



# National ABLE Alliance

**Wednesday, October 26, 2022**

**2:00 pm ET – 4:00 pm ET**



# Investment Manager Presentation - Vanguard

*Julia Ward, Senior Relationship Manager*



# 2022 3<sup>rd</sup> Quarter Investment Review

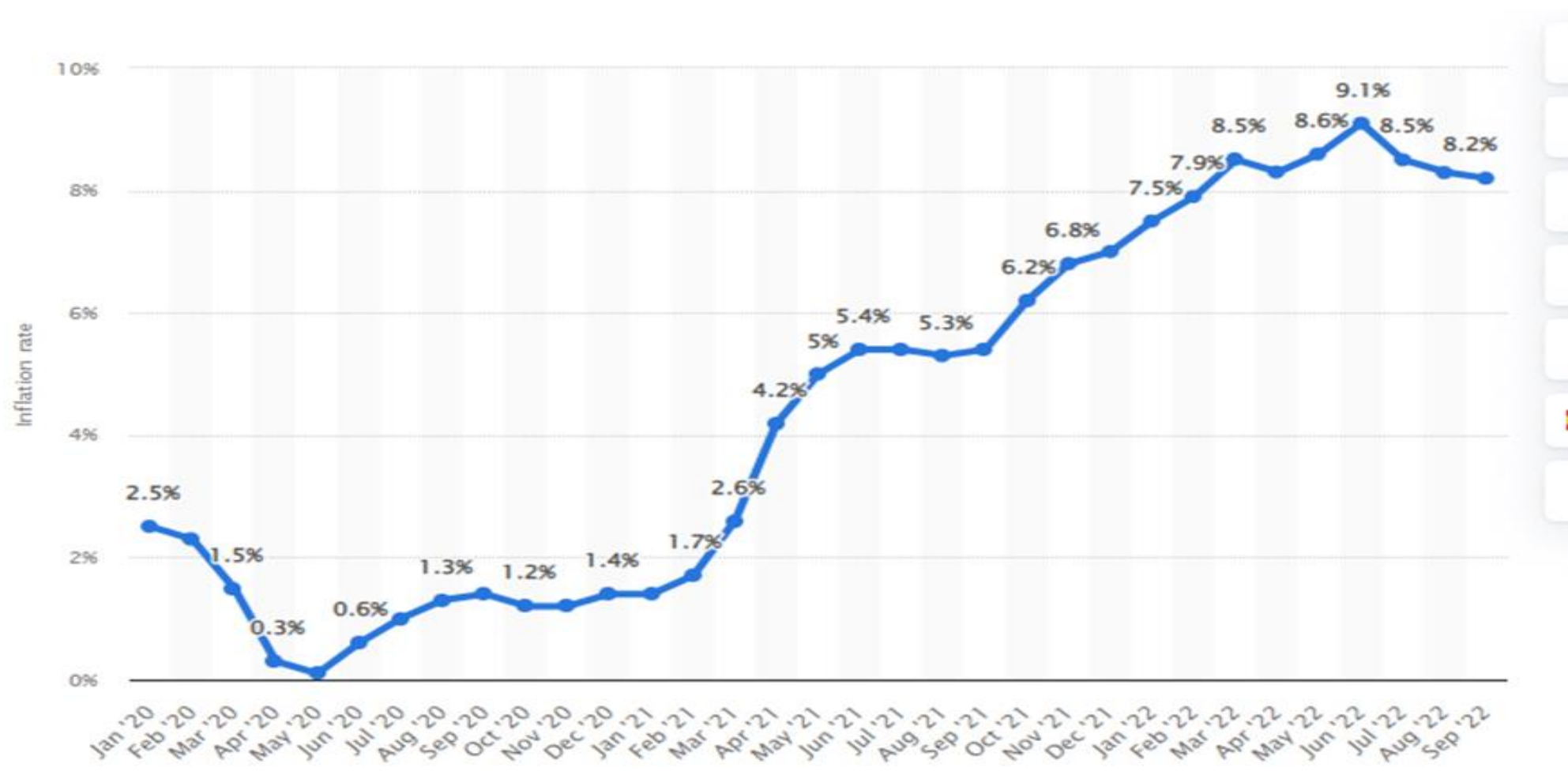
*Thomas Lowe, Vice President, Investment Management*

*Paul Souppa, Director, Investment Management*



# Market Review

# U.S. Annual Inflation Rate by Month



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# U.S. GDP Actual / Forecast



Source: Yardeni Research

# U.S. Equity Returns

	2020	2021	30-Sept-22				
Name			Q3	YTD	1 Year	3 Year	5 Year
S&P 500	18.40	28.71	-4.88	-23.87	-15.47	8.16	9.24
NASDAQ Index	44.92	22.18	-3.91	-32.00	-26.25	10.63	11.25
Large Growth	38.49	27.60	-3.60	-30.66	-22.59	10.67	12.17
Large (All)	20.96	26.45	-4.61	-24.59	-17.22	7.95	9.00
Large Value	2.80	25.16	-5.62	-17.75	-11.36	4.36	5.29
Small Growth	34.63	2.83	0.24	-29.28	-29.27	2.94	3.60
Small (All)	19.96	14.82	-2.19	-25.10	-23.50	4.29	3.55
Small Value	4.63	28.27	-4.61	-21.12	-17.69	4.72	2.87

- Overall, a weak quarter in the U.S.
  - Inflation, FED tightening, interest rates, Ukraine conflict
  - During the quarter, market thought FED was going to stop raising, but Chairman Powell reconfirmed in August
- Large cap outperformance
  - Energy and consumer discretionary – energy on prices, retailers on stronger consumer
  - Communication services were hurt – higher rates hurts growth stocks
  - Real Estate hurt by slowdown, higher rates
  - Growth and small cap outperformance outperformed early in quarter when market believed FED would pause or pivot
- These differences tend to even out over time and this impacts our fund construction

# Non-U.S. Equity Returns

As of 9/30/22

30-Sep-22

Name	2020	2021	Q3	YTD	1 Year	3 Year	5 Year	10 Year
Developed Markets	8.47	11.08	-9.43	-27.88	-26.23	-1.90	-0.99	3.87
Emerging Markets	15.12	-0.24	-10.28	-23.75	-24.53	-0.72	-0.51	1.71
Europe	5.38	16.30	-10.15	-28.83	-24.80	-1.72	-1.24	3.45
UK	-8.49	17.70	-11.70	-23.39	-19.78	-2.73	-1.81	1.90
Japan	14.48	1.71	-7.37	-26.38	-29.30	-2.65	-0.63	4.84
Brazil	-19.02	-17.40	8.54	11.53	4.32	-5.20	-1.68	-1.65
India	15.55	26.23	6.50	-9.74	-9.94	11.51	7.98	7.27
China	29.49	-21.72	-22.50	-31.23	-35.40	-7.18	-5.56	2.39
US - S&P 500	18.40	28.71	-4.88	-23.87	-15.47	8.16	9.24	11.70

- Developed markets showed weakness
  - Significant weakness caused by proximity to Russia and inflation worries and subsequent growth worries
  - All sectors negative, with communication services and real estate weakest
- Japan was negative, but outperformed other international markets based on a modest economic recovery
- Emerging markets hurt by China , and Russia
  - China hurt by return to zero-covid policies and property market weakness
  - Strengthening dollar and higher rates will continue to hurt emerging markets
  - Brazil has benefited from early central bank intervention and strong exports; India solid GDP growth



# Historical 10 Year Treasury Rate



Source: MacroTrends

# Fixed Income Returns

As of 9/30/22

	2020	2021	30-Sep-22					
Name			Q3	YTD	1 Year	3 Year	5 Year	10 Year
Total U.S. Bond Market	7.75	-1.58	-4.68	-14.65	-14.61	-3.22	-0.23	0.91
Short - Term U.S. Bond Market	4.71	-0.97	-2.16	-6.62	-7.29	-0.90	0.55	0.88
U.S. Inflation-Protected Bonds	5.07	5.34	-2.62	-3.98	-2.86	2.44	2.35	1.28
Global Bonds	4.70	-1.64	-2.55	-10.98	-10.91	-3.26	0.70	2.30

- Down quarter for most bond indices
  - Rates rose on FED action
  - Fed looking at multiple 50 or 75 bp rate increases
- Inflation-Protected and Shorter duration performed relatively better
  - Both outperform in rising rate environment due to inflation
- The FED signaled significant rate hikes
  - FED has signaled up to 4.5% by Q4 2022 and peak at close 5.0% in 2023 (up from 3.4% and 3.8%)
  - “Is this too many rate hikes?” is a contrarian view
- At historically low interest rates, we are positioned with shorter duration and inflation hedges



# Quarterly Investment Review

# Portfolio Level Performance

Total Assets: \$290,764,677

As of 9/30/22

<u>Fund Name</u>	<u>Market Value</u>	<u>% of Plan</u>	<u>1 Month</u>	<u>3 Months</u>	<u>YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Inception</u>	<u>Inception Date</u>
Aggressive Option	\$ 35,542,177	12.22%	(9.17)	(6.01)	(25.00)	(21.04)	2.87	4.14		5.68	12/15/16
ABLE Aggressive Custom Benchmark			(9.28)	(5.72)	(25.09)	(21.06)	3.12	4.44		6.07	
<b>Variance</b>			<b>0.11</b>	<b>(0.29)</b>	<b>0.09</b>	<b>0.02</b>	<b>(0.25)</b>	<b>(0.30)</b>		<b>(0.39)</b>	
Moderately Aggressive Option	\$ 28,331,287	9.74%	(8.15)	(5.47)	(22.40)	(18.95)	2.47	3.76		5.05	12/15/16
ABLE Moderately Aggressive Custom Benchmark			(8.27)	(5.28)	(22.52)	(19.00)	2.68	4.02		5.41	
<b>Variance</b>			<b>0.12</b>	<b>(0.19)</b>	<b>0.12</b>	<b>0.05</b>	<b>(0.21)</b>	<b>(0.26)</b>		<b>(0.36)</b>	
Growth Option	\$ 35,589,505	12.24%	(7.12)	(4.98)	(19.76)	(16.89)	1.98	3.29		4.34	12/15/16
ABLE Growth Custom Benchmark			(7.25)	(4.84)	(19.90)	(16.95)	2.16	3.54		4.68	
<b>Variance</b>			<b>0.13</b>	<b>(0.14)</b>	<b>0.14</b>	<b>0.06</b>	<b>(0.18)</b>	<b>(0.25)</b>		<b>(0.34)</b>	
Moderate Option	\$ 27,047,756	9.30%	(6.04)	(4.51)	(17.03)	(14.78)	1.42	2.75		3.61	12/15/16
ABLE Moderate Custom Benchmark			(6.24)	(4.43)	(17.25)	(14.90)	1.56	2.98		3.90	
<b>Variance</b>			<b>0.20</b>	<b>(0.08)</b>	<b>0.22</b>	<b>0.12</b>	<b>(0.14)</b>	<b>(0.23)</b>		<b>(0.29)</b>	
Moderately Conservative Option	\$ 21,515,671	7.40%	(4.32)	(3.22)	(12.20)	(10.59)	1.13	2.22		2.79	12/15/16
ABLE Moderately Conservative Custom Benchmark			(4.37)	(3.06)	(12.30)	(10.62)	1.23	2.43		3.04	
<b>Variance</b>			<b>0.05</b>	<b>(0.16)</b>	<b>0.10</b>	<b>0.03</b>	<b>(0.10)</b>	<b>(0.21)</b>		<b>(0.25)</b>	
Conservative Option	\$ 47,012,615	16.17%	(1.79)	(1.35)	(5.18)	(4.60)	0.65	1.43		1.63	12/15/16
ABLE Conservative Custom Benchmark			(1.82)	(1.24)	(5.25)	(4.60)	0.65	1.56		1.78	
<b>Variance</b>			<b>0.03</b>	<b>(0.11)</b>	<b>0.07</b>	<b>0.00</b>	<b>0.00</b>	<b>(0.13)</b>		<b>(0.15)</b>	
Checking Option	\$ 95,725,667	32.92%									03/30/17



# Underlying Investment Product Review

# Underlying Product Performance

As of 9/30/22

Underlying Fund Name	Underlying Fund Expense	Total Ret 3 Mo	Total Ret YTD	Total Ret 1 Yr	Total Ret Annlzd 3 Yr	Total Ret Annlzd 5 Yr	Total Ret Annlzd 10 Yr
Vanguard Institutional Index Fund - Institutional Plus	0.02%	-4.89%	-23.88%	-15.49%	8.15%	9.23%	11.69%
S&P 500 TR USD		-4.88%	-23.87%	-15.47%	8.16%	9.24%	11.70%
<b>Performance Variance</b>		<b>-0.01%</b>	<b>-0.01%</b>	<b>-0.02%</b>	<b>-0.01%</b>	<b>-0.01%</b>	<b>-0.01%</b>
Vanguard Extended Market Index Fund - Instl Plus Shares	0.04%	-2.73%	-30.03%	-29.54%	4.26%	4.84%	9.45%
S&P Completion TR USD		-2.78%	-30.09%	-29.62%	4.16%	4.72%	9.31%
<b>Performance Variance</b>		<b>0.05%</b>	<b>0.06%</b>	<b>0.08%</b>	<b>0.10%</b>	<b>0.12%</b>	<b>0.14%</b>
iShares Core MSCI EAFE ETF	0.07%	-10.32%	-28.05%	-26.05%	-1.90%	-0.89%	
MSCI EAFE IMI NR USD		-9.43%	-27.88%	-26.23%	-1.90%	-0.99%	
<b>Performance Variance</b>		<b>-0.89%</b>	<b>-0.17%</b>	<b>0.18%</b>	<b>0.00%</b>	<b>0.10%</b>	
Schwab Emerging Markets Equity ETF	0.11%	-10.47%	-23.49%	-24.28%	-0.87%	-0.65%	1.59%
FTSE Emerging NR USD		-10.28%	-23.75%	-24.53%	-0.72%	-0.51%	1.71%
<b>Performance Variance</b>		<b>-0.19%</b>	<b>0.26%</b>	<b>0.25%</b>	<b>-0.15%</b>	<b>-0.14%</b>	<b>-0.12%</b>
Schwab U.S. REIT ETF	0.07%	-10.88%	-28.12%	-16.49%	-5.16%	0.75%	4.81%
Schwab Spliced REIT Index		-10.83%	-28.06%	-16.41%	-5.12%	0.78%	4.89%
<b>Performance Variance</b>		<b>-0.05%</b>	<b>-0.06%</b>	<b>-0.08%</b>	<b>-0.04%</b>	<b>-0.03%</b>	<b>-0.08%</b>

Past Performance is not indicative of future results

# Underlying Product Performance

As of 9/30/22

Underlying Fund Name	Underlying Fund Expense	Total Ret 3 Mo	Total Ret YTD	Total Ret 1 Yr	Total Ret Annlzd 3 Yr	Total Ret Annlzd 5 Yr	Total Ret Annlzd 10 Yr
Vanguard Total Bond Market Index Fund - Institutional Plus Shares	0.03%	-4.65%	-14.57%	-14.64%	-3.25%	-0.23%	0.87%
Vanguard Spliced Bloomberg US Aggregate Index		-4.68%	-14.65%	-14.61%	-3.22%	-0.23%	0.91%
<b>Performance Variance</b>		<b>0.03%</b>	<b>0.08%</b>	<b>-0.03%</b>	<b>-0.03%</b>	<b>0.00%</b>	<b>-0.04%</b>
Vanguard Short-Term Bond Index Fund - Institutional Plus Shares	0.04%	-2.11%	-6.51%	-7.23%	-0.93%	0.53%	0.84%
Vanguard Spliced Bloomberg US 1-5 Yr Index		-2.16%	-6.62%	-7.29%	-0.90%	0.55%	0.88%
<b>Performance Variance</b>		<b>0.05%</b>	<b>0.11%</b>	<b>0.06%</b>	<b>-0.03%</b>	<b>-0.02%</b>	<b>-0.04%</b>
Vanguard Short-Term Inflation-Protected Securities Index Fund - Instl	0.04%	-2.64%	-4.02%	-2.94%	2.35%	2.31%	
Bloomberg US TIPS 0-5 Year TR USD		-2.62%	-3.98%	-2.86%	2.44%	2.35%	
<b>Performance Variance</b>		<b>-0.02%</b>	<b>-0.04%</b>	<b>-0.08%</b>	<b>-0.09%</b>	<b>-0.04%</b>	
iShares® Core International Aggregate Bond ETF	0.08%	-2.69%	-10.90%	-10.86%	-3.33%	0.60%	
Bloomberg Gbl Agg xUSD 10% IC TR Hdg USD		-2.55%	-10.98%	-10.91%	-3.26%	0.70%	
<b>Performance Variance</b>		<b>-0.14%</b>	<b>0.08%</b>	<b>0.05%</b>	<b>-0.07%</b>	<b>-0.10%</b>	

Past Performance is not indicative of future results



# Asset Allocations



# Asset Allocation Review – Current Target Allocations

As of 9/30/22

Asset Class	Underlying Investment	Ticker	Underlying Expense	National ABLE Alliance Target Asset Allocation					
				Aggressive	Moderately Aggressive	Growth	Moderate	Moderately Conservative	Conservative
U.S. Large Cap	Vanguard Institutional Index Fund - Institutional Plus	VIIIX	0.02%	31.50%	26.25%	21.00%	15.75%	10.50%	3.50%
U.S. Small & Mid Cap	Vanguard Extended Market Index Fund - Instl Plus Shares	VEMPX	0.04%	27.00%	22.50%	18.00%	13.50%	9.00%	3.00%
Non - U.S. Multi Cap	iShares Core MSCI EAFE ETF	IEFA	0.07%	16.20%	13.50%	10.80%	8.10%	5.40%	1.80%
Emerging Markets	Schwab Emerging Markets Equity ETF	SCHE	0.11%	6.30%	5.25%	4.20%	3.15%	2.10%	0.70%
REITs	Schwab U.S. REIT ETF	SCHH	0.07%	9.00%	7.50%	6.00%	4.50%	3.00%	1.00%
U.S. Core Bond	Vanguard Total Bond Market Index Fund - Institutional Plus Shares	VBMPX	0.03%	3.00%	7.50%	12.00%	16.50%	13.50%	9.00%
Short - Term Inv Grade	Vanguard Short-Term Bond Index Fund - Institutional Plus Shares	VBIPX	0.04%	2.50%	6.25%	10.00%	13.75%	11.25%	7.50%
Short - Term TIPS	Vanguard Short-Term Inflation-Protected Securities Index Fund - Instl	VTSPX	0.04%	3.50%	8.75%	14.00%	19.25%	15.75%	10.50%
International Bond	iShares® Core International Aggregate Bond ETF	IAGG	0.07%	1.00%	2.50%	4.00%	5.50%	4.50%	3.00%
Cash	Sallie Mae High Yield FDIC		0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	60.00%
<b>Equity Allocation</b>				<b>90.00%</b>	<b>75.00%</b>	<b>60.00%</b>	<b>45.00%</b>	<b>30.00%</b>	<b>10.00%</b>
<b>Fixed Income Allocation</b>				<b>10.00%</b>	<b>25.00%</b>	<b>40.00%</b>	<b>55.00%</b>	<b>45.00%</b>	<b>30.00%</b>
<b>Cash Equivalent Allocation</b>				<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>25.00%</b>	<b>60.00%</b>
<b>Total Allocation</b>				<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>
<b>Underlying Expense</b>				<b>0.05%</b>	<b>0.04%</b>	<b>0.04%</b>	<b>0.04%</b>	<b>0.03%</b>	<b>0.02%</b>

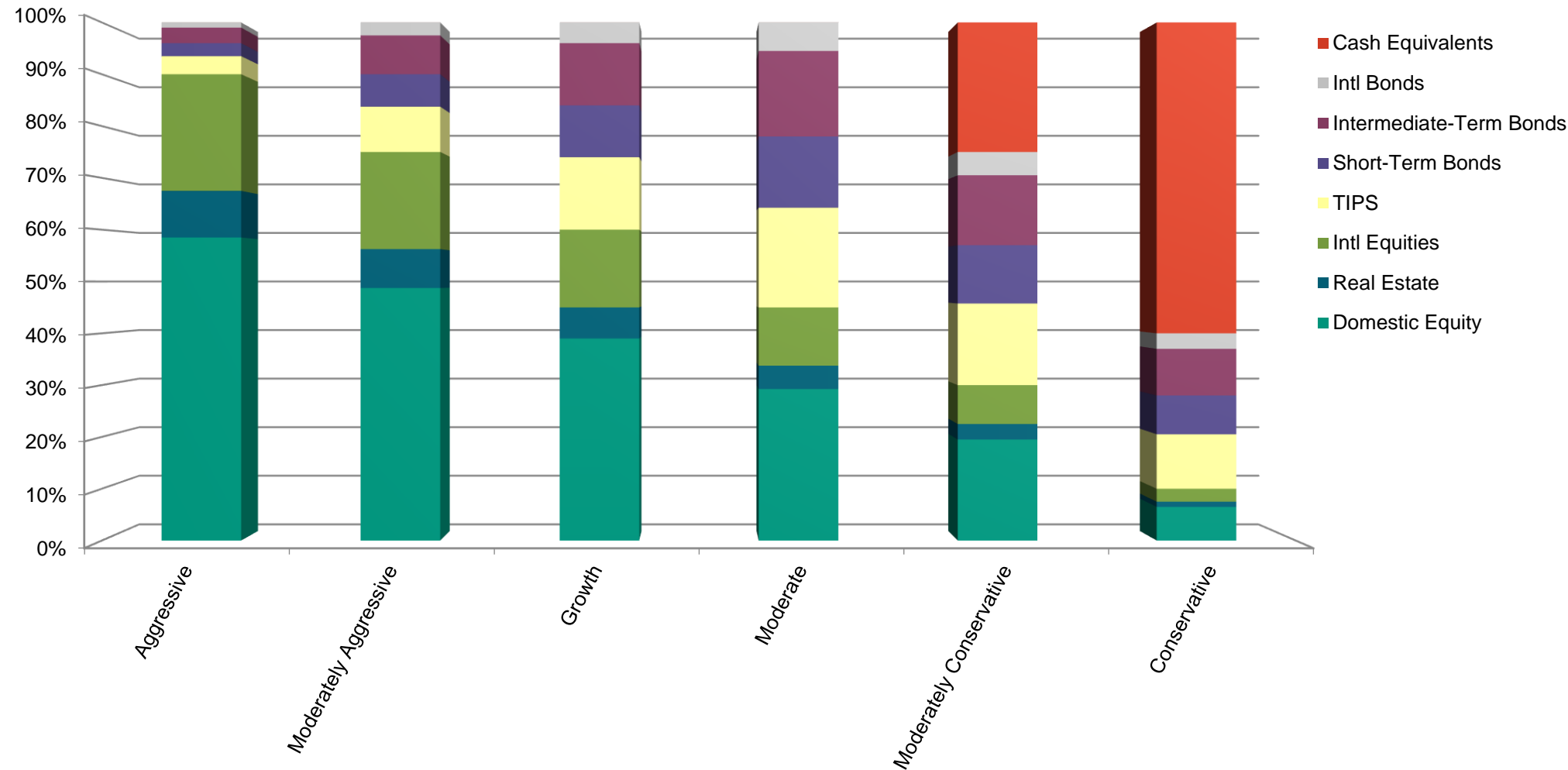
# Asset Allocation Review – Future Target Allocations

As of 9/30/22

Asset Class	Underlying Investment	Ticker	Underlying Expense	National ABL Alliance Target Asset Allocation					
				Aggressive	Moderately Aggressive	Growth	Moderate	Moderately Conservative	Conservative
U.S. Large Cap	Vanguard Institutional Index Fund - Institutional Plus	VIIIX	0.02%	28.00%	22.00%	18.00%	13.00%	9.00%	3.00%
U.S. Small & Mid Cap	Vanguard Extended Market Index Fund - Instl Plus Shares	VEMPX	0.04%	23.00%	20.00%	16.00%	12.00%	8.00%	3.00%
Non - U.S. Multi Cap	Vanguard Developed Market Index Instl	VTMNX	0.05%	22.00%	18.00%	15.00%	11.00%	7.00%	2.00%
Emerging Markets	Vanguard Emerging Markets Stock Index Instl	VEMIX	0.10%	9.00%	8.00%	6.00%	5.00%	3.00%	1.00%
REITs	Schwab U.S. REIT ETF	SCHH	0.07%	8.00%	7.00%	5.00%	4.00%	3.00%	1.00%
U.S. Core Bond	Vanguard Total Bond Market Index Fund - Institutional Plus Shares	VBMPX	0.03%	4.00%	10.50%	12.00%	16.50%	13.50%	9.00%
Short - Term Inv Grade	Vanguard Short-Term Bond Index Fund - Institutional Plus Shares	VBIPX	0.04%	0.00%	3.25%	10.00%	13.75%	11.25%	7.50%
Short - Term TIPS	Vanguard Short-Term Inflation-Protected Securities Index Fund - Instl	VTSPX	0.04%	2.00%	5.75%	14.00%	19.25%	15.75%	10.50%
High Yield	TBD	TBD	TBD	3.00%	3.00%	0.00%	0.00%	0.00%	0.00%
International Bond	iShares® Core International Aggregate Bond ETF	IAGG	0.07%	1.00%	2.50%	4.00%	5.50%	4.50%	3.00%
Cash	Sallie Mae High Yield FDIC		0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	60.00%
Equity Allocation				90.00%	75.00%	60.00%	45.00%	30.00%	10.00%
Fixed Income Allocation				10.00%	25.00%	40.00%	55.00%	45.00%	30.00%
Cash Equivalent Allocation				0.00%	0.00%	0.00%	0.00%	25.00%	60.00%
Total Allocation				100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Underlying Expense				0.05%	0.05%	0.04%	0.04%	0.03%	0.02%

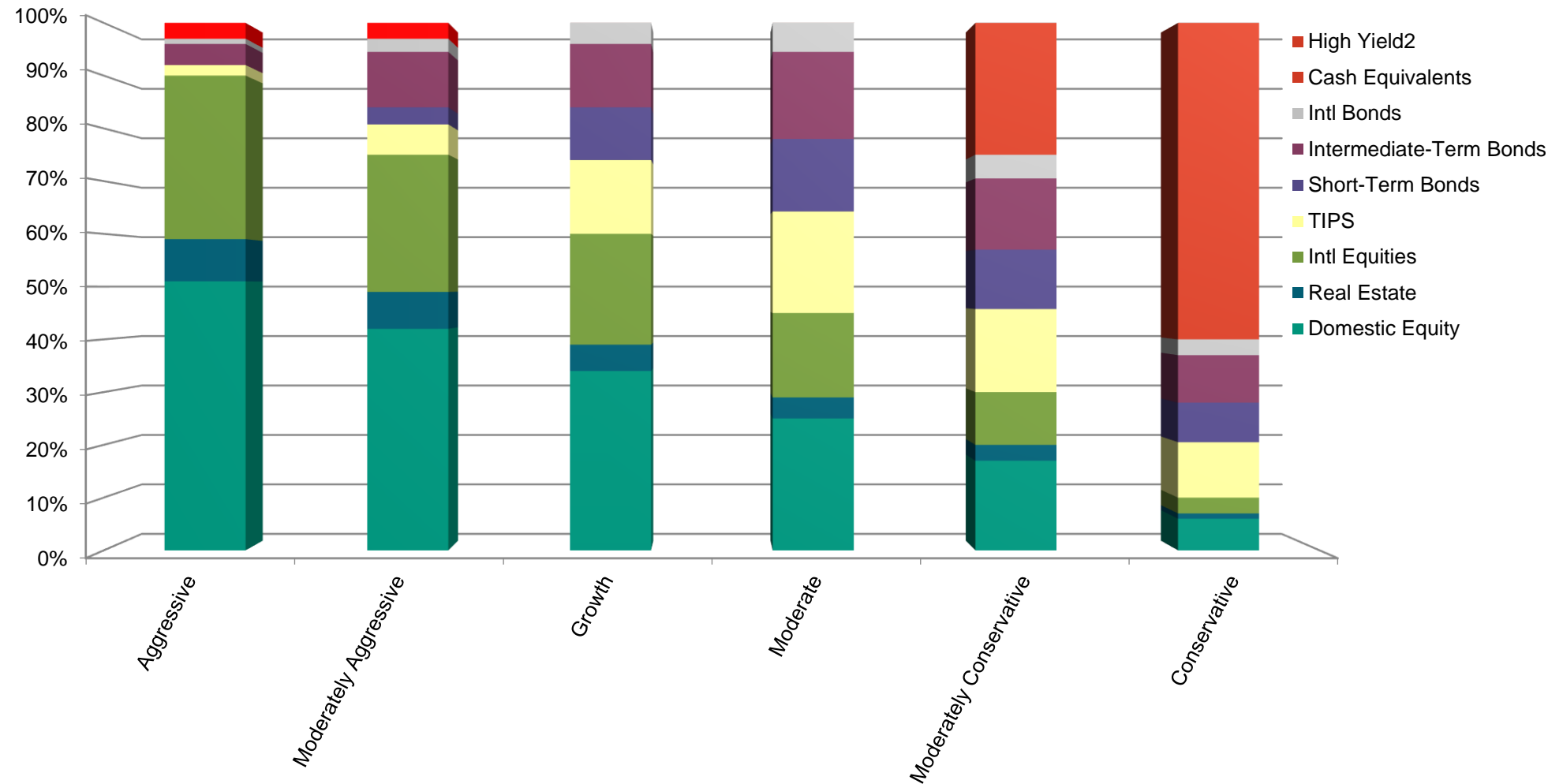
# National ABL Alliance – Asset Allocation for Risk Based Portfolios

As of 9/30/22



# National ABL Alliance – Asset Allocation for Risk Based Portfolios

As of 9/30/22



# Portfolio Benchmark Allocation Review

As of 9/30/22

## ABLE Consortium Custom Benchmarks

	Aggressive Custom Benchmark	Moderately Aggressive Custom Benchmark	Growth Custom Benchmark	Moderate Custom Benchmark	Moderately Conservative Custom Benchmark	Conservative Custom Benchmark
S&P 500 TR USD	31.50%	26.25%	21.00%	15.75%	10.50%	3.50%
S&P Completion TR USD	27.00%	22.50%	18.00%	13.50%	9.00%	3.00%
MSCI EAFE IMI NR USD	16.20%	13.50%	10.80%	8.10%	5.40%	1.80%
FTSE Emerging NR USD	6.30%	5.25%	4.20%	3.15%	2.10%	0.70%
Schwab Spliced REIT Index	9.00%	7.50%	6.00%	4.50%	3.00%	1.00%
Vanguard Spliced Bloomberg US Aggregate Index	3.00%	7.50%	12.00%	16.50%	13.50%	9.00%
Vanguard Spliced Bloomberg US 1-5 Yr Index	2.50%	6.25%	10.00%	13.75%	11.25%	7.50%
Bloomberg U.S. TIPS 0-5 Year TR USD	3.50%	8.75%	14.00%	19.25%	15.75%	10.50%
Bloomberg Gbl Agg xUSD 10% IC TR Hdg USD	1.00%	2.50%	4.00%	5.50%	4.50%	3.00%
Bloomberg US Treasury Bill 1-3 Mon TR USD	0.00%	0.00%	0.00%	0.00%	25.00%	60.00%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



# Fund Event Initiative Update

*Thomas Lowe, Vice President, Investment Management*

*Paul Souppa, Director, Investment Management*

*Jacob Hilliard, Deputy Director, Illinois State Treasurer's Office*

# Asset Allocation Analysis

- Portfolio asset allocation recommendations are based on updated capital market assumptions (CMA's)
  - Other considerations include availability of products in the marketplace and the unique needs of the ABLE savers
- AIA uses a blend of CMA's from various industry sources, including investment consultants and asset managers used on our platform
  - Multi-horizon CMA's in all asset classes
- Strategic Asset Allocation is foundation
  - Based on longer-term optimization models
  - Qualitative adjustments based on needs of savers and learnings from annual CMA's
  - AIA focus is medium/long term so less focus on short-term market swings

# 2022 Areas of Focus – Fixed Income/Capital Preservation

Areas of Focus	Approved new allocations
<b>High Yield</b>  High Yield can add Diversification and Yield Lower duration bonds lessen interest rate sensitivity	<b>Add High Yield</b> to <b>2 Most Aggressive</b> Options*
<b>Inflation – Protected Bonds</b>  Can help portfolios in periods of rising inflation	<b>Lower</b> exposure to TIPS in <b>2 Most Aggressive</b> Options
<b>Capital Preservation</b>  Defensive characteristics Very short duration Helps lower sensitivity to interest rate hikes	<b>Maintain</b> exposure in the <b>2 most Conservative</b> Target Risk Options and <b>Remove</b> from other options

\*IPSC to vote tomorrow on High Yield product



# 2022 Areas of Focus - Equity

Areas of Focus	Approved New Allocations
<b>U.S. / Non – U.S. Equity Split</b> Current Plan      75% U.S. / 25% Non - U.S. Equity Current Market:   55% U.S./ 45% Non – U.S. Equity	<b>Increase International Equity</b> Exposure Will range between 65/35 and 70/30 within Target Risk Options
<b>Large Cap - Small/ Mid- Cap Equity Split</b> Current Plan      54% Large / 46% Small/Mid Equity Current Market:   75% Large / 25% Small/Mid Equity  Small and Mid Cap stocks tend to be more volatile	<b>Maintain</b> small/mid with minor changes Small/Mid will range from 45% to 50%
<b>Real Estate</b> Current Plan      16% of Global Equity Current Market:   6% of Global Equity  Has helped during times of volatility Helps in inflationary periods	<b>Slightly decrease dedicated exposure</b>  Overall exposure will be 15%

# Next Steps

- Feature is currently going through the Prioritization Process – target delivery date is 1Q2023
- Finalize Interviews with Fund Managers
- Define Implementation Timeline
  - Schedule deployment date
  - Create and Mail/E-notify Supplement (typically 30 days in advance of Fund Event)
  - Public Site Updates
    - Impact to Investment Strategy
    - Impact to Pie Charts
- Work with our Investment Operations Team to manage money movement

# **Fifth Third – Audit and Controls Overview**

*Dan Beck, Vice President, Product Line Manager*

*Clare Devoto, Assistant Vice President, Business Analyst III*

# 5/3 Controls and Risk Management

As a regulated financial institution, 5/3 utilizes a model widely accepted in the industry to manage risk within the organization.

Specifically, we have three lines of defense:

- First Line Risk Management
- Second Line Risk Experts
- Independent Internal Audit

The effectiveness of 5/3s risk management is regularly evaluated by several external agencies, including:

- Consumer Financial Protection Bureau (CFPB)
- Federal Reserve
- Office of the Comptroller of the Currency

# 5/3 Controls and Risk Management: First Line

## First Line Risk Management

- Functional business unit leaders and business controls partners
- Risk and controls self-assessments (RCSA) evaluate the design and operating effectiveness of the following areas:
  - Account Opening
  - Account Servicing
  - General Computer Controls
  - Through-the-cycle testing through product delivery risk assessments
- SOC1 report from Worldpay covering transaction processing

# 5/3 Controls and Risk Management: Second Line

## Second Line Risk Management

- Fifth Third Enterprise Risk Management team, including compliance and legal risk experts
- Review and assess control adequacy and risk reporting
- Compliance testing and monitoring
  - Unfair, Deceptive or Abusive Acts and Practices (UDAAP)
  - Truth in Savings Act (Reg DD)
  - Elder Financial Abuse
  - USA PATRIOT Act
  - Americans with Disability Act (ADA)
  - Electronic Funds Transfer Act (Reg E)
  - Privacy of Consumer Financial Information (Reg P)

# 5/3 Controls and Risk Management: Third Line and Beyond

## Third Line Risk Management

- Independent Internal Audit of product transaction processing and servicing

## Additional Controls

- Beyond formal organizational oversight, there are a number of “business as usual” channels to test processes and raise issues:
  - Issues Management: Manages technical or process/procedure issues as they arise
  - Complaints track and review: Customer complaints are logged at the product level for tracking
  - Office of the President: Another source of customer feedback



# **Ascensus Audit & Controls Overview**

*David Flanagan, Senior Operational Risk Analyst*



# Risk Management

## Financial Statement Audit

- Performed by an independent accounting firm
- Auditor's report provides reasonable assurance that the Trust's basic financial statements are free from material misstatement due to fraud or error
- Random samples of accounts enrolled in the Checking Option are selected for examination (at least one per member state)
- Bank statements for sampled accounts are obtained from Fifth Third Bank
- Account balances reported on Fifth Third statements are agreed to account balances reported in Unite

# Risk Management

## SOC 1 Type 2 (System and Organization Controls 1)

- Examination by KPMG (independent auditing firm)
- Evaluates service organization controls that are applicable to a user entity's internal control over financial reporting

Control Objectives	
Transaction Processing	Logical Access
Reconciliation of financial transactions & shares	Job Processing
Confirmations, Statements and Tax forms	Backup and Recovery
Application Change Management	Data Transmissions
System Software Change Management	Physical Access

# Risk Management

## Annual Vendor Due Diligence of Fifth Third Bank

- Vendor Risk Assessment Performed by Ascensus Risk Management and Information Security Teams in 2022

Due Diligence Questionnaire	
General Information	Network Security
Security Policy	Media Handling Data Transmission
Organization Security	Access Control
Asset Management	Information Systems Operations
Human Resource Security	Incident Management
Physical and Environmental Security	Business Continuity and Disaster Recovery
Third Party Management	Offsite Data Storage and Cloud Security
Data Retention and Back-Up	Document Request List

- Fifth Third Bank is in good standing

# Questions?



The iShares Core MSCI EAFE ETF seeks to track the investment results of an index composed of large-, mid- and small-capitalization developed market equities, excluding the U.S. and Canada.

## WHY IEFA?

- 1 Exposure to a broad range of companies in Europe, Australia, Asia, and the Far East
- 2 Low cost, comprehensive access to stocks in developed international countries
- 3 Use at the core of a portfolio to diversify internationally and seek long-term growth

## GROWTH OF 10,000 USD SINCE INCEPTION



The Growth of \$10,000 chart reflects a hypothetical \$10,000 investment and assumes reinvestment of dividends and capital gains. Fund expenses, including management fees and other expenses were deducted.

## PERFORMANCE

	1 Year	3 Year	5 Year	10 Year	Since Inception
NAV	-26.05%	-1.90%	-0.89%	N/A	3.65%
Market Price	-26.17%	-1.97%	-0.94%	N/A	3.65%
Benchmark	-26.23%	-1.90%	-0.99%	3.87%	3.53%

The performance quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than the original cost. Current performance may be lower or higher than the performance quoted. Performance data current to the most recent month end may be obtained by visiting [www.iShares.com](http://www.iShares.com) or [www.blackrock.com](http://www.blackrock.com).

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## KEY FACTS

Fund Launch Date	10/18/2012
Expense Ratio	0.07%
Benchmark	MSCI EAFE IMI Index
30 Day SEC Yield	3.04%
Number of Holdings	3,062
Net Assets	\$75,565,981,934

Ticker	IEFA
CUSIP	46432F842
Exchange	Cboe BZX formerly known as BATS

## TOP HOLDINGS (%)

NESTLE SA	2.12
ROCHE HOLDING PAR AG	1.60
SHELL PLC	1.29
ASML HOLDING NV	1.19
ASTRAZENECA PLC	1.19
LVMH	1.15
NOVARTIS AG	1.15
NOVO NORDISK CLASS B	1.15
TOYOTA MOTOR CORP	0.95
BHP GROUP LTD	0.87
	12.66

Holdings are subject to change.

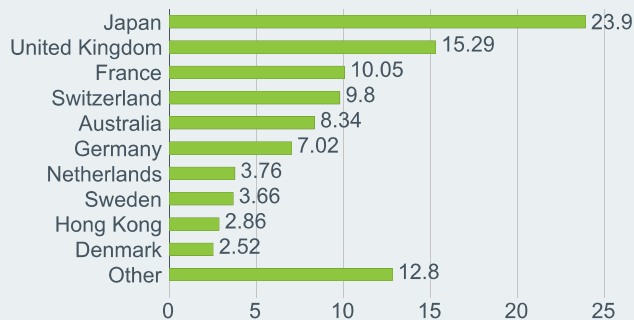
## TOP SECTORS (%)

Financials	16.59%
Industrials	15.97%
Health Care	12.45%
Consumer Discretionary	11.31%
Consumer Staples	10.47%
Information Technology	8.03%
Materials	7.75%
Communication	4.67%
Energy	4.60%
Real Estate	4.06%
Utilities	3.32%
Other	0.79%

## FUND CHARACTERISTICS

Beta vs. S&P 500 (3y)	0.91
Standard Deviation (3yrs)	19.60%
Price to Earnings	11.69
Price to Book Ratio	1.48

## GEOGRAPHIC BREAKDOWN (%)



## FEES AND EXPENSES BREAKDOWN

Expense Ratio	0.07%
Management Fee	0.07%
Acquired Fund Fees and Expenses	0.00%
Foreign Taxes and Other Expenses	0.00%

## GLOSSARY

**Beta** is a measure of the tendency of securities to move with the market as a whole. A beta of 1 indicates that the security's price will move with the market. A beta less than 1 indicates the security tends to be less volatile than the market, while a beta greater than 1 indicates the security is more volatile than the market.

**The price to earnings ratio (P/E)** is a fundamental measure used to determine if an investment is valued appropriately. Each holding's P/E is the latest closing price divided by the latest fiscal year's earnings per share. Negative P/E ratios are excluded from this calculation. For hedged funds, the underlying fund's value is shown.

**The price to book (P/B) value ratio** is a fundamental measure used to determine if an investment is valued appropriately. The book value of a company is a measure of how much a company's assets are worth assuming the company's debts are paid off. Each holding's P/B is the latest closing price divided by the latest fiscal year's book value per share. Negative book values are excluded from this calculation. For hedged funds, the underlying fund's value is shown.

Want to learn more?

[www.iShares.com](http://www.iShares.com)



[www.blackrockblog.com](http://www.blackrockblog.com)



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**Investing involves risk, including possible loss of principal.**

International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/ developing markets or in concentrations of single countries.

Small-capitalization companies may be less stable and more susceptible to adverse developments, and their securities may be more volatile and less liquid than larger capitalization companies.

Performance shown reflects fee waivers and/or expense reimbursements by the investment advisor to the fund for some or all of the periods shown. Performance would have been lower without such waivers.

Diversification may not protect against market risk or loss of principal. Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the fund. Any applicable brokerage commissions will reduce returns.

**Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.**

"Acquired Fund Fees and Expenses" reflect the Fund's pro rata share of the indirect fees and expenses incurred by investing in one or more acquired funds, such as mutual funds, business development companies, or other pooled investment vehicles. AFEE are reflected in the prices of the acquired funds and thus included in the total returns of the Fund.

The iShares Funds are distributed by BlackRock Investments, LLC (together with its affiliates, "BlackRock").

The iShares Funds are not sponsored, endorsed, issued, sold or promoted by MSCI Inc., nor does this company make any representation regarding the advisability of investing in the Funds. BlackRock is not affiliated with MSCI Inc.

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## SUSTAINABILITY CHARACTERISTICS

Sustainability Characteristics provide investors with specific non-traditional metrics. Alongside other metrics and information, these enable investors to evaluate funds on certain environmental, social and governance characteristics. Sustainability Characteristics do not provide an indication of current or future performance nor do they represent the potential risk and reward profile of a fund. They are provided for transparency and for information purposes only. Sustainability Characteristics should not be considered solely or in isolation, but instead are one type of information that investors may wish to consider when assessing a fund.

**This fund does not seek to follow a sustainable, impact or ESG investment strategy.** The metrics do not change the fund's investment objective or constrain the fund's investable universe, and there is no indication that a sustainable, impact or ESG investment strategy will be adopted by the fund. For more information regarding the fund's investment strategy, please see the fund's prospectus.

MSCI ESG Fund Rating (AAA-CCC)	AAA	MSCI ESG Quality Score (0-10)	8.77
MSCI ESG Quality Score - Peer Percentile	48.11%	MSCI ESG % Coverage	99.42%
Fund Lipper Global Classification	Equity Global ex US	MSCI Weighted Average Carbon Intensity (Tons CO2E/\$M SALES)	126.51
Funds in Peer Group	873	MSCI Weighted Average Carbon Intensity % Coverage	99.19%

All data is from MSCI ESG Fund Ratings as of **21-Sep-2022**, based on holdings as of **31-Aug-2022**. As such, the fund's Sustainability Characteristics may differ from MSCI ESG Fund Ratings from time to time.

To be included in MSCI ESG Fund Ratings, 65% of the fund's gross weight must come from securities with ESG coverage by MSCI ESG Research (certain cash positions and other asset types deemed not relevant for ESG analysis by MSCI are removed prior to calculating a fund's gross weight; the absolute values of short positions are included but treated as uncovered), the fund's holdings date must be less than one year old, and the fund must have at least ten securities. For newly launched funds, Sustainability Characteristics are typically available 6 months after launch.

### ESG GLOSSARY:

**MSCI ESG Fund Rating (AAA-CCC):** The MSCI ESG Rating is calculated as a direct mapping of ESG Quality Scores to letter rating categories (e.g. AAA = 8.6-10). The ESG Ratings range from leader (AAA, AA), average (A, BBB, BB) to laggard (B, CCC).

**MSCI ESG Quality Score - Peer Percentile:** The fund's ESG Percentile compared to its Lipper peer group.

**Fund Lipper Global Classification:** The fund peer group as defined by the Lipper Global Classification.

**Funds in Peer Group:** The number of funds from the relevant Lipper Global Classification peer group that are also in ESG coverage.

**MSCI ESG Quality Score (0-10):** The MSCI ESG Quality Score (0 - 10) for funds is calculated using the weighted average of the ESG scores of fund holdings. The Score also considers ESG Rating trend of holdings and the fund exposure to holdings in the laggard category. MSCI rates underlying holdings according to their exposure to industry specific ESG risks and their ability to manage those risks relative to peers.

**MSCI ESG % Coverage:** Percentage of the fund's holdings for which the MSCI ESG ratings data is available. The MSCI ESG Fund Rating, MSCI ESG Quality Score, and MSCI ESG Quality Score - Peer Percentile metrics are displayed for funds with at least 65% coverage.

**MSCI Weighted Average Carbon Intensity (Tons CO2E/\$M SALES):** Measures a fund's exposure to carbon intensive companies. This figure represents the estimated greenhouse gas emissions per \$1 million in sales across the fund's holdings. This allows for comparisons between funds of different sizes.

**MSCI Weighted Average Carbon Intensity % Coverage:** Percentage of the fund's holdings for which MSCI Carbon Intensity data is available. The MSCI Weighted Average Carbon Intensity metric is displayed for funds with any coverage. Funds with low coverage may not fully represent the fund's carbon characteristics given the lack of coverage.

Certain information contained herein (the "Information") has been provided by MSCI ESG Research LLC, a RIA under the Investment Advisers Act of 1940, and may include data from its affiliates (including MSCI Inc. and its subsidiaries ("MSCI")), or third party suppliers (each an "Information Provider"), and it may not be reproduced or disseminated in whole or in part without prior written permission. The Information has not been submitted to, nor received approval from, the US SEC or any other regulatory body. The Information may not be used to create any derivative works, or in connection with, nor does it constitute, an offer to buy or sell, or a promotion or recommendation of, any security, financial instrument or product or trading strategy, nor should it be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Some funds may be based on or linked to MSCI indexes, and MSCI may be compensated based on the fund's assets under management or other measures. MSCI has established an information barrier between equity index research and certain Information. None of the Information in and of itself can be used to determine which securities to buy or sell or when to buy or sell them. The Information is provided "as is" and the user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. Neither MSCI ESG Research nor any Information Party makes any representations or express or implied warranties (which are expressly disclaimed), nor shall they incur liability for any errors or omissions in the Information, or for any damages related thereto. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited.

IAGG

# iShares Core International Aggregate Bond ETF

Fact Sheet as of 09/30/2022

**iShares**  
by BLACKROCK®

The iShares Core International Aggregate Bond ETF seeks to track the investment results of an index composed of global non-U.S. dollar denominated investment-grade bonds that mitigates exposure to fluctuations between the value of the component currencies and the U.S. dollar.

## WHY IAGG?

- 1 Provides low cost, convenient access to international bonds in a single fund
- 2 Diversifies fixed income holdings by adding broad international exposure to investment grade bonds
- 3 Seeks to mitigate exposure to fluctuations between the value of the component currencies and the U.S. dollar

## GROWTH OF 10,000 USD SINCE INCEPTION



The Growth of \$10,000 chart reflects a hypothetical \$10,000 investment and assumes reinvestment of dividends and capital gains. Fund expenses, including management fees and other expenses were deducted.

## PERFORMANCE

	1 Year	3 Year	5 Year	10 Year	Since Inception
<b>NAV</b>	-10.86%	-3.33%	0.60%	N/A	1.42%
<b>Market Price</b>	-11.15%	-3.50%	0.50%	N/A	1.36%
<b>Benchmark</b>	-10.91%	-3.26%	0.70%	N/A	1.49%

The performance quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than the original cost. Current performance may be lower or higher than the performance quoted. Performance data current to the most recent month end may be obtained by visiting [www.iShares.com](http://www.iShares.com) or [www.blackrock.com](http://www.blackrock.com).

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## KEY FACTS

Fund Launch Date	11/10/2015
Expense Ratio	0.07%
Benchmark	Bloomberg Global Aggregate ex USD 10% Issuer Capped (Hedged) Index
30 Day SEC Yield	2.61%
Number of Holdings	4,654
Net Assets	\$3,644,427,349
Ticker	IAGG
CUSIP	46435G672
Exchange	Cboe BZX formerly known as BATS

## TOP HOLDINGS (%)

CHINA PEOPLES REPUBLIC OF (GOVERNMENT)	1.35
CHINA PEOPLES REPUBLIC OF (GOVERNMENT)	1.02
CHINA DEVELOPMENT BANK	0.92
BLK CSH FND TREASURY SL AGENCY	0.77
CHINA PEOPLES REPUBLIC OF (GOVERNMENT)	0.62
CHINA PEOPLES REPUBLIC OF (GOVERNMENT)	0.57
CHINA PEOPLES REPUBLIC OF (GOVERNMENT)	0.53
GBP/USD	0.49
CHINA DEVELOPMENT BANK	0.47
CHINA DEVELOPMENT BANK	0.46
	7.20

Holdings are subject to change.



IAGG

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Fact Sheet as of 09/30/2022

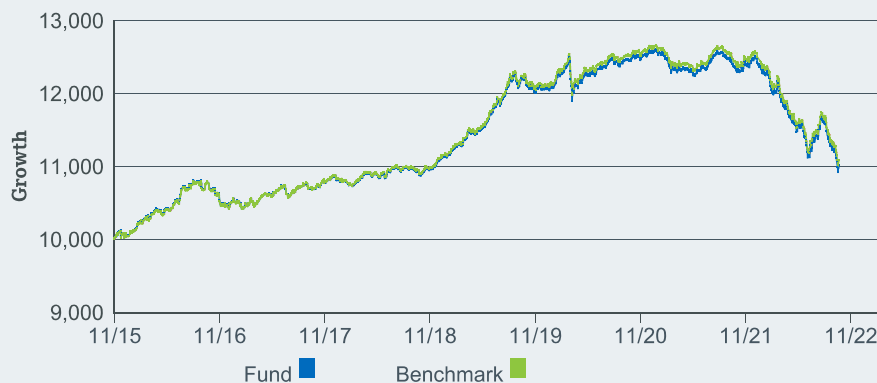
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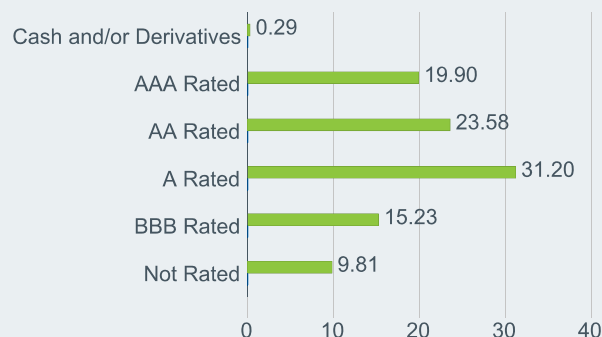
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GBP/USD	0.49
CHINA DEVELOPMENT BANK	0.47
CHINA DEVELOPMENT BANK	0.46
	7.20

Holdings are subject to change.

## CREDIT RATINGS BREAKDOWN (%)



Credit quality ratings on underlying securities of the fund are received from S&P, Moody's and Fitch and converted to the equivalent S&P major rating category. This breakdown is provided by BlackRock and takes the median rating of the three agencies when all three agencies rate a security, the lower of the two ratings if only two agencies rate a security, and one rating if that is all that is provided. Unrated securities do not necessarily indicate low quality. Below investment-grade is represented by a rating of BB and below. Ratings and portfolio credit quality may change over time.

## MATURITY BREAKDOWN (%)



## FEES AND EXPENSES BREAKDOWN

Expense Ratio	0.07%
Management Fee	0.07%
Acquired Fund Fees and Expenses	0.00%
Foreign Taxes and Other Expenses	0.00%

## FUND CHARACTERISTICS

Weighted Average Maturity	8.49 yrs
Standard Deviation (3yrs)	4.42%
Effective Duration	6.96

## GLOSSARY

**Weighted Average Maturity** is the length of time until the average security in the fund will mature or be redeemed by its issuer. It indicates a fixed income fund's sensitivity to interest rate changes. Longer average weighted maturity implies greater volatility in response to interest rate changes.

**Effective Duration** is a measure of the potential responsiveness of a bond or portfolio price to small parallel shifts in interest rates. Effective Duration takes into account the possible changes in expected bond cash flows due to small parallel shifts in interest rates.

Want to learn more?

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**Investing involves risk, including possible loss of principal.**

Fixed income risks include interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments.

International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/developing markets or in concentrations of single countries.

A fund's use of derivatives may reduce a fund's returns and/or increase volatility and subject the fund to counterparty risk, which is the risk that the other party in the transaction will not fulfill its contractual obligation. A fund could suffer losses related to its derivative positions because of a possible lack of liquidity in the secondary market and as a result of unanticipated market movements, which losses are potentially unlimited. There can be no assurance that any fund's hedging transactions will be effective.

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The iShares Funds are not sponsored, endorsed, issued, sold or promoted by Bloomberg, nor does this company make any representation regarding the advisability of investing in the Funds. BlackRock is not affiliated with Bloomberg.

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MSCI ESG Fund Rating (AAA-CCC)	A	MSCI ESG Quality Score (0-10)	5.77
MSCI ESG Quality Score - Peer Percentile	23.92%	MSCI ESG % Coverage	96.73%
Fund Lipper Global Classification	Bond Global USD	MSCI Weighted Average Carbon Intensity (Tons CO2E/\$M SALES)	74.13
Funds in Peer Group	347	MSCI Weighted Average Carbon Intensity % Coverage	24.69%

All data is from MSCI ESG Fund Ratings as of **21-Sep-2022**, based on holdings as of **31-Aug-2022**. As such, the fund's Sustainability Characteristics may differ from MSCI ESG Fund Ratings from time to time.

To be included in MSCI ESG Fund Ratings, 65% of the fund's gross weight must come from securities with ESG coverage by MSCI ESG Research (certain cash positions and other asset types deemed not relevant for ESG analysis by MSCI are removed prior to calculating a fund's gross weight; the absolute values of short positions are included but treated as uncovered), the fund's holdings date must be less than one year old, and the fund must have at least ten securities. For newly launched funds, Sustainability Characteristics are typically available 6 months after launch.

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**Funds in Peer Group:** The number of funds from the relevant Lipper Global Classification peer group that are also in ESG coverage.

**MSCI ESG Quality Score (0-10):** The MSCI ESG Quality Score (0 - 10) for funds is calculated using the weighted average of the ESG scores of fund holdings. The Score also considers ESG Rating trend of holdings and the fund exposure to holdings in the laggard category. MSCI rates underlying holdings according to their exposure to industry specific ESG risks and their ability to manage those risks relative to peers.

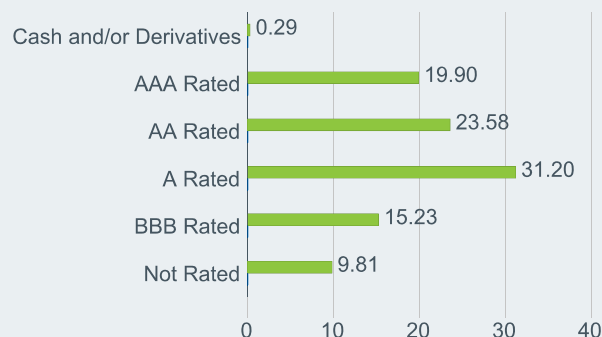
**MSCI ESG % Coverage:** Percentage of the fund's holdings for which the MSCI ESG ratings data is available. The MSCI ESG Fund Rating, MSCI ESG Quality Score, and MSCI ESG Quality Score - Peer Percentile metrics are displayed for funds with at least 65% coverage.

**MSCI Weighted Average Carbon Intensity (Tons CO2E/\$M SALES):** Measures a fund's exposure to carbon intensive companies. This figure represents the estimated greenhouse gas emissions per \$1 million in sales across the fund's holdings. This allows for comparisons between funds of different sizes.

**MSCI Weighted Average Carbon Intensity % Coverage:** Percentage of the fund's holdings for which MSCI Carbon Intensity data is available. The MSCI Weighted Average Carbon Intensity metric is displayed for funds with any coverage. Funds with low coverage may not fully represent the fund's carbon characteristics given the lack of coverage.

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## CREDIT RATINGS BREAKDOWN (%)



Credit quality ratings on underlying securities of the fund are received from S&P, Moody's and Fitch and converted to the equivalent S&P major rating category. This breakdown is provided by BlackRock and takes the median rating of the three agencies when all three agencies rate a security, the lower of the two ratings if only two agencies rate a security, and one rating if that is all that is provided. Unrated securities do not necessarily indicate low quality. Below investment-grade is represented by a rating of BB and below. Ratings and portfolio credit quality may change over time.

## MATURITY BREAKDOWN (%)



## FEES AND EXPENSES BREAKDOWN

Expense Ratio	0.07%
Management Fee	0.07%
Acquired Fund Fees and Expenses	0.00%
Foreign Taxes and Other Expenses	0.00%

## FUND CHARACTERISTICS

Weighted Average Maturity	8.49 yrs
Standard Deviation (3yrs)	4.42%
Effective Duration	6.96

## GLOSSARY

**Weighted Average Maturity** is the length of time until the average security in the fund will mature or be redeemed by its issuer. It indicates a fixed income fund's sensitivity to interest rate changes. Longer average weighted maturity implies greater volatility in response to interest rate changes.

**Effective Duration** is a measure of the potential responsiveness of a bond or portfolio price to small parallel shifts in interest rates. Effective Duration takes into account the possible changes in expected bond cash flows due to small parallel shifts in interest rates.

Want to learn more?

[www.iShares.com](http://www.iShares.com)



[www.blackrockblog.com](http://www.blackrockblog.com)



@iShares

Carefully consider the Fund's investment objectives, risk factors, and charges and expenses before investing. This and other information can be found in the Fund's prospectus, and if available, summary prospectus, which may be obtained by calling 1-800-iShares (1-800-474-2737) or by visiting [www.iShares.com](http://www.iShares.com) or [www.blackrock.com](http://www.blackrock.com). Read the prospectus carefully before investing.

**Investing involves risk, including possible loss of principal.**

Fixed income risks include interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments.

International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/developing markets or in concentrations of single countries.

A fund's use of derivatives may reduce a fund's returns and/or increase volatility and subject the fund to counterparty risk, which is the risk that the other party in the transaction will not fulfill its contractual obligation. A fund could suffer losses related to its derivative positions because of a possible lack of liquidity in the secondary market and as a result of unanticipated market movements, which losses are potentially unlimited. There can be no assurance that any fund's hedging transactions will be effective.

Diversification may not protect against market risk or loss of principal. Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the fund. Any applicable brokerage commissions will reduce returns.

**Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Past performance does not guarantee future results.**

"Acquired Fund Fees and Expenses" reflect the Fund's pro rata share of the indirect fees and expenses incurred by investing in one or more acquired funds, such as mutual funds, business development companies, or other pooled investment vehicles. AFEE are reflected in the prices of the acquired funds and thus included in the total returns of the Fund.

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**SUSTAINABILITY CHARACTERISTICS**

Sustainability Characteristics provide investors with specific non-traditional metrics. Alongside other metrics and information, these enable investors to evaluate funds on certain environmental, social and governance characteristics. Sustainability Characteristics do not provide an indication of current or future performance nor do they represent the potential risk and reward profile of a fund. They are provided for transparency and for information purposes only. Sustainability Characteristics should not be considered solely or in isolation, but instead are one type of information that investors may wish to consider when assessing a fund.

**This fund does not seek to follow a sustainable, impact or ESG investment strategy.** The metrics do not change the fund's investment objective or constrain the fund's investable universe, and there is no indication that a sustainable, impact or ESG investment strategy will be adopted by the fund. For more information regarding the fund's investment strategy, please see the fund's prospectus.

MSCI ESG Fund Rating (AAA-CCC)	A	MSCI ESG Quality Score (0-10)	5.77
MSCI ESG Quality Score - Peer Percentile	23.92%	MSCI ESG % Coverage	96.73%
Fund Lipper Global Classification	Bond Global USD	MSCI Weighted Average Carbon Intensity (Tons CO2E/\$M SALES)	74.13
Funds in Peer Group	347	MSCI Weighted Average Carbon Intensity % Coverage	24.69%

All data is from MSCI ESG Fund Ratings as of **21-Sep-2022**, based on holdings as of **31-Aug-2022**. As such, the fund's Sustainability Characteristics may differ from MSCI ESG Fund Ratings from time to time.

To be included in MSCI ESG Fund Ratings, 65% of the fund's gross weight must come from securities with ESG coverage by MSCI ESG Research (certain cash positions and other asset types deemed not relevant for ESG analysis by MSCI are removed prior to calculating a fund's gross weight; the absolute values of short positions are included but treated as uncovered), the fund's holdings date must be less than one year old, and the fund must have at least ten securities. For newly launched funds, Sustainability Characteristics are typically available 6 months after launch.

**ESG GLOSSARY:**

**MSCI ESG Fund Rating (AAA-CCC):** The MSCI ESG Rating is calculated as a direct mapping of ESG Quality Scores to letter rating categories (e.g. AAA = 8.6-10). The ESG Ratings range from leader (AAA, AA), average (A, BBB, BB) to laggard (B, CCC).

**MSCI ESG Quality Score - Peer Percentile:** The fund's ESG Percentile compared to its Lipper peer group.

**Fund Lipper Global Classification:** The fund peer group as defined by the Lipper Global Classification.

**Funds in Peer Group:** The number of funds from the relevant Lipper Global Classification peer group that are also in ESG coverage.

**MSCI ESG Quality Score (0-10):** The MSCI ESG Quality Score (0 - 10) for funds is calculated using the weighted average of the ESG scores of fund holdings. The Score also considers ESG Rating trend of holdings and the fund exposure to holdings in the laggard category. MSCI rates underlying holdings according to their exposure to industry specific ESG risks and their ability to manage those risks relative to peers.

**MSCI ESG % Coverage:** Percentage of the fund's holdings for which the MSCI ESG ratings data is available. The MSCI ESG Fund Rating, MSCI ESG Quality Score, and MSCI ESG Quality Score - Peer Percentile metrics are displayed for funds with at least 65% coverage.

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# Schwab Emerging Markets Equity ETF

## Investment objective

The Fund's goal is to track as closely as possible, before fees and expenses, the total return of the FTSE Emerging Index.

## Fund highlights

- A straightforward, low-cost fund offering potential tax-efficiency
- The Fund can serve as part of the core of a diversified portfolio
- Simple access to large- and mid-cap equities from emerging markets
- Invests in over 20 emerging market countries

## Fund details

Total net assets	\$7,659,819,421
Inception date	01/14/10
Expense ratio <sup>1</sup>	0.11%
Ticker symbol	SCHE
Number of fund holdings	1,817
Distribution frequency	Semi-annual
CUSIP	808524706
Index Bloomberg ticker	TAWALENU
Index name	FTSE Emerging Index (Net)
Portfolio turnover rate (1-year trailing)	12.76%
Exchange	NYSE Arca

## Morningstar Rating™ and Style Box<sup>2</sup>

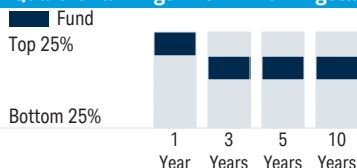
Fund Category:  
Diversified Emerging Mkts

Rating  
Overall ★★★★★  
Three-Year ★★★★★  
Five-Year ★★★★★  
Ten-Year ★★★★★



Source: Morningstar, Inc. As of 09/30/22, the Morningstar Rating for the total number of Diversified Emerging Mkts funds for the three-, five- and ten-year periods were 209/723, 145/642, and 121/371 respectively. The ratings reflect historical risk-adjusted performance and the Overall Rating is derived from a weighted average of the Fund's three-, five- and ten-year Morningstar Rating metrics.

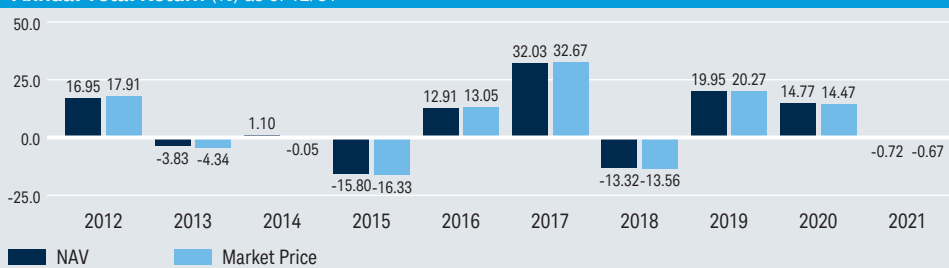
## Quartile rankings within Morningstar category<sup>3</sup>



Rank within category is independently calculated and compares this Fund's total annual return to that of other funds in the same category and its figures are not adjusted for any fees and expenses, loads, sales charges, or taxes. As of 09/30/22, the quartile ranking of Diversified Emerging Mkts funds for the one-, three-, five- and ten-year periods were 126/804, 209/723, 145/642, and 121/371, respectively.

Performance (%) as of 9/30/22	Cumulative		Annualized				
	3 Months	Year to Date	1 Year	3 Years	5 Years	10 Years	Since Inception
Fund (NAV Returns)	-10.47	-23.49	-24.28	-0.87	-0.65	1.59	1.53
Fund (Market Price Returns)	-11.74	-24.15	-24.70	-1.17	-0.96	1.48	1.45
FTSE Emerging Index (Net) <sup>3</sup>	-10.28	-23.75	-24.53	-0.72	-0.51	1.71	1.74
Category Average <sup>3</sup>	-10.19	-27.86	-28.59	-1.92	-1.81	1.13	—

## Annual Total Return (%) as of 12/31



Performance data quoted represents past performance and is no guarantee of future results. Returns are based on total return, which assumes reinvestment of dividends and distributions. Investment returns and principal value will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Shares of ETFs are bought and sold at market price, which may be higher or lower than the net asset value (NAV). Brokerage commissions will reduce returns. Current performance may be lower or higher than performance data quoted. To obtain performance information current to the most recent month end, please visit [www.schwabassetmanagement.com](http://www.schwabassetmanagement.com).

**Market Price** is the price at which investors buy and sell ETF shares in the stock market. ETF Market Price determines investor returns. An ETF's Market Price may be higher or lower than the NAV at any given point in time. Market returns are based upon the Official Closing Price of the primary listing exchange (generally, 4:00 p.m. Eastern time) and may not represent the returns you would receive if shares were traded at other times.

**NAV (Net Asset Value)** is a per share valuation of the securities in an ETF officially calculated once per day. NAV price performance is primarily used to evaluate the fund and its managers and may not reflect the actual return for the investor.

Index performance returns do not reflect any management fees, transaction costs or expenses, which would lower performance. They assume dividends and distributions were reinvested. Indices are unmanaged and cannot be invested in directly.

## Statistical information (3 Yr.) as of 9/30/22

Sharpe ratio	-0.08
Standard deviation	18.54%

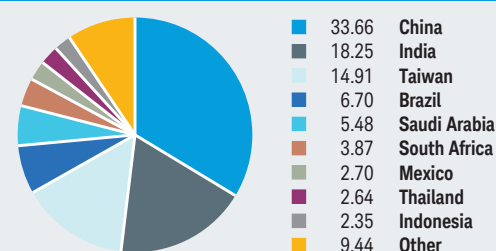
Data provided by Zephyr StyleADVISOR as of 09/30/22.

Investors should consider carefully information contained in a fund's prospectus, or if available, the summary prospectus including investment objectives, risks, charges and expenses. You can view and download a prospectus by visiting [www.schwabassetmanagement.com/prospectus](http://www.schwabassetmanagement.com/prospectus). Please read the prospectus carefully before investing.

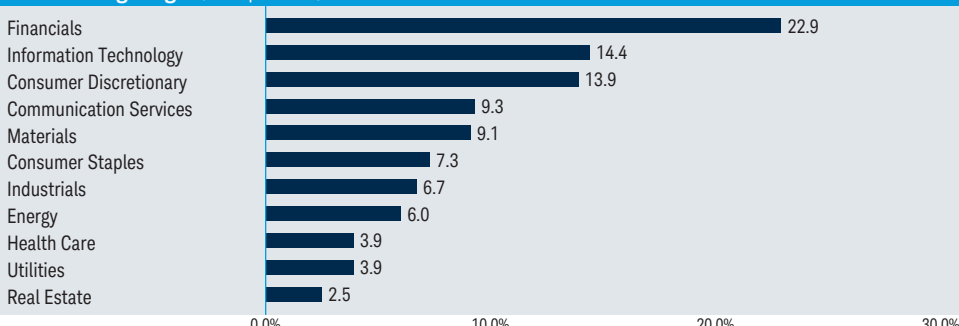
Portfolio Characteristics <sup>4</sup> as of 9/30/22	
Wtd. avg. market capitalization (in millions)	\$79,227
Price-to-earnings ratio	10.36
Price-to-book ratio	1.87
Price-to-cash-flow ratio	6.10
Return on equity	17.00%
5-year earnings growth	14.31%

Top 10 holdings <sup>4, 5</sup> (% of portfolio) as of 9/30/22	
Taiwan Semiconductor Manufacturing Co., Ltd.	5.76
Tencent Holdings Ltd.	3.68
Alibaba Group Holding Ltd.	2.70
Reliance Industries Limited	1.77
Meituan Class B	1.56
Infosys Limited	1.11
JD.com, Inc. Class A	1.08
China Construction Bank Corporation Class H	0.97
Vale S.A.	0.94
Housing Development Finance Corporation Limited	0.89
<b>TOTAL</b>	<b>20.46</b>

#### Top 10 countries<sup>4</sup> (% of portfolio) as of 9/30/22



#### Sector weightings<sup>4</sup> (% of portfolio) as of 9/30/22



Sector and/or industry weightings for the portfolio are determined using the Global Industry Classification Standard (GICS). GICS was developed by and is the exclusive property of MSCI and Standard & Poor's (S&P). GICS is a service mark of MSCI and S&P and has been licensed for use by Charles Schwab & Co., Inc.

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For additional information about the indices and terms shown, please visit [www.schwabassetmanagement.com/resources/glossary](http://www.schwabassetmanagement.com/resources/glossary).

International investments involve additional risks, which include differences in financial accounting standards, currency fluctuations, geopolitical risk, foreign taxes and regulations, and the potential for illiquid markets. Investing in emerging markets may accentuate these risks.

<sup>1</sup> As stated in the prospectus. This figure may differ from that presented in the Fund's shareholder report.

<sup>2</sup> Morningstar proprietary ratings reflect historical risk-adjusted performance. For each fund with at least a 3-year history, Morningstar calculates a Morningstar Rating<sup>TM</sup> based on a Morningstar risk-adjusted return measure that accounts for variation in a fund's monthly performance (including the effects of sales charges, loads and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. (Each share class is counted as a fraction of 1 fund within this scale and rated separately, which may cause slight variations in the distribution percentages). The top 10% of the funds in an investment category receive 5 stars, 22.5% receive 4 stars, 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star.

<sup>3</sup> Source: Morningstar, Inc. as of 09/30/22.

<sup>4</sup> Data provided by FactSet as of 09/30/22.

<sup>5</sup> Portfolio holdings are as of the date shown and may not represent current or future holdings and are not a recommendation of individual securities by the investment adviser.

Unlike mutual funds, shares of ETFs are not individually redeemable with the ETF.

Diversification strategies do not ensure a profit and do not protect against losses in declining markets.

Securities information includes trades posted to the ETF as of trade date.

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# Schwab U.S. REIT ETF

## Investment objective

The Fund's goal is to track as closely as possible, before fees and expenses, the total return of an index composed of U.S. real estate investment trusts classified as equities.

## Fund highlights

- A straightforward, low-cost fund offering potential tax-efficiency
- The Fund can serve as part of the core or complement in a diversified portfolio
- Simple access to REITs, excluding non-REIT stocks that may be included in other real estate indices
- Index excludes mortgage REITs and hybrid REITs

Fund details	
Total net assets	\$5,172,743,504
Inception date	01/13/11
Expense ratio <sup>1</sup>	0.07%
Ticker symbol	SCHH
Number of securities	134
Distribution frequency	Quarterly
CUSIP	808524847
Index Bloomberg ticker	DJERCUT
Index name	Dow Jones Equity All REIT Capped Index
Portfolio turnover rate (1-year trailing)	5.99%
Exchange	NYSE Arca

## Morningstar Rating™ and Style Box<sup>2</sup>

### Fund Category:

Real Estate

### Rating

Overall ★★  
Three-Year ★★  
Five-Year ★★  
Ten-Year ★★



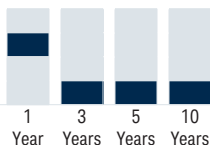
Source: Morningstar, Inc. As of 09/30/22, the Morningstar Rating for the total number of Real Estate funds for the three-, five- and ten-year periods were 218/234, 184/206, and 124/150 respectively. The ratings reflect historical risk-adjusted performance and the Overall Rating is derived from a weighted average of the Fund's three-, five- and ten-year Morningstar Rating metrics.

## Quartile rankings within Morningstar category<sup>3</sup>

■ Fund

Top 25%

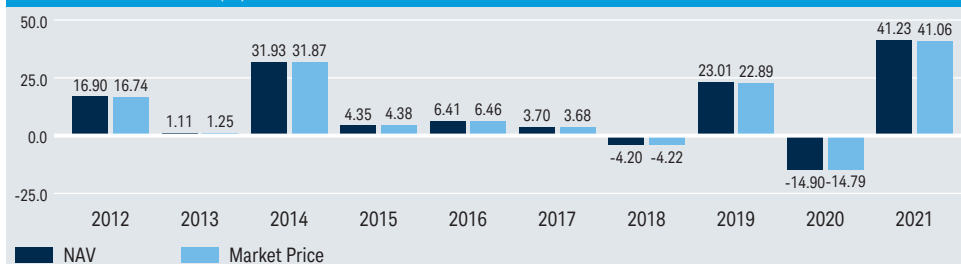
Bottom 25%



Rank within category is independently calculated and compares this Fund's total annual return to that of other funds in the same category and its figures are not adjusted for any fees and expenses, loads, sales charges, or taxes. As of 09/30/22, the quartile ranking of Real Estate funds for the one-, three-, five- and ten-year periods were 65/253, 218/234, 184/206, and 124/150, respectively.

Performance (%) as of 9/30/22	Cumulative		Annualized				
	3 Months	Year to Date	1 Year	3 Years	5 Years	10 Years	Since Inception
Fund (NAV Returns)	-10.88	-28.12	-16.49	-5.16	0.75	4.81	6.10
Fund (Market Price Returns)	-10.73	-27.94	-16.33	-5.11	0.78	4.84	6.12
Dow Jones Equity All REIT Capped Index <sup>3,4</sup>	-10.83	-28.06	-16.41	—	—	—	—
REIT Spliced Index <sup>5</sup>	-10.83	-28.06	-16.41	-5.12	0.78	4.89	6.20
Category Average <sup>3</sup>	-10.66	-28.62	-18.47	-1.96	2.56	5.64	—

## Annual total returns (%) as of 12/31



Performance data quoted represents past performance and is no guarantee of future results. Returns are based on total return, which assumes reinvestment of dividends and distributions. Investment returns and principal value will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Shares of ETFs are bought and sold at market price, which may be higher or lower than the net asset value (NAV). Brokerage commissions will reduce returns. Current performance may be lower or higher than performance data quoted. To obtain performance information current to the most recent month end, please visit [www.schwabassetmanagement.com](http://www.schwabassetmanagement.com).

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**NAV (Net Asset Value)** is a per share valuation of the securities in an ETF officially calculated once per day. NAV price performance is primarily used to evaluate the fund and its managers and may not reflect the actual return for the investor.

Index performance returns do not reflect any management fees, transaction costs or expenses, which would lower performance. They assume dividends and distributions were reinvested. Indices are unmanaged and cannot be invested in directly.

The first index listed for the fund is the fund's primary benchmark, as shown in the prospectus. Additional indices shown are provided for comparative purposes.

## Yields as of 9/30/22

### 30-day SEC yield

3.20%

30-Day SEC Yield measures the income earned by a portfolio, less expenses, expressed as a rate of return on the Net Asset Value (NAV) for the past 30 days. Because the components of distributions (i.e., income, capital gains or return of capital) of the underlying REIT holdings the fund invests in are not known until after the end of the calendar year, Schwab calculates 30-Day SEC Yields reflecting a reduction in the income based on the previous year's return of capital distribution from the underlying REIT holdings.

Investors should consider carefully information contained in a fund's prospectus, or if available, the summary prospectus including investment objectives, risks, charges and expenses. You can view and download a prospectus by visiting [www.schwabassetmanagement.com/prospectus](http://www.schwabassetmanagement.com/prospectus). Please read the prospectus carefully before investing.

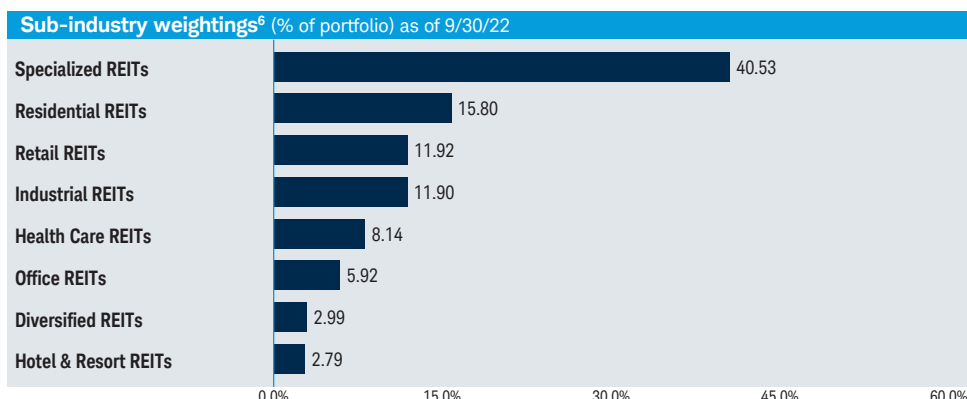


Statistical information (3 Yr.) as of 9/30/22	
Sharpe ratio	-0.25
Standard deviation	23.10%

Data provided by Zephyr StyleADVISOR as of 09/30/22.

Portfolio characteristics <sup>6</sup> as of 9/30/22	
Wtd. avg. market capitalization (in millions)	\$33,087
Price-to-earnings ratio	26.52
Price-to-book ratio	2.02
Price-to-cash-flow ratio	15.65
Return on equity	15.70%
5-year earnings growth	11.56%

Top 10 holdings <sup>6, 7</sup> (% of portfolio) as of 9/30/22	
American Tower Corporation	8.73
Prologis, Inc.	6.57
Crown Castle Inc.	5.47
Equinix, Inc.	4.53
Public Storage	4.04
Realty Income Corporation	3.14
SBA Communications Corp. Class A	2.68
Welltower Inc	2.60
Simon Property Group, Inc.	2.57
VICI Properties Inc	2.51
<b>TOTAL</b>	<b>42.84</b>



Sub-industry weightings for the Fund's portfolio are determined using the Global Industry Classification Standard (GICS). GICS was developed by and is the exclusive property of MSCI and Standard & Poor's (S&P). GICS is a service mark of MSCI and S&P and has been licensed for use by Charles Schwab & Co., Inc.

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For more information, please visit [www.schwabassetmanagement.com](http://www.schwabassetmanagement.com).

For additional information about the indices and terms shown, please visit [www.schwabassetmanagement.com/resources/glossary](http://www.schwabassetmanagement.com/resources/glossary).

Risks of investing in REITs are similar to those associated with direct ownership of real estate, such as changes in real estate values and property taxes, interest rates, cash flow of underlying real estate assets, supply and demand, and the management skill and credit worthiness of the issuer. Investing in REITs may pose additional risks such as real estate industry risk, interest rate risk and liquidity risk. Sector funds are not typically diversified and focus their investments on companies involved in a specific sector. The fund may involve a greater degree of risk than an investment in other funds with greater diversification.

<sup>1</sup> As stated in the prospectus. This figure may differ from that presented in the Fund's shareholder report.

<sup>2</sup> Morningstar proprietary ratings reflect historical risk-adjusted performance. For each fund with at least a 3-year history, Morningstar calculates a Morningstar Rating™ based on a Morningstar risk-adjusted return measure that accounts for variation in a fund's monthly performance (including the effects of sales charges, loads and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. (Each share class is counted as a fraction of 1 fund within this scale and rated separately, which may cause slight variations in the distribution percentages). The top 10% of the funds in an investment category receive 5 stars, 22.5% receive 4 stars, 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star.

<sup>3</sup> Source: Morningstar, Inc. as of 09/30/22.

<sup>4</sup> The Dow Jones Equity All REIT Capped Index commenced operations on June 22, 2020.

<sup>5</sup> **REIT Spliced Index** An internally calculated index, comprised of the Dow Jones U.S. Select REIT Index from the inception of the Schwab U.S. REIT ETF until the close of business on June 19, 2020, and the Dow Jones Equity All REIT Capped Index thereafter. The REIT Spliced Index is published with the permission of S&P Dow Jones Indices LLC, but is not calculated, sponsored or endorsed by S&P Dow Jones Indices LLC.

<sup>6</sup> Data provided by FactSet as of 09/30/22.

<sup>7</sup> Portfolio holdings are as of the date shown and may not represent current or future holdings and are not a recommendation of individual securities by the investment adviser.

Unlike mutual funds, shares of ETFs are not individually redeemable with the ETF.

Diversification strategies do not ensure a profit and do not protect against losses in declining markets.

Securities information includes trades posted to the ETF as of trade date.

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# Vanguard Short-Term Bond Index Fund

Bond fund | Institutional Plus Shares

## Fund facts

Risk level Low <-----> High					Total net assets	Expense ratio as of 04/29/22	Ticker symbol	Turnover rate	Inception date	Fund number
1	2	3	4	5	\$6,735 MM	0.04%	VBIPX	37.4%	09/29/11	0733

## Investment objective

Vanguard Short-Term Bond Index Fund seeks to track the performance of a market-weighted bond index with a short-term dollar-weighted average maturity.

## Investment strategy

The fund employs an indexing investment approach designed to track the performance of the Bloomberg 1-5 Year U.S. Government/Credit Float Adjusted Bond Index. This index includes all medium and larger issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between 1 and 5 years and are publicly issued. The fund invests by sampling the index, meaning that it holds a range of securities that, in the aggregate, approximates the full index in terms of key risk factors and other characteristics. All of the fund's investments will be selected through the sampling process, and at least 80% of the fund's assets will be invested in bonds held in the index. Under normal circumstances, the fund's dollar-weighted average maturity is not expected to exceed 3 years.

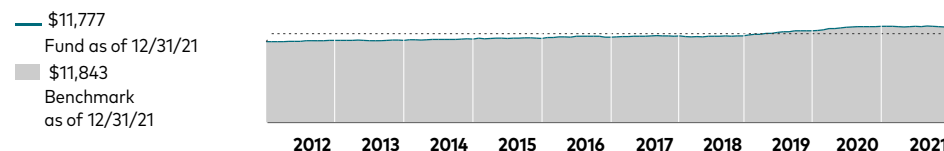
For the most up-to-date fund data, please scan the QR code below.



## Benchmark

Spl Bloomberg US1-5YrGov/Cr FIAdjx

## Growth of a \$10,000 investment: January 31, 2012–December 31, 2021



## Annual returns

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Fund</b>	2.10	0.22	1.31	0.97	1.52	1.21	1.38	4.89	4.72	-1.05
<b>Benchmark</b>	2.24	0.29	1.43	0.97	1.57	1.27	1.38	5.01	4.71	-0.97

## Total returns

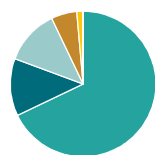
Periods ended September 30, 2022

	Quarter	Year to date	One year	Three years	Five years	Ten years
<b>Fund</b>	-2.11%	-6.51%	-7.23%	-0.93%	0.53%	0.84%
<b>Benchmark</b>	-2.16%	-6.62%	-7.29%	-0.90%	0.55%	0.88%

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at [vanguard.com/performance](https://www.vanguard.com/performance). The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Figures for periods of less than one year are cumulative returns. All other figures represent average annual returns. Performance figures include the reinvestment of all dividends and any capital gains distributions. All returns are net of expenses.

## Distribution by issuer—bonds

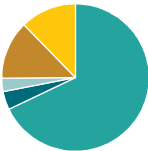


Treasury/Agency	67.9%	Foreign	5.7%
Industrial	12.8%	Utilities	1.3%
Finance	12.2%	Other	0.1%

# Vanguard Short-Term Bond Index Fund

Bond fund | Institutional Plus Shares

Distribution by credit quality\*



■ U.S. Government	67.9%
■ Aaa	4.0
■ Aa	2.9

■ A	12.9
■ Baa	12.3

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Plain talk about risk

The fund is designed for investors with a low tolerance for risk; however, the fund’s performance could be hurt by:

- Interest rate risk:** The chance that bond prices will decline because of rising interest rates. Interest rate risk should be low for the fund because it invests primarily in short-term bonds, whose prices are much less sensitive to interest rate changes than are the prices of long-term bonds.
  - Income risk:** The chance that the fund’s income will decline because of falling interest rates.
  - Credit risk:** The chance that a bond issuer will fail to pay interest or principal in a timely manner or that negative perceptions of the issuer’s ability to make such payments will cause the price of that bond to decline. Credit risk should be low for the fund because it purchases only bonds that are of investment-grade quality.
  - Index sampling risk:** The chance that the securities selected for the fund, in the aggregate, will not provide investment performance matching that of the index. Index sampling risk for the fund should be low.
- \*Credit-quality ratings are measured on a scale that generally ranges from AAA (highest) to D (lowest). “NR” is used to classify securities for which a rating is not available. NR securities may include a fund’s investment in Vanguard Market Liquidity Fund or Vanguard Municipal Cash Management Fund, each of which invests in high-quality money market instruments and may serve as a cash management vehicle for the Vanguard funds, trusts, and accounts. U.S. Treasury, U.S. Agency, and U.S. Agency mortgage-backed securities appear under “U.S. Government.” Credit-quality ratings for each issue are obtained from Bloomberg using ratings derived from Moody’s Investors Service (Moody’s), Fitch Ratings (Fitch), and Standard & Poor’s (S&P). When ratings from all three agencies are available, the median rating is used. When ratings are available from two of the agencies, the lower rating is used. When one rating is available, that rating is used.

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# Vanguard Total Bond Market Index Fund

Bond fund | Institutional Plus Shares

## Fund facts

Risk level	Total net assets	Expense ratio as of 04/29/22	Ticker symbol	Turnover rate	Inception date	Fund number
Low <-----> High 1 2 3 4 5	\$28,991 MM	0.03%	VBMPX	69.3%	02/05/10	0850

## Investment objective

Vanguard Total Bond Market Index Fund seeks to track the performance of a broad, market-weighted bond index.

## Investment strategy

The fund employs an indexing investment approach designed to track the performance of the Bloomberg U.S. Aggregate Float Adjusted Bond Index. This index measures a wide spectrum of public, investment-grade, taxable, fixed income securities in the United States—including government, corporate, and international dollar-denominated bonds, as well as mortgage-backed and asset-backed securities, all with maturities of more than 1 year. The fund invests by sampling the index, meaning that it holds a range of securities that, in the aggregate, approximate the full index in terms of key risk factors and other characteristics. All of the fund's investments will be selected through the sampling process, and at least 80% of the fund's assets will be invested in bonds held in the index. The fund maintains a dollar-weighted average maturity consistent with that of the index, which currently ranges between 5 and 10 years.

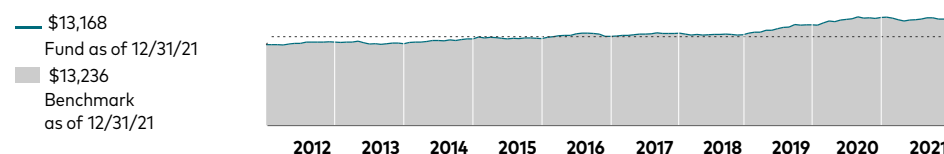
For the most up-to-date fund data, please scan the QR code below.



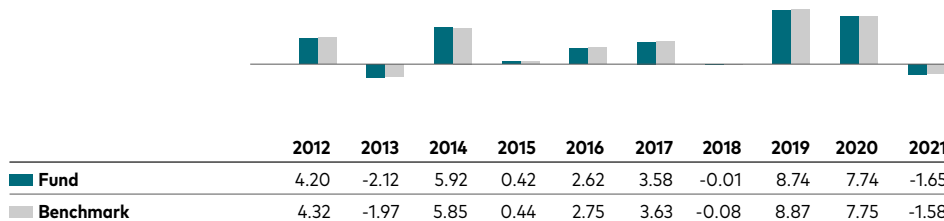
## Benchmark

Spliced Bloomberg USAgg Flt Adjix

## Growth of a \$10,000 investment: January 31, 2012–December 31, 2021



## Annual returns



## Total returns

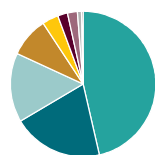
Periods ended September 30, 2022

	Quarter	Year to date	One year	Three years	Five years	Ten years
<b>Fund</b>	-4.65%	-14.57%	-14.64%	-3.25%	-0.24%	0.87%
<b>Benchmark</b>	-4.68%	-14.65%	-14.61%	-3.22%	-0.23%	0.91%

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at [vanguard.com/performance](https://vanguard.com/performance). The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

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## Distribution by issuer—bonds

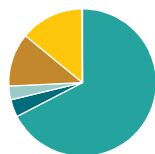


Treasury/Agency	46.4%	Commercial Mortgage-Backed	2.2
Government Mortgage-Backed	20.1	Utilities	2.2
Industrial	15.4	Other	0.9
Finance	8.8	Asset-Backed	0.4
Foreign	3.6		

# Vanguard Total Bond Market Index Fund

Bond fund | Institutional Plus Shares

Distribution by credit quality\*



■ U.S. Government	67.4%
■ Aaa	3.8
■ Aa	3.0

■ A	11.7
■ Baa	14.0
■ Not Rated	0.1

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## Plain talk about risk

An investment in the fund could lose money over short or even long periods. You should expect the fund's share price and total return to fluctuate within a wide range, like the fluctuations of the overall bond market. The fund's performance could be hurt by:

**Interest rate risk:** The chance that bond prices will decline because of rising interest rates. Interest rate risk should be moderate for the fund because it invests primarily in short- and intermediate-term bonds, whose prices are less sensitive to interest rate changes than are the prices of long-term bonds.

**Income risk:** The chance that the fund's income will decline because of falling interest rates.

**Prepayment risk:** The chance that during periods of falling interest rates, homeowners will refinance their mortgages before their maturity dates, resulting in prepayment of mortgage-backed securities held by the fund. The fund would then lose any price appreciation above the mortgage's principal and would be forced to reinvest the unanticipated proceeds at lower interest rates, resulting in a decline in the fund's income.

**Extension risk:** The chance that during periods of rising interest rates, certain debt obligations will be paid off substantially more slowly than originally anticipated, and the value of those securities may fall. For funds that invest in mortgage-backed securities, extension risk is the chance that during periods of rising interest rates, homeowners will prepay their mortgages at slower rates.

**Credit risk:** The chance that a bond issuer will fail to pay interest or principal in a timely manner or that negative perceptions of the issuer's ability to make such payments will cause the price of that bond to decline. Credit risk should be relatively low for the fund because it invests primarily in bonds that are considered to be of high quality.

**Call risk:** The chance that during periods of falling interest rates, issuers of callable bonds may call (redeem) securities with higher coupon rates or interest rates before their maturity dates. The fund would then lose any price appreciation above the bond's call price and would be forced to reinvest the unanticipated proceeds at lower interest rates, resulting in a decline in the fund's income.

**Index sampling risk:** The chance that the securities selected for the fund, in the aggregate, will not provide investment performance matching that of the index. Index sampling risk for the fund should be low.

## Note on frequent trading restrictions

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# Vanguard Extended Market Index Fund

Domestic stock fund | Institutional Plus Shares

## Fund facts

Risk level					Total net assets	Expense ratio as of 04/29/22	Ticker symbol	Turnover rate	Inception date	Fund number
Low <-----> High										
1	2	3	4	5	\$11,414 MM	0.04%	VEMPX	18.6%	01/14/11	1860

## Investment objective

Vanguard Extended Market Index Fund seeks to track the performance of a benchmark index that measures the investment return of small- and mid-capitalization stocks.

## Investment strategy

The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's Completion Index, a broadly diversified index of stocks of small and medium-size U.S. companies. The Standard & Poor's Completion Index contains all of the U.S. common stocks regularly traded on the New York and American Stock Exchanges, and the Nasdaq over-the-counter market, except those stocks included in the Standard & Poor's 500 Index. The fund invests all, or substantially all, of its assets in stocks of its target index, with nearly 80% of its assets invested in the 1,200 largest stocks in its target index (covering nearly 80% of the index's total market capitalization), and the rest of its assets in a representative sample of the remaining stocks. The fund holds a broadly diversified collection of securities that, in the aggregate, approximates the full index in terms of key characteristics. These key characteristics include industry weightings and market capitalization, as well as certain financial measures such as price/earnings ratio and dividend yield.

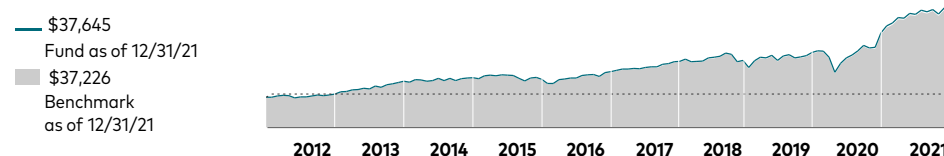
For the most up-to-date fund data, please scan the QR code below.



## Benchmark

S&P Completion Index

## Growth of a \$10,000 investment: January 31, 2012–December 31, 2021



## Annual returns

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Fund</b>	18.52	38.43	7.60	-3.23	16.18	18.13	-9.35	28.07	32.24	12.48
<b>Benchmark</b>	18.45	38.24	7.50	-3.35	15.95	18.11	-9.57	27.95	32.17	12.35

## Total returns

Periods ended September 30, 2022

	Quarter	Year to date	One year	Three years	Five years	Ten years
<b>Fund</b>	-2.73%	-30.03%	-29.54%	4.26%	4.84%	9.45%
<b>Benchmark</b>	-2.78%	-30.09%	-29.62%	4.16%	4.72%	9.31%

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# Vanguard Extended Market Index Fund

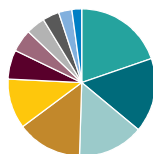
Domestic stock fund | Institutional Plus Shares

## Ten largest holdings\*

1	Blackstone Inc.	
2	Uber Technologies Inc.	
3	Palo Alto Networks Inc.	
4	Snowflake Inc.	
5	Cheniere Energy Inc.	
6	Airbnb Inc.	
7	Marvell Technology Inc.	
8	CrowdStrike Holdings Inc.	
9	Lululemon Athletica Inc.	
10	Workday Inc.	
Top 10 as % of total net assets		7.3%

\* The holdings listed exclude any temporary cash investments and equity index products.

## Sector Diversification



Information Tech	19.7%	Energy	4.9
Financials	16.3	Materials	4.2
Industrials	14.5	Communication Services	3.6
Health Care	14.3	Consumer Staples	2.9
Consumer Discretionary	11.0	Utilities	2.2
Real Estate	6.4	Other	0.0

Sector categories are based on the Global Industry Classification Standard ("GICS"), except for the "Other" category (if applicable), which includes securities that have not been provided a GICS classification as of the effective reporting period.

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## Plain talk about risk

An investment in the fund could lose money over short or even long periods. You should expect the fund's share price and total return to fluctuate within a wide range, like the fluctuations of the overall stock market. The fund's performance could be hurt by:

**Stock market risk:** The chance that stock prices overall will decline. Stock markets tend to move in cycles, with periods of rising stock prices and periods of falling stock prices. The fund's target index may, at times, become focused in stocks of a particular sector, category, or group of companies. Because the fund seeks to track its target index, the fund may underperform the overall stock market.

**Investment style risk:** The chance that returns from small- and mid-capitalization stocks will trail returns from the overall stock market. Historically, small- and mid-cap stocks have been more volatile in price than the large-cap stocks that dominate the overall market, and they often perform quite differently. Small- and mid-size companies tend to have greater stock volatility because, among other things, these companies are more sensitive to changing economic conditions.

**Index sampling risk:** The chance that the securities selected for the fund, in the aggregate, will not provide investment performance matching that of the index. Index sampling risk for the fund should be low.

## Note on frequent trading restrictions

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# Vanguard Institutional Index Fund

Domestic stock fund | Institutional Plus Shares

## Fund facts

Risk level					Total net assets	Expense ratio as of 04/29/22	Ticker symbol	Turnover rate	Inception date	Fund number
Low <-----> High										
1	2	3	4	5	\$128,778 MM	0.02%	VIII	3.2%	07/07/97	0854

## Investment objective

Vanguard Institutional Index Fund seeks to track the performance of a benchmark index that measures the investment return of large-capitalization stocks.

## Investment strategy

The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, which is dominated by the stocks of large U.S. companies. The fund attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index.

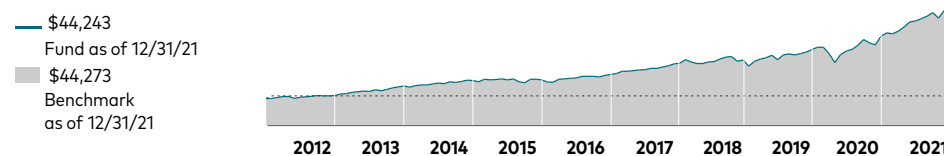
For the most up-to-date fund data, please scan the QR code below.



## Benchmark

S&P 500 Index

## Growth of a \$10,000 investment: January 31, 2012–December 31, 2021



## Annual returns

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Fund</b>	16.00	32.37	13.68	1.39	11.95	21.82	-4.41	31.48	18.41	28.69
<b>Benchmark</b>	16.00	32.39	13.69	1.38	11.96	21.83	-4.38	31.49	18.40	28.71

## Total returns

Periods ended September 30, 2022

	Quarter	Year to date	One year	Three years	Five years	Ten years
<b>Fund</b>	-4.89%	-23.88%	-15.49%	8.15%	9.23%	11.69%
<b>Benchmark</b>	-4.88%	-23.87%	-15.47%	8.16%	9.24%	11.70%

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at [vanguard.com/performance](https://www.vanguard.com/performance). The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

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# Vanguard Institutional Index Fund

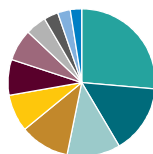
Domestic stock fund | Institutional Plus Shares

## Ten largest holdings\*

1	Apple Inc.	
2	Microsoft Corp.	
3	Alphabet Inc.	
4	Amazon.com Inc.	
5	Tesla Inc.	
6	Berkshire Hathaway Inc.	
7	UnitedHealth Group Inc.	
8	Johnson & Johnson	
9	Exxon Mobil Corp.	
10	Meta Platforms Inc.	
Top 10 as % of total net assets		28.6%

\* The holdings listed exclude any temporary cash investments and equity index products.

## Sector Diversification



Information Tech	26.4%	Consumer Staples	6.9
Health Care	15.1	Energy	4.6
Consumer Discretionary	11.7	Utilities	3.1
Financials	10.9	Real Estate	2.8
Communication Services	8.1	Materials	2.5
Industrials	7.9	Other	0.0

Sector categories are based on the Global Industry Classification Standard ("GICS"), except for the "Other" category (if applicable), which includes securities that have not been provided a GICS classification as of the effective reporting period.

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## Plain talk about risk

An investment in the fund could lose money over short or even long periods. You should expect the fund's share price and total return to fluctuate within a wide range, like the fluctuations of the overall stock market. The fund's performance could be hurt by:

**Stock market risk:** The chance that stock prices overall will decline. Stock markets tend to move in cycles, with periods of rising stock prices and periods of falling stock prices. The fund's target index may, at times, become focused in stocks of a particular sector, category, or group of companies. Because the fund seeks to track its target index, the fund may underperform the overall stock market.

**Investment style risk:** The chance that returns from large-capitalization stocks will trail returns from the overall stock market. Large-cap stocks tend to go through cycles of doing better—or worse—than other segments of the stock market or the stock market in general. These periods have, in the past, lasted for as long as several years.

## Note on frequent trading restrictions

Frequent trading policies may apply to those funds offered as investment options within your plan. Please log on to [vanguard.com](https://www.vanguard.com) for your employer plans or contact Participant Services at 800-523-1188 for additional information.

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If you receive your retirement plan statement from a service provider other than Vanguard or log on to a recordkeeper's website that is not Vanguard to view your plan, please call 855-402-2646.

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Investment Products: Not FDIC Insured • No Bank Guarantee • May Lose Value

# Vanguard Short-Term Inflation-Protected Securities Index Fund

Bond fund | Institutional Shares

## Fund facts

Risk level Low <-----> High					Total net assets	Expense ratio as of 01/31/22	Ticker symbol	Turnover rate	Inception date	Fund number
1	2	3	4	5	\$16,867 MM	0.04%	VTSPX	18.8%	10/17/12	1867

## Investment objective

Vanguard Short-Term Inflation-Protected Securities Index Fund seeks to track the performance of a benchmark index that measures the investment return of inflation-protected public obligations of the U.S. Treasury with remaining maturities of less than five years.

## Investment strategy

The fund employs an indexing investment approach designed to track the performance of the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) 0-5 Year Index. The index is a market-capitalization-weighted index that includes all inflation-protected public obligations issued by the U.S. Treasury with remaining maturities of less than five years. The fund attempts to replicate the target index by investing all, or most, of its assets in the securities that make up the index, holding each security in approximately the same proportion as its weighting in the index.

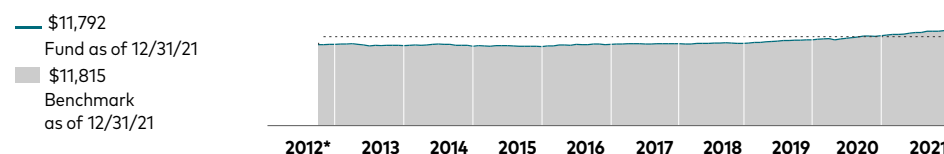
For the most up-to-date fund data, please scan the QR code below.



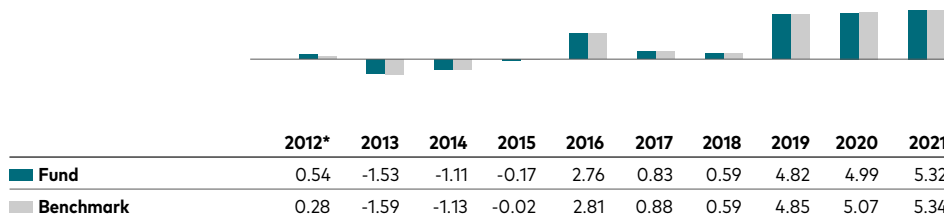
## Benchmark

Bloomberg US 0-5 Year TIPS Index

## Growth of a \$10,000 investment: October 31, 2012–December 31, 2021



## Annual returns



## Total returns

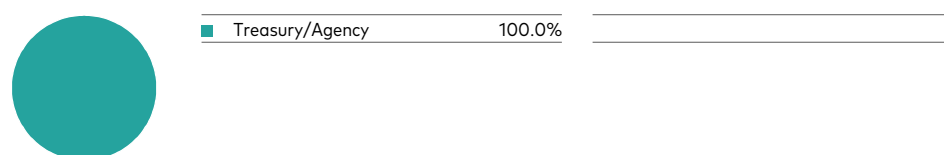
Periods ended September 30, 2022

	Quarter	Year to date	One year	Three years	Five years	Since inception
Fund	-2.64%	-4.02%	-2.94%	2.35%	2.31%	1.26%
Benchmark	-2.62%	-3.98%	-2.86%	2.44%	2.35%	—

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## Distribution by issuer—bonds



\* Partial return since fund started, October 17, 2012.

Bloomberg US 0-5 Year TIPS Index: Includes inflation-protected public obligations issued by the U.S. Treasury with remaining maturities of less than five years.

# Vanguard Short-Term Inflation-Protected Securities Index Fund

Bond fund | Institutional Shares

Distribution by credit quality\*



■ U.S. Government	100.0%
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## Plain talk about risk

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**Income fluctuations:** The fund's quarterly income distributions are likely to fluctuate considerably more than the income distributions of a typical bond fund. Income fluctuations associated with changes in interest rates are expected to be low; however, income fluctuations associated with changes in inflation are expected to be high. Overall, investors can expect income fluctuations to be high for the fund.

**Interest rate risk:** The chance that the value of a bond will fluctuate due to a change in the level of interest rates. Although inflation-indexed bonds seek to provide inflation protection, their prices may decline when interest rates rise and vice versa. Because the fund's dollar-weighted average maturity is expected to be 5 years or less, interest rate risk is expected to be low for the fund.

**\*Credit-quality ratings are measured on a scale that generally ranges from AAA (highest) to D (lowest). "NR" is used to classify securities for which a rating is not available. NR securities may include a fund's investment in Vanguard Market Liquidity Fund or Vanguard Municipal Cash Management Fund, each of which invests in high-quality money market instruments and may serve as a cash management vehicle for the Vanguard funds, trusts, and accounts. U.S. Treasury, U.S. Agency, and U.S. Agency mortgage-backed securities appear under "U.S. Government." Credit-quality ratings for each issue are obtained from Bloomberg using ratings derived from Moody's Investors Service (Moody's), Fitch Ratings (Fitch), and Standard & Poor's (S&P). When ratings from all three agencies are available, the median rating is used. When ratings are available from two of the agencies, the lower rating is used. When one rating is available, that rating is used.**

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