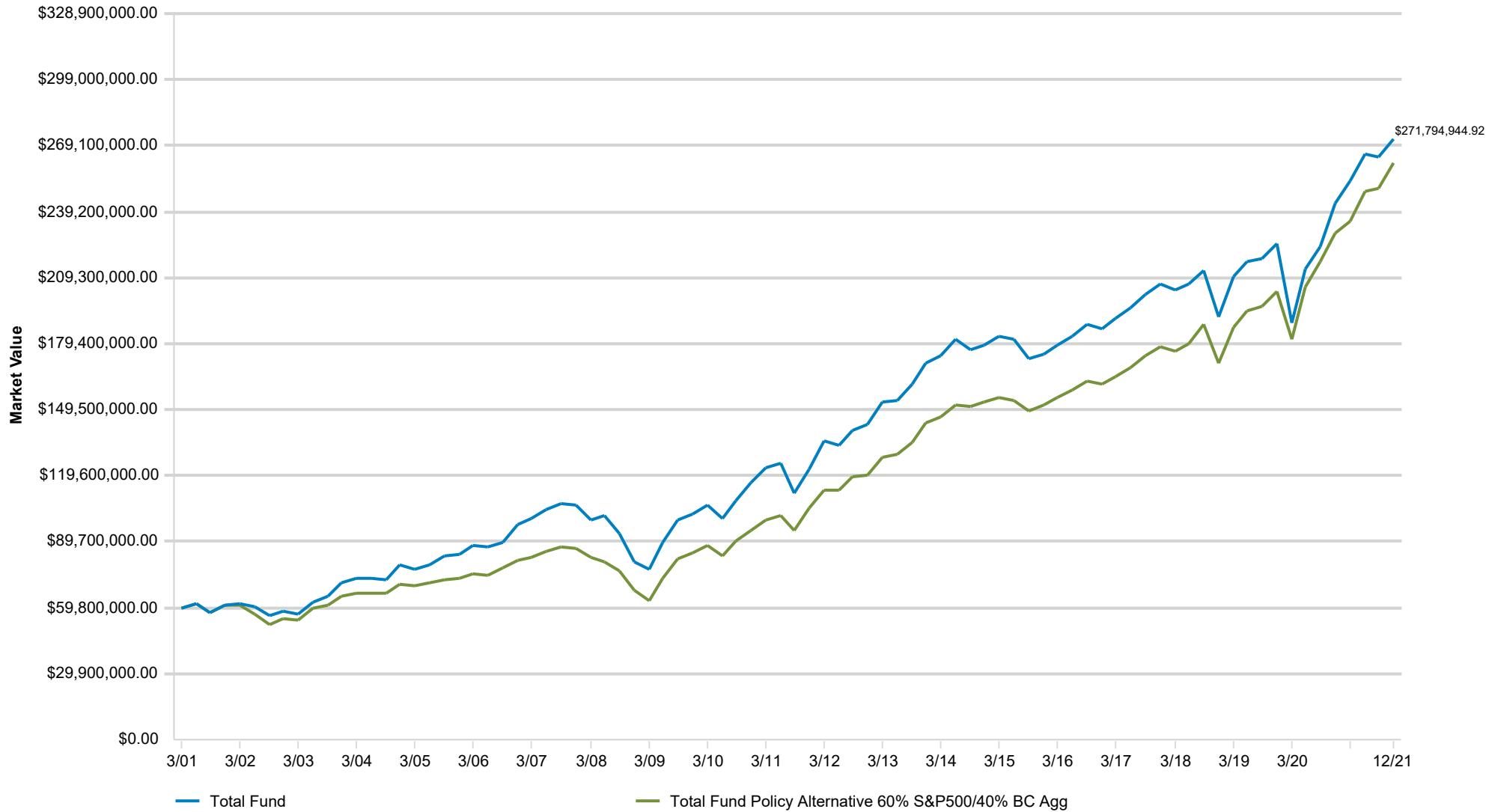


Schedule of Investable Assets

Total Fund

January 1, 2001 To December 31, 2021

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 Dec-2021	59,528,253	-19,554,403	231,821,095	271,794,945	325.25

Does not include Non-Measured Assets (NMA).



Fee Analysis
Total Fund
As of December 31, 2021

	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Twin Capital Enhanced Index	0.35	15,820	55	0.35 % of Assets
Vanguard Inst'l Index Fund (VINIX)	0.03	44,790,891	13,437	0.03 % of Assets
Vanguard Growth Index (VIGIX)	0.04	14,588,707	5,835	0.04 % of Assets
Vanguard Value Index (VIVIX)	0.04	14,487,646	5,795	0.04 % of Assets
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	0.08	28,985,592	23,188	0.08 % of Assets
Vanguard Small-Cap 600 Index I (VSMSX)	0.08	13,722,499	10,978	0.08 % of Assets
Vanguard Intl Value (VTRIX)	0.35	4,935,181	17,273	0.35 % of Assets
Vanguard Intl Growth (VWILX)	0.33	4,613,759	15,225	0.33 % of Assets
Vanguard FTSE AW ex-US SC Index (VFSNX)	0.11	7,140,659	7,855	0.11 % of Assets
Vanguard Developed Markets Index (VTMNX)	0.05	10,837,143	5,419	0.05 % of Assets
Vanguard Emerging Markets Index (VEMIX)	0.10	13,016,328	13,016	0.10 % of Assets
Vanguard Short Term Bond Index (VBITX)	0.05	6,171,714	3,086	0.05 % of Assets
Vanguard Total Bond Index (VBTIX)	0.03	48,343,193	14,503	0.03 % of Assets
Vanguard High Yield Bond Fund (VWEAX)	0.13	25,387,557	33,004	0.13 % of Assets
Vanguard International Bond (VTIFX)	0.07	8,954,893	6,268	0.07 % of Assets
Vanguard EM Bond (VEGBX)	0.45	8,951,542	40,282	0.45 % of Assets
Vanguard Real Estate Index Fund (VGSNX)	0.10	16,834,302	16,834	0.10 % of Assets
Total Fund Performance	0.09	271,794,945	232,055	

Does not include Non-Measured Assets (NMA).



Financial Reconciliation
Total Fund
as of December 31, 2021

Quarter To Date	Market Value 10/01/2021	Management Fees	Net Flows	Return On Investment	Market Value 12/31/2021
Domestic Equity					
Vanguard Inst'l Index Fund (VINIX)	29,322,266	-	11,650,957	3,817,668	44,790,891
Vanguard Value Index (VIVIX)	14,657,397	-	-1,500,000	1,330,249	14,487,646
Vanguard Small-Cap 600 Index I (VSMSX)	14,921,406	-	-2,000,000	801,093	13,722,499
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	28,732,175	-	-2,000,000	2,253,417	28,985,592
Vanguard Growth Index (VIGIX)	14,545,356	-	-1,500,000	1,543,351	14,588,707
Twin Capital Low Volatility	52,340	-	-12,639	-39,701	-
Twin Capital Enhanced Index	12,894,819	-7,452	-13,650,957	771,957	15,820
International Equity					
Vanguard Intl Value (VTRIX)	-	-	5,000,000	-64,819	4,935,181
Vanguard Intl Growth (VWILX)	-	-	5,000,000	-386,241	4,613,759
Vanguard FTSE AW ex-US SC Index (VFSNX)	7,957,163	-	-1,000,000	183,496	7,140,659
Vanguard Developed Markets Index (VTMNX)	20,075,213	-	-10,000,000	761,931	10,837,143
Vanguard Emerging Markets Index (VEMIX)	14,036,415	-	-1,000,000	-20,088	13,016,328
Fixed Income					
Vanguard Short Term Bond Index (VBITX)	6,213,844	-	-	-42,130	6,171,714
Vanguard Total Bond Index (VBTIX)	48,383,263	-	-	-40,070	48,343,193
Vanguard High Yield Bond Fund (VWEAX)	25,253,871	-	-	133,686	25,387,557
Vanguard International Bond (VTIFX)	11,980,934	-	-3,000,000	-26,041	8,954,893
Vanguard EM Bond (VEGBX)	-	-	9,000,000	-48,458	8,951,542
REIT					
Vanguard Real Estate Index Fund (VGSNX)	14,643,869	-	-	2,190,433	16,834,302
Cash	4,833	-	12,639	47	17,519
Total Fund Performance	263,675,165	-7,452	-5,000,000	13,119,780	271,794,945
NMA	1,919,088	-	1,010,728	-	2,929,815
Total Fund	265,594,253	-7,452	-3,989,272	13,119,780	274,724,760

Financial Reconciliation
Total Fund
as of December 31, 2021

Year To Date	Market Value 01/01/2021	Management Fees	Net Flows	Return On Investment	Market Value 12/31/2021
Domestic Equity					
Vanguard Inst'l Index Fund (VINIX)	5,309,898	-	34,475,932	5,005,061	44,790,891
Vanguard Value Index (VIVIX)	12,667,306	-	-1,500,000	3,320,340	14,487,646
Vanguard Small-Cap 600 Index I (VSMSX)	12,864,797	-	-2,500,000	3,357,703	13,722,499
Vanguard Mid-Cap 400 Index Fund I (VSPMX)	27,167,230	-	-4,500,000	6,318,362	28,985,592
Vanguard Growth Index (VIGIX)	12,655,755	-	-1,500,000	3,432,952	14,588,707
Twin Capital Low Volatility	20,482,872	-37,319	-22,837,614	2,354,742	-
Twin Capital Enhanced Index	13,564,631	-40,850	-16,150,957	2,602,146	15,820
International Equity					
Vanguard Intl Value (VTRIX)	-	-	5,000,000	-64,819	4,935,181
Vanguard Intl Growth (VWILX)	-	-	5,000,000	-386,241	4,613,759
Vanguard FTSE AW ex-US SC Index (VFSNX)	7,203,069	-	-1,000,000	937,590	7,140,659
Vanguard Developed Markets Index (VTMNX)	19,518,334	-	-11,000,000	2,318,809	10,837,143
Vanguard Emerging Markets Index (VEMIX)	13,852,708	-	-1,000,000	163,619	13,016,328
Fixed Income					
Vanguard Short Term Bond Index (VBITX)	5,481,538	-	750,000	-59,824	6,171,714
Vanguard Total Bond Index (VBTIX)	45,116,341	-	4,000,000	-773,148	48,343,193
Vanguard High Yield Bond Fund (VWEAX)	23,966,294	-	500,000	921,263	25,387,557
Vanguard International Bond (VTIFX)	11,468,394	-	-2,250,000	-263,501	8,954,893
Vanguard EM Bond (VEGBX)	-	-	9,000,000	-48,458	8,951,542
REIT					
Vanguard Real Estate Index Fund (VGSNX)	11,509,558	-	500,000	4,824,744	16,834,302
Cash	4,829	-	12,639	51	17,519
Total Fund Performance	242,833,553	-78,169	-5,000,000	33,961,392	271,794,945
NMA	2,124,655	-	805,161	-	2,929,815
Total Fund	244,958,207	-78,169	-4,194,839	33,961,392	274,724,760

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.

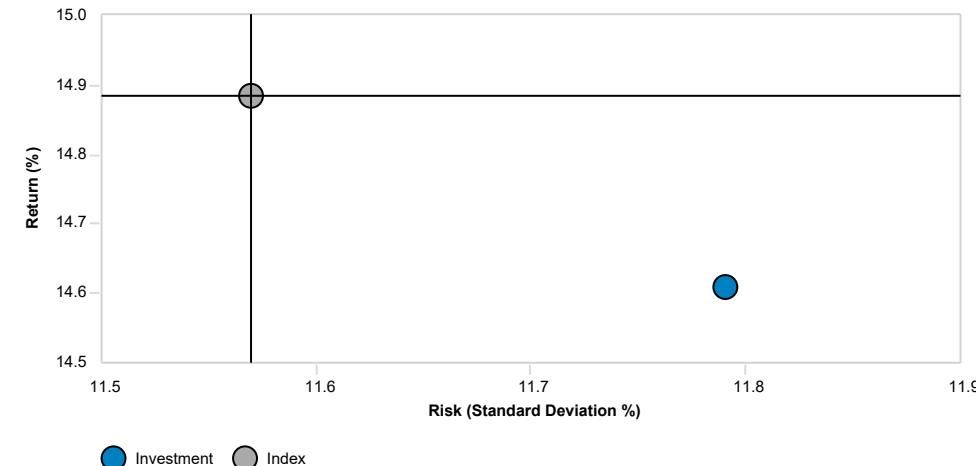
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.61	11.79	1.13	100.52	10	103.79	2
Index	14.89	11.57	1.17	100.00	10	100.00	2

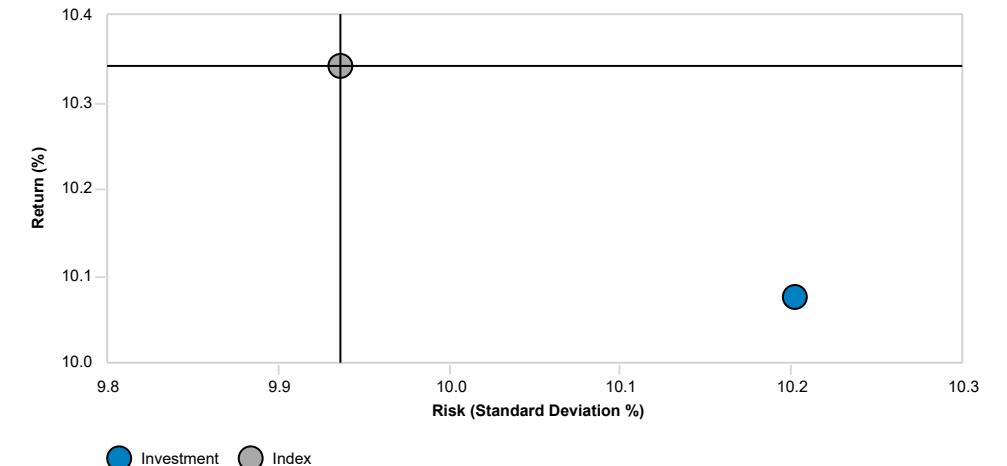
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	10.08	10.20	0.88	100.73	16	104.36	4
Index	10.34	9.94	0.92	100.00	16	100.00	4

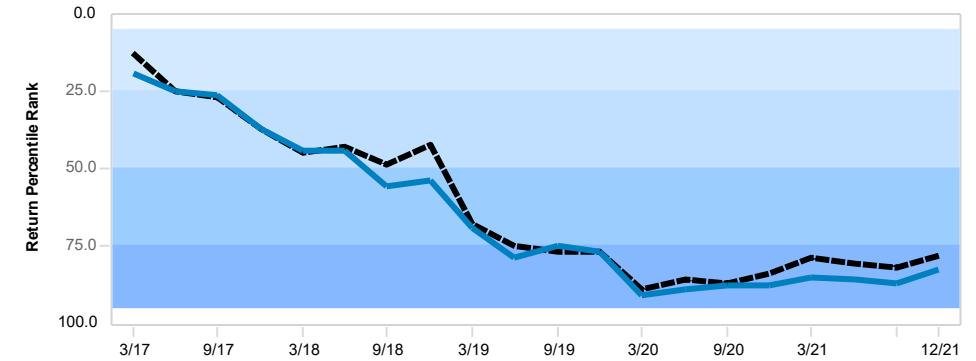
Risk and Return 3 Years



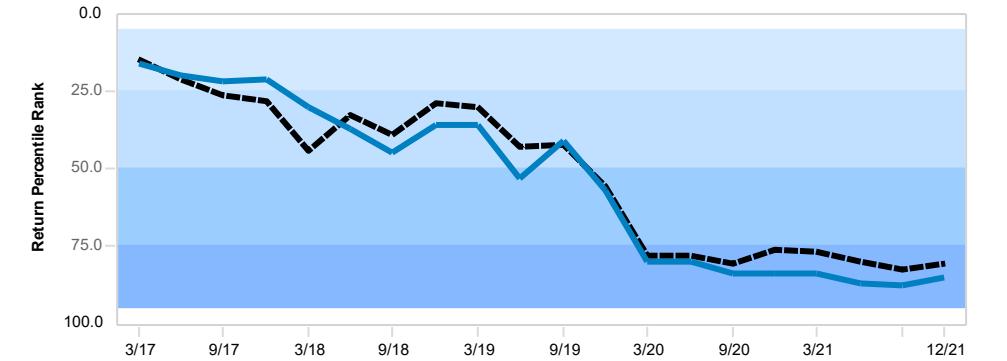
Risk and Return 5 Years



3 Year Rolling Percentile Rank All Public Plans-Total Fund



5 Year Rolling Percentile Rank All Public Plans-Total Fund



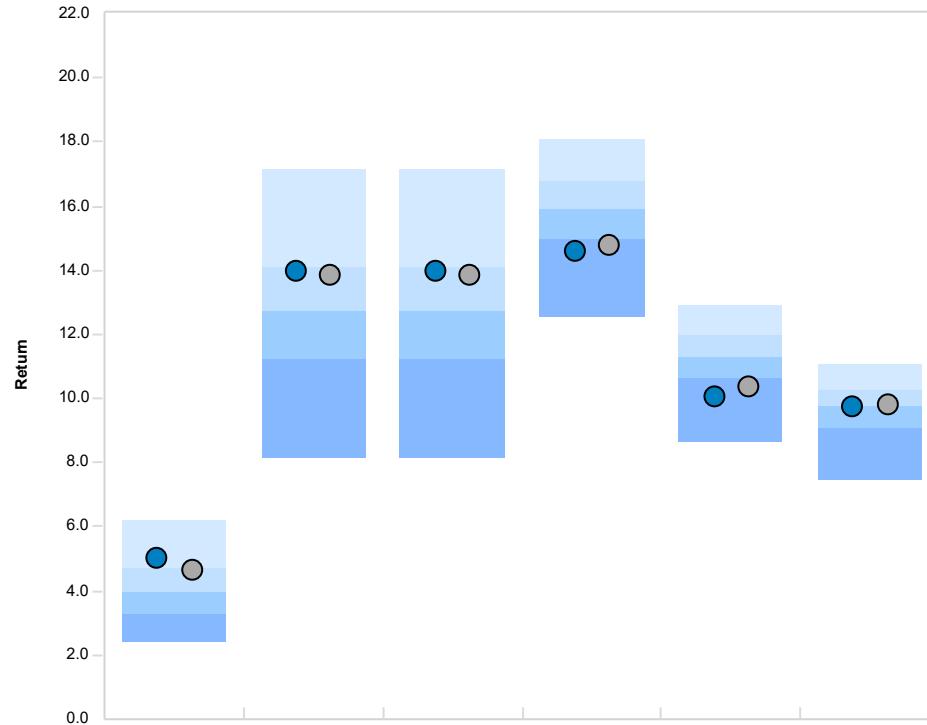
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	2 (10%)	4 (20%)	4 (20%)	10 (50%)
Index	20	2 (10%)	6 (30%)	2 (10%)	10 (50%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	4 (20%)	6 (30%)	2 (10%)	8 (40%)
Index	20	2 (10%)	9 (45%)	1 (5%)	8 (40%)

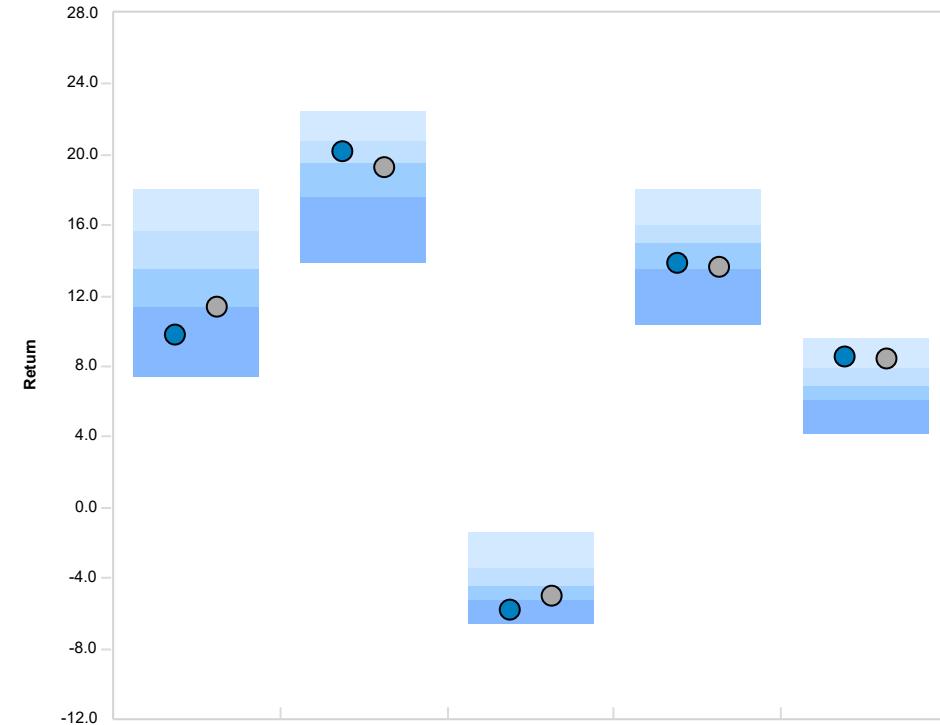
Does not include Non-Measured Assets (NMA).



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



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



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
● Investment	5.02 (15)	14.00 (27)	14.00 (27)	14.61 (83)	10.08 (85)	9.75 (50)
○ Index	4.67 (27)	13.87 (33)	13.87 (33)	14.82 (78)	10.36 (81)	9.84 (48)
Median	3.98	12.75	12.75	15.90	11.34	9.74

	2020	2019	2018	2017	2016
● Investment	9.84 (87)	20.21 (38)	-5.76 (87)	13.91 (68)	8.58 (15)
○ Index	11.44 (74)	19.29 (54)	-4.94 (64)	13.67 (73)	8.48 (16)
Median	13.54	19.48	-4.47	15.00	6.86

Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 04/01/2001	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	59,528,253	-20,400,443	232,667,135	271,794,945

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-0.74	4.84	4.32	10.59	4.83	12.92
Index	-0.48	4.86	4.12	11.04	4.76	13.88

Does not include Non-Measured Assets (NMA).



Strategy Review
Vanguard Instl Indx;Inst (VINIX) | S&P 500 Index
As of December 31, 2021

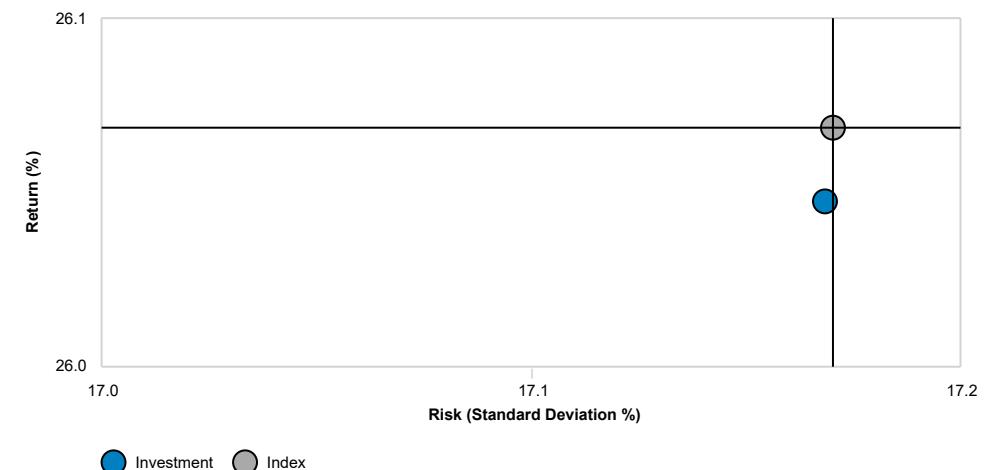
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	26.05	17.17	1.38	99.97	11	100.03	1
Index	26.07	17.17	1.38	100.00	11	100.00	1

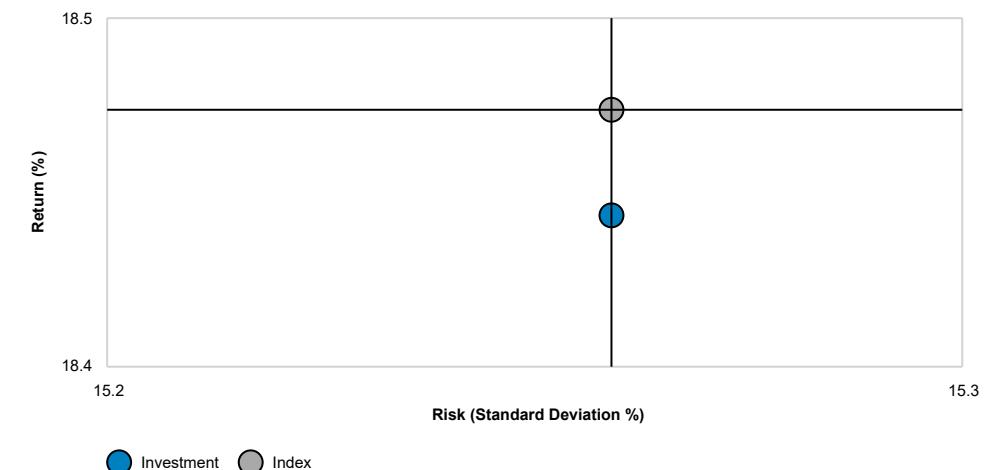
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	18.44	15.26	1.11	99.94	17	100.05	3
Index	18.47	15.26	1.11	100.00	17	100.00	3

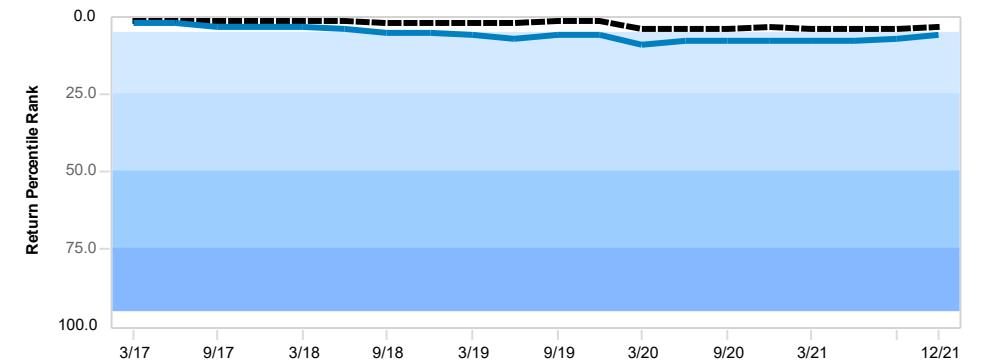
Risk and Return 3 Years



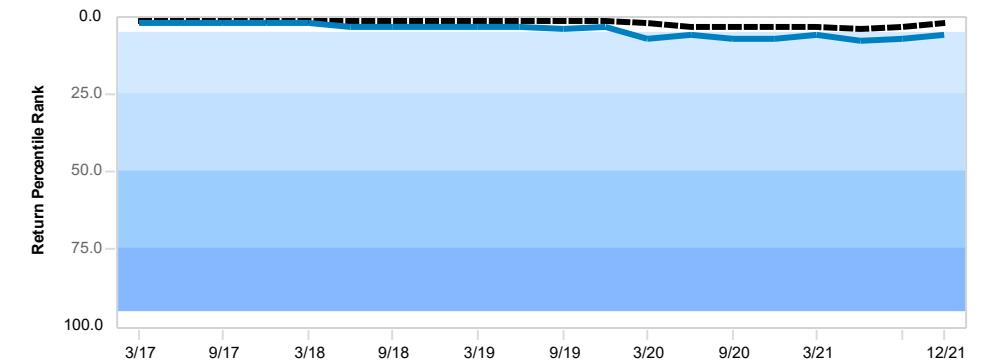
Risk and Return 5 Years



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



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



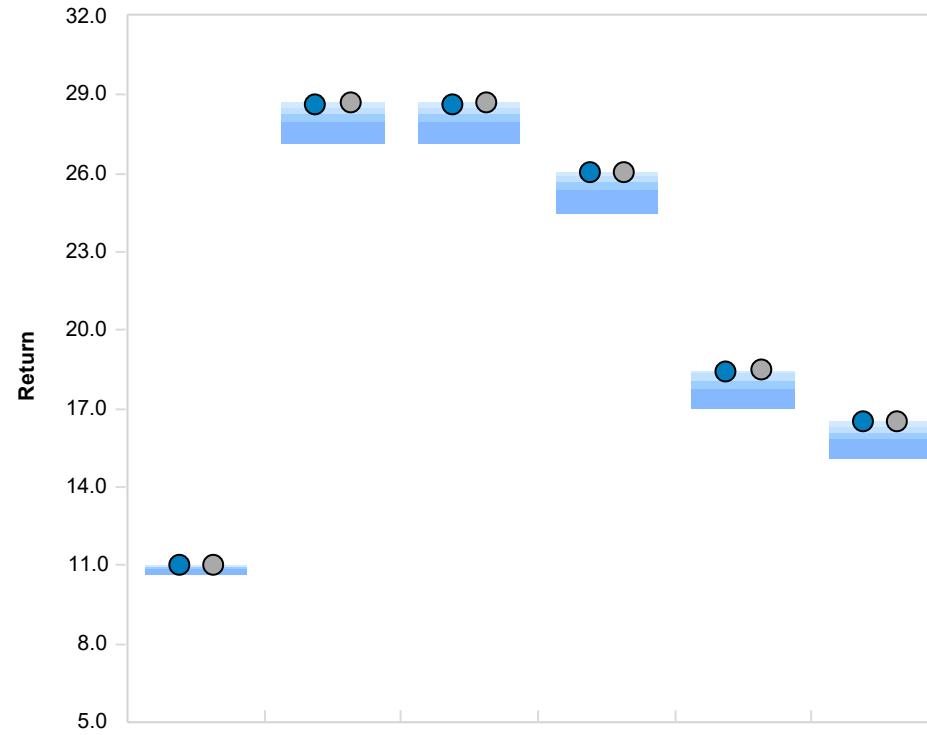
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)
Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

	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%)

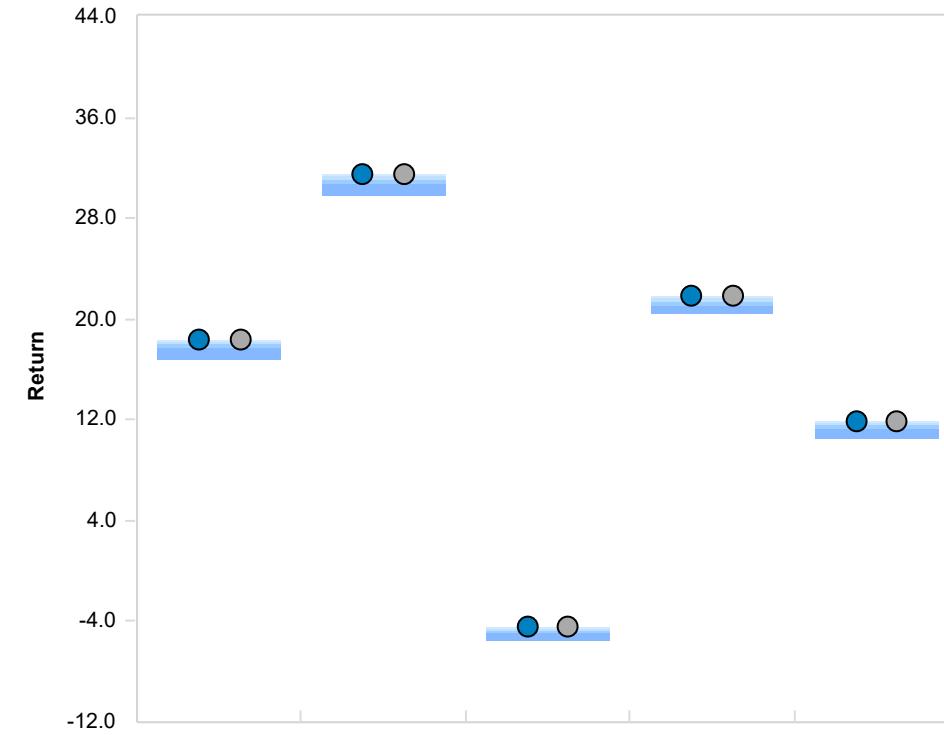
Inception date for VINIX is 12/2020. Manager returns for VINIX have been used for this report.



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



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



Financial Reconciliation Since Inception Ending December 31, 2021

No data found.

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.57 (10)	8.54 (12)	6.18 (9)	12.15 (10)	8.92 (12)	20.55 (11)
Index	0.58 (1)	8.55 (3)	6.17 (10)	12.15 (9)	8.93 (6)	20.54 (12)
Median	0.51	8.46	6.08	12.05	8.85	20.45

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 :	\$297,688 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 :	\$127,843 Million	Style Benchmark :	S&P 500 Index
Portfolio Turnover :	4%		

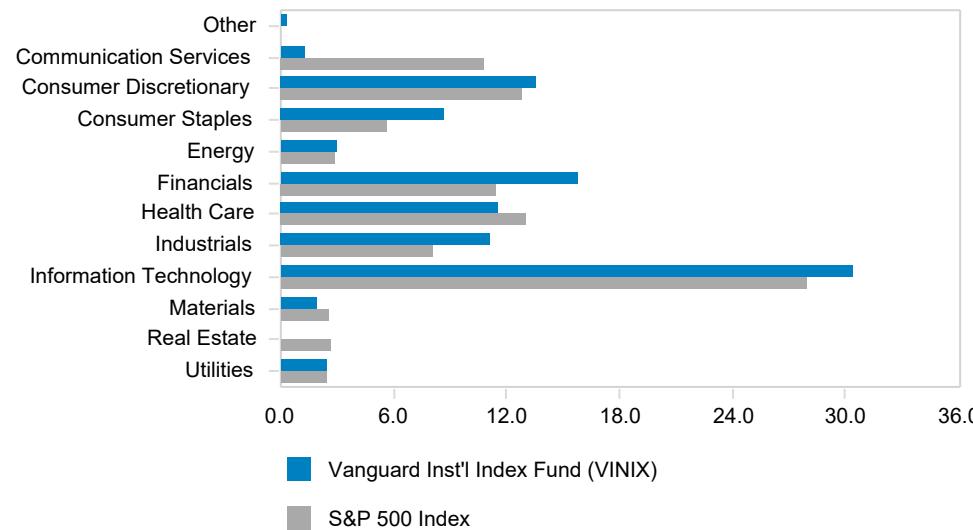
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	508	505
Avg. Market Cap (\$)	631,421,405,852	32,153,839,000
Price/Earnings (P/E)	33.66	25.14
Price/Book (P/B)	10.87	4.77
Dividend Yield	1.74	1.33
Annual EPS	17.82	9.38
5 Yr EPS	18.30	20.69
3 Yr EPS Growth	17.92	N/A
Beta	N/A	1.00

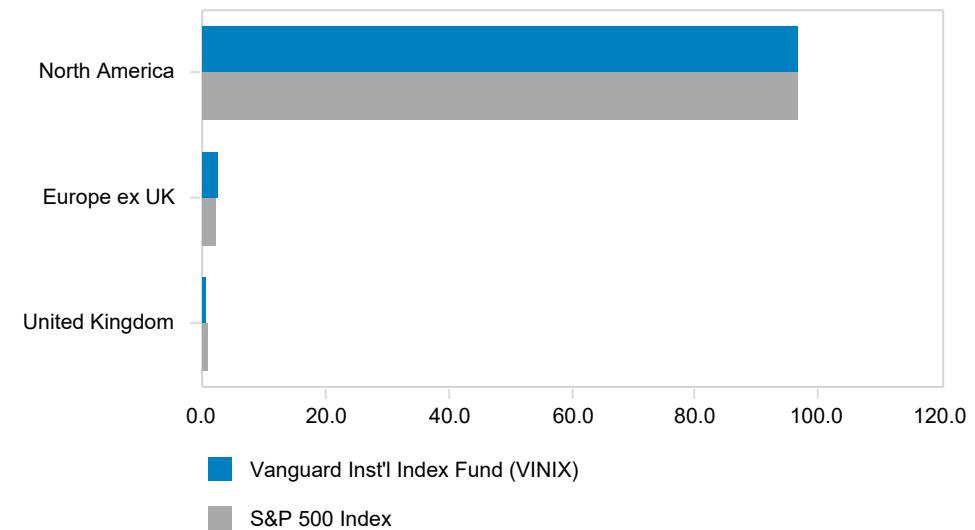
Top Ten Securities As of 10/31/2021

Microsoft Corp ORD	6.4 %
Apple Inc ORD	6.0 %
Amazon.com Inc ORD	3.8 %
Tesla Inc ORD	2.3 %
Alphabet Inc Class A ORD	2.3 %
Alphabet Inc Class C ORD	2.1 %
Meta Platforms Inc ORD	2.0 %
NVIDIA Corp ORD	1.6 %
Berkshire Hathaway Inc ORD	1.4 %
JPMorgan Chase & Co ORD	1.3 %

Sector Weights As of 10/31/2021



Region Weights As of 04/30/2021



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Growth Index (VIGIX) | Vanguard Growth Index Hybrid
As of December 31, 2021

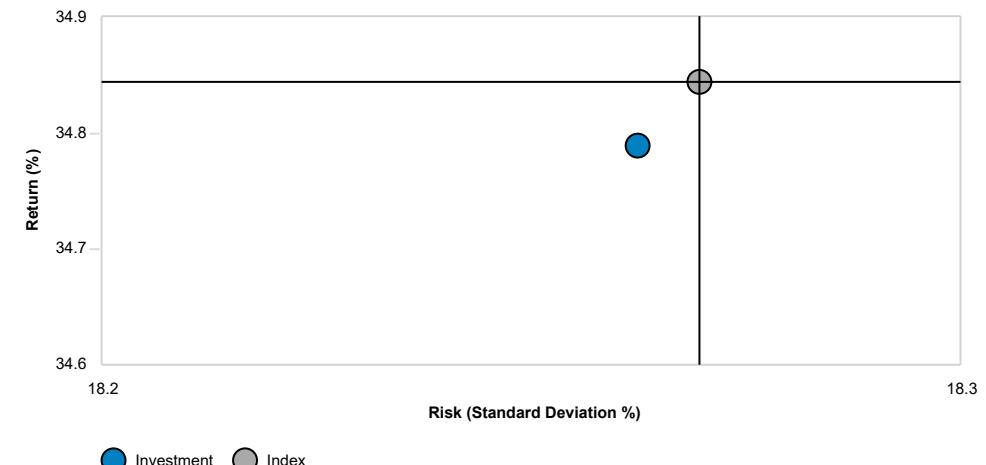
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	34.79	18.26	1.68	99.92	11	100.03	1
Index	34.84	18.27	1.68	100.00	11	100.00	1

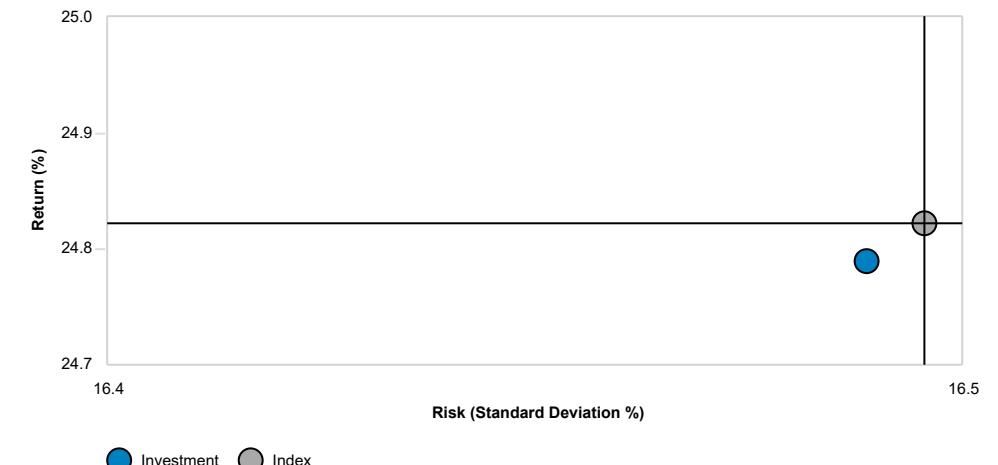
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	24.79	16.49	1.36	99.93	18	100.03	2
Index	24.82	16.50	1.36	100.00	18	100.00	2

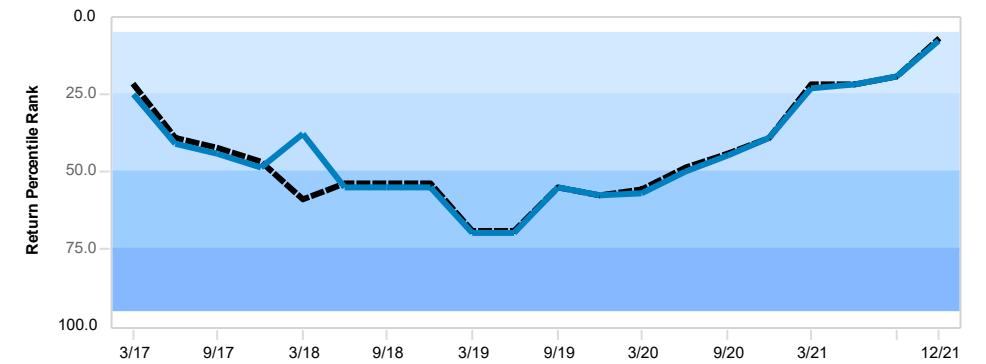
Risk and Return 3 Years



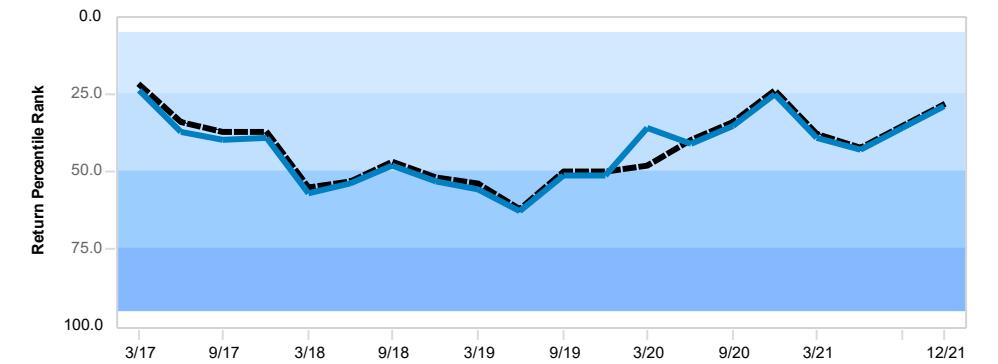
Risk and Return 5 Years



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)

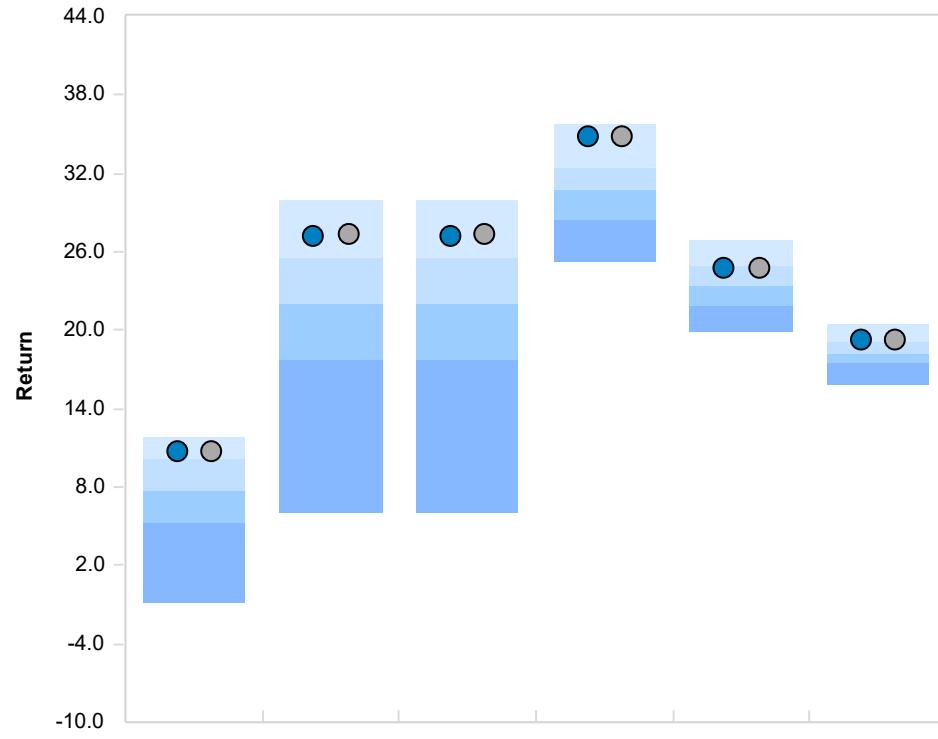


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	5 (25%)	7 (35%)	8 (40%)	0 (0%)
Index	20	5 (25%)	6 (30%)	9 (45%)	0 (0%)

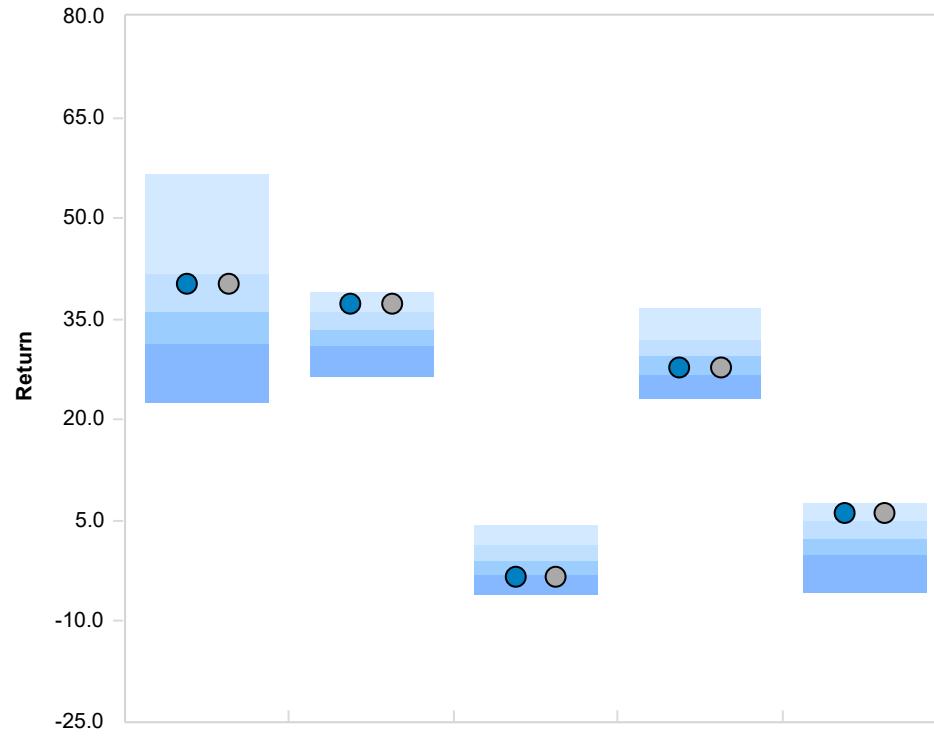
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	2 (10%)	11 (55%)	7 (35%)	0 (0%)
Index	20	2 (10%)	13 (65%)	5 (25%)	0 (0%)



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



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



Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 05/01/2010	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	16,642,537	-27,644,975	25,591,145	14,588,707

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	1.38	11.70	1.49	11.45	13.00	29.04
Index	1.39	11.71	1.50	11.46	13.02	29.06

Fund Information

Fund Name :	Vanguard Index Funds: Vanguard Growth Index Fund; Institutional Class Shares	Portfolio Assets :	\$185,810 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 :	\$26,945 Million	Style Benchmark :	CRSP U.S. Large Cap Growth TR Index
Portfolio Turnover :	6%		

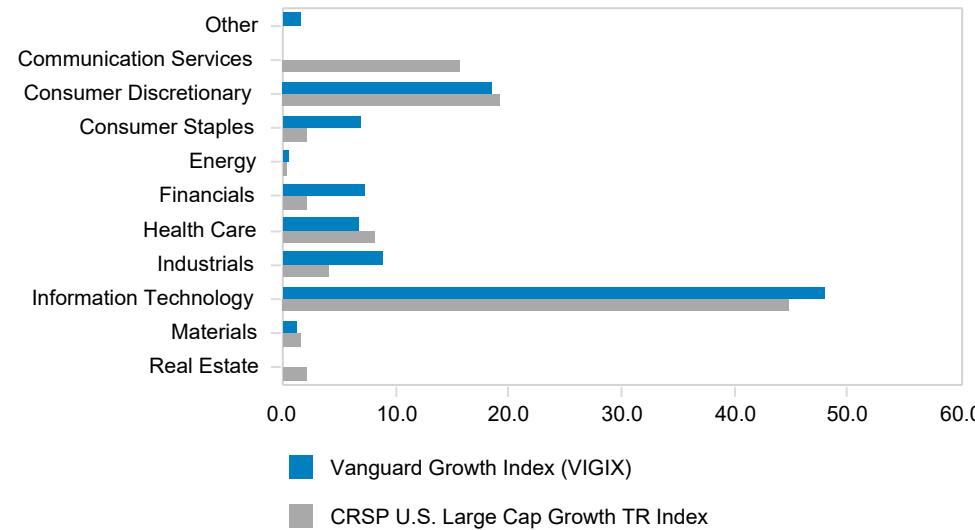
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	277	273
Avg. Market Cap (\$)	935,232,071,499	33,984,242,800
Price/Earnings (P/E)	41.60	38.56
Price/Book (P/B)	15.78	10.98
Dividend Yield	0.83	0.46
Annual EPS	35.11	11.87
5 Yr EPS	28.70	28.31
3 Yr EPS Growth	27.23	N/A
Beta (5 Years, Monthly)	1.00	1.00

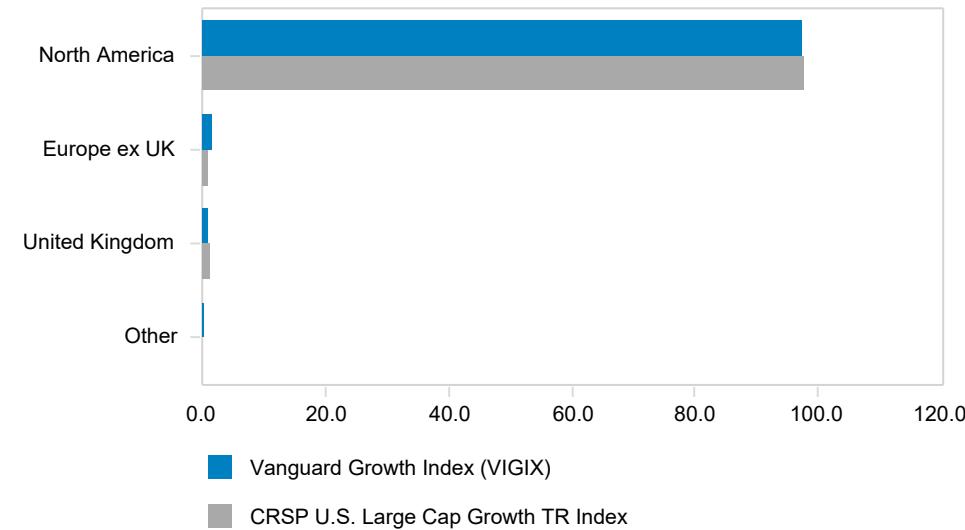
Top Ten Securities As of 10/31/2021

Microsoft Corp ORD	10.7 %
Apple Inc ORD	10.1 %
Amazon.com Inc ORD	6.2 %
Tesla Inc ORD	3.8 %
Alphabet Inc Class A ORD	3.8 %
Alphabet Inc Class C ORD	3.5 %
Meta Platforms Inc ORD	3.3 %
NVIDIA Corp ORD	2.6 %
Home Depot Inc ORD	1.7 %
Visa Inc ORD	1.5 %

Sector Weights As of 10/31/2021



Region Weights As of 04/30/2021



Statistics provided by Lipper. Most recent available data shown.



Strategy Review
Vanguard Value Index (VIVIX) | Vanguard Value Index Hybrid
As of December 31, 2021

Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	17.64	18.09	0.94	99.98	10	99.97	2
Index	17.65	18.10	0.94	100.00	10	100.00	2

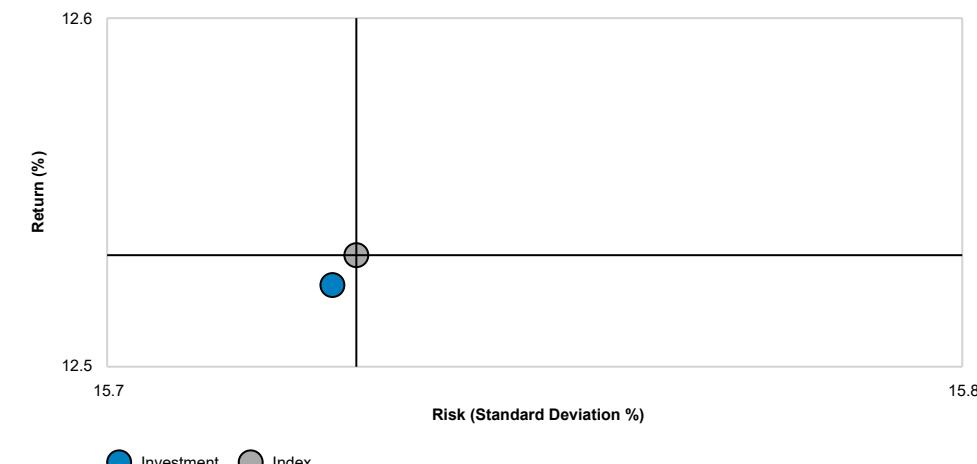
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	12.52	15.73	0.76	100.00	16	100.06	4
Index	12.53	15.73	0.76	100.00	16	100.00	4

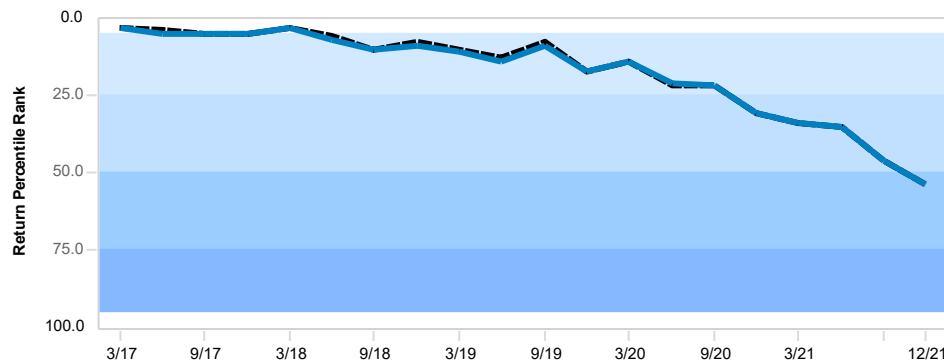
Risk and Return 3 Years



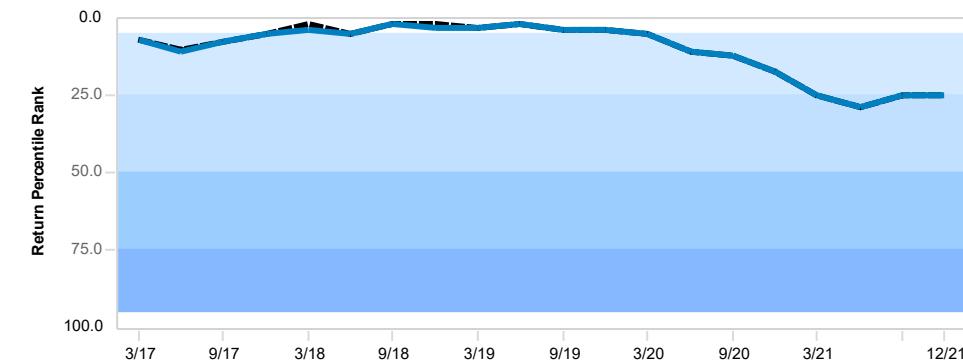
Risk and Return 5 Years



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



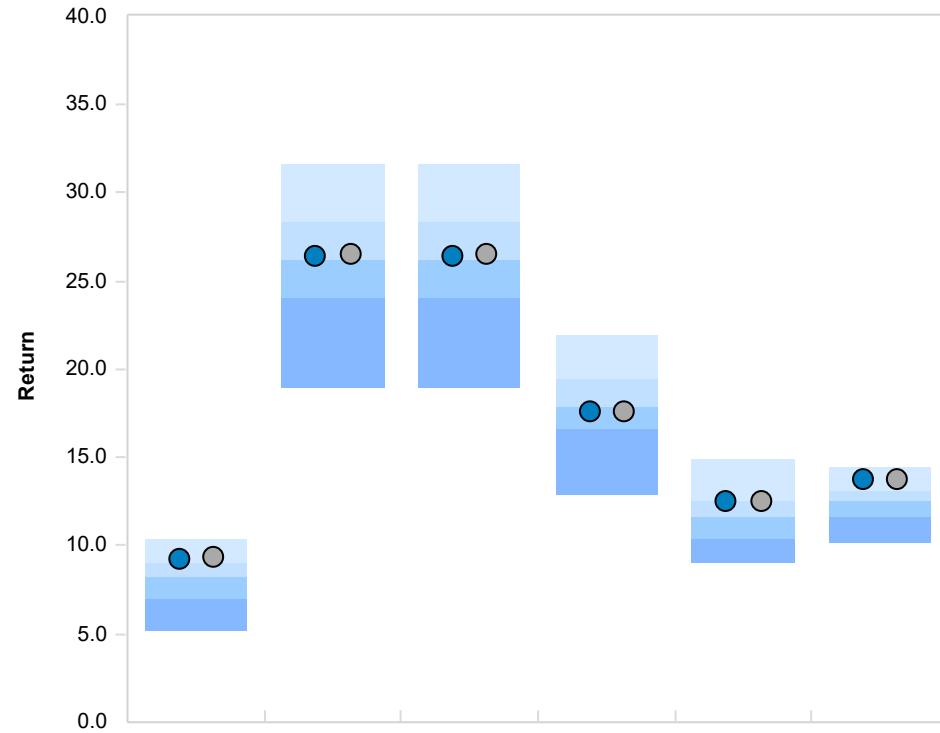
5 Year Rolling Percentile Rank IM U.S. Large Cap Value Equity (MF)



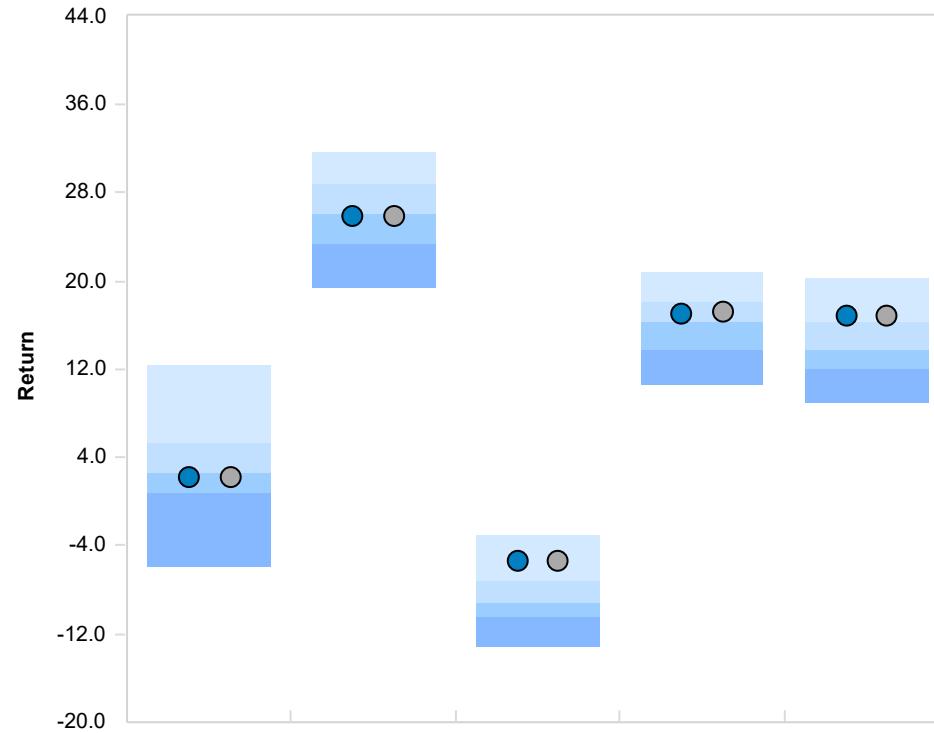
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	15 (75%)	4 (20%)	1 (5%)	0 (0%)
Index	20	15 (75%)	4 (20%)	1 (5%)	0 (0%)

	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	19 (95%)	1 (5%)	0 (0%)	0 (0%)
Index	20	19 (95%)	1 (5%)	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	9.31 (18)	26.48 (47)	26.48 (47)	17.64 (54)	12.52 (25)	13.74 (13)
Index	9.33 (18)	26.51 (46)	26.51 (46)	17.65 (54)	12.53 (25)	13.78 (12)
Median	8.23	26.24	26.24	17.86	11.60	12.54

	2020	2019	2018	2017	2016
Investment	2.30 (56)	25.83 (54)	-5.42 (13)	17.14 (37)	16.87 (22)
Index	2.26 (57)	25.85 (54)	-5.40 (13)	17.16 (36)	16.93 (21)
Median	2.62	26.07	-9.08	16.29	13.82

Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 07/01/2009	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	1,021,656	-963,564	14,429,554	14,487,646

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-0.94	5.24	10.99	14.52	5.62	12.76
Index	-0.94	5.25	10.99	14.53	5.62	12.73



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 : \$15,179 Million
 Portfolio Turnover : 10%

Portfolio Assets : \$134,443 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

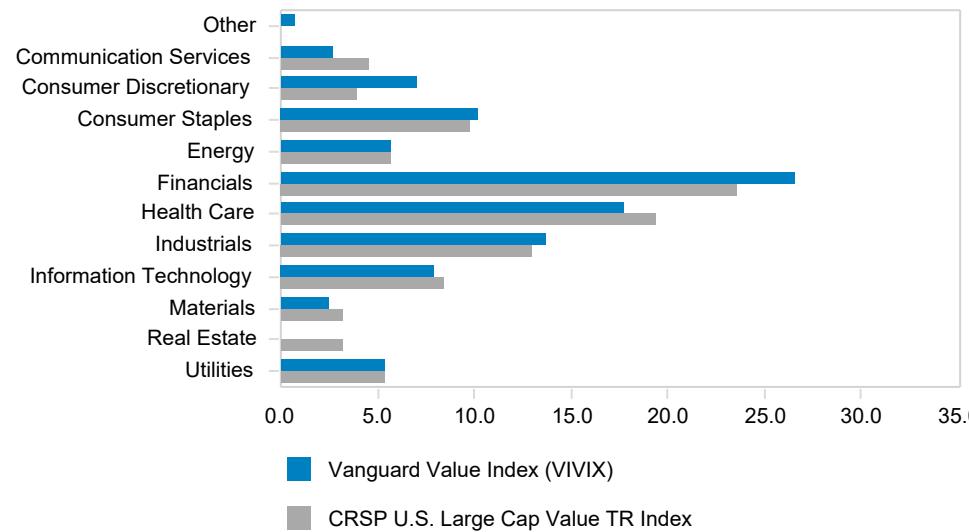
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	349	345
Avg. Market Cap (\$)	167,951,606,460	29,650,451,900
Price/Earnings (P/E)	23.98	17.61
Price/Book (P/B)	5.37	2.83
Dividend Yield	2.41	2.33
Annual EPS	-7.19	228.63
5 Yr EPS	6.25	12.02
3 Yr EPS Growth	5.83	N/A
Beta (5 Years, Monthly)	1.00	1.00

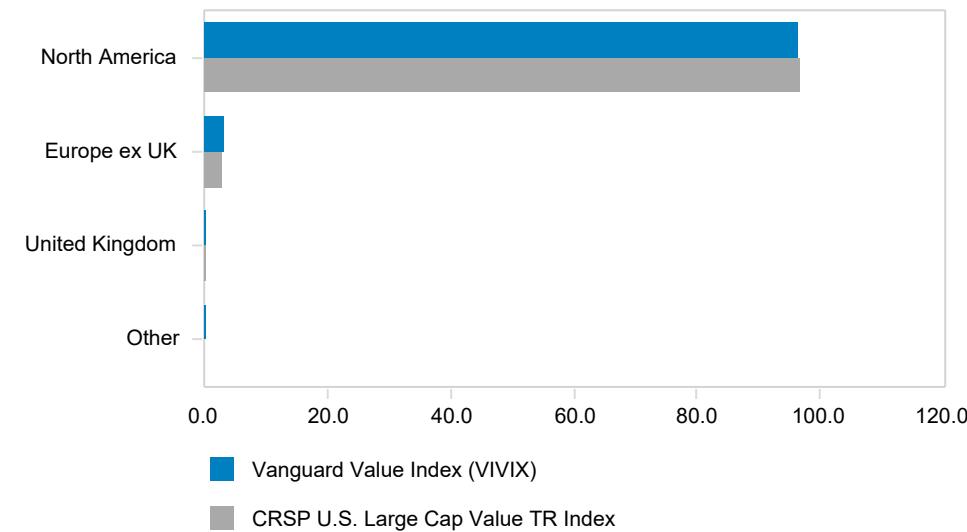
Top Ten Securities As of 10/31/2021

Berkshire Hathaway Inc ORD	2.9 %
JPMorgan Chase & Co ORD	2.9 %
UnitedHealth Group Inc ORD	2.5 %
Johnson & Johnson ORD	2.4 %
Bank of America Corp ORD	2.0 %
Procter & Gamble Co ORD	2.0 %
Exxon Mobil Corp ORD	1.5 %
Pfizer Inc ORD	1.4 %
Comcast Corp ORD	1.3 %
Abbott Laboratories ORD	1.3 %

Sector Weights As of 10/31/2021



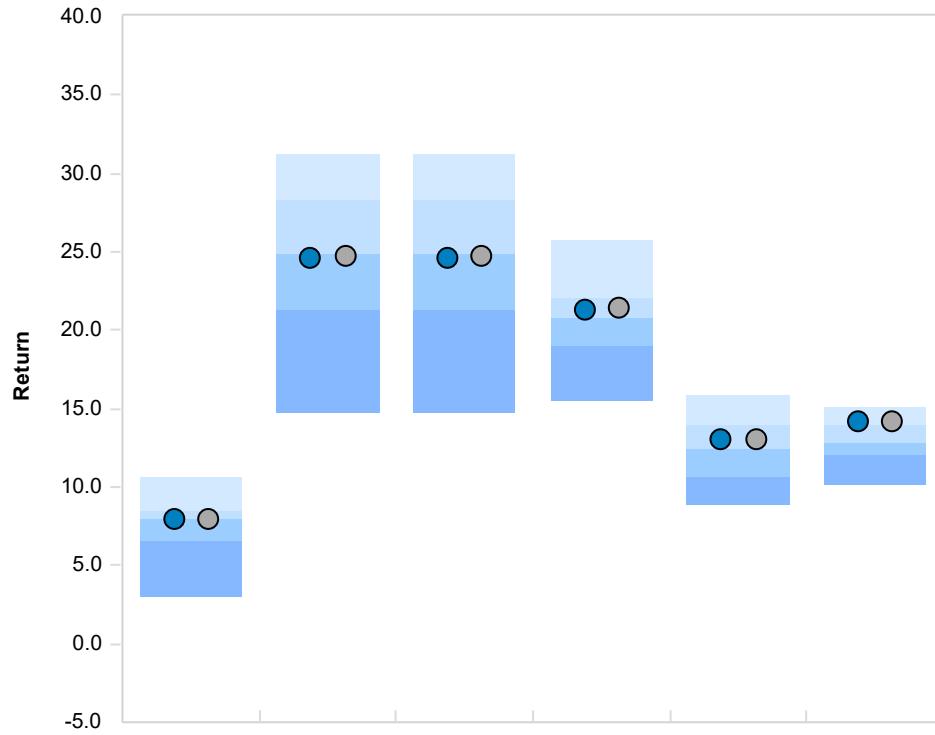
Region Weights As of 04/30/2021



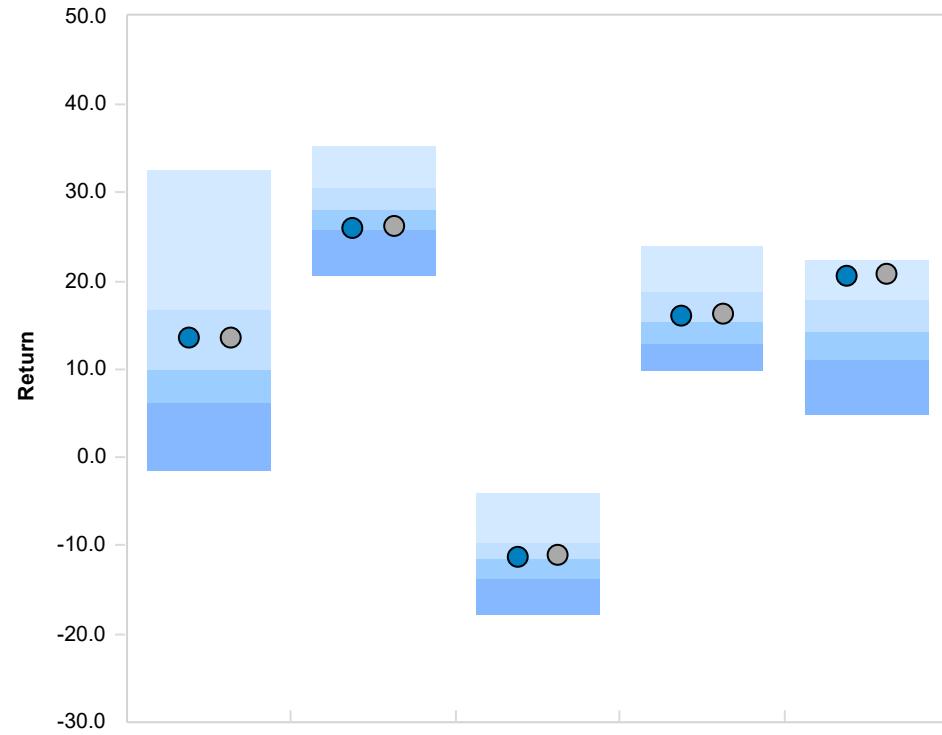
Statistics provided by Lipper. Most recent available data shown.



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



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



Financial Reconciliation Since Inception Ending December 31, 2021

No data found.

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-1.78 (75)	3.62 (84)	13.45 (23)	24.36 (11)	4.74 (76)	24.04 (30)
Index	-1.76 (75)	3.64 (84)	13.47 (23)	24.37 (11)	4.77 (75)	24.07 (30)
Median	-0.85	5.21	10.41	19.40	5.84	20.87

Inception date for VSPMX is 12/1/2018. Manager Returns for VSPMX have been used for this report.



Mutual Fund Holdings Analysis
Vanguard Mid-Cap 400 Index Fund I (VSPMX)
December 31, 2021

Fund Information

Fund Name :	Vanguard Admiral Funds: Vanguard S&P Mid-Cap 400 Index Fund; Institutional Shares	Portfolio Assets :	\$2,957 Million
Fund Family :	Vanguard	Portfolio Manager :	Coleman/Khan
Ticker :	VSPMX	PM Tenure :	2015-2017
Inception Date :	12/15/2010	Fund Style :	IM U.S. SMID Cap Core Equity (MF)
Fund Assets :	\$1,424 Million	Style Benchmark :	S&P MidCap 400 Index
Portfolio Turnover :	16%		

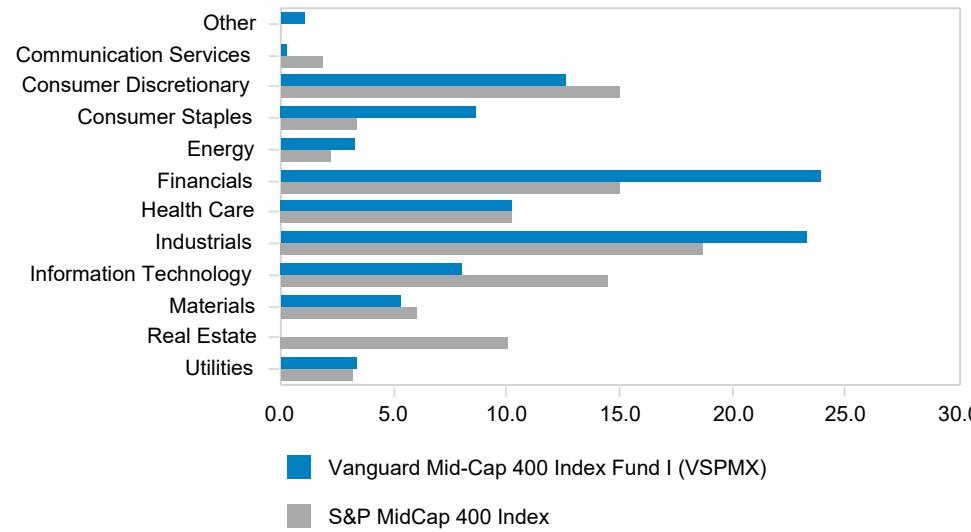
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	402	400
Avg. Market Cap (\$)	8,071,015,098	5,711,778,025
Price/Earnings (P/E)	29.31	18.75
Price/Book (P/B)	5.71	2.97
Dividend Yield	1.88	1.25
Annual EPS	5.96	2.70
5 Yr EPS	9.61	17.90
3 Yr EPS Growth	7.94	N/A
Beta (3 Years, Monthly)	1.00	1.00

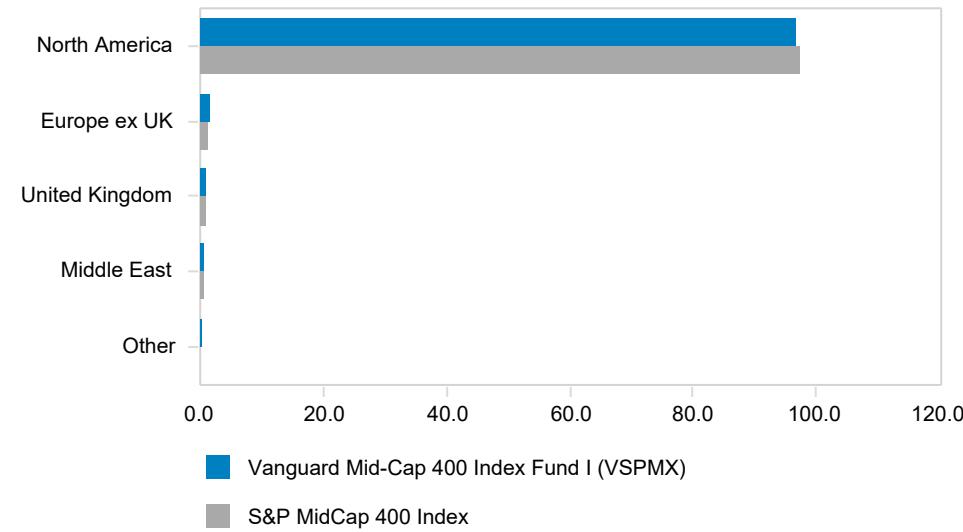
Top Ten Securities As of 10/31/2021

Solaredge Technologies Inc ORD	0.8 %
Signature Bank ORD	0.7 %
Molina Healthcare Inc ORD	0.7 %
Factset Research Systems Inc ORD	0.7 %
Camden Property Trust ORD	0.7 %
Cognex Corp ORD	0.6 %
Repligen Corp ORD	0.6 %
Masimo Corp ORD	0.6 %
Williams-Sonoma Inc ORD	0.6 %
Wolfspeed Inc ORD	0.6 %

Sector Weights As of 10/31/2021



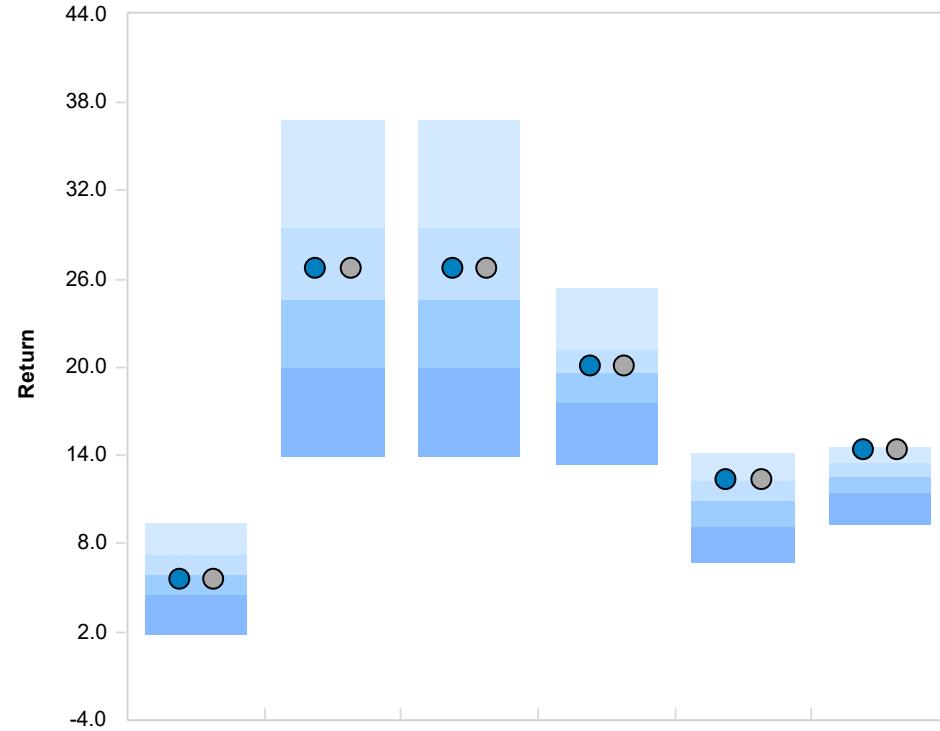
Region Weights As of 04/30/2021



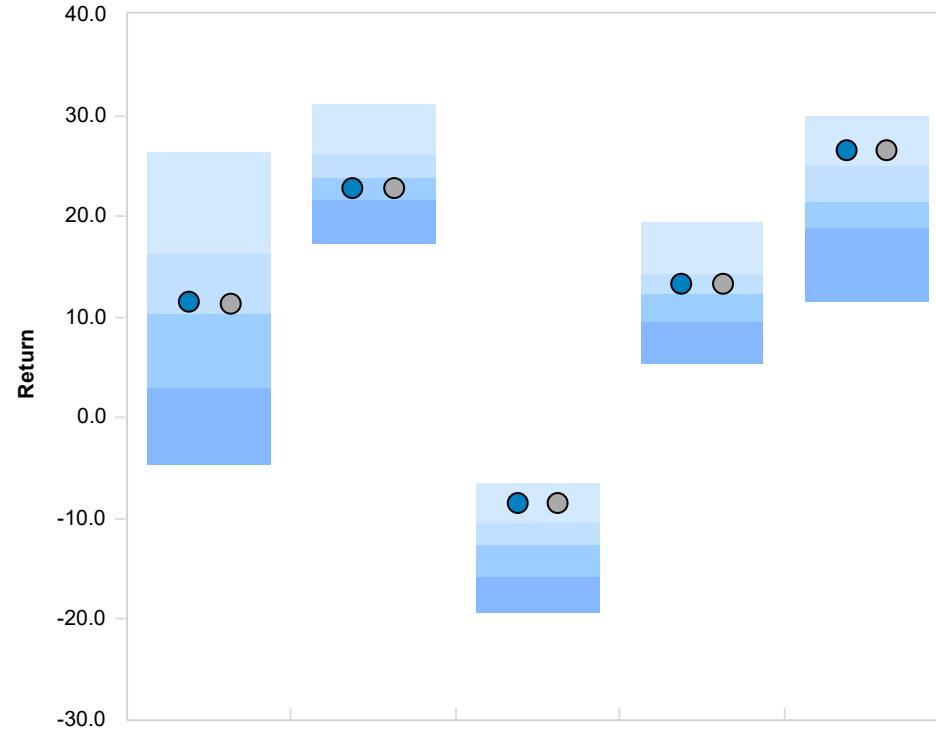
Statistics provided by Lipper. Most recent available data shown.



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



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



Financial Reconciliation Since Inception Ending December 31, 2021

No data found.

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-2.86 (63)	4.49 (36)	18.24 (27)	31.31 (27)	3.18 (52)	22.08 (53)
Index	-2.84 (63)	4.51 (35)	18.24 (27)	31.31 (27)	3.17 (52)	21.94 (56)
Median	-2.28	4.00	15.25	28.43	3.45	22.42

Inception date for VSMSX is 12/1/2018. Manager Returns for VSMSX have been used for this report.



Mutual Fund Holdings Analysis
Vanguard Small-Cap 600 Index I (VSMSX)
December 31, 2021

Fund Information

Fund Name :	Vanguard Admiral Funds: Vanguard S&P Small-Cap 600 Index Fund; Institutional Shares	Portfolio Assets :	\$3,742 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 :	\$1,946 Million	Style Benchmark :	S&P SmallCap 600 Index
Portfolio Turnover :	18%		

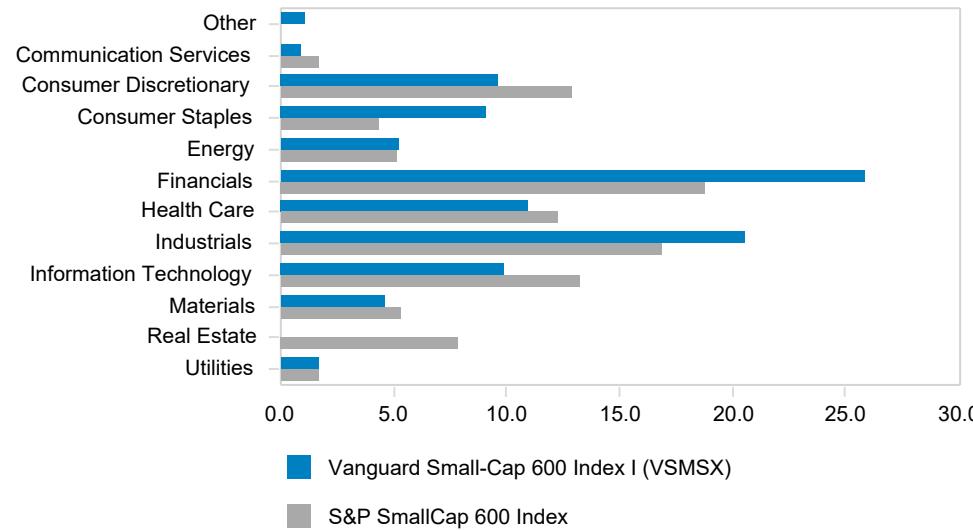
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	606	601
Avg. Market Cap (\$)	2,754,512,169	1,635,185,400
Price/Earnings (P/E)	28.31	16.04
Price/Book (P/B)	3.83	2.44
Dividend Yield	2.02	1.21
Annual EPS	4.75	0.81
5 Yr EPS	8.75	16.56
3 Yr EPS Growth	13.08	N/A
Beta (3 Years, Monthly)	1.00	1.00

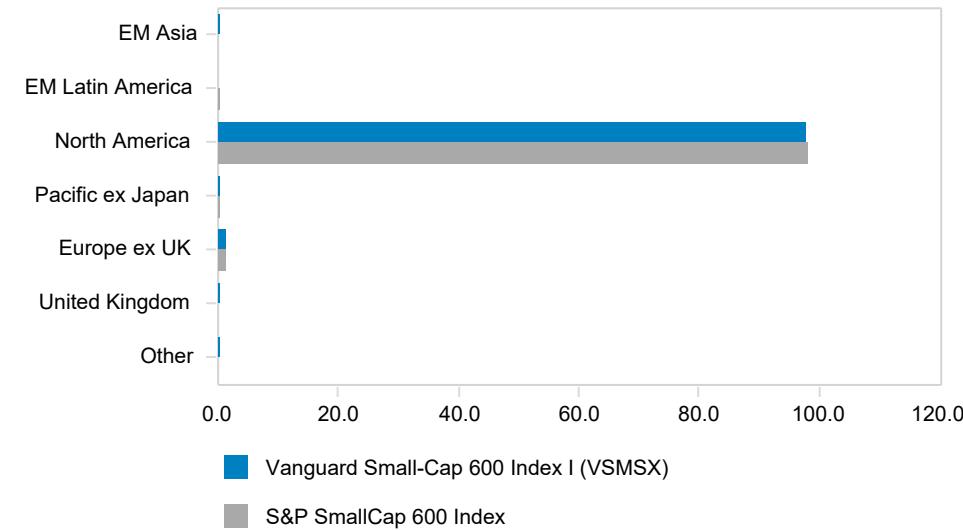
Top Ten Securities As of 10/31/2021

Macy's Inc ORD	0.8 %
Omnicell Inc ORD	0.7 %
Vanguard Market Liquidity Fund	0.7 %
Chart Industries Inc ORD	0.6 %
Innovative Industrial Properties	0.6 %
Power Integrations Inc ORD	0.6 %
Range Resources Corp ORD	0.6 %
Exponent Inc ORD	0.6 %
Neogenomics Inc ORD	0.5 %
SPS Commerce Inc ORD	0.5 %

Sector Weights As of 10/31/2021



Region Weights As of 04/30/2021



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 December 31, 2021

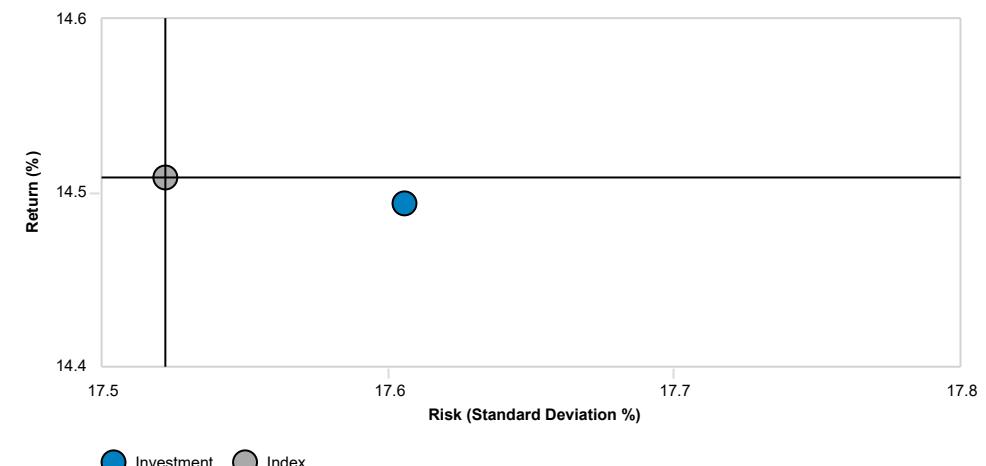
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.49	17.61	0.80	101.00	9	101.84	3
Index	14.51	17.52	0.80	100.00	9	100.00	3

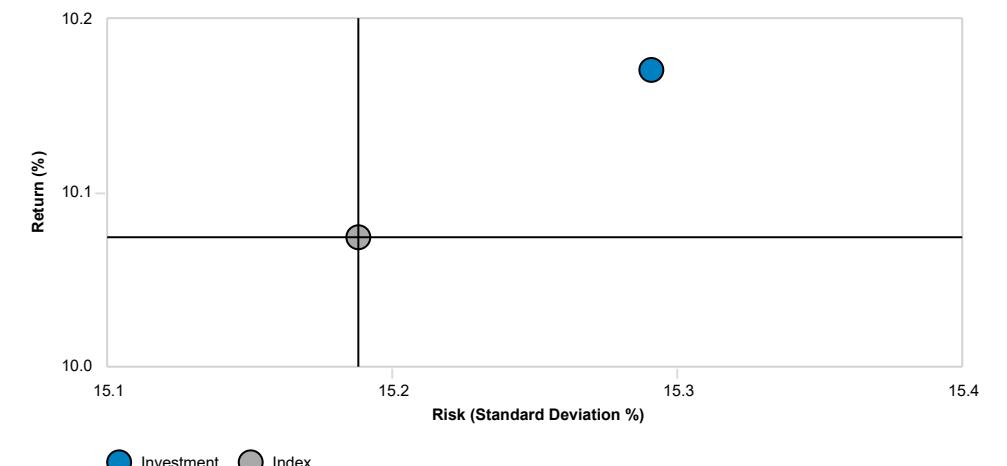
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	10.17	15.29	0.63	100.92	14	100.84	6
Index	10.07	15.19	0.63	100.00	14	100.00	6

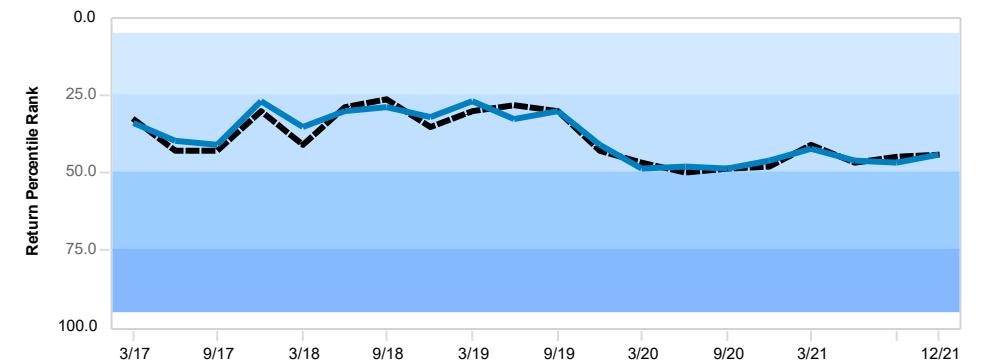
Risk and Return 3 Years



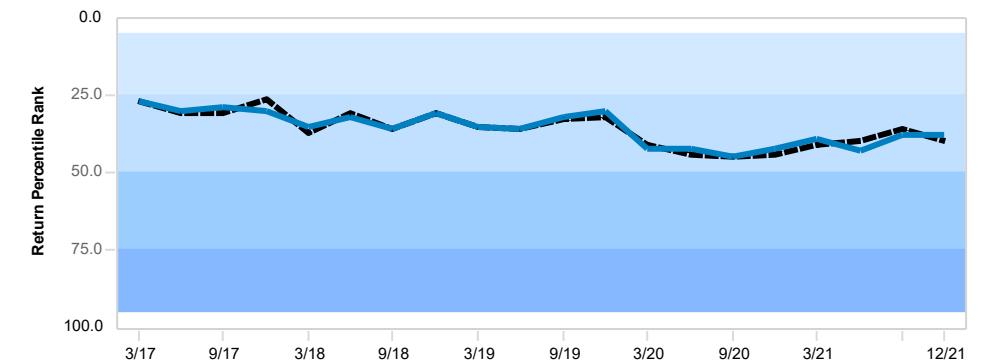
Risk and Return 5 Years



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



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



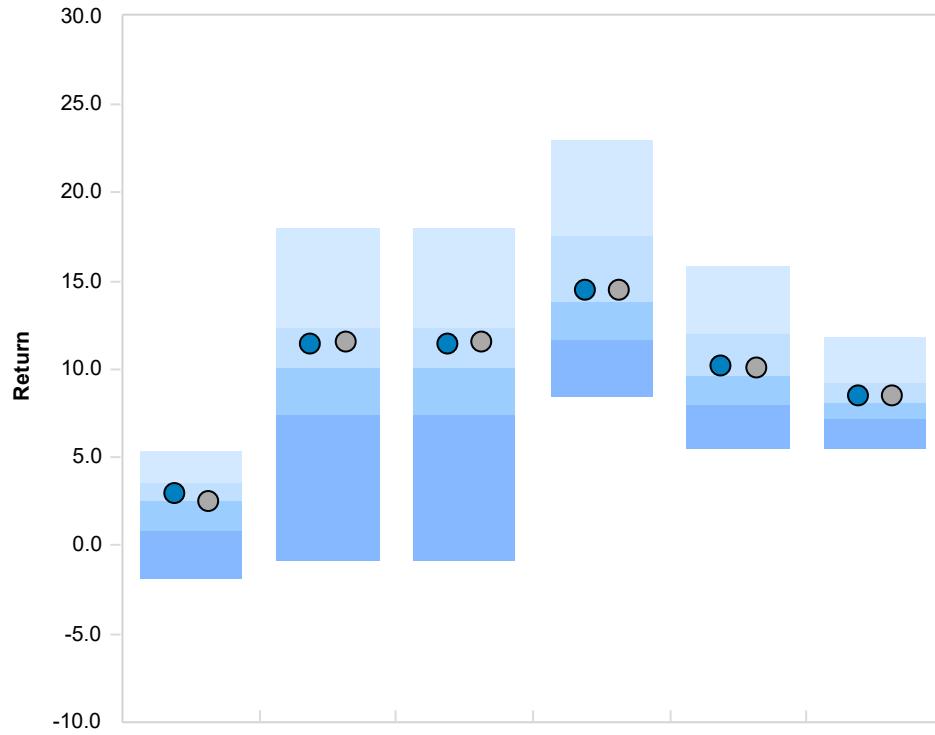
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	20 (100%)	0 (0%)	0 (0%)
Index	20	0 (0%)	20 (100%)	0 (0%)	0 (0%)

	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	0 (0%)	20 (100%)	0 (0%)	0 (0%)

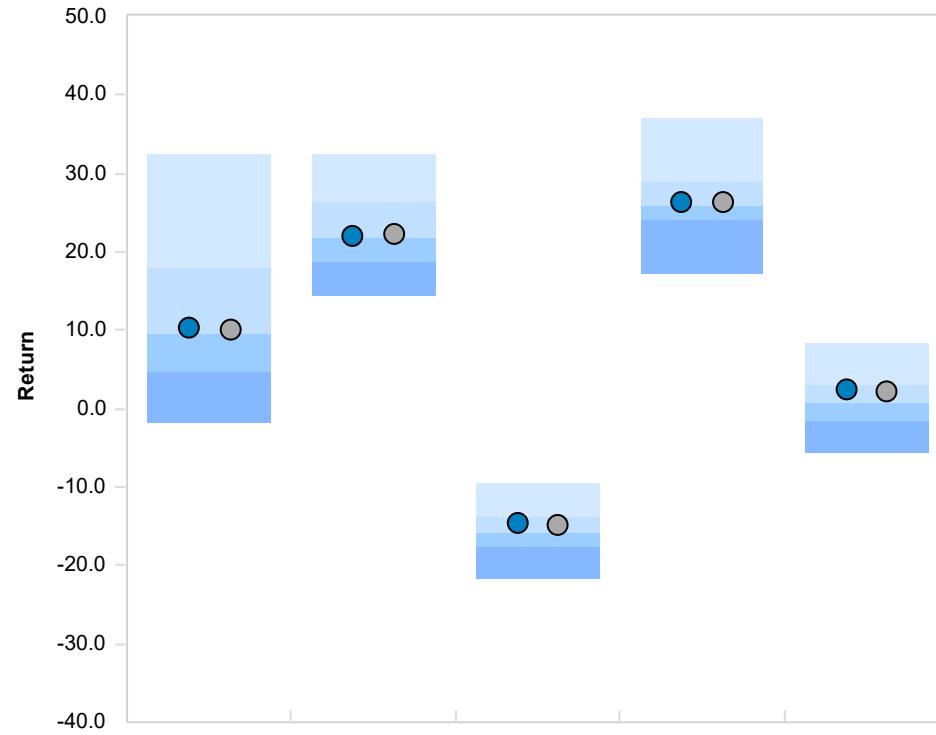


Strategy Review
Vanguard Developed Markets Index (VTMNX) | Vanguard Spliced Developed ex U.S. Index (Net)
As of December 31, 2021

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



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



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	2.99 (41)	11.44 (35)	11.44 (35)	14.49 (44)	10.17 (38)	8.56 (36)
Index	2.55 (50)	11.57 (33)	11.57 (33)	14.51 (44)	10.07 (40)	8.48 (39)
Median	2.52	10.10	10.10	13.88	9.65	8.05

	2020	2019	2018	2017	2016
Investment	10.27 (47)	22.14 (47)	-14.49 (36)	26.46 (46)	2.46 (31)
Index	10.00 (49)	22.34 (45)	-14.79 (39)	26.31 (48)	2.29 (32)
Median	9.47	21.84	-15.74	25.93	0.68

Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 07/01/2009	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	253,831	45,927	10,537,385	10,837,143

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-1.56	5.66	4.03	17.00	5.59	17.49
Index	-1.06	5.69	4.05	17.08	5.96	16.40



Mutual Fund Holdings Analysis
Vanguard Developed Markets Index (VTMNX)
December 31, 2021

Fund Information

Fund Name :	Vanguard Tax-Managed Funds: Vanguard Developed Markets Index Fund; Institutional Shares	Portfolio Assets :	\$160,295 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 :	\$15,851 Million	Style Benchmark :	FTSE Developed x North America Index (Net)
Portfolio Turnover :	3%		

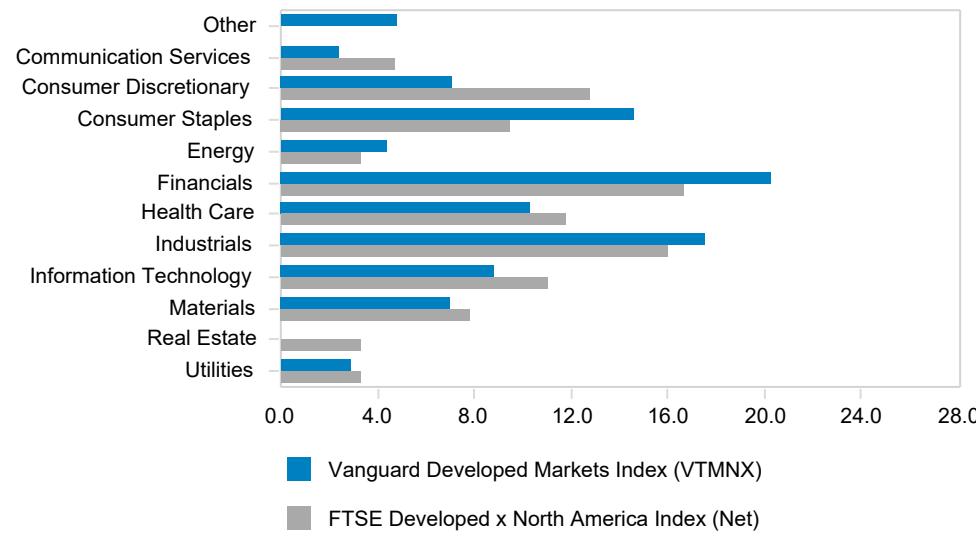
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	4,119	1,539
Avg. Market Cap (\$)	73,175,594,994	7,750,860,810
Price/Earnings (P/E)	26.33	17.05
Price/Book (P/B)	4.64	2.72
Dividend Yield	2.72	2.71
Annual EPS	5.35	411.94
5 Yr EPS	6.82	13.38
3 Yr EPS Growth	2.02	N/A
Beta (5 Years, Monthly)	1.02	1.00

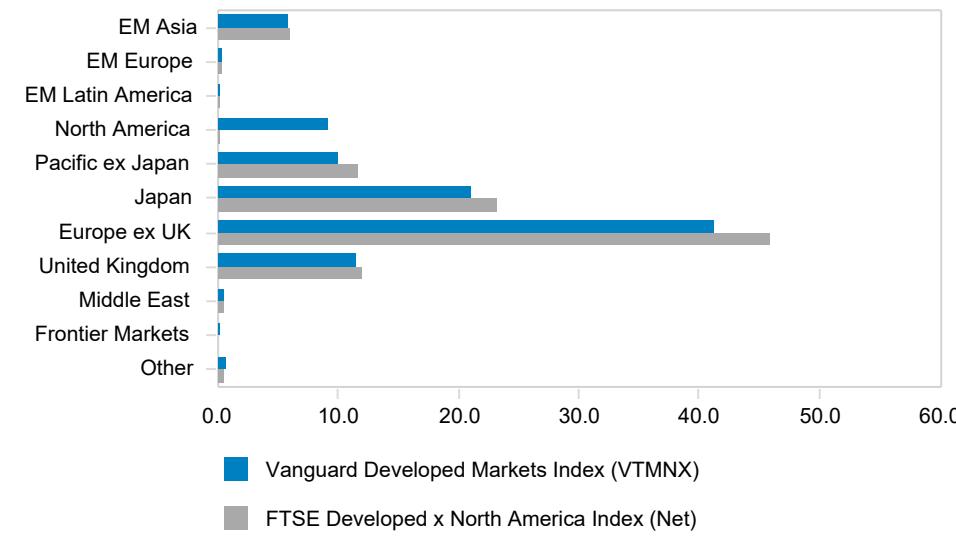
Top Ten Securities As of 10/31/2021

Vanguard Market Liquidity Fund	2.5 %
Nestle SA ORD	1.5 %
ASML Holding NV ORD	1.3 %
Samsung Electronics Co Ltd ORD	1.1 %
Roche Holding AG	1.1 %
Toyota Motor Corp ORD	0.9 %
LVMH Moet Hennessy Louis Vuitton	0.8 %
AstraZeneca PLC ORD	0.8 %
Novartis AG ORD	0.7 %
Novo Nordisk A/S ORD	0.7 %

Sector Weights As of 10/31/2021



Region Weights As of 04/30/2021



Statistics provided by Lipper. Most recent available data shown.



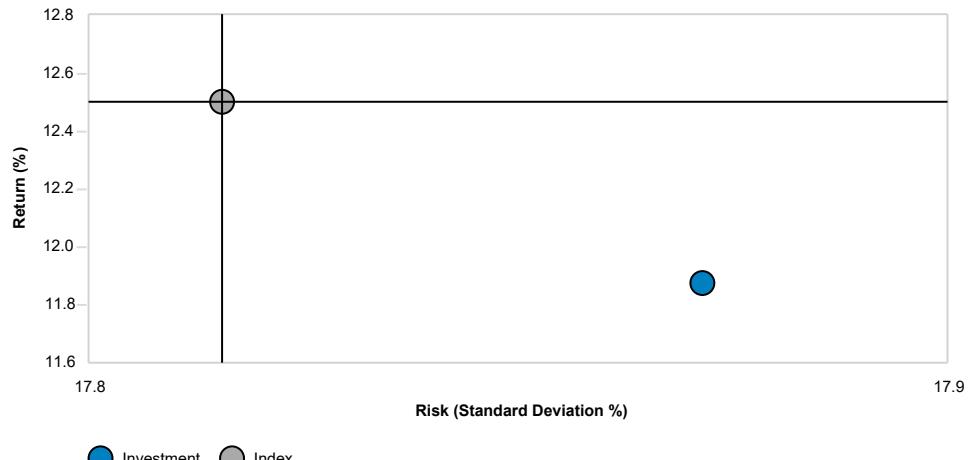
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.88	17.87	0.66	98.46	8	100.38	4
Index	12.51	17.82	0.70	100.00	8	100.00	4

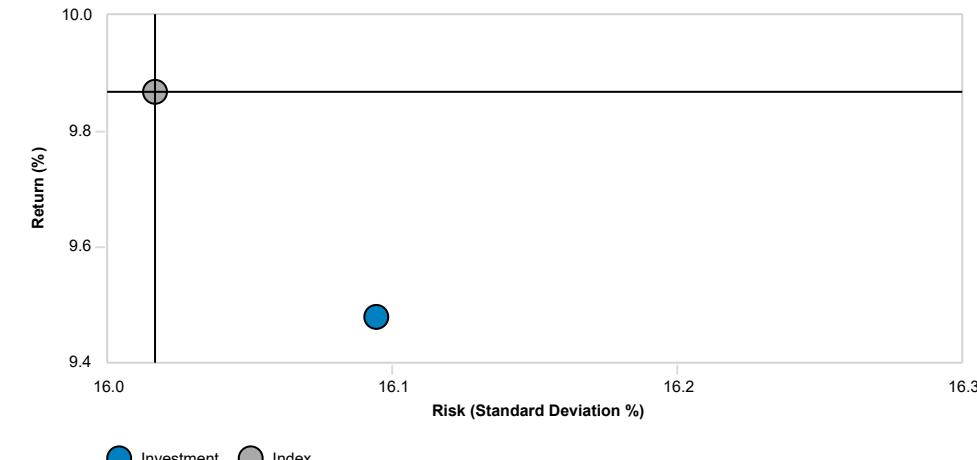
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.48	16.09	0.57	99.29	13	100.83	7
Index	9.87	16.02	0.60	100.00	13	100.00	7

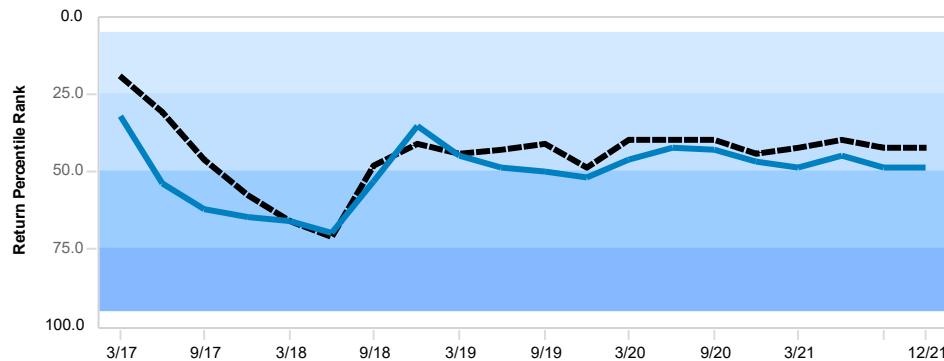
Risk and Return 3 Years



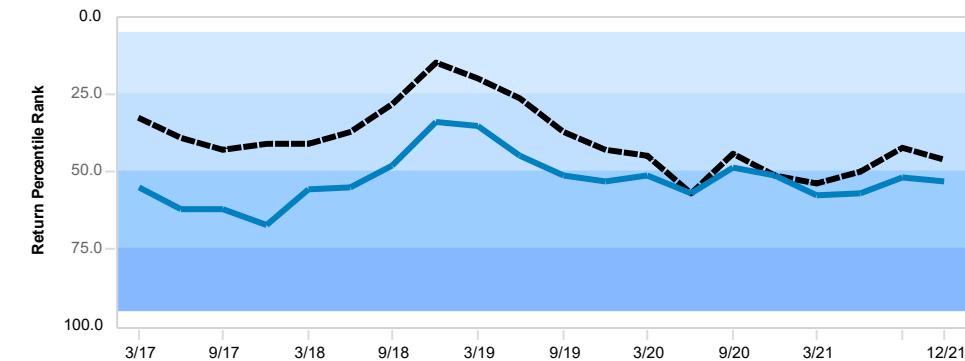
Risk and Return 5 Years



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



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

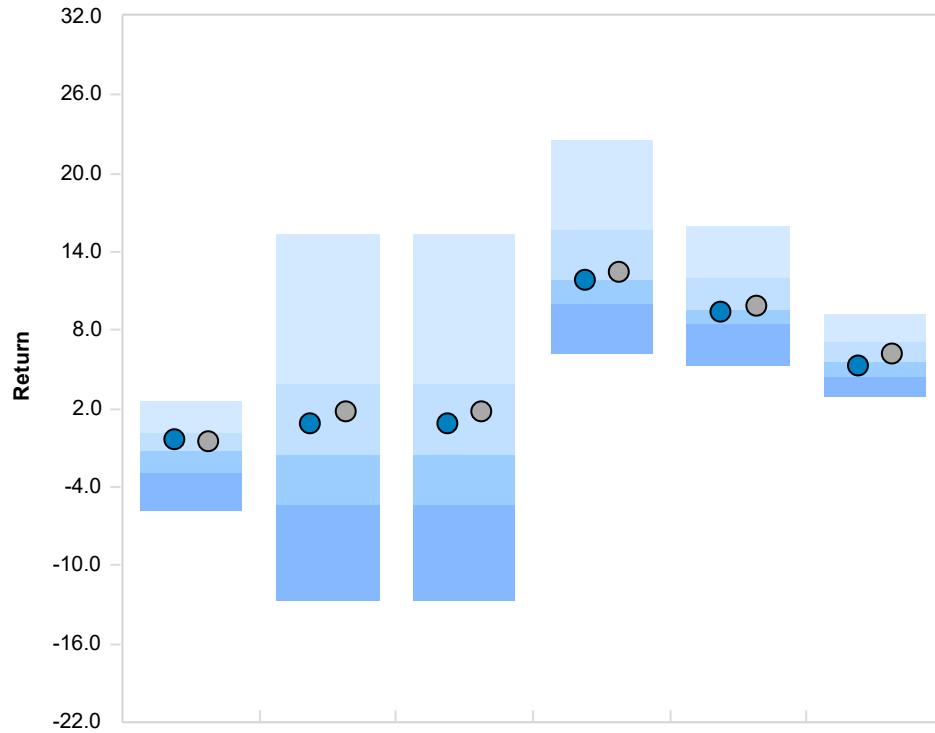


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	13 (65%)	7 (35%)	0 (0%)
Index	20	1 (5%)	16 (80%)	3 (15%)	0 (0%)

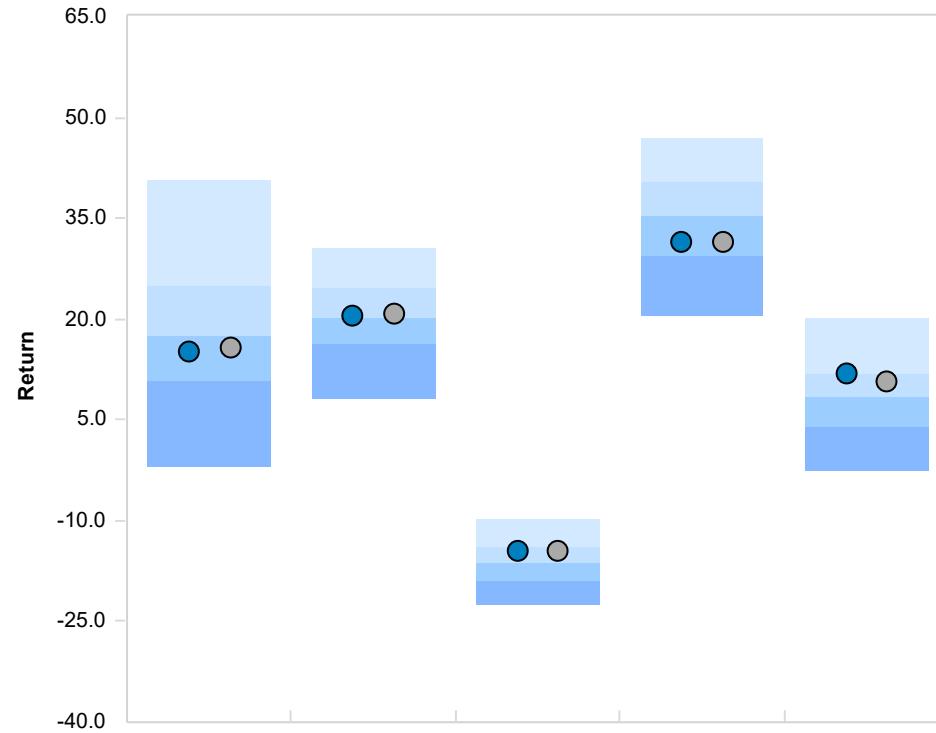
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	0 (0%)	5 (25%)	15 (75%)	0 (0%)
Index	20	2 (10%)	15 (75%)	3 (15%)	0 (0%)

Strategy Review
Vanguard Emerging Markets Index (VEMIX) | FTSE Emerging Mkts All Cap China A Inclusion Index
As of December 31, 2021

Peer Group Analysis - IM Emerging Markets Equity (MF)



Peer Group Analysis - IM Emerging Markets Equity (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	-0.40 (37)	0.92 (36)	0.92 (36)	11.88 (49)	9.48 (53)	5.32 (56)
Index	-0.45 (39)	1.76 (32)	1.76 (32)	12.51 (42)	9.87 (46)	6.18 (41)
Median	-1.26	-1.60	-1.60	11.81	9.59	5.62

	2020	2019	2018	2017	2016
Investment	15.26 (63)	20.37 (49)	-14.54 (30)	31.43 (70)	11.76 (26)
Index	15.84 (60)	20.81 (47)	-14.49 (29)	31.46 (70)	10.66 (34)
Median	17.49	20.09	-16.39	35.37	8.35

Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 10/01/2010	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	5,147,163	3,164,289	4,704,876	13,016,328

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	-6.97	5.16	3.57	16.87	9.05	19.89
Index	-6.31	5.78	3.14	17.53	9.11	19.11



Fund Information

Fund Name :	Vanguard International Equity Index Funds: Vanguard Emerging Markets Stock Index Fund; Instl Class Shares	Portfolio Assets :	\$109,611 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 :	\$7,791 Million	Style Benchmark :	FTSE Emerging Mkts All Cap China A Inclusion Index
Portfolio Turnover :	10%		

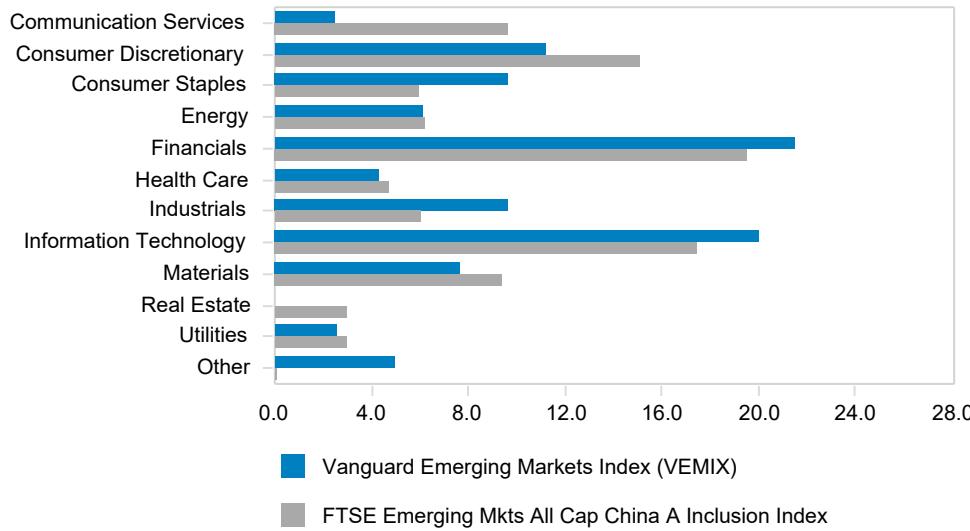
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	4,386	4,284
Avg. Market Cap (\$)	122,038,485,595	1,933,467,073
Price/Earnings (P/E)	24.00	13.03
Price/Book (P/B)	4.88	2.97
Dividend Yield	2.58	2.47
Annual EPS	16.82	32.95
5 Yr EPS	11.87	16.45
3 Yr EPS Growth	10.64	N/A
Beta (5 Years, Monthly)	1.00	1.00

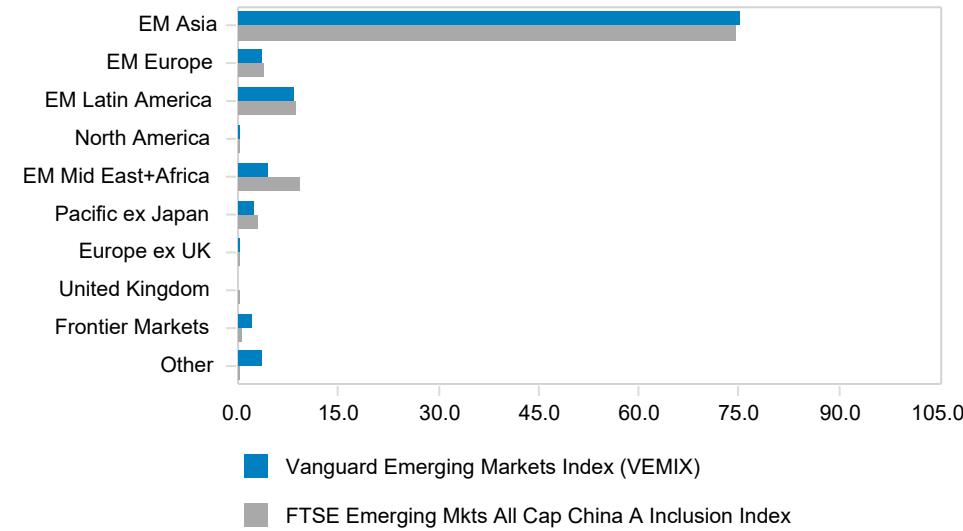
Top Ten Securities As of 10/31/2021

Taiwan Semiconductor Manufacturing	4.8 %
Tencent Holdings Ltd ORD	4.4 %
Alibaba Group Holding Ltd ORD	3.6 %
Vanguard Market Liquidity Fund	2.4 %
Meituan ORD	1.6 %
Taiwan Semiconductor Manufacturing	1.5 %
Reliance Industries Ltd ORD	1.3 %
Infosys Ltd ORD	1.0 %
Housing Development Finance Corporation	0.8 %
China Construction Bank Corp ORD	0.8 %

Sector Weights As of 10/31/2021



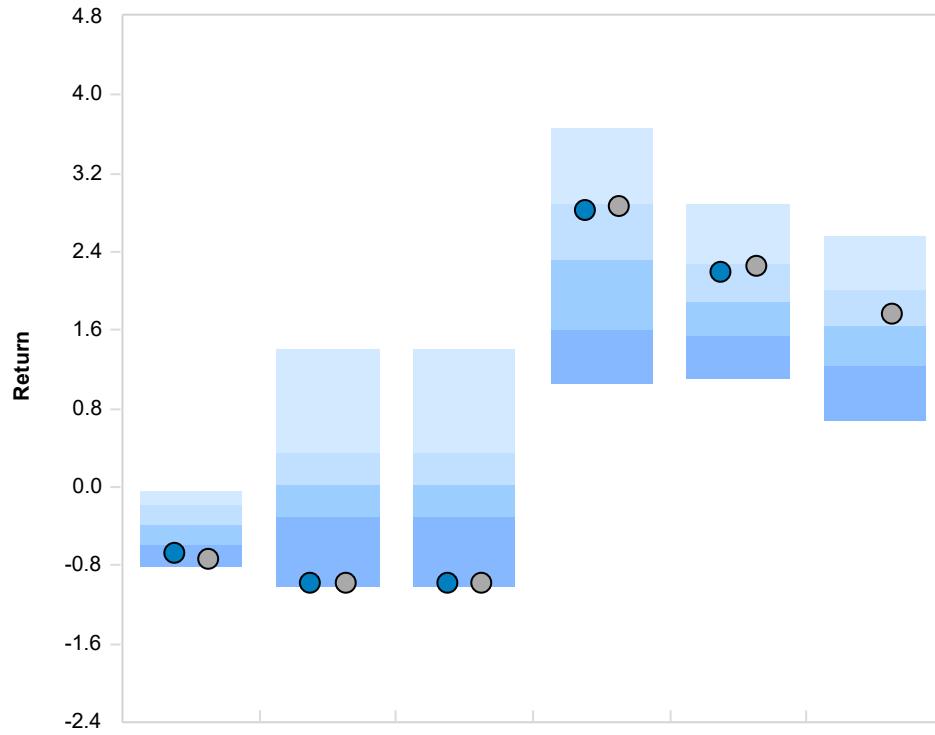
Region Weights As of 04/30/2021



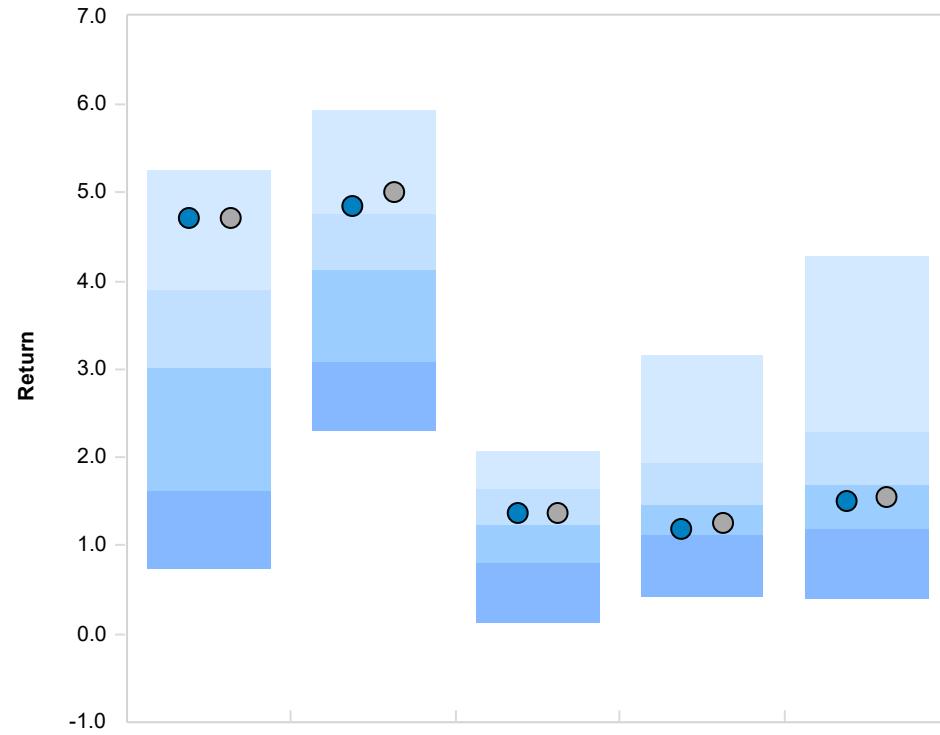
Statistics provided by Lipper. Most recent available data shown.



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 December 31, 2021

	Market Value 04/01/2013	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	10,001,804	-5,569,350	1,739,260	6,171,714

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.00	0.30	-0.60	0.28	0.33	1.79
Index	0.05	0.27	-0.57	0.33	0.37	1.77

Mutual Fund Holdings Analysis
Vanguard Short Term Bond Index (VBITX)
December 31, 2021

Fund Information

Fund Name :	Vanguard Bond Index Funds: Vanguard Short-Term Bond Index Fund; Institutional Class Shares	Portfolio Assets :	\$80,697 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 :	\$6,789 Million	Style Benchmark :	Bloomberg U.S. Aggregate 1-3 Yrs
Portfolio Turnover :	49%		

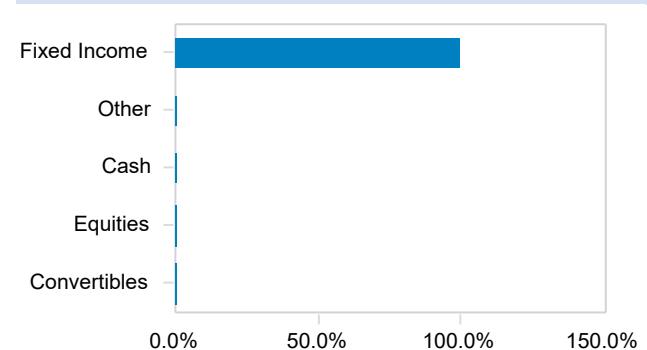
Fund Characteristics As of 09/30/2021

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

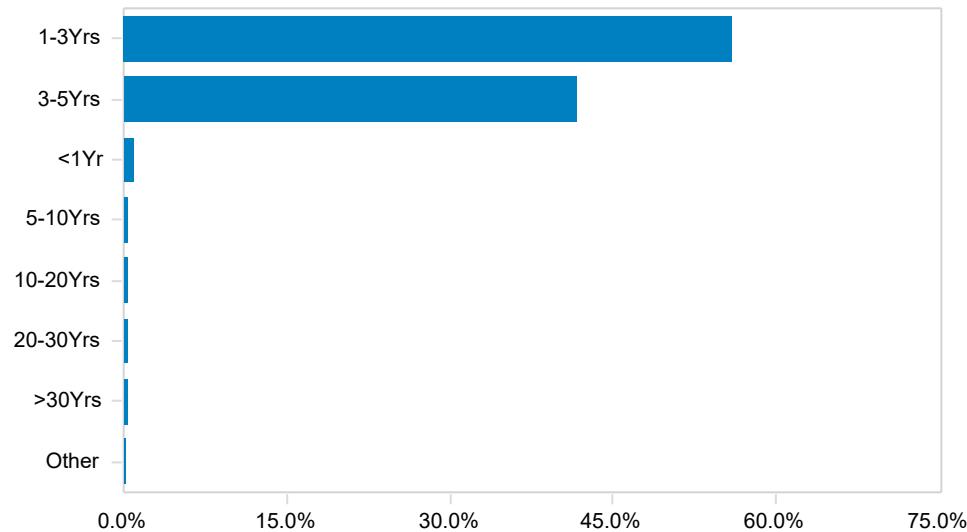
Top Ten Securities As of 09/30/2021

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

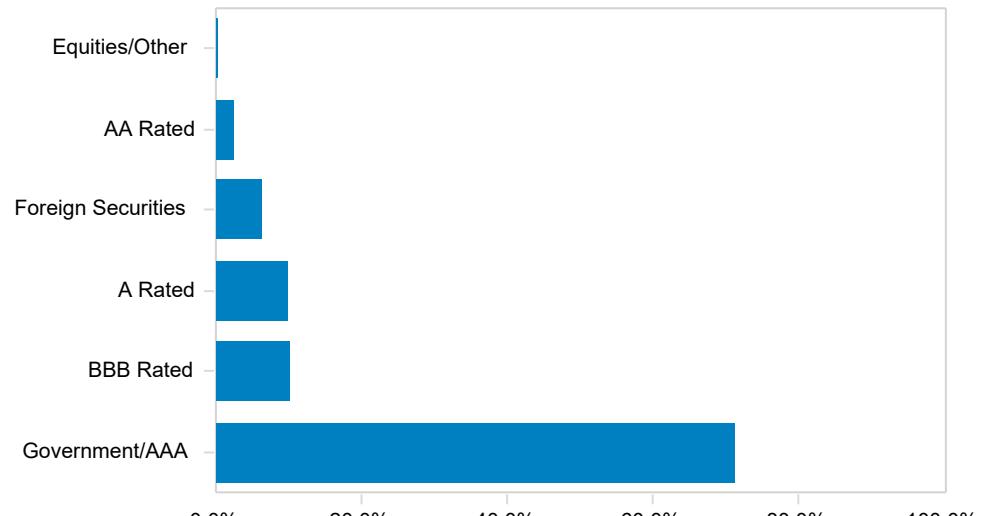
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



Sector/Quality Allocation As of 09/30/2021



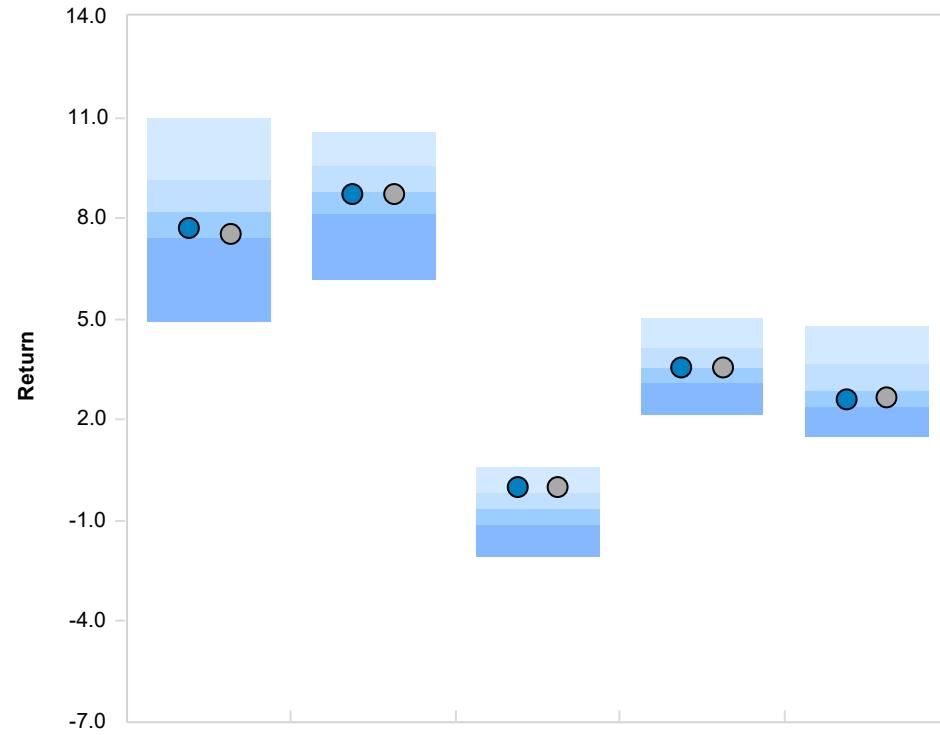
Statistics provided by Lipper. Most recent available data shown.



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



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



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	-0.08 (40)	-1.65 (65)	-1.65 (65)	4.83 (69)	3.59 (58)	2.87 (65)
Index	0.01 (22)	-1.55 (61)	-1.55 (61)	4.79 (70)	3.57 (61)	2.90 (64)
Median	-0.14	-1.32	-1.32	5.17	3.71	3.10

	2020	2019	2018	2017	2016
Investment	7.74 (65)	8.73 (52)	-0.01 (19)	3.57 (52)	2.61 (63)
Index	7.51 (72)	8.72 (53)	0.01 (18)	3.54 (54)	2.65 (61)
Median	8.19	8.76	-0.63	3.59	2.86

Financial Reconciliation Since Inception Ending December 31, 2021

No data found.

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.11 (29)	2.00 (41)	-3.61 (88)	0.67 (88)	0.62 (88)	2.98 (88)
Index	0.05 (44)	1.83 (62)	-3.38 (74)	0.67 (88)	0.62 (88)	2.90 (91)
Median	0.03	1.93	-3.04	1.36	1.19	4.94

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



Mutual Fund Holdings Analysis

Vanguard Total Bond Index (VBTIX)

December 31, 2021

Fund Information

Fund Name :	Vanguard Bond Index Funds: Vanguard Total Bond Market Index Fund; Institutional Shares	Portfolio Assets :	\$321,067 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 :	\$49,800 Million	Style Benchmark :	Bloomberg U.S. Aggregate
Portfolio Turnover :	79%		

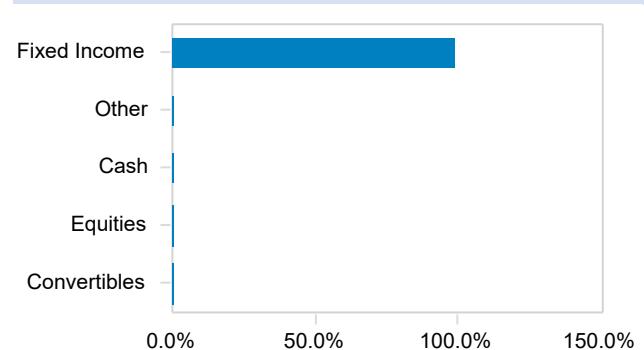
Fund Characteristics As of 09/30/2021

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

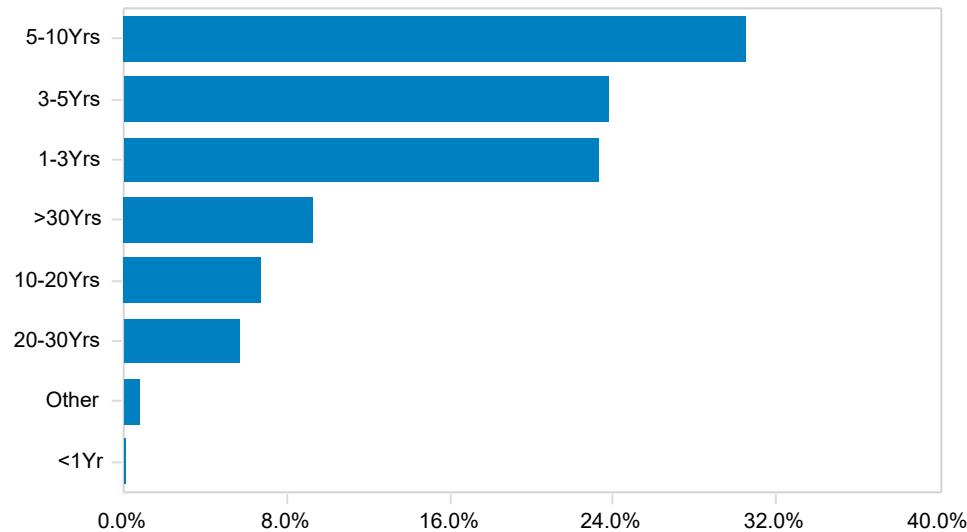
Top Ten Securities As of 09/30/2021

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 %

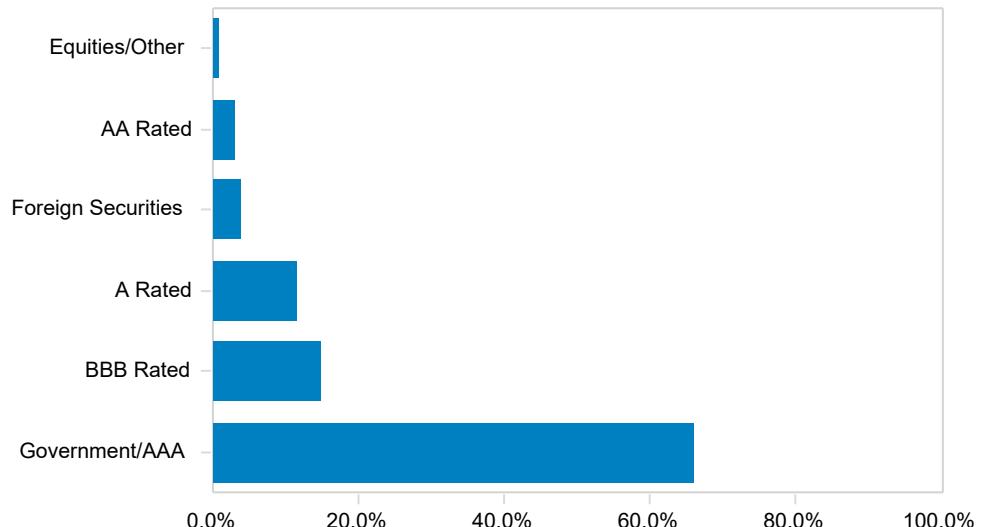
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



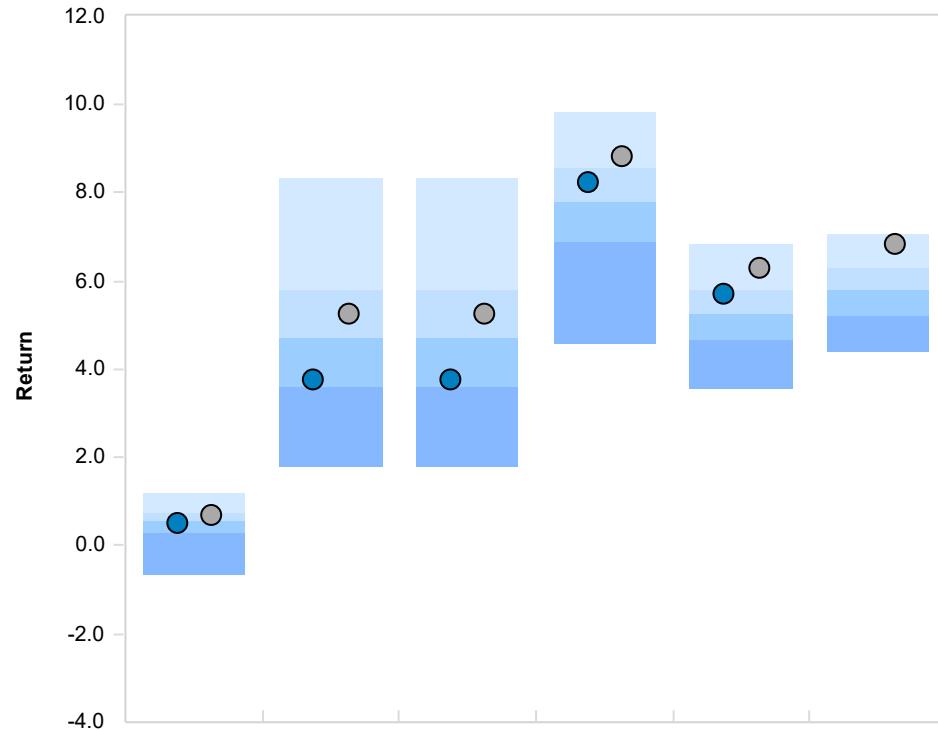
Sector/Quality Allocation As of 09/30/2021



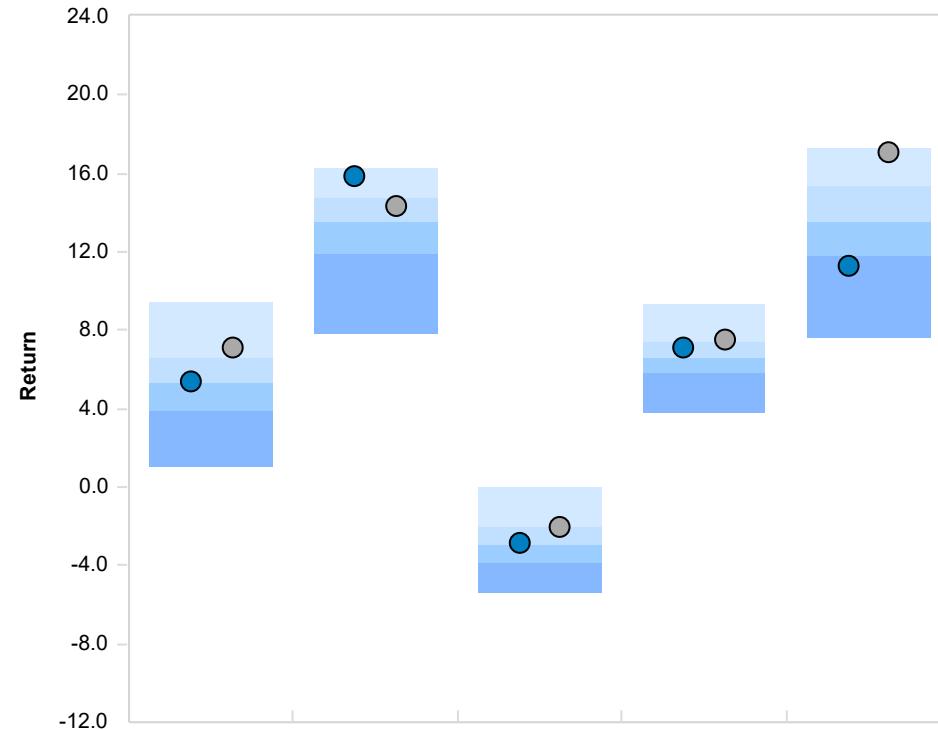
Statistics provided by Lipper. Most recent available data shown.



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	0.53 (52)	3.78 (71)	3.78 (71)	8.23 (35)	5.70 (31)	N/A
Index	0.71 (29)	5.28 (37)	5.28 (37)	8.83 (17)	6.30 (12)	6.83 (10)
Median	0.55	4.71	4.71	7.78	5.28	5.82

	2020	2019	2018	2017	2016
Investment	5.38 (47)	15.90 (8)	-2.87 (49)	7.13 (34)	11.27 (80)
Index	7.11 (19)	14.32 (34)	-2.08 (28)	7.50 (24)	17.13 (7)
Median	5.28	13.51	-2.91	6.65	13.49

Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 12/01/2014	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	12,642,764	5,350,000	7,394,793	25,387,557

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.88	2.42	-0.09	4.63	4.27	8.04
Index	0.89	2.74	0.85	6.45	4.60	10.18

Mutual Fund Holdings Analysis
Vanguard High Yield Bond Fund (VWEAX)
December 31, 2021

Fund Information

Fund Name :	Vanguard Fixed Income Securities Funds: Vanguard High-Yield Corporate Fund; Admiral Shares	Portfolio Assets :	\$29,657 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 :	\$25,845 Million	Style Benchmark :	FTSE High Yield Market Index
Portfolio Turnover :	38%		

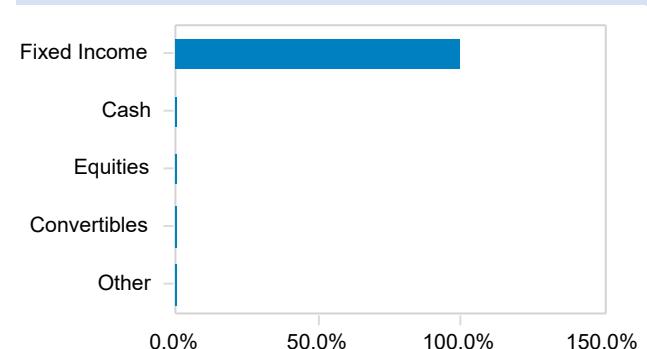
Fund Characteristics As of 09/30/2021

Avg. Coupon	4.60 %
Nominal Maturity	N/A
Effective Maturity	4.30 Years
Duration	3.80 Years
SEC 30 Day Yield	6.5
Avg. Credit Quality	BB

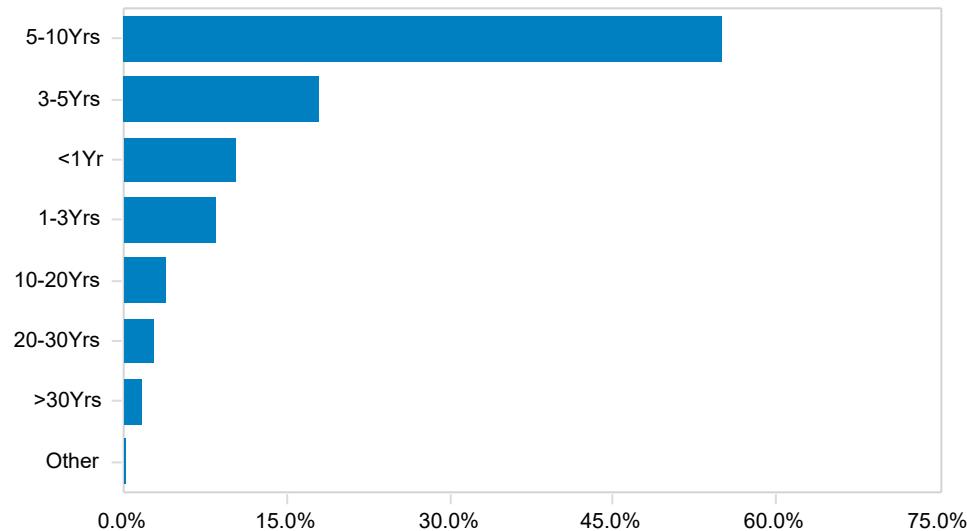
Top Ten Securities As of 09/30/2021

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

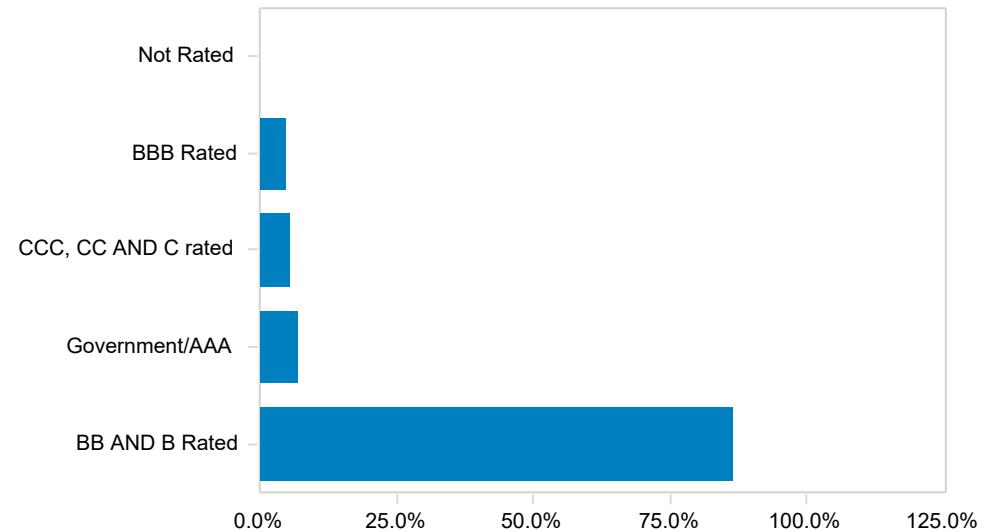
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



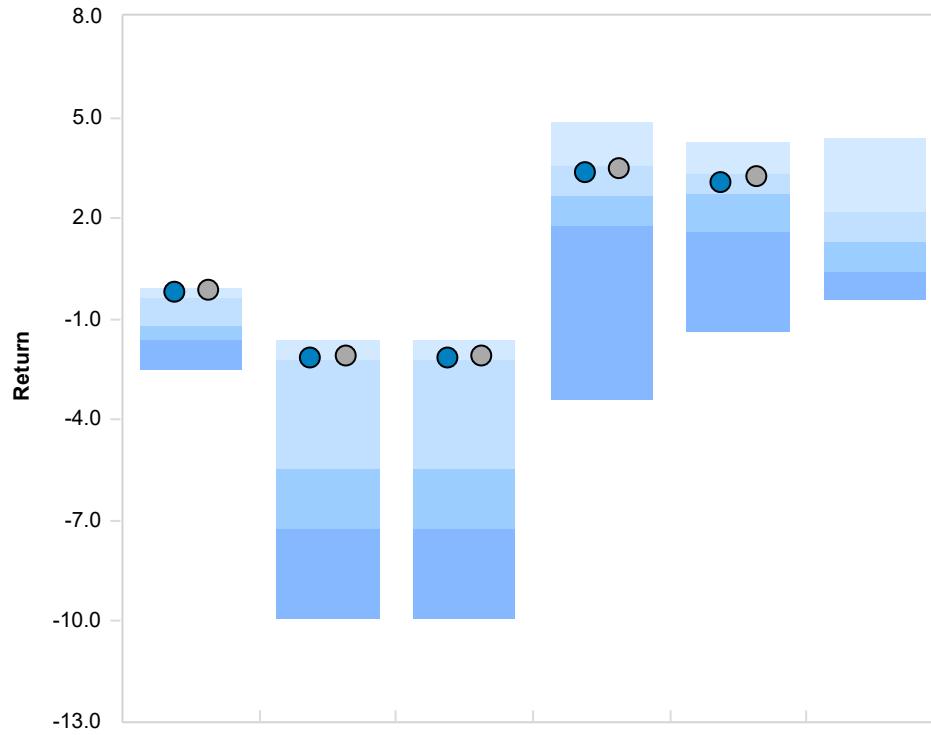
Sector/Quality Allocation As of 09/30/2021



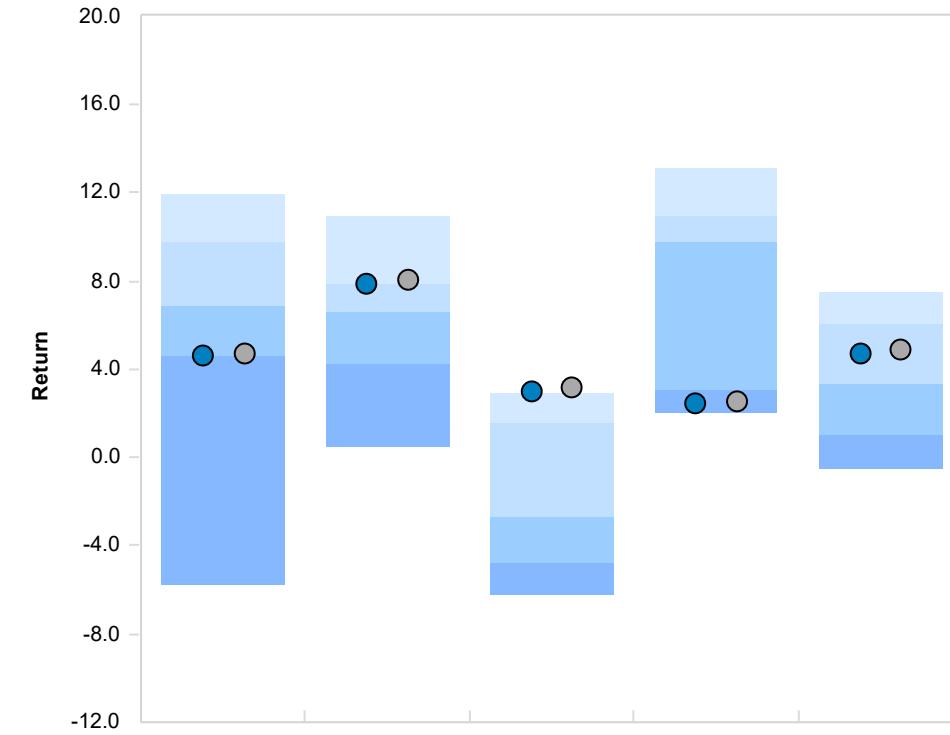
Statistics provided by Lipper. Most recent available data shown.



Peer Group Analysis - IM International Fixed Income (MF)



Peer Group Analysis - IM International Fixed Income (MF)



Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 06/01/2015	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	9,329,282	-2,425,000	2,050,611	8,954,893

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.03	0.30	-2.32	1.03	1.14	2.20
Index	-0.01	0.26	-2.22	1.08	1.07	2.31
Median	-0.01	0.26	-2.22	1.08	1.07	2.31



Fund Information

Fund Name :	Vanguard Charlotte Funds: Vanguard Total International Bond Index Fund; Institutional Class Shares	Portfolio Assets :	\$118,222 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 :	\$12,538 Million	Style Benchmark :	FTSE Non-U.S. World Government Bond
Portfolio Turnover :	31%		

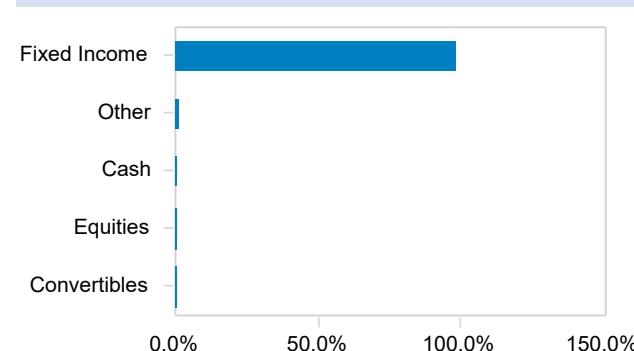
Fund Characteristics As of 09/30/2021

Avg. Coupon	1.80 %
Nominal Maturity	9.70 Years
Effective Maturity	N/A
Duration	8.40 Years
SEC 30 Day Yield	N/A
Avg. Credit Quality	N/A

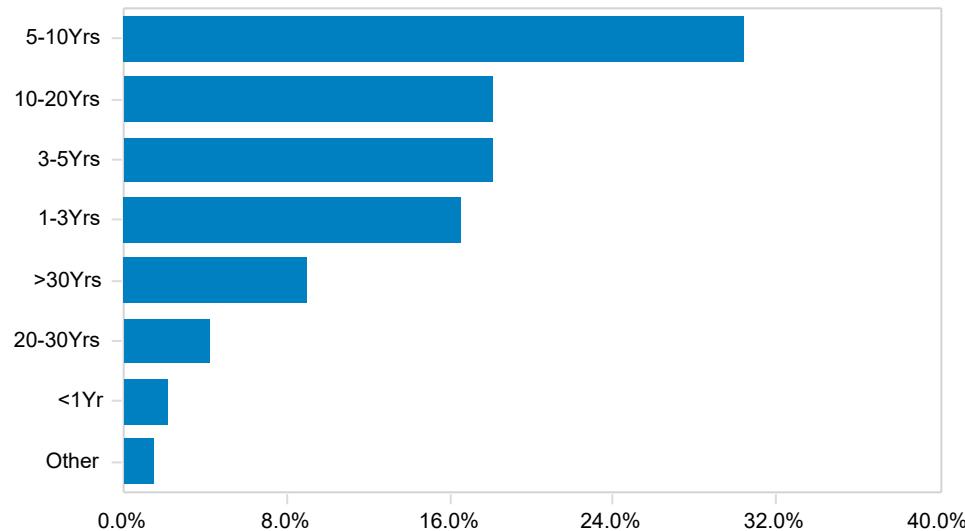
Top Ten Securities As of 09/30/2021

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

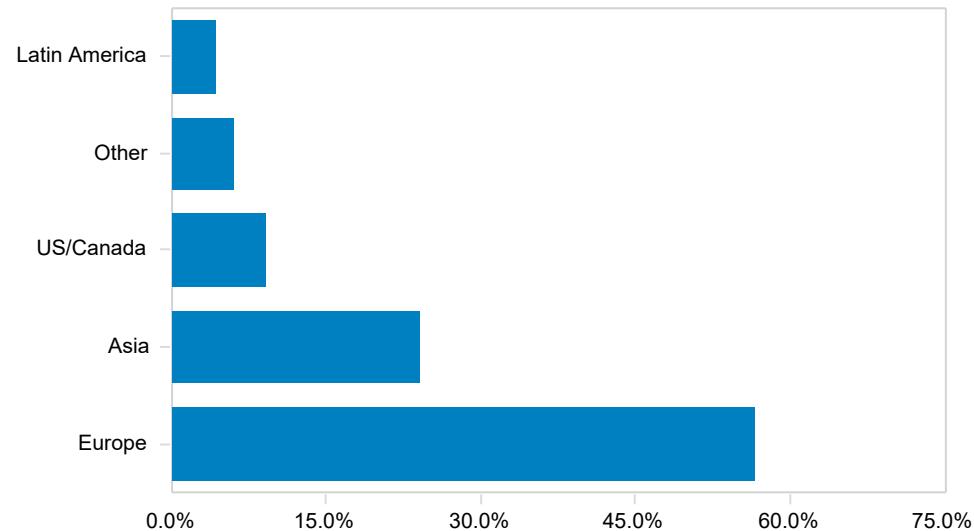
Asset Allocation As of 09/30/2021



Maturity Distribution As of 09/30/2021



Sector/Quality Allocation As of 09/30/2021



Statistics provided by Lipper. Most recent available data shown.

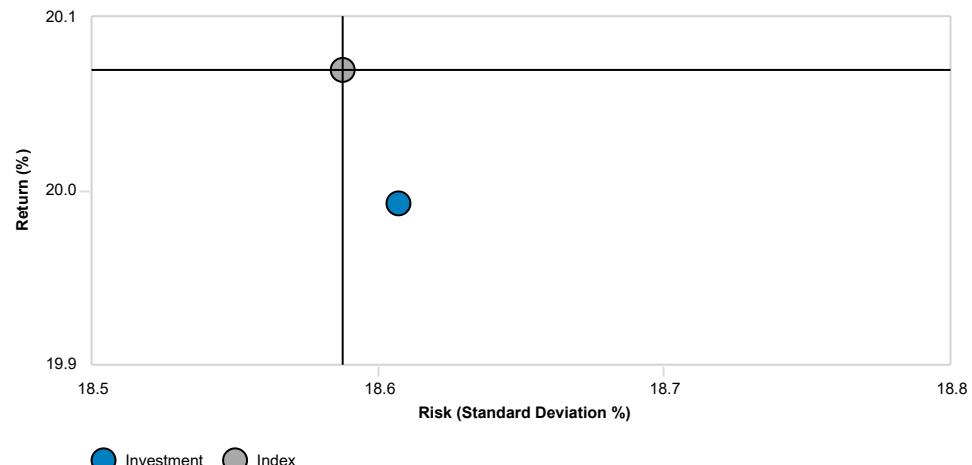
Historical Statistics 3 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	19.99	18.61	1.02	99.87	11	100.13	1
Index	20.07	18.59	1.03	100.00	11	100.00	1

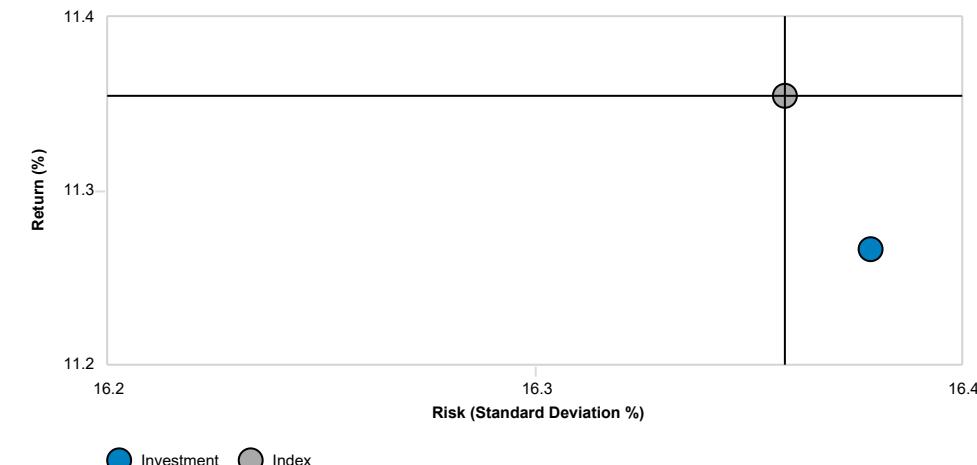
Historical Statistics 5 Years

	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.27	16.38	0.67	99.91	17	100.37	3
Index	11.35	16.36	0.67	100.00	17	100.00	3

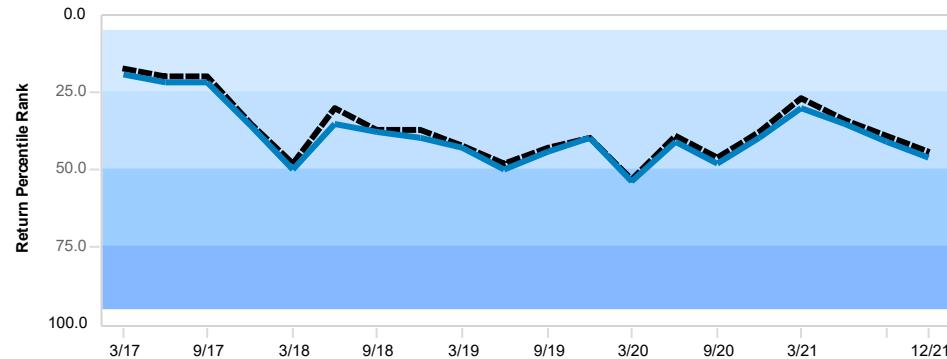
Risk and Return 3 Years



Risk and Return 5 Years



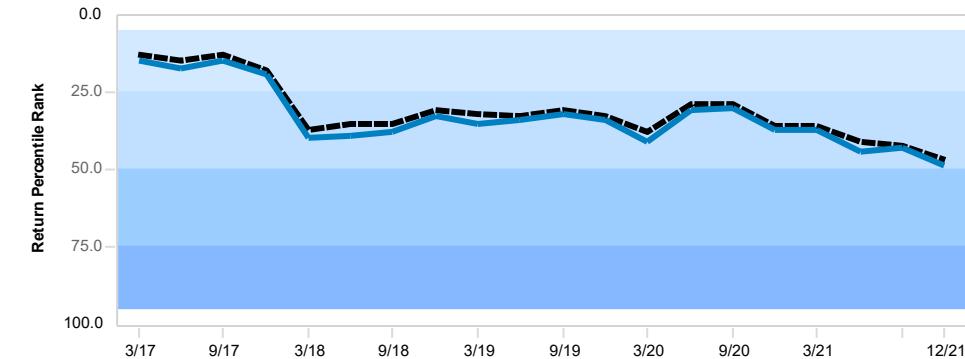
3 Year Rolling Percentile Rank IM Real Estate Sector (MF)



Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
--------------	------------	-----------------	-----------------	-------------

Investment	20	3 (15%)	16 (80%)	1 (5%)	0 (0%)
Index	20	3 (15%)	16 (80%)	1 (5%)	0 (0%)

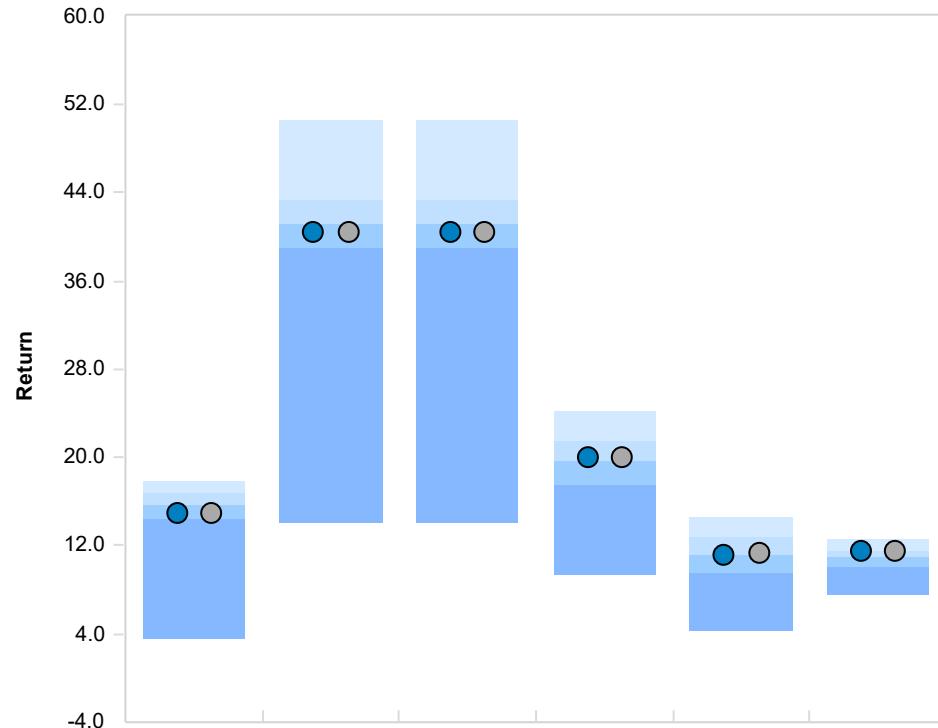
5 Year Rolling Percentile Rank IM Real Estate Sector (MF)



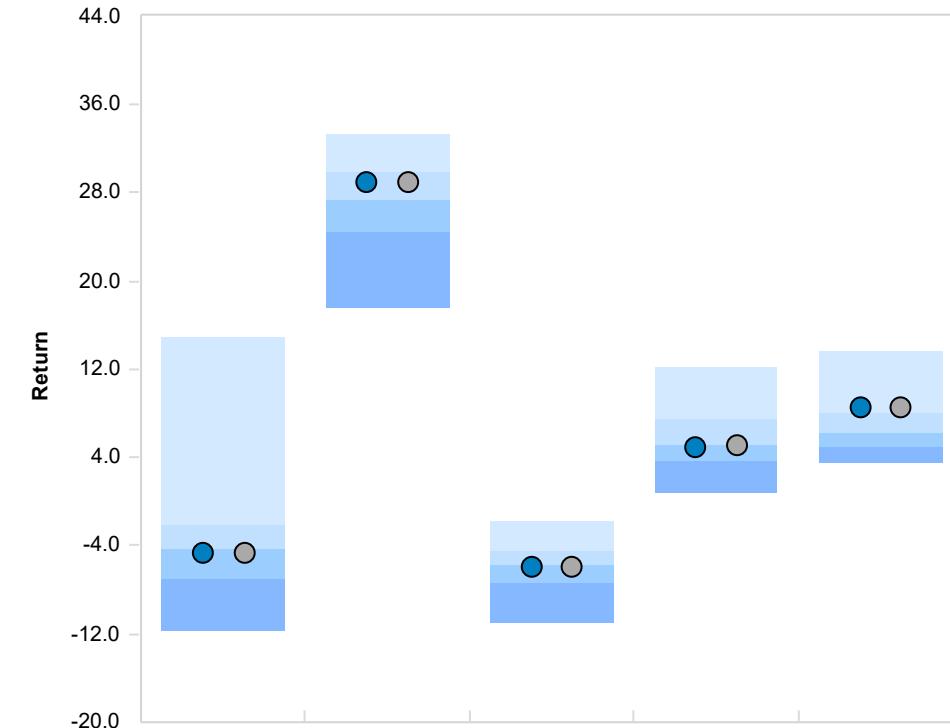
Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
--------------	------------	-----------------	-----------------	-------------

Investment	20	4 (20%)	16 (80%)	0 (0%)
Index	20	4 (20%)	16 (80%)	0 (0%)

Peer Group Analysis - IM Real Estate Sector (MF)



Peer Group Analysis - IM Real Estate Sector (MF)



	QTR	YTD	1 YR	3 YR	5 YR	10 YR
Investment	14.96 (65)	40.47 (61)	40.47 (61)	19.99 (46)	11.27 (49)	11.53 (28)
Index	14.94 (66)	40.56 (59)	40.56 (59)	20.07 (44)	11.35 (47)	11.61 (26)
Median	15.65	41.16	41.16	19.72	11.23	10.97

	2020	2019	2018	2017	2016
Investment	-4.67 (56)	29.02 (34)	-5.93 (54)	4.93 (56)	8.51 (19)
Index	-4.55 (54)	29.03 (34)	-5.86 (52)	5.07 (52)	8.60 (19)
Median	-4.23	27.38	-5.75	5.20	6.17

Financial Reconciliation Since Inception Ending December 31, 2021

	Market Value 10/01/2010	Net Flows	Return On Investment	Market Value 12/31/2021
Investment	4,801,552	-1,776,630	13,809,380	16,834,302

Comparative Performance

	1 Qtr Ending Sep-2021	1 Qtr Ending Jun-2021	1 Qtr Ending Mar-2021	1 Qtr Ending Dec-2020	1 Qtr Ending Sep-2020	1 Qtr Ending Jun-2020
Investment	0.67 (64)	11.67 (69)	8.69 (29)	9.24 (50)	1.37 (70)	13.44 (25)
Index	0.70 (61)	11.69 (69)	8.73 (26)	9.28 (48)	1.35 (71)	13.50 (24)
Median	1.07	12.06	7.83	9.24	2.11	11.92



Fund Information

Fund Name :	Vanguard Specialized Funds: Vanguard Real Estate Index Fund; Institutional Class Shares	Portfolio Assets :	\$85,715 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 :	\$12,245 Million	Style Benchmark :	Vanguard Spliced REIT Index
Portfolio Turnover :	8%		

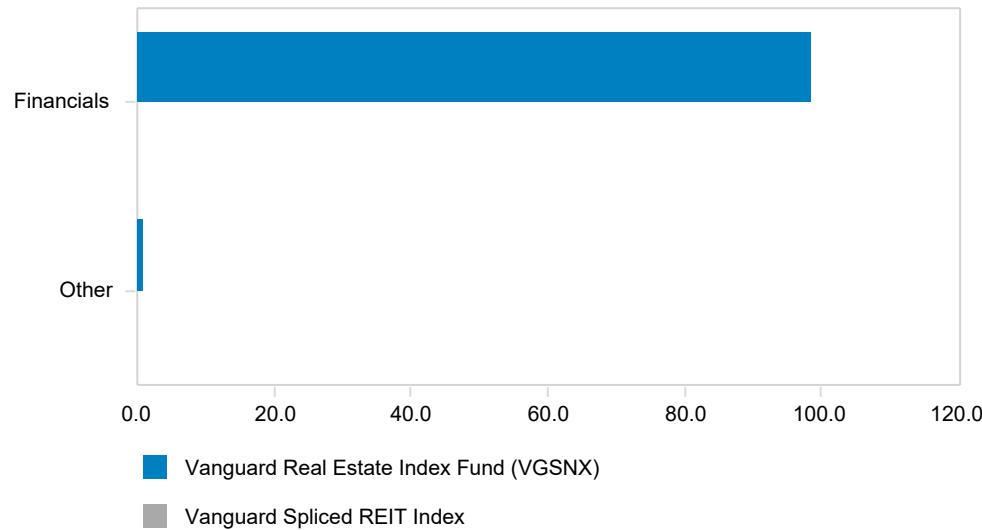
Portfolio Characteristics As of 10/31/2021

	Portfolio	Benchmark
Total Securities	173	N/A
Avg. Market Cap (\$)	45,234,430,297	-
Price/Earnings (P/E)	51.93	N/A
Price/Book (P/B)	7.00	N/A
Dividend Yield	3.00	N/A
Annual EPS	-6.76	N/A
5 Yr EPS	6.61	N/A
3 Yr EPS Growth	9.53	N/A
Beta (5 Years, Monthly)	1.00	1.00

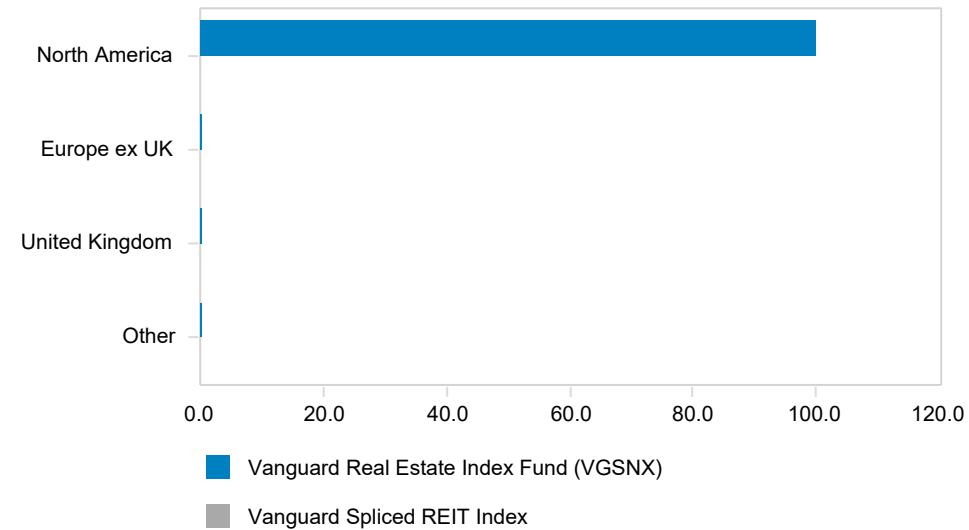
Top Ten Securities As of 10/31/2021

Vanguard Real Estate II Index Fund;Insti	11.4 %
American Tower Corp ORD	7.1 %
Prologis Inc ORD	5.9 %
Crown Castle International Corp	4.2 %
Equinix Inc ORD	4.1 %
Public Storage ORD	2.9 %
Simon Property Group Inc ORD	2.6 %
Digital Realty Trust Inc ORD	2.4 %
SBA Communications Corp ORD	2.1 %
CBRE Group Inc ORD	1.9 %

Sector Weights As of 10/31/2021



Region Weights As of 04/30/2021



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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