# City of Los Angeles Deferred Compensation Plan

November 30, 2016



## Agenda

- I. Vanguard overview
- II. Investment performance summary
- III. Equity indexing at Vanguard
- IV. Vanguard Institutional Index Fund Institutional Plus Shares
- V. Vanguard Mid-Cap Index Fund Institutional Plus Shares
- VI. Vanguard Small-Cap Index Fund Institutional Plus Shares

#### Presented by:

Edward McGettigan, CIMA® Relationship Executive Institutional Investor Group

Walter Lenhard, CFA Senior Investment Strategist Equity Index Group

## Vanguard overview

### Vanguard overview: Client-owned\* market leader

## Vanguard profile



- No outside owners: Serving only our clients' interests provides a distinct client advantage\*
- Investments' low costs often provide a distinct investor advantage
- 13305 crew based at headquarters in Pennsylvania, as well as in Arizona and North Carolina
- Growing international operations

## Market leadership



- \$3.4 trillion in assets under management, 63% of which is institutional and intermediary assets
- \$1.4 trillion of that in retirement assets (\$957 billion in Institutional retirement plans, as well as plans through advisors and retail IRAs)\*\*
- Broad lineup of 170 funds (with many ETF offerings) as well as commingled trusts

## Retirement leader



- One of the first to offer plan design features such as autoescalation and online Roth in-plan conversions
- Comprehensive mobile app for participants and one of the first to offer app transactions
- Recognized for sponsor analytics: kasina website study 2014
- #1 on Google+, YouTube, Twitter, and Facebook<sup>†</sup>

## Investment management

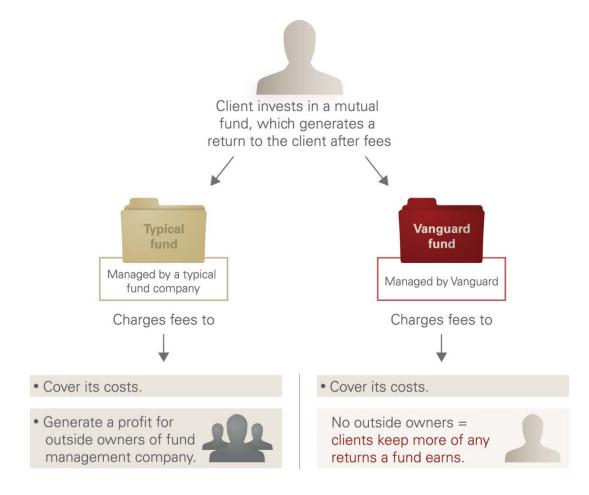


- 41 years of investment experience; roots extend back to the founding of Wellington™ Fund in 1929
- Unusual combination of in-house expertise and external managers
- Active equity: featuring leading institutional subadvisors
- Index equity: internal management provides state-of-the-art execution
- Fixed income: offering deep expertise and risk management

Data as of June 30, 2016.

- \* Vanguard is client-owned. Client-owned means fund shareholders own the funds, which own Vanguard.
- \*\* Assets under administration.
- <sup>†</sup> Sources: kasina and Corporate Insight.

## Vanguard is different from the rest—and here's how your participants benefit



The typical fund management company is owned by third parties, either public or private stockholders, not by the funds it serves. The fund management companies have to charge fund investors fees that are high enough to generate profits of the companies' owners. In contrast, the Vanguard funds own the management company known as Vanguard—a unique arrangement that eliminates conflicting loyalties. Under its agreement with the funds, Vanguard must operate "at—cost"—it can charge the funds only enough to cover its cost of operations. No wonder Vanguard's average fund expense ratio in 2015 was 0.18%, less than one-fifth that of the 1.01% industry average\*. That means Vanguard fund investors keep more of any return their funds earn.

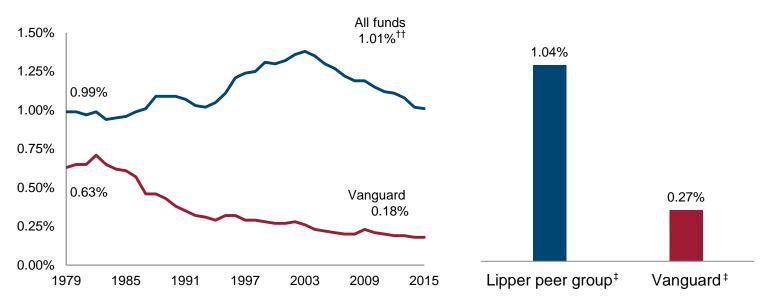
<sup>\*</sup> Sources: Vanguard and Lipper, a Thomson Reuters Company, as of December 31, 2015.

## Investments can drive plan expenses, so low costs matter

83 basis points on \$3.4 trillion in mutual fund assets under management\* could translate into approximately \$28.9 billion in savings\*\*

#### Average expense ratios<sup>†</sup>

#### The active expense ratio advantage

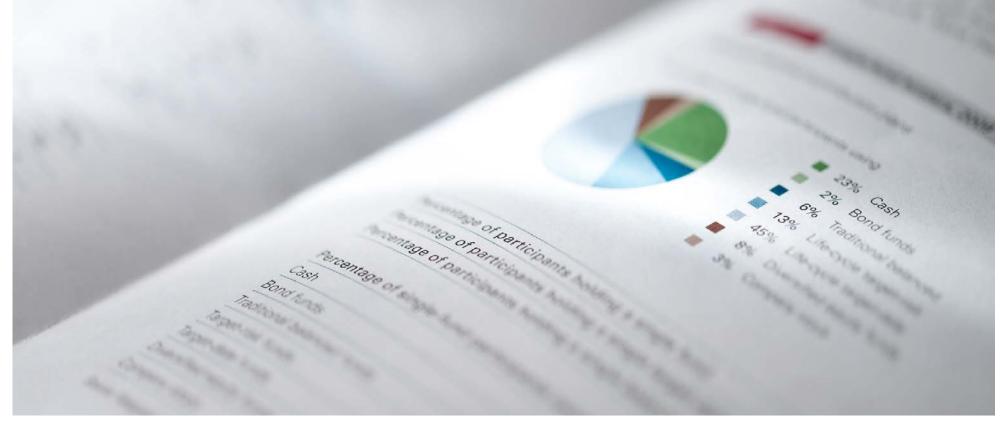


Annual expense ratios as of December 31, 2015. Vanguard expense ratios range from 0.02% to 1.64%. Note: There are significant differences between investments and expense ratio is only one of them.

- \* Assets under management are as of June 30, 2016.
- \*\* This hypothetical illustration does not represent any particular investment and only holds true if the returns are identical. There is no assurance that individual investors will experience similar savings. Calculation: 83 basis points comes from subtracting the Vanguard average expense ratio of 0.18% from the industry average expense ratio of 1.01%. This number is then multiplied by Vanguard's assets under management of \$3.4 trillion to get the result of \$28.9 billion in savings.
- † Represented as a percentage of net assets.
- †† Source: Lipper, a Thomson Reuters Company.
- ‡ Sources: Lipper, a Thomson Reuters Company and Vanguard. Data derived from the industry average expense ratio for all actively managed funds within the Lipper Peer Group and average expense ratio for all Vanguard actively managed funds.

"To take a stand for all investors, treat them fairly, and give them the best chance for investment success."

Vanguard's core purpose



## Investment performance summary

## Investment performance returns

Annualized (as of 09/30/2016)

Fund/Index/Average	Expense ratio* (%)	Three months (%)	Year- to-date (%)	One year (%)		Five years (%)	Ten years (%)	Since inception (%)
Vanguard Institutional Index Fund Institutional Plus Shares (07/07/1997)	0.02	3.85	7.83	15.43	11.16	16.37	7.26	6.63
S&P 500 Index		3.85	7.84	15.43	11.16	16.37	7.24	_
Large-Cap Core Funds Average		3.72	6.01	12.38	8.83	14.49	5.89	
Vanguard Mid-Cap Index Fund Institutional Plus Shares (12/15/2010)	0.05	5.19	8.90	12.67	9.93	16.56	_	11.95
Spliced Mid Cap Index <sup>1</sup>		5.21	8.92	12.68	9.96	16.58	8.24	_
Mid-Cap Core Funds Average		4.78	8.61	11.26	6.96	14.47	7.03	_
Vanguard Small-Cap Index Fund Institutional Plus Shares (12/17/2010)	0.05	6.16	11.52	14.99	7.95	16.74	_	11.21
Spliced Small Cap Index <sup>2</sup>		6.15	11.47	14.93	7.91	16.68	8.35	_
Small-Cap Core Funds Average		6.98	10.25	13.01	5.76	14.38	6.21	_

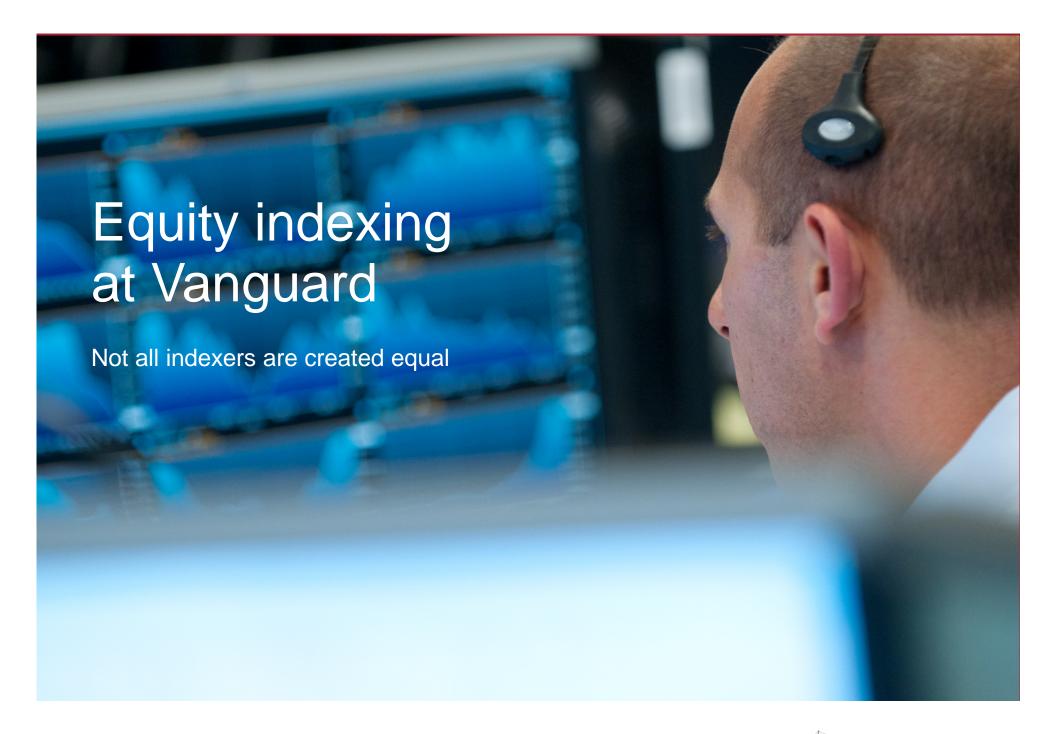
The performance data shown represent past performance. Past performance is no guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com/performance. Some funds assess purchase, redemption, and/or account maintenance fees. The performance data shown do not reflect deduction of these fees. If they did, performance would be lower. Details on these fees and adjusted performance figures can be found in the fund detail section.

Source: Data derived from Lipper, a Thomson Reuters Company.

For some funds, fees are levied on purchases or redemptions to offset the costs of buying and selling portfolio securities. For others, fees are assessed on redemptions made within certain time periods after a purchase to discourage short-term trading. All purchase or redemption fees are paid directly to the fund to compensate long-term shareholders for the costs of trading activity. Note that one-year performance figures are not fee-adjusted for fees incurred on shares held less than one year.

- 1 S&P MidCap 400 Index through May 16, 2003; MSCI US Mid Cap 450 Index through January 30, 2013; CRSP US Mid Cap Index thereafter.
- 2 Russell 2000 Index through May 16, 2003; MSCI US Small Cap 1750 Index through January 30, 2013; CRSP US Small Cap Index thereafter.
- 3 Barclays U.S. Aggregate Bond Index through December 31, 2009; Barclays U.S. Aggregate Float Adjusted Index thereafter.
- 4 Intermediate US Gov't Funds Average through December 31, 2001; Interm Inv-Grade Debt Funds Avg through August 31, 2013; Core Bond Funds Average thereafter.

<sup>\*</sup> Expense ratio data is as of the fund's most recent prospectus.





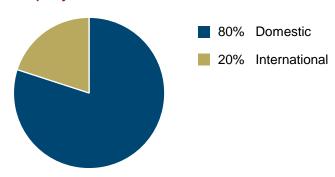
## Who we are: Equity Investment Group

Vanguard Equity Investment Group (EIG) manages assets consistent with the highest fiduciary and professional standards of prudence and integrity. We will seek out investment opportunities to maximize the total returns of our funds subject to the specific fund's investment objective and rigorous risk control.

#### Key facts

- Assets under management: \$1.9 trillion
- 276 portfolios tracking more than 70 indexes\*
- Benchmarks: Standard & Poor's, Russell, MSCI, FTSE, and CRSP
- Average portfolio manager tenure: 15 years\*
- Average expense ratio: 0.10%\*\*

#### Equity index asset distribution



Source: Vanguard, as of June 30, 2016.

Note: Detail may not sum to totals because of rounding.

<sup>\*</sup> As of December 31, 2015

<sup>\*\*</sup> Asset-weighted expense ratio for all Vanguard equity index funds.

## An experienced equity indexing team



**Tim Buckley**Chief Investment Officer
20+ years at Vanguard



Joseph Brennan, CFA Head of Equity Indexing 20+ years at Vanguard



Ryan Ludt Index Equity 15+ years of investment experience 15+ years

at Vanguard

Duane Kelly Index Equity 20+ years of investment management experience

20+ years at Vanguard



Mike Buek, CFA Index Equity 20+ years of investment management experience

20+ years at Vanguard



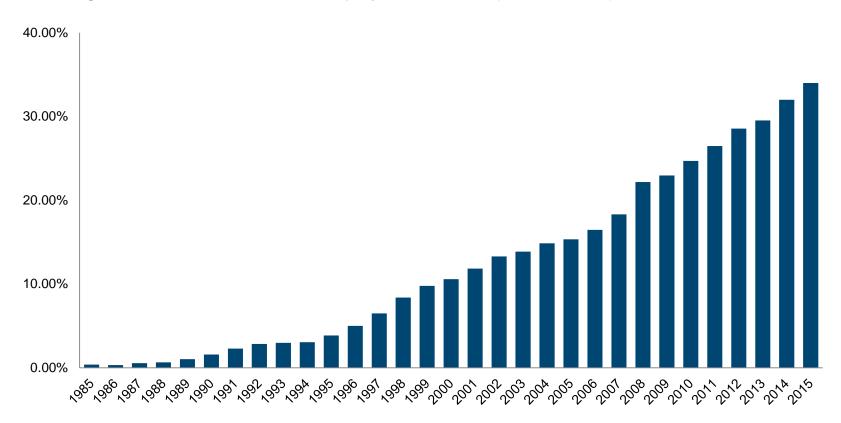
Walter Lenhard, CFA Senior Investment Strategist

20+ years of investment management experience

20+ years at Vanguard

## Indexing has earned investors' trust

#### Indexing now accounts for 34% of equity fund assets (\$3.47 trillion)

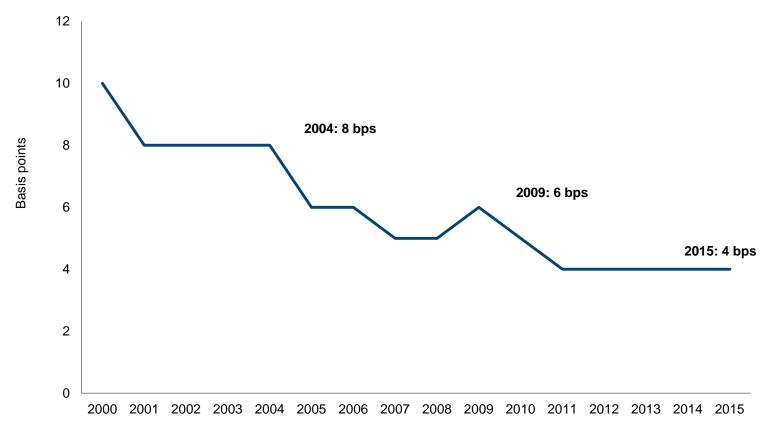


Note: This includes ETF and mutual fund assets. Source: *Strategic Insight*, as of December 31, 2015.

## Historical expense ratios

#### Vanguard has set the standard for low-cost investing

#### Total Stock Market Index Institutional Share Class



Source: Vanguard, as of December 31, 2015.

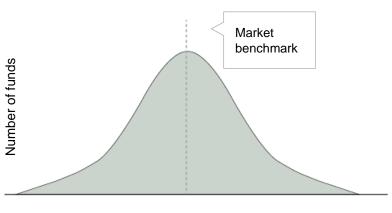
## **Global Collaboration**

Investment and IT teams collaborate with global stakeholders in their designated workstream



## The key to indexing: Low costs

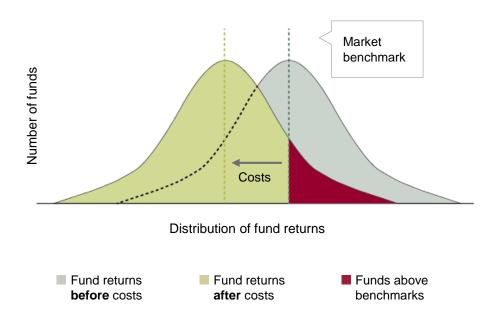
#### Investing is a zero-sum game before costs



Distribution of fund returns

The holdings of all investors aggregate to form a market. Outperformance by one investor necessarily means underperformance by another.

#### Investing is a negative-sum game after costs

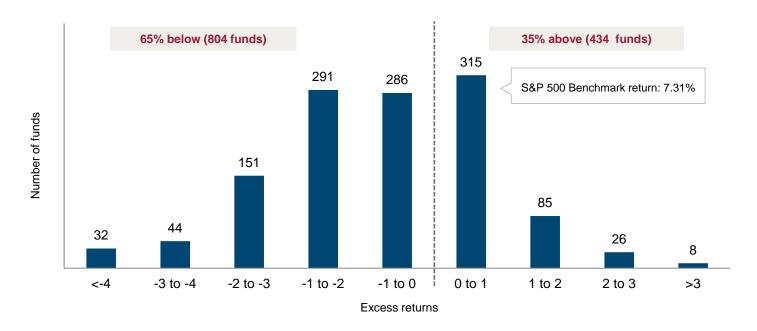


After costs, a majority of investors will underperform the market benchmark. The key to long-term, consistent success is low-cost investing.

#### Real-world results

65% of actively managed large-cap funds lagged the S&P 500 Index over ten years

#### Large-cap funds versus S&P 500



Sources: Vanguard calculations, using data from S&P, as of December 31, 2015.

Past performance is not a guarantee of future returns.

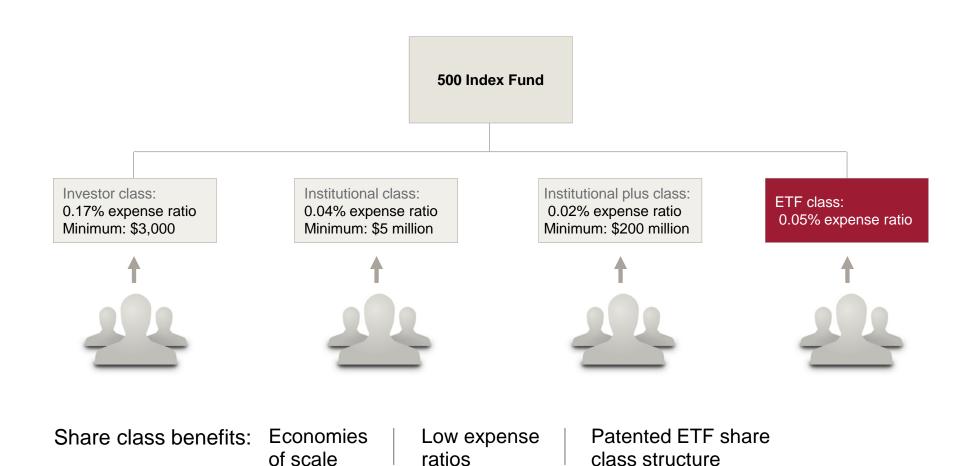
The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index. Note that most index funds underperform their benchmarks due to fees.

#### Benchmark selection

Vanguard's rigorous benchmark selection process evaluates **turnover**, **market representation**, and **index construction** to determine which indexes can best serve our clients.

S&P	CRSP	Russell	FTSE	MSCI
500	Total Market	1000	All-World	IMI Consumer Discretionary 25/50
500 Growth	Mega-cap	1000 Growth	All-World ex US	IMI Consumer Staples 25/50
500 Value	Mega-cap Growth	1000 Value	Developed Asia Pacific	IMI Energy 25/50
Completion	Mega-cap Value	2000	Developed Europe	IMI Financials 25/50
Mid-cap 400	Large-cap	2000 Growth	Developed ex North America	IMI Health Care 25/50
Mid-cap 400 Growth	Large-cap Growth	2000 Value	Emerging	IMI Industrials 25/50
Mid-cap 400 Value	Large-cap Value	3000	Global All-Cap ex US	IMI Info Technology 25/50
Small-cap 600	Mid-cap	3000 Growth	Global Small-cap ex US	IMI Materials 25/50
Small-cap 600 Growth	Mid-cap Growth	3000 Value	High Dividend Yield	IMI Telecom Services 25/50
Small-cap 600 Value	Mid-cap Value		4Good US Select	IMI Utilities 25/50
	Small-cap			REIT
	Small-cap Growth			
	Small-cap Value			

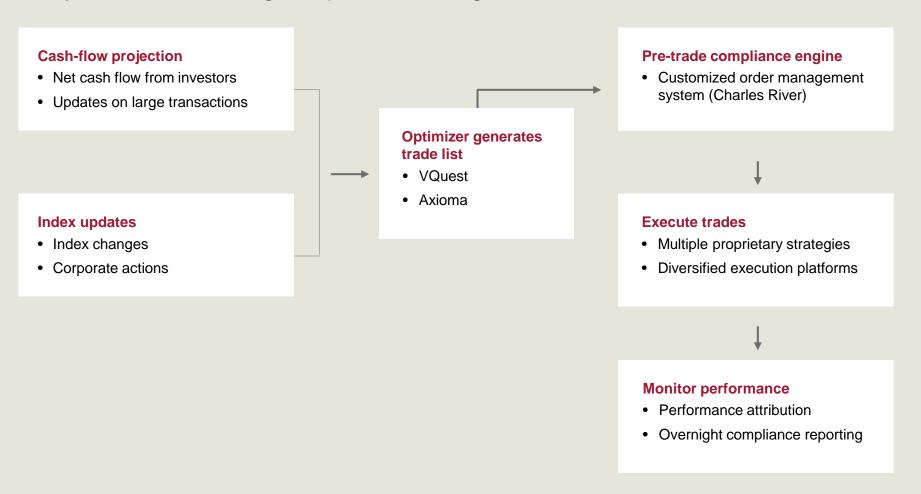
## Vanguard share class structure



For institutional use only. Not for distribution to retail investors.

## Vanguard's equity indexing process

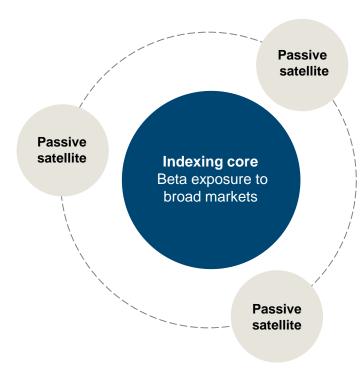
#### A day in the life of a Vanguard portfolio manager



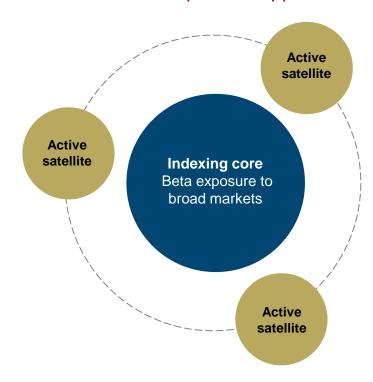
## Implementing an indexing strategy

#### Two ways institutional investors use our funds

#### A passive-only approach

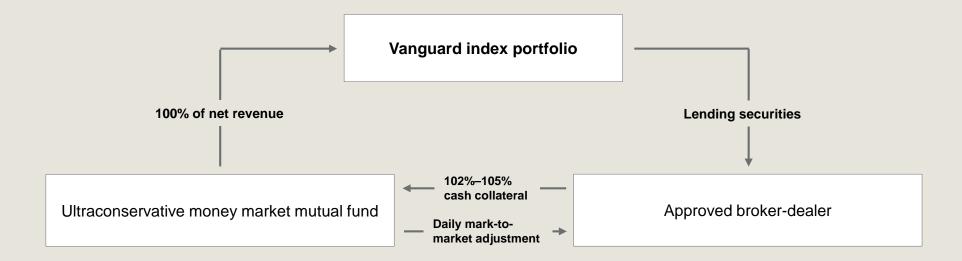


#### A combined active-passive approach



## Securities lending

- Modest degree of securities lending (typically 0%–6% of fund's asset base)
- All net revenue returned to portfolios\*
- Continuous credit analysis of borrowers

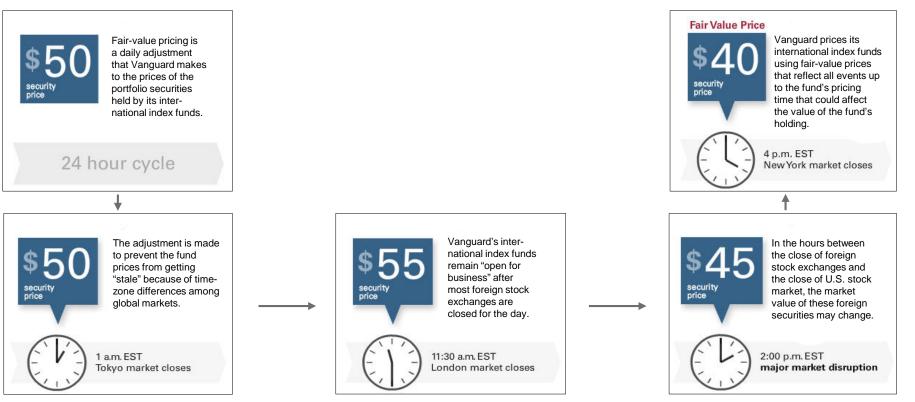


<sup>\*</sup> Vanguard fund shareholders receive 100% of the revenue from securities lending after broker rebates, program costs, and agent fees.

## Fair-value pricing

Daily adjustment made to portfolio securities held by international index funds:

- Protects shareholders
- Ensures net asset value (NAV) reflects true value
- Discourages market-timing



This hypothetical example does not represent any particular investment.

## Why the world's leading institutions index with Vanguard

#### Performance

- History of tight tracking
- Consistency from disciplined process
- Comprehensive, independent risk management

#### Experience

- 30+ years managing index portfolios
- Low turnover in portfolio management
- Steady growth and economies of scale

#### Philosophy

- Client-owned\* structure drives client-first business practices
- Time-tested commitment to low-cost investing
- Well-conceived core investment portfolios

<sup>\*</sup> Vanguard is client-owned. As client owners, individual shareholders own the funds that own Vanguard.

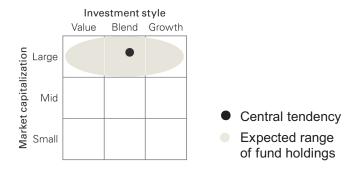
## Vanguard Institutional Index Fund Institutional Plus Shares

## Vanguard Institutional Index Fund (VIIIX)

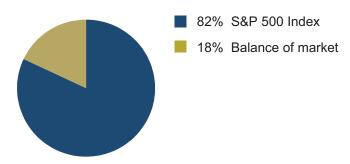
#### **Product summary**

- Seeks to track the performance of the Standard & Poor's 500 Index.
- U.S. large-cap equity diversified across growth and value styles.
- · Passively managed, full-replication approach.
- · Fund remains fully invested.
- Low expenses minimize net tracking error.
- Fund assets (in millions): \$208,758
  - Institutional Plus Shares assets: \$92,984
- Fund inception date: 07/31/1990
  - Institutional Plus Shares inception date: 07/07/1997
- Institutional Plus Shares expenses (in basis points): 2.0 Expense ratio as reported in the most recent prospectus.
- CUSIP: 922040209

#### Investment focus



#### Share of U.S. stock market\* (%)



Vanguard

## Vanguard Equity Index Group—Firm Overview

Vanguard Equity Index Group (EIG) manages assets consistent with high fiduciary and professional standards.

#### **Key Facts**

- Assets under management: \$1.9 trillion
- 125 portfolios tracking more than 70 indexes
- Benchmarks: Standard & Poor's, Russell, MSCI, FTSE, and CRSP
- 40 investment professionals
- Average portfolio manager tenure: 16 years
- Average expense ratio: 0.10%\*

#### **Vanguard Institutional Index Fund**

Portfolio Management

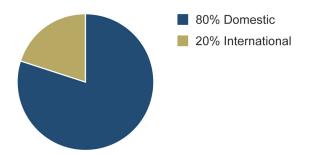
#### Donald M. Butler, CFA, Principal

- · Portfolio manager.
- · Advised the fund since 2000.
- · Worked in investment management since 1997.
- B.S.B.A., Shippensburg University.

#### Scott E. Geiger, CFA

- · Portfolio manager.
- · Advised the fund since 2016.
- Worked in investment management since 2008.
- B.S., Millersville University.

#### **Equity Index Asset Distribution**

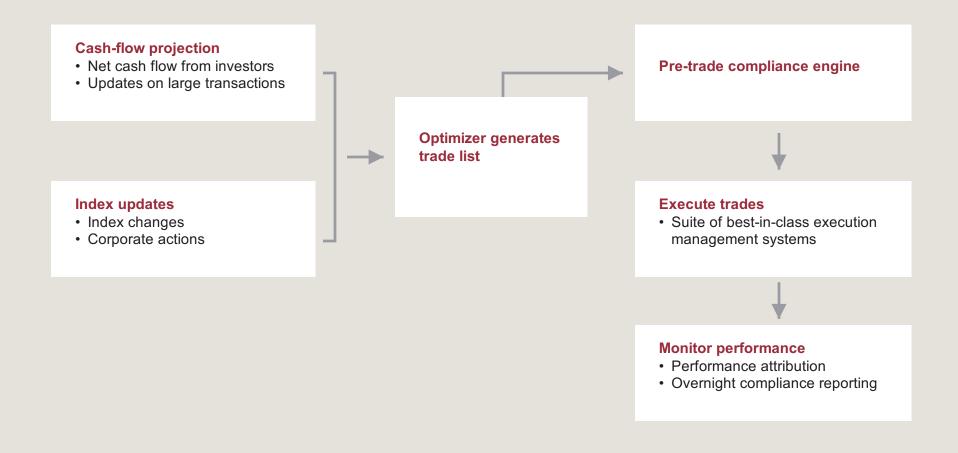


Source: Vanguard, as of September 30, 2016.

<sup>\*</sup> Asset-weighted expense ratio for all Vanguard equity index funds.

## Vanguard's Equity Indexing Process

A day in the life of a Vanguard portfolio manager

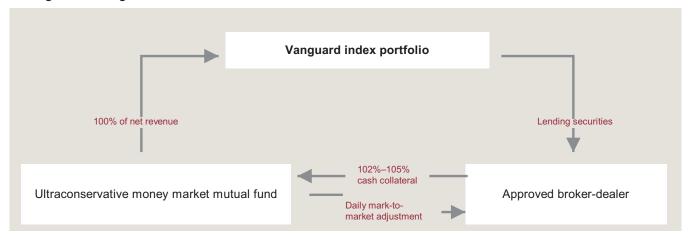


## Tracking Differences

The fund seeks to track its benchmark, but tracking differences can occur. The main sources of these differences are:

#### Securities lending

- Vanguard operates a very conservative securities lending program
- Funds selectively lend "specials," not general collateral
- All net revenue (net of broker rebates, direct operating expenses and agent fees) is returned to portfolios
- · Program has rigorous risk controls



#### Index change management

- When index changes occur, Vanguard must make changes to the fund's holdings
- In order to minimize the market impact component of transaction costs, trading may take place at times other than the exact timing of the change

#### Use of futures

- Managers may invest in futures when the contract is trading at a discount to its theoretical fair value
- The funds maintain a full "cash" position equal to the notional amount of futures held in the portfolio at all times; no leverage is employed

## Vanguard Institutional Index Fund Portfolio

#### **Equity characteristics**

	Instl Index Fund	S&P 500 Index
Number of stocks	505	505
Median market cap	\$81.0B	\$81.0B
P/E ratio (trailing earnings)	22.2x	22.2x
P/B ratio	2.9x	2.9x
Return on equity (5-year average)	17.8%	17.5%
Earnings growth rate (5-year)	7.3%	7.3%
Equity yield (dividend)	2.1%	2.1%
Foreign holdings	0.0%	0.0%
Turnover (fiscal year end)	5.1%	_

#### Ten largest holdings

	% of total net assets
Apple Inc.	3.2%
Alphabet Inc.	2.5
Microsoft Corp.	2.4
Exxon Mobil Corp.	1.9
Amazon.com Inc.	1.8
Johnson & Johnson	1.7
Facebook Inc.	1.6
Berkshire Hathaway Inc.	1.5
General Electric Co.	1.4
AT&T Inc.	1.3
Top ten as a % of total net assets	19.3%

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

## Vanguard Institutional Index Fund Portfolio

#### Sector diversification as a % of common stock

Sector	InstI Index Fund	S&P 500 Index
Information Technology	21.2%	21.2%
Health Care	14.7	14.7
Financials	12.8	12.8
Consumer Discretionary	12.5	12.5
Consumer Staples	9.9	9.9
Industrials	9.7	9.7
Energy	7.3	7.3
Utilities	3.3	3.3
Real Estate	3.1	3.1
Materials	2.9	2.9

Sector categories are based on the Global Industry Classification Standard system.

### Vanguard Institutional Index Fund Performance

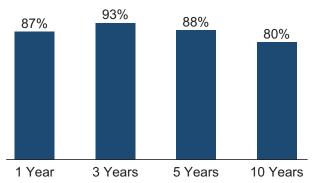
#### **Total Returns and Tracking difference**

			Tracking difference			
	InstI Index Fund	S&P 500 Index	Return difference	Expense ratio	Residual error	
Periods ended	September 30,	2016				
1 Year	15.43%	15.43%	0.00%	0.02%	0.02%	
3 Years	11.16	11.16	0.00	0.02	0.02	
5 Years	16.37	16.37	0.00	0.02	0.02	
10 Years	7.26	7.24	0.02	0.02	0.05	
Calendar year	performance					
2006	15.81	15.79	0.02	0.03	0.05	
2007	5.50	5.49	0.01	0.03	0.04	
2008	-36.94	-37.00	0.06	0.03	0.09	
2009	26.66	26.46	0.20	0.03	0.23	
2010	15.07	15.06	0.01	0.03	0.04	
2011	2.12	2.11	0.01	0.02	0.03	
2012	16.00	16.00	0.00	0.02	0.02	
2013	32.37	32.39	-0.02	0.02	0.00	
2014	13.68	13.69	-0.01	0.02	0.01	
2015	1.39	1.38	0.01	0.02	0.03	
Year to Date	7.83	7.84	-0.01	0.02	0.01	
3rd Quarter	3.85	3.85	0.00	0.01	0.00	

Note: Except for the most recent quarter, the expense ratios presented are the funds' actual operating expenses and they exclude any acquired fees and expenses, which result from the funds' holdings in business development companies (BDCs). BDC expenses are not direct costs paid by fund shareholders and are not used to calculate the fund's net asset value.

#### **Performance versus competitors**

Percentage of Large-Cap Core Funds outperformed by Vanguard Institutional Index Fund Institutional Plus Shares



Source: Lipper, a Thomson Reuters Company. Based on total returns as of September 30, 2016. Number of funds in category: 1-year, 826; 3-year, 752; 5-year, 669; 10-year, 531. Results will vary for other time periods.

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.

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.

The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

## **Investment Commentary**

Monetary policy took center stage during the third quarter of 2016 as continued low interest rates generally boosted stock and bond market returns across the globe. Federal Reserve policymakers decided at their September meeting to leave the Federal Funds target rate at 0.25%–0.5%. Outside the United States, the Bank of Japan implemented a "yield curve control" policy designed to keep the 10-year Japanese government bond yield near 0%.

The S&P 500 Index returned 3.85% for the guarter ended September 30.

Information technology (+12.9%), financials (+6.8%), and consumer discretionary (+3.1%) were the top contributors.

Consumer staples (-2.6%), utilities (-5.9%), and telecommunication services (-5.6%) were the biggest detractors.

For the 12 months ended September 30, the index returned 15.43%. Information technology (+22.8%), industrials (+19.2%), and consumer staples (+15.8%) added most to results. Real estate (+17.4%), financials (+5.9%), and utilities (+17.4%) contributed least.

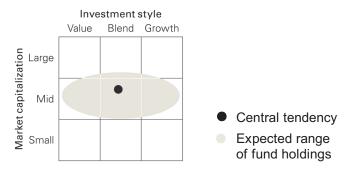
## Vanguard Mid-Cap Index Fund Institutional Plus Shares

## Vanguard Mid-Cap Index Fund (VMCPX)

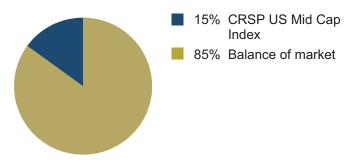
#### **Product summary**

- Seeks to track the performance of the CRSP US Mid Cap Index.
- Mid-cap equity.
- · Passively managed, full-replication approach.
- Fund remains fully invested.
- · Low expenses minimize net tracking error.
- Fund assets (in millions): \$73,643
  - Institutional Plus Shares assets: \$11,566
- Fund inception date: 05/21/1998
  - Institutional Plus Shares inception date: 12/15/2010
- Institutional Plus Shares expenses (in basis points): 5 Expense ratio as reported in the most recent prospectus.
- CUSIP: 922908389

#### Investment focus



#### Share of U.S. stock market\* (%)





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#### Vanguard Mid-Cap Index Fund

Portfolio Management

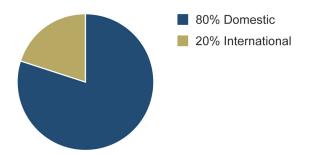
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- · Portfolio manager.
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- · Worked in investment management since 1997.
- B.S.B.A., Shippensburg University.

#### Michael A. Johnson

- · Portfolio manager.
- · Advised the fund since 2016.
- Worked in investment management since 2007.
- B.S., B.A., Shippensburg University.

#### **Equity Index Asset Distribution**

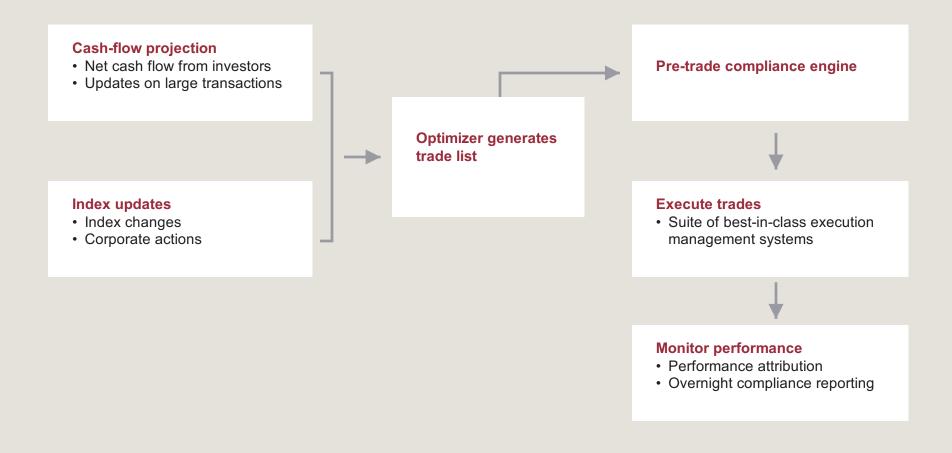


Source: Vanguard, as of September 30, 2016.

<sup>\*</sup> Asset-weighted expense ratio for all Vanguard equity index funds.

# Vanguard's Equity Indexing Process

A day in the life of a Vanguard portfolio manager

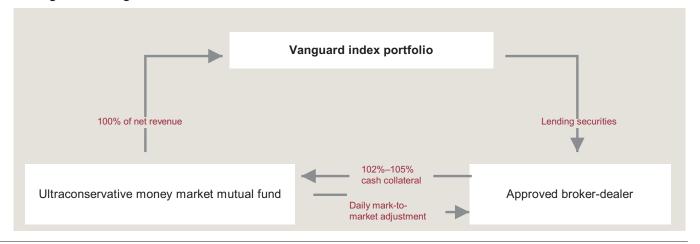


# Tracking Differences

The fund seeks to track its benchmark, but tracking differences can occur. The main sources of these differences are:

## Securities lending

- Vanguard operates a very conservative securities lending program
- Funds selectively lend "specials," not general collateral
- All net revenue (net of broker rebates, direct operating expenses and agent fees) is returned to portfolios
- · Program has rigorous risk controls



## Index change management

- When index changes occur, Vanguard must make changes to the fund's holdings
- In order to minimize the market impact component of transaction costs, trading may take place at times other than the exact timing of the change

#### Use of futures

- Managers may invest in futures when the contract is trading at a discount to its theoretical fair value
- The funds maintain a full "cash" position equal to the notional amount of futures held in the portfolio at all times; no leverage is employed

# Vanguard Mid-Cap Index Fund Portfolio

## **Equity characteristics**

	Mid-Cap Index	CRSP US Mid Cap Index
Number of stocks	343	341
Median market cap	\$11.6B	\$11.6B
P/E ratio (trailing earnings)	27.4x	27.6x
P/B ratio	2.7x	2.7x
Return on equity (5-year average)	15.2%	14.9%
Earnings growth rate (5-year)	9.6%	9.6%
Equity yield (dividend)	1.5%	1.5%
Foreign holdings	0.3%	_
Turnover (fiscal year end)	14.8%	_

## Ten largest holdings

	% of total net assets
Ross Stores Inc.	0.8%
Edwards Lifesciences Corp.	0.8
Equinix Inc.	0.8
Newell Brands Inc.	0.8
Electronic Arts Inc.	0.8
Fiserv Inc.	0.7
Newmont Mining Corp.	0.6
ConAgra Foods Inc.	0.6
Amphenol Corp.	0.6
Concho Resources Inc.	0.6
Top ten as a % of total net assets	7.1%

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

# Vanguard Mid-Cap Index Fund Portfolio

## Sector diversification as a % of common stock

Sector	Mid-Cap Index	CRSP US Mid Cap Index
Financials	20.4%	20.4%
Industrials	16.7	16.8
Consumer Goods	13.7	13.7
Technology	13.0	12.9
Consumer Services	12.1	12.1
Health Care	8.3	8.3
Oil & Gas	5.2	5.2
Utilities	5.2	5.2
Basic Materials	4.3	4.3
Telecommunications	1.1	1.1

Sector categories are based on the Industry Classification Benchmark system.

# Vanguard Mid-Cap Index Fund Performance

#### **Total Returns and Tracking difference**

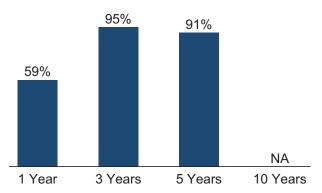
			Tracking difference			
	Mid-Cap Index	Spliced Mid-Cap Index	Return difference	Expense ratio	Residual error	
Periods ended	September 30,	2016				
1 Year	12.67%	12.68%	-0.01%	0.05%	0.04%	
3 Years	9.93	9.96	-0.03	0.06	0.03	
5 Years	16.56	16.58	-0.02	0.06	0.04	
Since Inception*	11.95	11.97	-0.02	0.05	0.03	
Calendar year performance						
2011	-1.91	-1.91	0.00	0.06	0.06	
2012	16.03	16.04	-0.01	0.06	0.05	
2013	35.20	35.21	-0.01	0.06	0.05	
2014	13.79	13.83	-0.04	0.06	0.02	
2015	-1.30	-1.28	-0.02	0.05	0.03	
Year to Date	8.90	8.92	-0.02	0.04	0.02	
3rd Quarter	5.19	5.21	-0.02	0.01	-0.01	

<sup>\*</sup> Since fund's inception, December 15, 2010.
Spliced Mid-Cap Index: S&P MidCap 400 Index through May 16, 2003; MSCI US Mid Cap 450 Index through January 30, 2013; CRSP US Mid Cap Index thereafter.

Note: Except for the most recent quarter, the expense ratios presented are the funds' actual operating expenses and they exclude any acquired fees and expenses, which result from the funds' holdings in business development companies (BDCs). BDC expenses are not direct costs paid by fund shareholders and are not used to calculate the fund's net asset value.

#### Performance versus competitors

Percentage of Mid-Cap Core Funds outperformed by Vanguard Mid-Cap Index Fund Institutional Plus Shares



Source: Lipper, a Thomson Reuters Company. Based on total returns as of September 30, 2016. Number of funds in category: 1-year, 397; 3-year, 347; 5-year, 300.

Results will vary for other time periods.

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.

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.

The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

# **Investment Commentary**

Monetary policy took center stage during the third quarter of 2016 as continued low interest rates generally boosted stock and bond market returns across the globe. Federal Reserve policymakers decided at their September meeting to leave the Federal Funds target rate at 0.25%-0.5%. Outside the United States, the Bank of Japan implemented a "yield curve control" policy designed to keep the 10-year Japanese government bond yield near 0%.

The CRSP US Mid Cap Index returned 5.21%, outperforming its large-cap counterpart, the CRSP US Large Cap Index, which returned 4.04%.

Technology (+17.6%), financials (+4.5%), and industrials (+5.0%) were the top contributors.

The two biggest detractors were utilities (-5.5%) and telecommunications (-4.1%).

For the 12-month period ended September 30, the CRSP US Mid Cap Index returned 12.68%. The four sectors with the largest weights added to the index's return, with technology (+24.9%), industrials (+15.1%), and consumer goods (+13.1%) adding the most. The only detractor was consumer services (–1.2%).

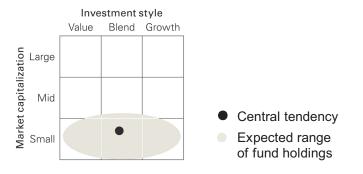
# Vanguard Small-Cap Index Fund Institutional Plus Shares

# Vanguard Small-Cap Index Fund (VSCPX)

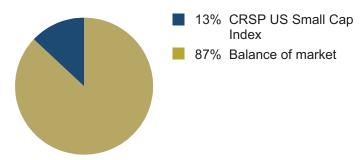
## **Product summary**

- Seeks to track the performance of the CRSP US Small Cap Index.
- Small-cap equity diversified across growth and value styles.
- · Passively managed, full-replication approach.
- · Fund remains fully invested.
- Low expenses minimize net tracking error.
- Fund assets (in millions): \$63,345
  - Institutional Plus Shares assets: \$7,480
- Fund inception date: 10/03/1960
  - Institutional Plus Shares inception date: 12/17/2010
- Institutional Plus Shares expenses (in basis points): 5 Expense ratio as reported in the most recent prospectus.
- CUSIP: 922908397

#### Investment focus



## Share of U.S. stock market\* (%)



Vanguard

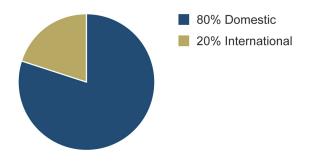
# Vanguard Equity Index Group—Firm Overview

Vanguard Equity Index Group (EIG) manages assets consistent with high fiduciary and professional standards.

## **Key Facts**

- Assets under management: \$1.9 trillion
- 125 portfolios tracking more than 70 indexes
- Benchmarks: Standard & Poor's, Russell, MSCI, FTSE, and CRSP
- 40 investment professionals
- Average portfolio manager tenure: 16 years
- Average expense ratio: 0.10%\*

## **Equity Index Asset Distribution**



#### **Vanguard Small-Cap Index Fund**

Portfolio Management

#### Gerard C. O'Reilly, Principal

- Portfolio manager.
- · Advised the fund since 2016.
- · Worked in investment management since 1992.
- B.S., Villanova University.

#### William Coleman, CFA

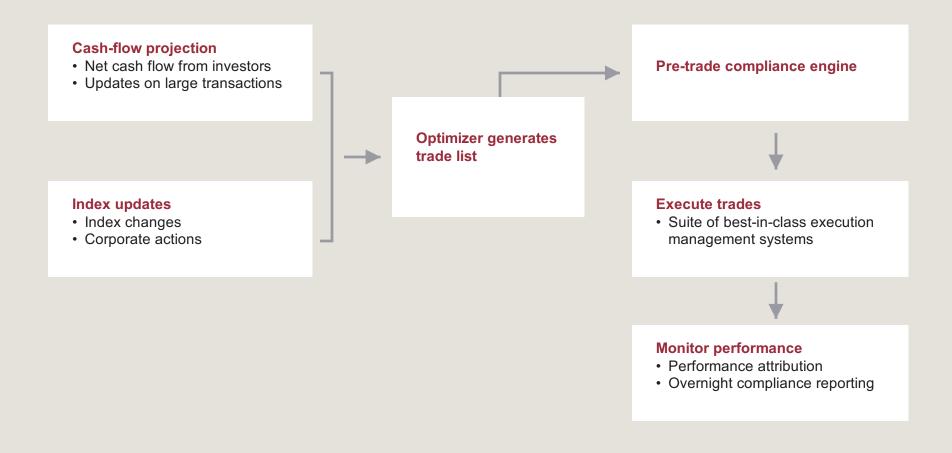
- · Portfolio manager.
- · Advised the fund since 2016.
- Worked in investment management since 2006.
- B.S., King's College.
- M.S., St. Joseph's University.

Source: Vanguard, as of September 30, 2016.

<sup>\*</sup> Asset-weighted expense ratio for all Vanguard equity index funds.

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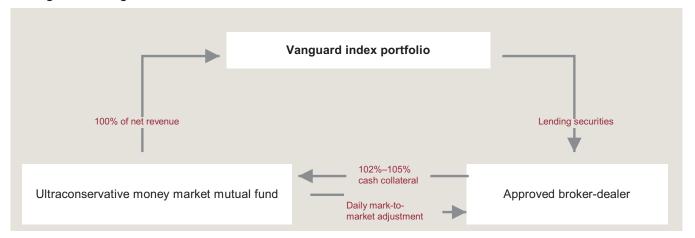


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The fund seeks to track its benchmark, but tracking differences can occur. The main sources of these differences are:

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- Vanguard operates a very conservative securities lending program
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## Index change management

- When index changes occur, Vanguard must make changes to the fund's holdings
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#### Use of futures

- Managers may invest in futures when the contract is trading at a discount to its theoretical fair value
- The funds maintain a full "cash" position equal to the notional amount of futures held in the portfolio at all times; no leverage is employed

# Vanguard Small-Cap Index Fund Portfolio

## **Equity characteristics**

	Small-Cap Index	CRSP US Small Cap Index
Number of stocks	1,437	1,427
Median market cap	\$3.3B	\$3.3B
P/E ratio (trailing earnings)	30.2x	30.3x
P/B ratio	2.4x	2.4x
Return on equity (5-year average)	10.9%	11.0%
Earnings growth rate (5-year)	9.3%	9.3%
Equity yield (dividend)	1.6%	1.6%
Foreign holdings	0.2%	_
Turnover (fiscal year end)	10.7%	_

## Ten largest holdings

	% of total net assets
Arthur J Gallagher & Co.	0.3%
Newfield Exploration Co.	0.3
Regency Centers Corp.	0.3
Westar Energy Inc.	0.3
Broadridge Financial Solutions Inc.	0.3
UGI Corp.	0.3
Targa Resources Corp.	0.3
Atmos Energy Corp.	0.3
Packaging Corp. of America	0.3
Valspar Corp.	0.3
Top ten as a % of total net assets	3.0%

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

# Vanguard Small-Cap Index Fund Portfolio

## Sector diversification as a % of common stock

Financials  Industrials	26.6% 19.2	26.7%
Industrials	19.2	10.1
industrials		19.1
Consumer Services	12.1	12.1
Technology	12.1	12.1
Health Care	9.9	9.9
Consumer Goods	7.1	7.1
Oil & Gas	4.8	4.8
Utilities	4.0	4.0
Basic Materials	3.8	3.8
Telecommunications	0.4	0.4

Sector categories are based on the Industry Classification Benchmark system.

# Vanguard Small-Cap Index Fund Performance

#### **Total Returns and Tracking difference**

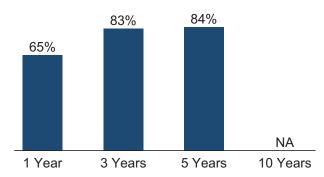
			Tracking difference			
	Small-Cap Index	Spliced Small-Cap Index	Return difference	Expense ratio	Residual error	
Periods ended September 30, 2016						
1 Year	14.99%	14.93%	0.06%	0.05%	0.11%	
3 Years	7.95	7.91	0.04	0.06	0.09	
5 Years	16.74	16.68	0.06	0.06	0.12	
Since Inception	* 11.21	11.15	0.06	0.05	0.11	
Calendar year performance						
2011	-2.65	-2.75	0.10	0.06	0.16	
2012	18.29	18.20	0.09	0.06	0.15	
2013	37.85	37.77	0.08	0.06	0.14	
2014	7.55	7.54	0.01	0.06	0.07	
2015	-3.62	-3.68	0.06	0.05	0.11	
Year to Date	11.52	11.47	0.05	0.04	0.09	
3rd Quarter	6.16	6.15	0.01	0.01	0.02	

<sup>\*</sup> Since fund's inception, December 17, 2010. Spliced Small-Cap Index: Russell 2000 Index through May 16, 2003; MSCI US Small Cap 1750 Index through January 30, 2013; CRSP US Small Cap Index thereafter.

Note: Except for the most recent quarter, the expense ratios presented are the funds' actual operating expenses and they exclude any acquired fees and expenses, which result from the funds' holdings in business development companies (BDCs). BDC expenses are not direct costs paid by fund shareholders and are not used to calculate the fund's net asset value.

#### Performance versus competitors

Percentage of Small-Cap Core Funds outperformed by Vanguard Small-Cap Index Fund Institutional Plus Shares



Source: Lipper, a Thomson Reuters Company. Based on total returns as of September 30, 2016. Number of funds in category: 1-year, 824; 3-year, 688; 5-year, 602.

Results will vary for other time periods.

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The CRSP US Small Cap Index returned 6.15% for the three-month period ended September 30. It surpassed its large-cap counterpart, the CRSP US Large Cap Index (4.04%).

The top contributors were technology (+13.9%), industrials (+7.3%), and financials (+4.6%).

Utilities (-5.5%) and telecommunications (-6.5%) detracted from performance.

For the 12-month period ended September 30, 2016, the CRSP US Small Cap Index returned 14.93%. All sectors added to results. The largest contributors were industrials (+22.3%), financials (+14.8%), and technology (+20.1%).

## Important information

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Investments in Target Retirement Funds are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund would retire and leave the workforce. The fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in the Target Retirement Fund is not guaranteed at any time, including on or after the target date.

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