

Prepared for

# Community Foundation for Muskegon County

*Serving the Community Foundations of Muskegon,  
Mason, and Oceana Counties*

Portfolio review

April 25, 2017



**Vanguard**

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# Agenda

- I. Market and economic review and portfolio performance
- II. Risk/return analysis

## Presented by:

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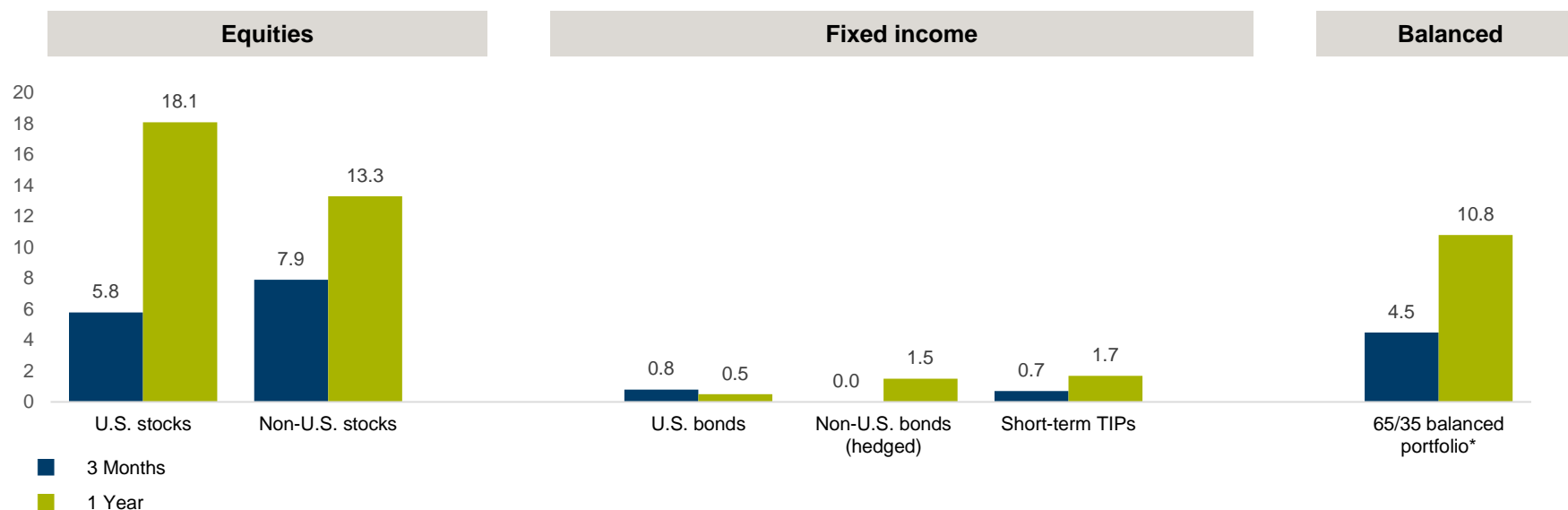
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Senior Investment Consultant  
Vanguard Institutional Advisory Services®

# Market and economic review and portfolio performance

## Global equities start new year by extending gains, bonds are less positive

- U.S. equities rallied on higher growth forecasts following the U.S. presidential election, and have posted healthy returns over the past 3 and 12 months
- International equities have outperformed U.S. equities over the last 3 months while trailing over the last 12 months
- Global fixed income posted slightly positive returns in the last 3 months as interest rates primarily held steady across the curve

### Global market returns as of March 31, 2017 (%)



**Past performance is no 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.**

Sources: Barclays, FTSE, MSCI, Russell, and Dow Jones.

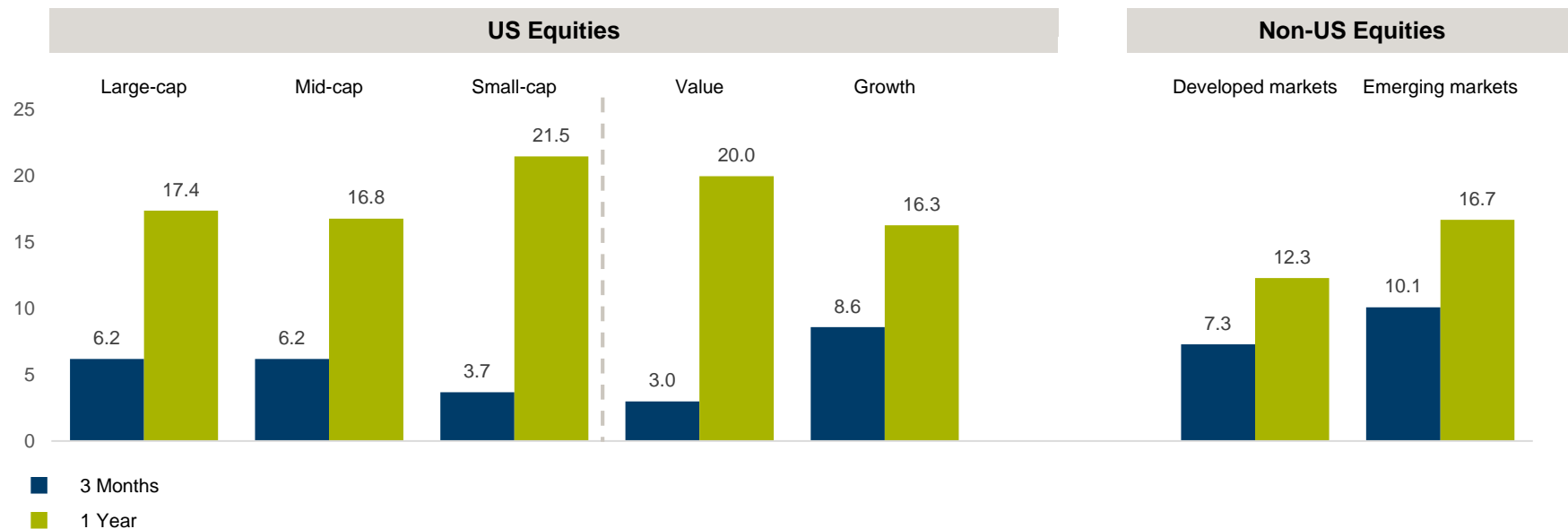
US Stocks (CRSP US Total Market Index), Non-US Stocks (FTSE Global All-Cap ex-US Index), US Bonds (Barclays US Aggregate Float Adjusted Index), Non-US Bonds hedged (Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index hedged), Short-term TIPS (Barclays US 0-5 Year TIPS Index).

\* 65/35 balanced portfolio Static Composite (39% U.S. stocks, 26% International stocks, and 24.5% Investment-grade U.S. bonds, 10.5% Investment-grade international bonds).

## Positive global equity returns across market capitalizations and styles

- Small cap stocks delivered the strongest 12 month returns in the U.S., while all market caps posted positive returns for the 3 and 12 months
- U.S. value stocks- led by financials, industrials and materials- outperformed growth stocks for the last 12 months, but growth stocks rallied over the past 3 months with strong IT and Healthcare performance
- International equities have had a positive year for both developed and emerging markets investors

### Global equity market returns as of March 31, 2017 (%)



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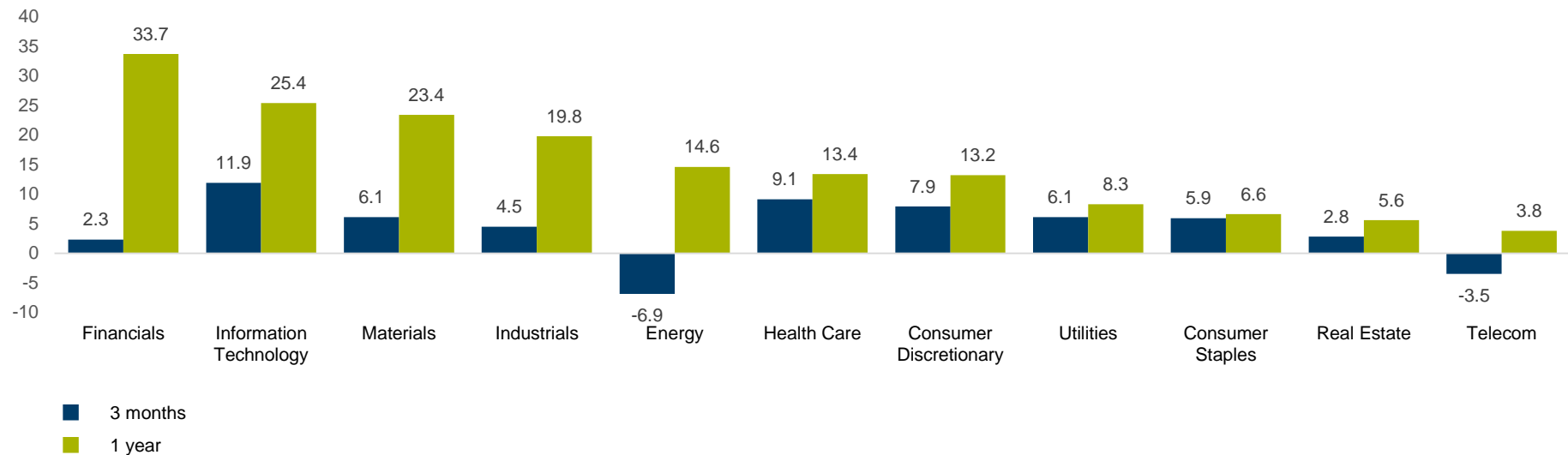
Sources: Barclays, FTSE, MSCI, Russell, and Dow Jones.

Large-cap (CRSP US Large Cap Index), Mid-cap (CRSP US Mid Cap Index), Small-cap (CRSP US Small Cap Index); Value (Russell 3000 Value Index), Growth (Russell 3000 Growth Index); Developed markets (FTSE Developed All Cap ex-US Index), Emerging markets (FTSE Emerging Index)

## U.S. sector performance – all sectors advance during past 12 months

- All 11 sectors posted positive returns over the last 12 months; Financials have been particularly strong following the U.S. election based on the possibility of higher interest rates
- Growth sectors (IT, Health Care and Consumer Discretionary) posted strong returns in the first quarter of 2017

### U.S. equity sector returns as of March 31, 2017 (%)



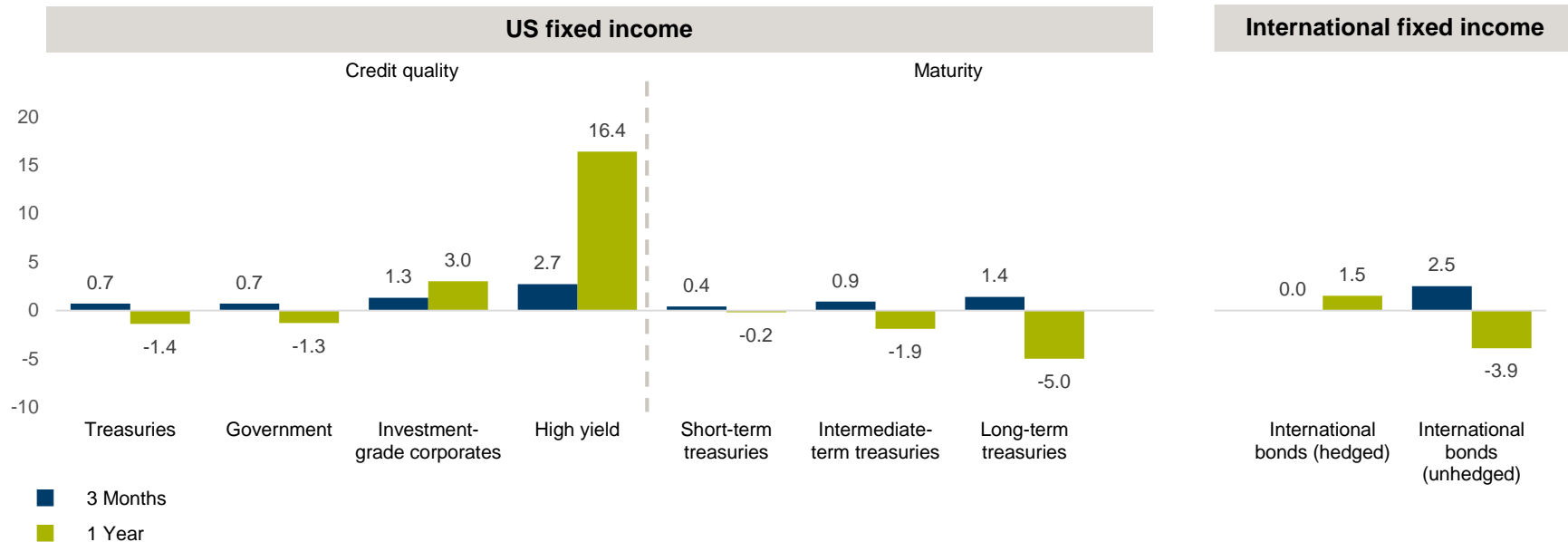
**Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.**

Sources: FactSet and Vanguard.  
 U.S. markets measured by CRSP US Total Market Index, and international markets represented by FTSE All-Cap ex US Index. Past performance is no guarantee of future returns.

## Global bond returns steadied over the last 3 months

- Higher growth and inflation expectations pushed global yields up in the fourth-quarter 2016, however bond returns are beginning to rebound with steadier yields over the last 3 months
- U.S. investment-grade corporates have shown resilience and high yield continues to be an outlier in the fixed income space, demonstrating its stronger correlation with equities
- Hedged international bonds have remained in low positive territory over this period, with unhedged international bonds displaying more return volatility due to currency fluctuations

### Global fixed income market returns as of March 31, 2017 (%)



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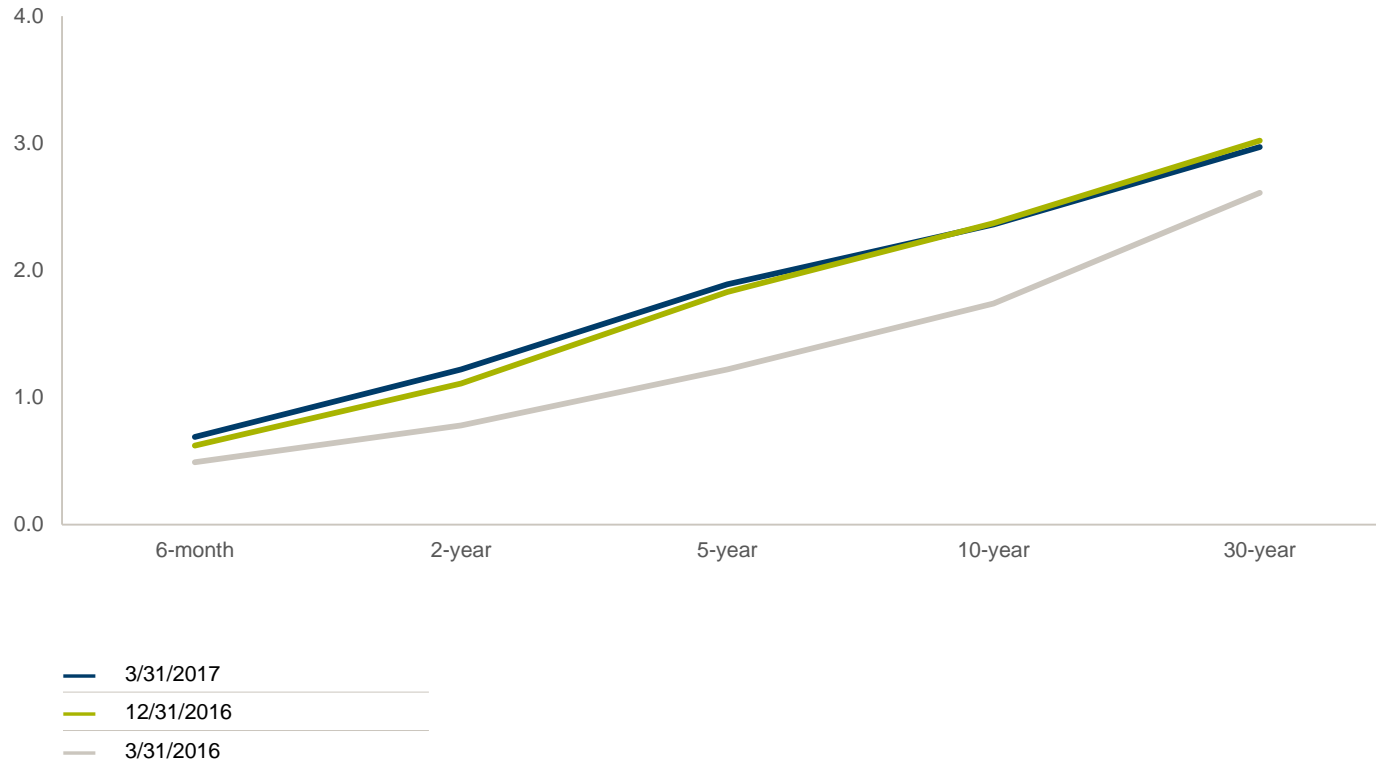
Sources: Barclays, FTSE, MSCI, Russell, and Dow Jones.

Treasuries-Government-Investment Grade Corporates-High Yield (Barclays US Treasury/Government/Credit/Corporate High Yield Indices); Short-Inter-Long-term Treasuries (Barclays US 1-5/5-10/Long Year Treasury Indices)

International Bonds Hedged (Barclays Global Aggregate ex-USD Float Adj. RIC Cap Index hedged) Unhedged (Barclays Global Aggregate ex-USD Index)

## U.S. Treasury yield curve – Yields moved higher following U.S. election result

Yield (%) and change (bps)	6 month	2 year	5 year	10 year	30 year
<b>Current Yield (%)</b>	<b>0.91</b>	<b>1.27</b>	<b>1.93</b>	<b>2.40</b>	<b>3.02</b>
3 Mo. $\Delta$	29	7	0	-5	-4
12 Mo. $\Delta$	52	54	72	62	41



## Market leadership changes

- The positions of the various asset classes change meaningfully over the last 10-years, which points to the value of diversification
- Emerging markets equities appeared at both the top and bottom multiple times, demonstrating the relatively high volatility level of single asset classes
- The balanced portfolio generally falls near the middle, demonstrating the volatility dampening effect of high-grade fixed income

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10-Year Average
Emg	41.7	5.7	85.2	28.5	8.7	18.1	38.8	30.4	5.1	21.3	8.3
Dev	12.9	5.2	58.2	26.9	7.8	17.8	34.2	13.2	2.5	18.4	7.5
Grw	11.4	1.8	37.0	19.8	5.0	17.5	33.1	12.7	1.4	17.1	7.1
Cmd	11.1	-23.3	36.7	17.6	3.9	17.4	32.7	12.4	0.9	12.1	7.1
Bal	8.9	-24.6	28.6	16.7	2.2	16.4	20.5	8.8	0.5	11.4	5.8
Bnd	7.0	-26.2	28.4	16.2	1.5	16.4	16.8	6.4	0.0	10.3	5.4
Lrg	5.8	-33.8	27.2	16.1	0.1	15.8	7.4	6.0	-0.6	8.6	5.0
T-Bill	4.7	-36.3	24.7	15.1	-0.1	15.2	6.7	4.9	-1.8	7.4	4.4
IB	4.3	-36.6	19.8	12.1	-0.9	12.7	2.5	2.6	-3.6	7.3	4.3
HF	4.2	-37.6	18.7	11.2	-4.2	6.5	1.2	2.5	-4.1	4.9	2.6
HY	1.9	-38.0	13.4	6.5	-8.9	4.2	0.1	0.0	-4.4	3.1	1.4
Val	-1.0	-38.4	5.9	5.2	-12.7	3.5	-2.0	-0.6	-4.5	2.6	0.7
Sml	-1.6	-44.2	4.4	3.3	-13.4	0.1	-3.2	-4.4	-13.5	2.5	-0.6
REIT	-16.8	-54.2	0.2	0.1	-20.0	-1.1	-9.6	-17.0	-24.7	0.3	-6.2

Val	Value oriented U.S. based stocks (Russell 3000 Value Index)
Grw	Growth oriented U.S. based stocks (Russell 3000 Growth Index)
Lrg	Large U.S. based stocks (Russell 1000 Index)
Sml	Small U.S. based stocks (Russell 2000 Index)
Dev	International stocks from developed countries (FTSE Developed All Cap ex US Index)
Emg	International stocks from emerging countries (FTSE Emerging ACap CN A Inclus Idx)
Bnd	Investment-grade U.S. bonds (BloomBarc US Aggregate Bond Index)
HY	High-yield U.S. bonds (BloomBarc US Corp High Yield Index)
IB	Investment-grade international bonds (BloomBarc GA ex-USD Index Hedged)
T-Bill	Short-term Treasury rates (Citigroup 3-Month US T-Bill Index)
REIT	U.S. public equity real estate (REIT) (MSCI US REIT Index)
Cmd	Commodities (Bloomberg Commodity Index)
HFI	Hedge funds (HFRX Global Hedge Fund Index*)
Bal	Balanced Static Composite (39% U.S. stocks**, 26% Int'l stocks†, 24.5% Invest-grade U.S. bonds††, 10.5% Invest-grade Int'l bonds††)

Past performance is no 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.

Source: Vanguard. Last observation: December 31, 2016; 10-year average performance from December 31, 2007 through December 31, 2016.

\* Source: Hedge Fund Research, Inc.

\*\* U.S. stocks: MSCI US Broad Market Index.

† International Stocks: FTSE Global All Cap ex-US Index.

†† Bonds: BloomBarc US Aggregate Bond Index and BloomBarc GA ex-USD Index Hedged.

# COMMUNITY FOUNDATION FOR MUSKEGON COUNTY

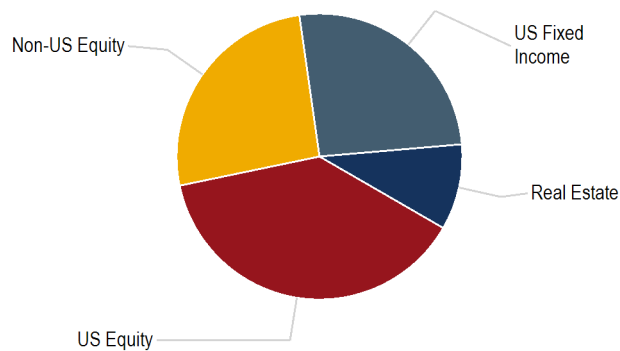
## Total Portfolio Performance & Asset Allocation

### Performance Summary

	Market Value (\$)	Ending March 31, 2017						Inception	
		1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
<b>COMMUNITY FOUNDATION FOR MUSKEGON COUNTY (Gross)</b>	<b>163,869,007</b>	<b>0.50</b>	<b>4.67</b>	<b>10.57</b>	--	--	--	<b>5.71</b>	<b>Apr-14</b>
<b>COMMUNITY FOUNDATION FOR MUSKEGON COUNTY (Net)</b>		<b>0.50</b>	<b>4.66</b>	<b>10.53</b>	--	--	--	<b>5.67</b>	
0JABQX Composite Benchmark		0.36	4.32	10.10	--	--	--	5.61	Apr-14

- 0JABQX Composite Benchmark = 10% REIT Spliced Index / 30% Spliced BBgBarc USAgg Float Adj Ix / 24% Spl Total International Stock Index / 36% Spliced Total Stock Market Index

### Current Allocation as of March 31, 2017



	Current	%	Policy	Difference*
US Equity	\$62,975,582	38.4%	36.0%	2.4%
Non-US Equity	\$42,558,961	26.0%	24.0%	2.0%
US Fixed Income	\$42,423,588	25.9%	30.0%	-4.1%
Real Estate	\$15,910,876	9.7%	10.0%	-0.3%
<b>Total</b>	<b>\$163,869,007</b>	<b>100.0%</b>	<b>100.0%</b>	

\*Difference between Policy and Current Allocation

COMMUNITY FOUNDATION FOR MUSKEGON COUNTY

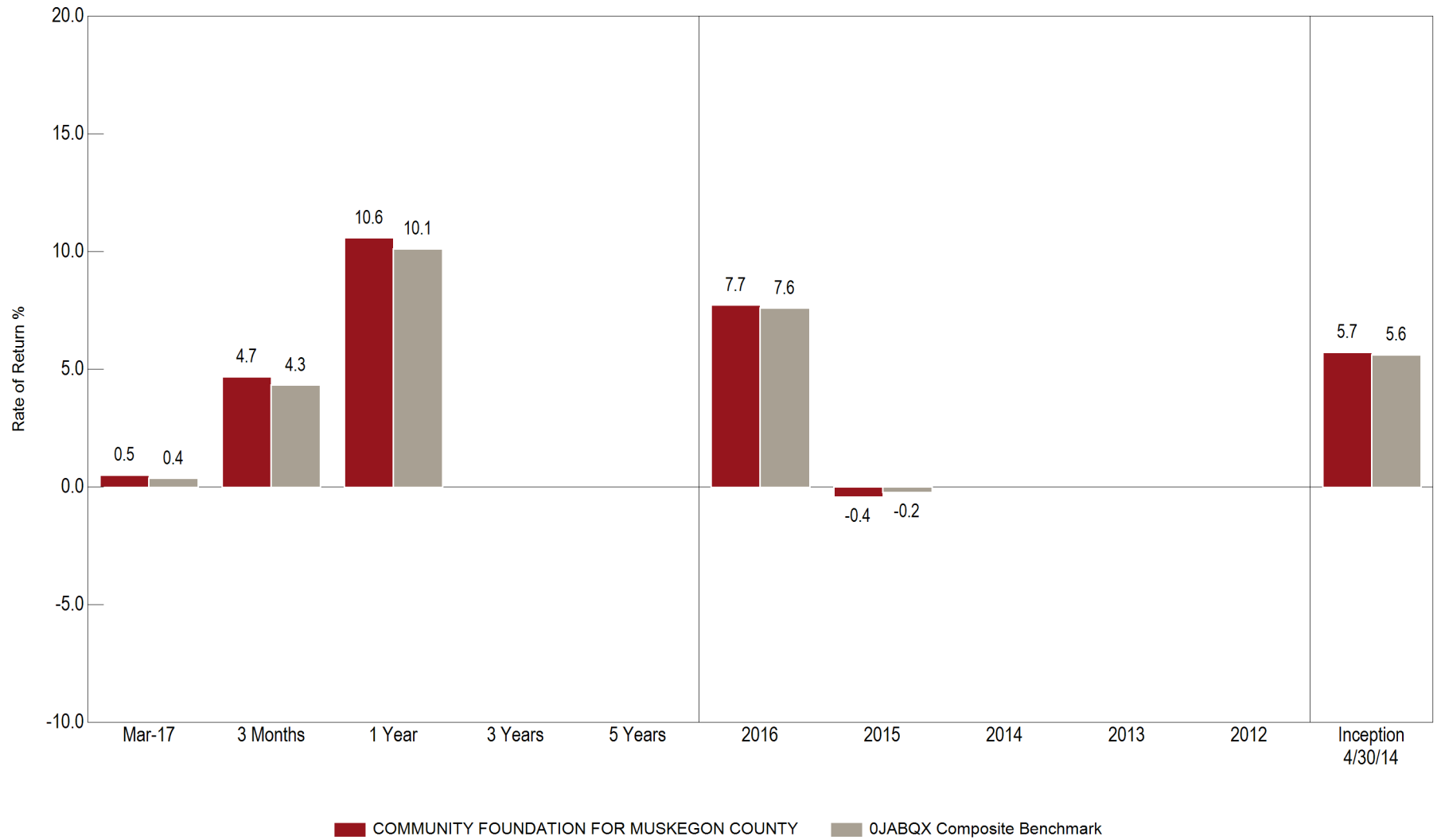
Performance Summary (Gross of Fees)

			Ending March 31, 2017						Inception	
	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
<b>COMMUNITY FOUNDATION FOR MUSKEGON COUNTY</b>	<b>163,869,007</b>	<b>100.00</b>	<b>0.50</b>	<b>4.67</b>	<b>10.57</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5.71</b>	<b>Apr-14</b>
OJABQX Composite Benchmark			0.36	4.32	10.10	--	--	--	5.61	Apr-14
<b>Total Equity</b>	<b>105,534,542</b>	<b>64.40</b>	<b>1.18</b>	<b>6.84</b>	<b>16.36</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>6.28</b>	<b>Apr-14</b>
<b>Equity Domestic</b>	<b>62,975,582</b>	<b>38.43</b>	<b>0.08</b>	<b>5.80</b>	<b>18.10</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>9.99</b>	<b>Apr-14</b>
Spliced Total Stock Market Index			0.08	5.79	18.09	9.71	13.15	7.69	9.98	Apr-14
Vanguard® Total Stock Market Index Fund Institutional Shares	62,975,582	38.43	0.08	5.79	18.08	9.71	13.14	7.70	9.98	Apr-14
Spliced Total Stock Market Index			0.08	5.79	18.09	9.71	13.15	7.69	9.98	Apr-14
Multi-Cap Core Funds Average			0.09	5.46	15.72	6.90	10.94	5.91	7.23	Apr-14
<b>Equity International</b>	<b>42,558,961</b>	<b>25.97</b>	<b>2.84</b>	<b>8.46</b>	<b>13.73</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.71</b>	<b>Apr-14</b>
Spl Total International Stock Index			2.46	7.90	13.32	1.16	4.87	1.38	0.80	Apr-14
Vanguard® Total International Stock Index Fund Inst Shares	42,558,961	25.97	2.83	8.46	13.73	1.11	4.85	1.37	0.70	Apr-14
Spl Total International Stock Index			2.46	7.90	13.32	1.16	4.87	1.38	0.80	Apr-14
International Funds Average			3.04	7.97	10.43	0.44	5.05	0.97	0.20	Apr-14
<b>Total Fixed Income</b>	<b>42,423,588</b>	<b>25.89</b>	<b>-0.06</b>	<b>0.91</b>	<b>0.44</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.37</b>	<b>Apr-14</b>
<b>Fixed Income Domestic</b>	<b>42,423,588</b>	<b>25.89</b>	<b>-0.06</b>	<b>0.91</b>	<b>0.44</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.37</b>	<b>Apr-14</b>
Spliced BBgBarc USAgg Float Adj Ix			-0.06	0.85	0.49	2.65	2.35	4.29	2.44	Apr-14
Vanguard® Total Bond Market Index Fund Institutional Shares	42,423,588	25.89	-0.06	0.91	0.44	2.61	2.28	4.26	2.41	Apr-14
Spliced BBgBarc USAgg Float Adj Ix			-0.06	0.85	0.49	2.65	2.35	4.29	2.44	Apr-14
Spl Interm Inv-Grade Debt Funds Avg			-0.05	0.95	1.30	2.36	2.49	3.78	2.15	Apr-14
<b>Total Real Estate</b>	<b>15,910,876</b>	<b>9.71</b>	<b>-2.39</b>	<b>0.95</b>	<b>3.08</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>9.01</b>	<b>Apr-14</b>
<b>Real Estate Domestic</b>	<b>15,910,876</b>	<b>9.71</b>	<b>-2.39</b>	<b>0.95</b>	<b>3.08</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>9.01</b>	<b>Apr-14</b>
REIT Spliced Index			-2.37	0.99	3.17	10.05	9.82	4.95	9.12	Apr-14
Vanguard® REIT Index Fund Institutional Shares	15,910,876	9.71	-2.39	0.96	3.09	9.96	9.75	5.00	9.02	Apr-14
REIT Spliced Index			-2.37	0.99	3.17	10.05	9.82	4.95	9.12	Apr-14
Real Estate Funds Average			-2.04	0.99	3.31	8.90	8.79	3.70	8.08	Apr-14

COMMUNITY FOUNDATION FOR MUSKEGON COUNTY

Total Portfolio Performance (Gross of Fees)

as of March 31, 2017



COMMUNITY FOUNDATION FOR MUSKEGON COUNTY

Investment Expense Analysis

As Of March 31, 2017

Name	Market Value	% of Portfolio	Expense Ratio
<b>Total Equity</b>	<b>\$105,534,542</b>	<b>64.4%</b>	
<b>Equity Domestic</b>	<b>\$62,975,582</b>	<b>38.4%</b>	
Vanguard® Total Stock Market Index Fund Institutional Shares	\$62,975,582	38.4%	0.04%
<b>Equity International</b>	<b>\$42,558,961</b>	<b>26.0%</b>	
Vanguard® Total International Stock Index Fund Inst Shares	\$42,558,961	26.0%	0.09%
<b>Total Fixed Income</b>	<b>\$42,423,588</b>	<b>25.9%</b>	
<b>Fixed Income Domestic</b>	<b>\$42,423,588</b>	<b>25.9%</b>	
Vanguard® Total Bond Market Index Fund Institutional Shares	\$42,423,588	25.9%	0.05%
<b>Total Real Estate</b>	<b>\$15,910,876</b>	<b>9.7%</b>	
<b>Real Estate Domestic</b>	<b>\$15,910,876</b>	<b>9.7%</b>	
Vanguard® REIT Index Fund Institutional Shares	\$15,910,876	9.7%	0.10%
<b>Total</b>	<b>\$163,869,007</b>	<b>100.0%</b>	<b>0.06%</b>

## Asset allocation summary of CFMC VIAS composite portfolio As of March 31, 2017

Investment	Market value as of March 31, 2017	Target allocation	Actual weight	Variance
<b>Domestic equity</b>				
Total Stock Market Index Fund Institutional Shares	\$62,975,582	36.0%	37.0%	1.0%
<i>Domestic equity subtotal</i>	\$62,975,582	36.0%	37.0%	1.0%
<b>International equity</b>				
Total International Stock Index Fund Institutional Shares	\$42,558,961	24.0%	25.0%	1.0%
<i>International equity subtotal</i>	\$42,558,961	24.0%	25.0%	1.0%
<b>Fixed income</b>				
Total Bond Market Index Fund Institutional Shares	\$42,423,588			
Total Bond Market Admiral™ (held at PNC in pledge)*	\$2,305,732	30.0%	28.6%	-1.4%
Total Bond Market ETF (held at PNC in pledge)*	\$4,004,088			
<i>Fixed income subtotal</i>	\$48,733,408	30.0%	28.6%	-1.4%
<b>Other investments</b>				
REIT Index Fund	\$15,910,876	10.0%	9.3%	-0.7%
Cash (held at PNC in pledge)*	\$15	0.0%	0.0%	0.0%
<i>Other investments subtotal</i>	\$15,910,891	10.0%	9.3%	-0.7%
<b>Total portfolio</b>	<b>\$170,178,842</b>	<b>100.0%</b>	<b>100.0%</b>	

\* Values reported by Community Foundation for Muskegon County staff.

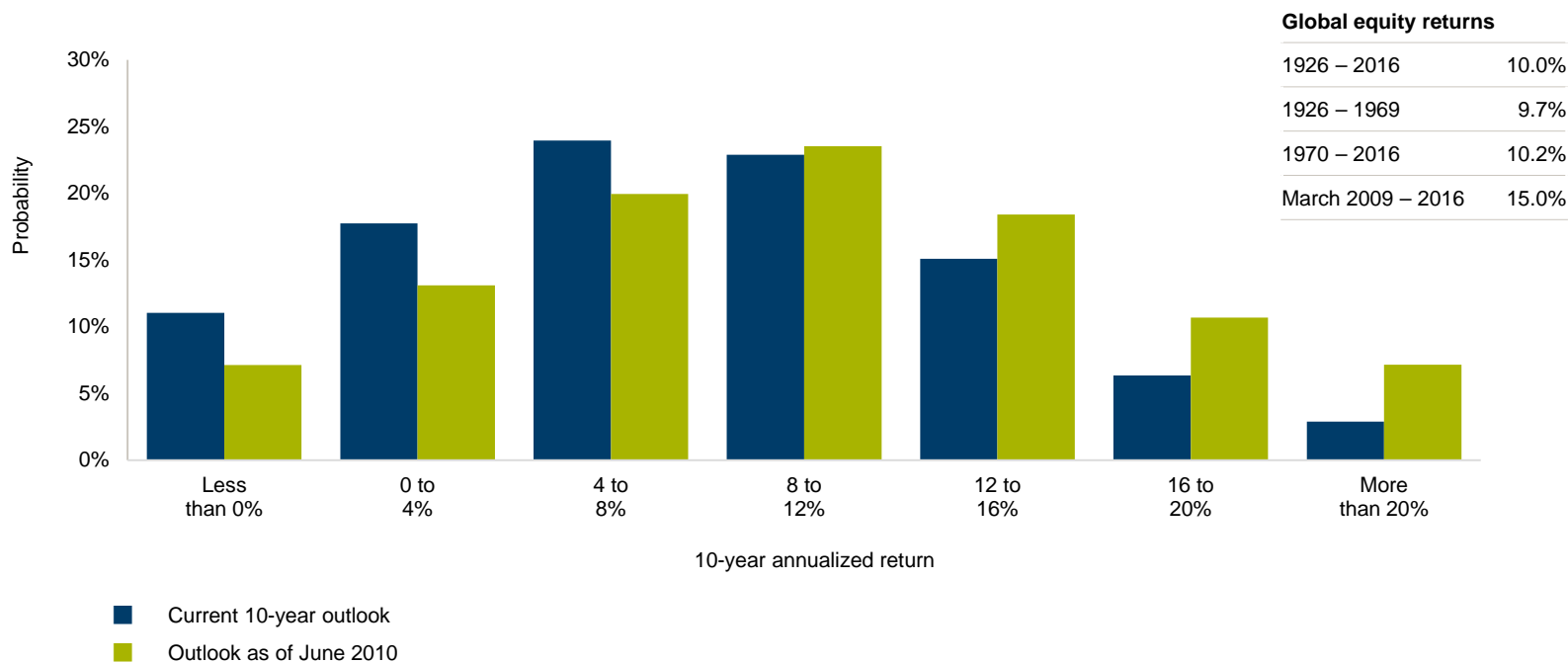
## Broad strokes

1. **Growth:** Growth will stabilize at lower trend, driven by structural forces. This is not stagnation, but a reflection of fundamentals including technology, demographics, and globalization.
2. **Inflation:** Ever-tightening labor markets, particularly in U.S., should place modest upward pressure on otherwise low inflation. Central banks will continue to struggle to meet 2% targets.
3. **Policy and interest rates:** European Central Bank and Bank of Japan may not raise rates this decade, but monetary policy is reaching its limits. This will contribute to the gradual nature of Fed's normalization. We view low-rate environment as secular, not temporary. Fiscal support likely in the years ahead, but this will not be a panacea.
4. **Global Asset Returns:** A guarded view given global crosscurrents of low yields and equity valuations. Principles of portfolio construction remain unchanged. 10-year expected returns for balanced portfolios lower than historical averages, with shorter-term expectations even lower. The next five years will not look like the last five.

## Projected global equity ten-year return outlook

VCMM-simulated distribution of expected average annualized nominal return of global equity market as of June 2010 and September 2016

### Global equity 60% US / 40% Global Ex US



**IMPORTANT: The projections or other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for global equity returns in USD. Simulations are as of September 30, 2016. Results from the model may vary with each use and over time. For more information, please see the important information slide.**

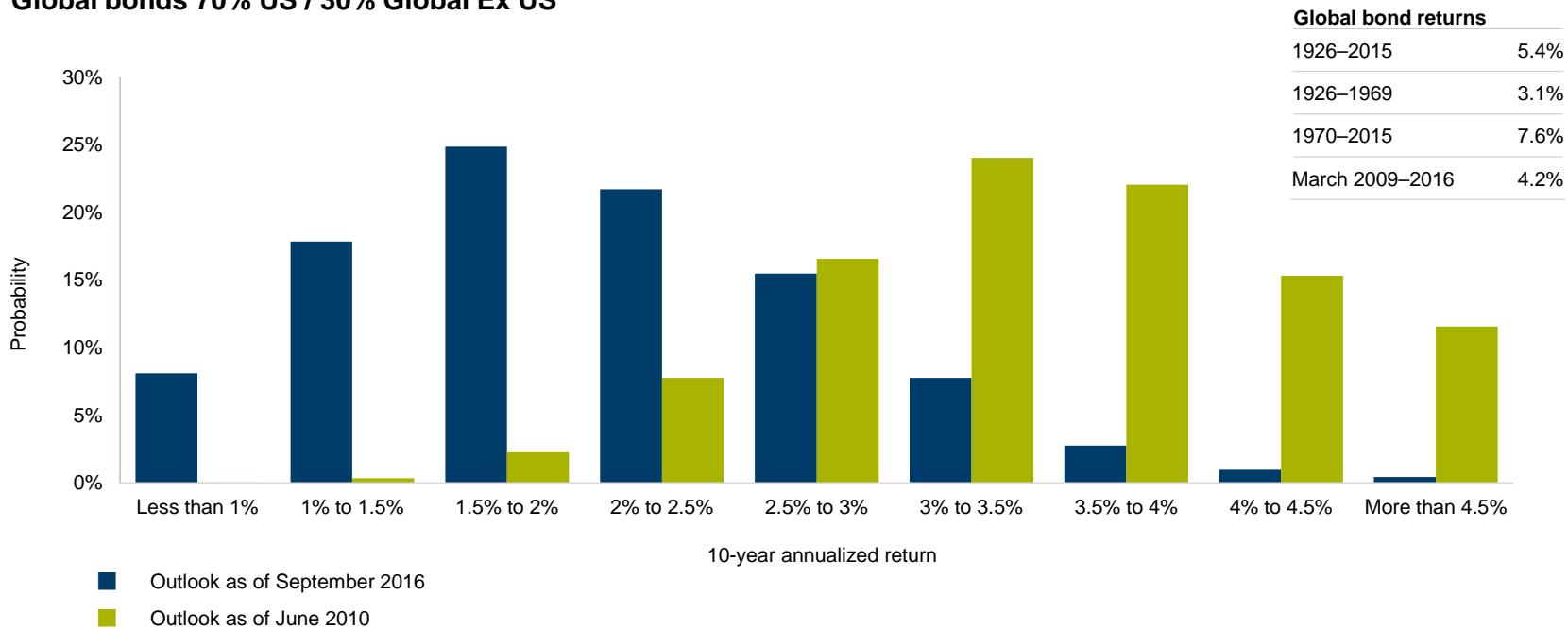
Sources: Vanguard.

Notes: Figure displays projected range of potential returns for portfolios of 60% U.S./40% ex-U.S. equities unhedged in USD, rebalanced annually. For details on benchmarks used for historical returns, see "Indexes used in our historical calculations," on page 5 of 2017 economic and market outlook: Stabilization, not stagnation (Davis et. al 2016).

## Projected global fixed income ten-year return outlook

VCMM-simulated distribution of expected average annualized nominal return of total fixed income market as of June 2010 and September 2016

### Global bonds 70% US / 30% Global Ex US



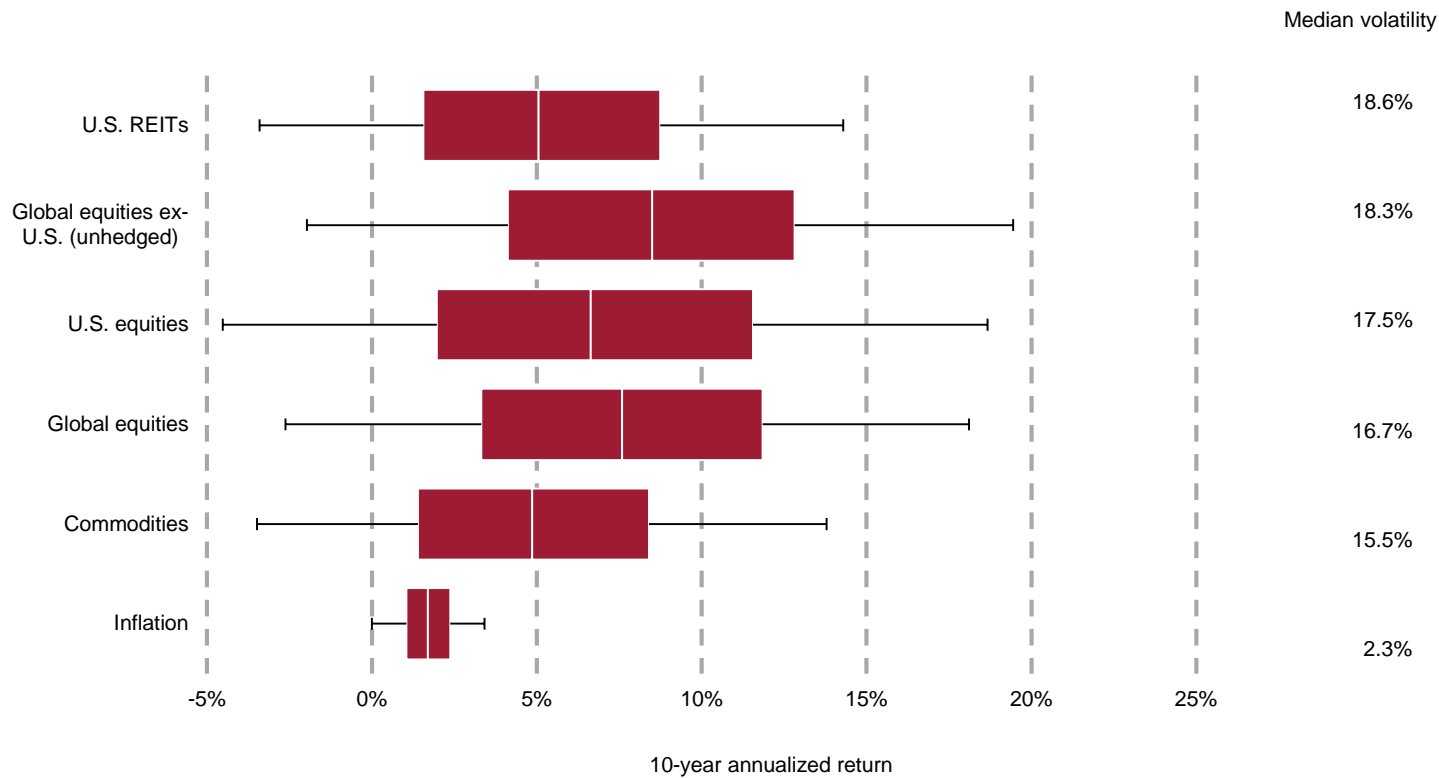
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Sources: Vanguard.

Notes: Figure displays projected range of potential returns for portfolios of 70% U.S./30% ex-U.S. equities unhedged in USD, rebalanced annually. For details on benchmarks used for historical returns, see "Indexes used in our historical calculations," on page 5 of 2017 economic and market outlook: Stabilization, not stagnation (Davis et. al 2016).

# Equity market ten-year return outlook: Setting reasonable expectations, being aware of widely dispersed potential returns

## Return outlook as of September 2016



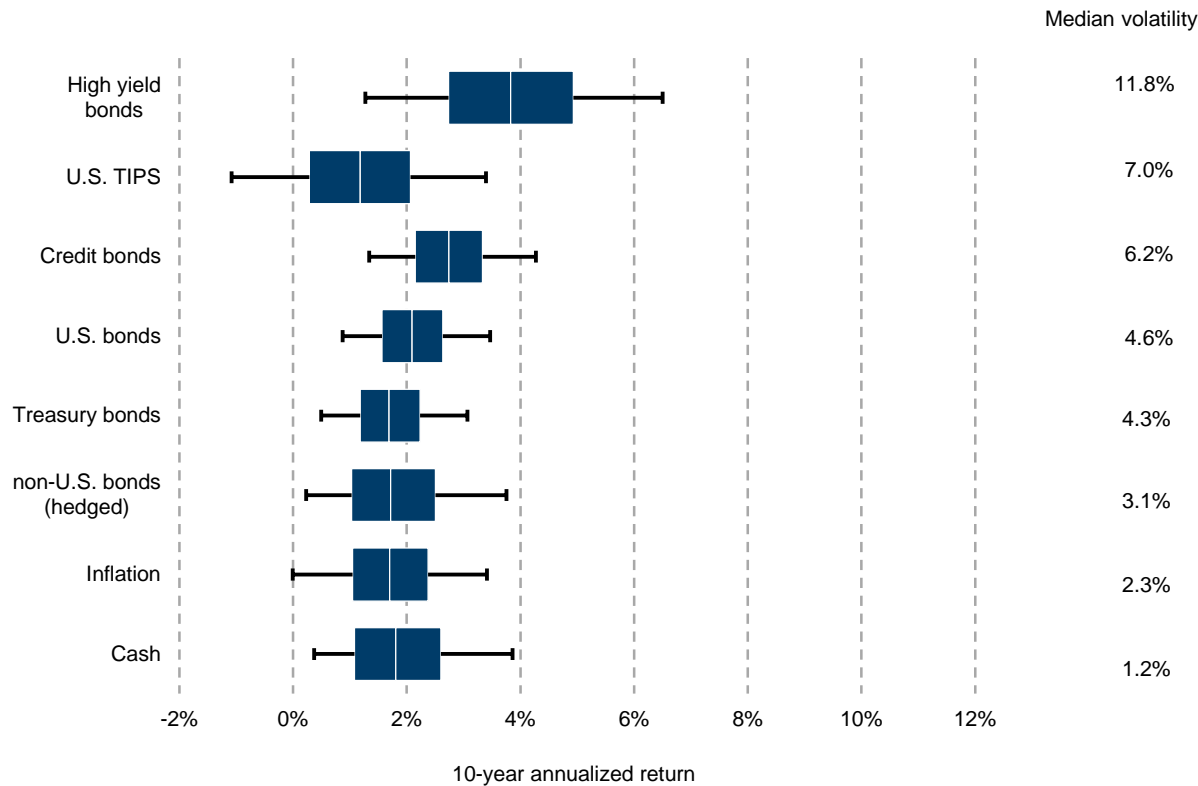
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Sources: Vanguard.

Notes: Forecast corresponds to distribution of 10,000 VCMM simulations for ten-year annualized nominal returns as of September 30, 2016 in USD for asset classes highlighted here. For details, see 'Vanguard's economic and investment outlook' (Davis et al. 2016).

## Bond market ten-year return outlook: Setting reasonable expectations

### Return outlook as of September 2016



**IMPORTANT: The projections or other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for USD denominated fixed income categories. Simulations are as of September 30, 2016. Results from the model may vary with each use and over time. For more information, please see the important information slide.**

Sources: Vanguard.

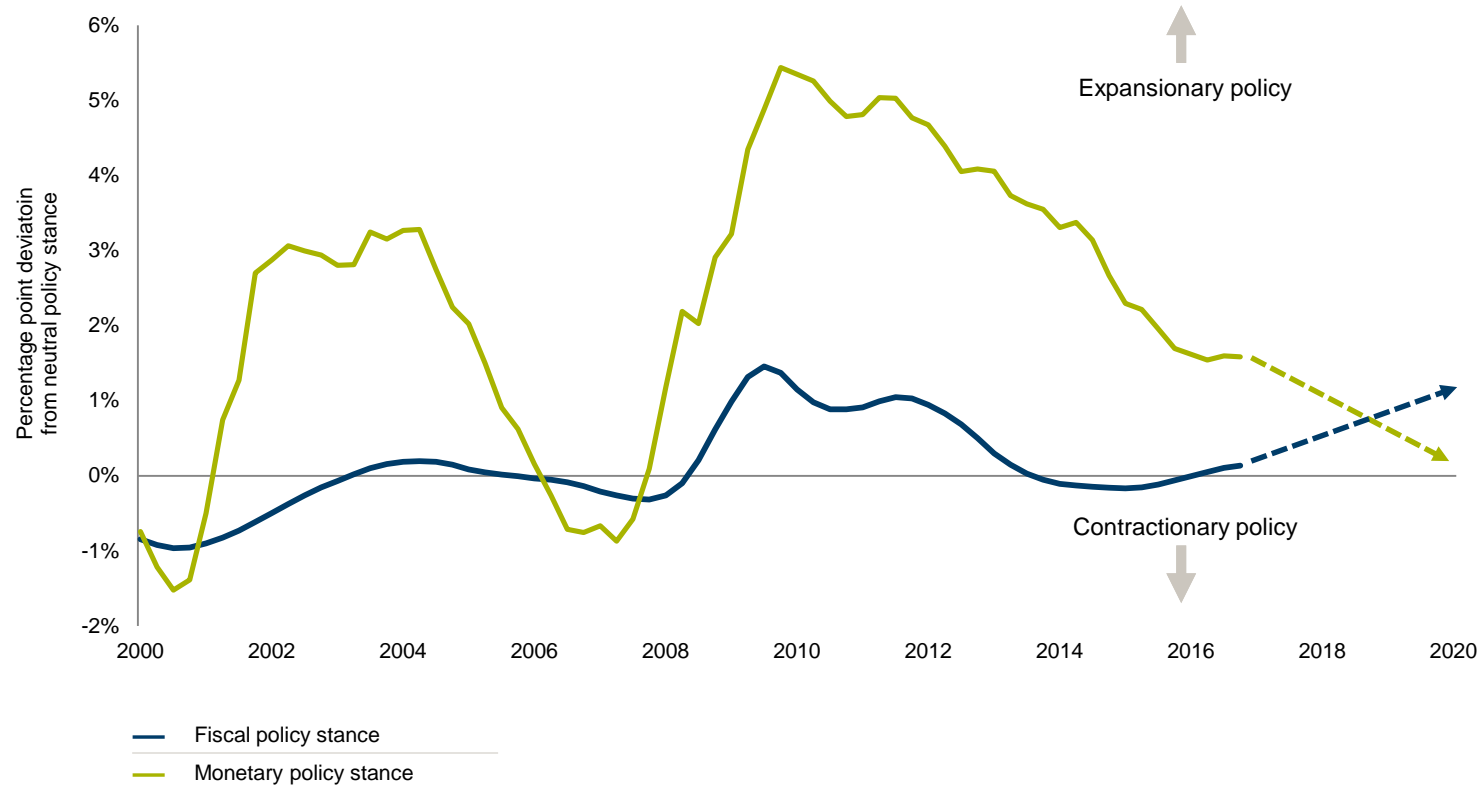
Notes: Forecast corresponds to distribution of 10,000 VCMM simulations for ten-year annualized nominal returns as of September 30, 2016 in USD for asset classes highlighted here. For details, see 2017 economic and market outlook: Stabilization, not stagnation (Davis et. al 2016). Median volatility is the 50th percentile of an asset class's distribution of annualized standard deviation of returns.

## Themes and outlook

	Global	U.S.	Europe	Asia
<b>Growth</b>	<ul style="list-style-type: none"> <li>• <i>Stabilization, not stagnation</i></li> <li>• Global growth forecasts have been downgraded for at least 5 consecutive years. We believe risks to the outlook are more balanced this year</li> <li>• Low-growth world in the midst of <i>structural convergence</i>, not more dire secular stagnation</li> </ul>	<ul style="list-style-type: none"> <li>• Growth of ~2.5% aided by rebound in labor productivity as job growth slows. Our outlook at the lower end of consensus. Job growth should fall below 150k</li> </ul>	<ul style="list-style-type: none"> <li>• Euro area and UK growth resilient in the face of Brexit at 1.6% and 1.5%, respectively in 2017, above consensus of 1.4% and 1.2%</li> <li>• Heightened uncertainty weighing on sentiment in near term</li> <li>• Slowdown in the speed of fiscal tightening a positive for growth</li> </ul>	<ul style="list-style-type: none"> <li>• China: Although official growth target likely to hover around 6-7%, our proprietary indicators point to “real-feel” growth of closer to 5%. Hard landing not our base case.</li> <li>• Japan: magnitude of cyclical recovery limited by structural headwinds. No progress on Abenomics’ “Third Arrow”</li> </ul>
<b>Inflation</b>	<ul style="list-style-type: none"> <li>• Secular deflationary forces persist, though headwinds are fading</li> <li>• Many central banks will continue to struggle to persistently meet 2% targets</li> </ul>	<ul style="list-style-type: none"> <li>• Core inflation should continue trending towards 2% target and may push above for short periods</li> <li>• Measures of wage growth have been rising and may continue doing so, aided by productivity gains</li> </ul>	<ul style="list-style-type: none"> <li>• Inflation outlook improving on QE-induced Euro weakness. 2017 inflation will recover towards trend but remain below target by 2018 due to excess capacity</li> <li>• Sterling depreciation will lead to inflation increase. Inflation overshooting target in 2017-18</li> </ul>	<ul style="list-style-type: none"> <li>• Japan: Abenomics goal of 2% put off and additional easing not expected to boost falling inflation enough to hit target</li> <li>• Monetary easing not having desired effect on nominal wage growth either</li> </ul>
<b>Monetary policy &amp; interest rates</b>	<ul style="list-style-type: none"> <li>• “Convergent” monetary policies: ECB and BoJ may not raise rates this decade, keeping Fed anchored.</li> <li>• Fiscal policy will help carry the burden of policy support</li> <li>• We view low-rate environment as secular, not temporary</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dovish tightening</i>, 1.5% at year-end 2017, but unlikely to push above 2% in 2018</li> <li>• 10Y Treasury fair value ~2.5%</li> </ul>	<ul style="list-style-type: none"> <li>• Further tapering of ECB asset purchase program possible in 2018. Rates on hold for foreseeable future, though limits of policy becoming apparent</li> <li>• Chances of monetary tightening or loosening in UK broadly balanced in 2017</li> </ul>	<ul style="list-style-type: none"> <li>• PBoC: Further monetary easing likely. Monetary policy constrained by capital outflows</li> <li>• Japan: QQE will continue, although time will be taken to assess impacts of negative rates</li> </ul>
	<b>Balanced</b>	<b>Equities</b>	<b>Bonds</b>	
<b>Asset returns (Global)</b>	<ul style="list-style-type: none"> <li>• A guarded view given global crosscurrents of low yields and equity valuations</li> <li>• 10-year expected returns for balanced portfolios lower than historical averages. In some ways, the next 5 years may prove more challenging than the previous five. Principles of portfolio construction remain unchanged</li> </ul>	<ul style="list-style-type: none"> <li>• In spite of high valuations, long-term outlook is not bearish when adjusted for the low-rate environment. This, of course, does not preclude a bear market</li> <li>• Outlook for global equity risk premium remains decent over long run</li> </ul>	<ul style="list-style-type: none"> <li>• Despite potential for yield volatility in near term, the low-rate environment will persist long term; we still see credit risk (i.e., recession) as higher than duration risk (i.e., rapid rise in interest rates)</li> <li>• Bond returns likely to be muted; central tendency of 1.5–3% nominal annualized over 10 years</li> </ul>	

## Time to pass the baton of policy support

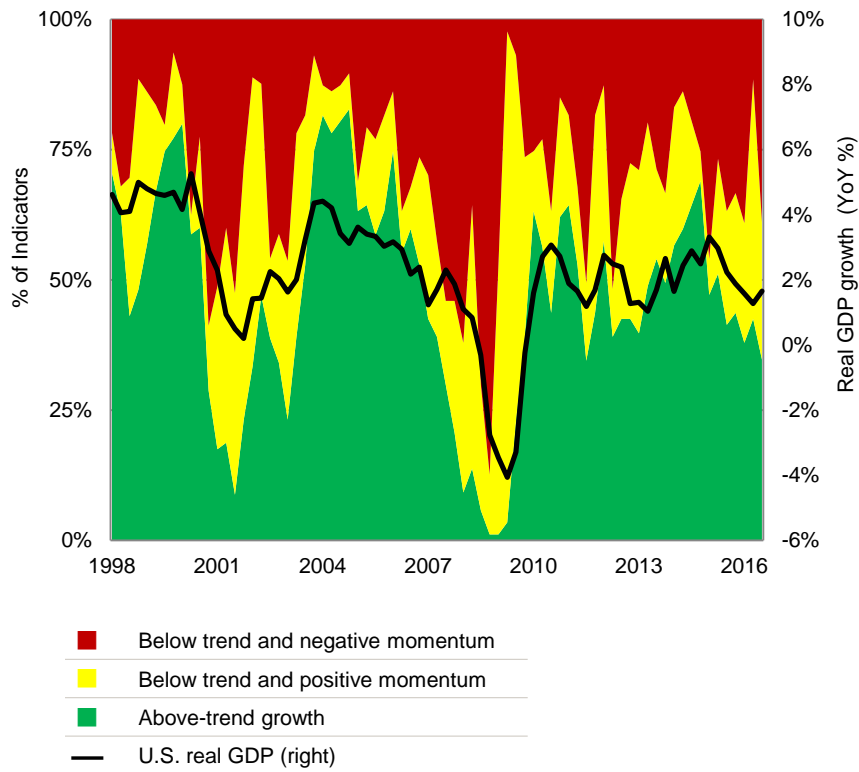
### Monetary policy will remain expansionary even as rates increase



Notes: Monetary policy stance is measured by the percentage-point difference between the neutral real short rate estimated in Holston, Laubach, and Williams (2016) and the real effective federal funds rate and a Taylor rule. Fiscal policy stance is based on the standardized budget deficit (excluding automatic stabilizers) estimated by the U.S. Congressional Budget Office. Fiscal policy stance is measured as the percentage-point deviation of this deficit from its historical average. Source: Vanguard Investment Strategy Group calculations based on data from Holston, Laubach, and Williams (2016), the Board of Governors of the Federal Reserve System, and the U.S. Congressional Budget Office.

# Vanguard U.S. dashboard of leading economic indicators and probabilistic view of U.S. outlook

## United States: Economic indicators



**Above-trend growth:** Housing, consumer confidence and labor market.  
**Below trend, but positive momentum:** Financial markets and consumer credit.  
**Below trend and negative momentum:** Manufacturing and trade.

Sources: Vanguard calculations, based on data from Thomson Reuters Datastream.

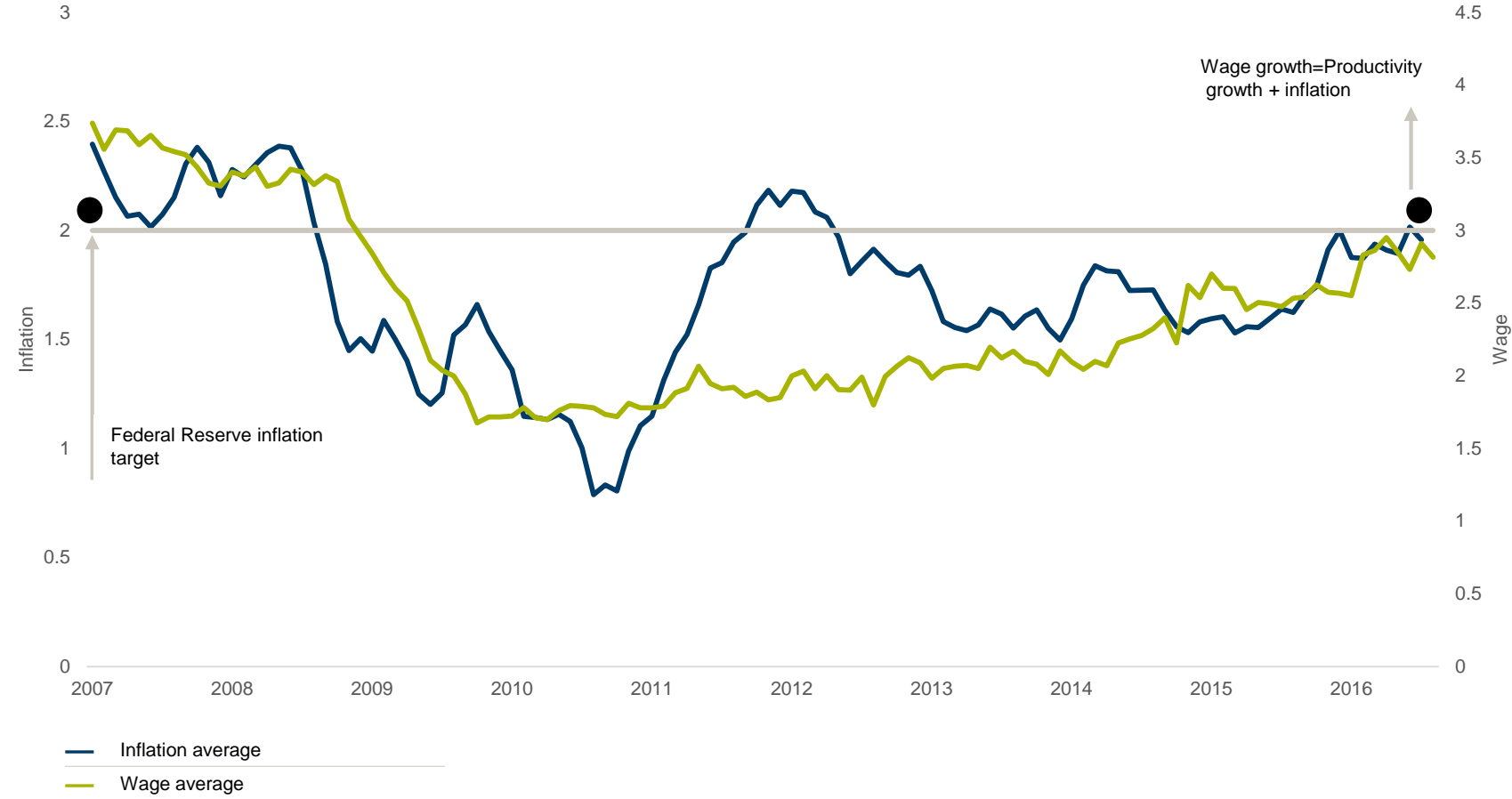
## Probabilistic view of U.S. outlook: Tail risks have increased

Scenarios	Cyclical acceleration	Status quo	Recession	Stagflation
<b>Probabilities</b>	<b>35%</b>	<b>35%</b>	<b>20%</b>	<b>10%</b>
Growth	~3.0%	2.0%	less than 0%	~1.0%
Core inflation	2%-2.5%	1.5-2%	less than 1%	3% or more
Federal funds rate (year-end 2017)	>1.5%	1.5%	Back to 0%	1.5%

Source: Vanguard.

# Inflation heating up, but not too hot

## Real wage gains and inflation are closing in on long-term trend



Notes: The wage average represents the monthly mean of year-on-year percentage changes in total private hourly earnings, Atlanta Federal Reserve Bank wage tracker, and the Employment cost index: wage and salaries index. The inflation average is the monthly mean of year-on-year percentage changes in core CPI and core PCE. The axes are aligned according to estimates of the inflationary level of wage growth. The productivity growth and inflation target represents a 2% inflation target plus a hypothetical 1% growth in productivity.  
Source: Vanguard calculations based on data from the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis, the Federal Reserve Bank of Atlanta, and Moody's Analytics.

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Total Portfolio returns represent client-specific time-weighted returns (TWR) are presented gross of any applicable service fees with the exception of mutual fund expense ratios and other security-level expenses.

Client performance inception date is generally the first month-end after initial funding. Mutual funds and all investments are subject to risk, including the possible loss of the money you invest. Diversification does not ensure a profit or protect against a loss.

Performance figures assume the reinvestment of dividends and capital gains distributions. The fund performance percentages are based on fund total return data, adjusted for expenses, obtained from Lipper, a Thomson Reuters Company. The total return data was not adjusted for fees and loads.

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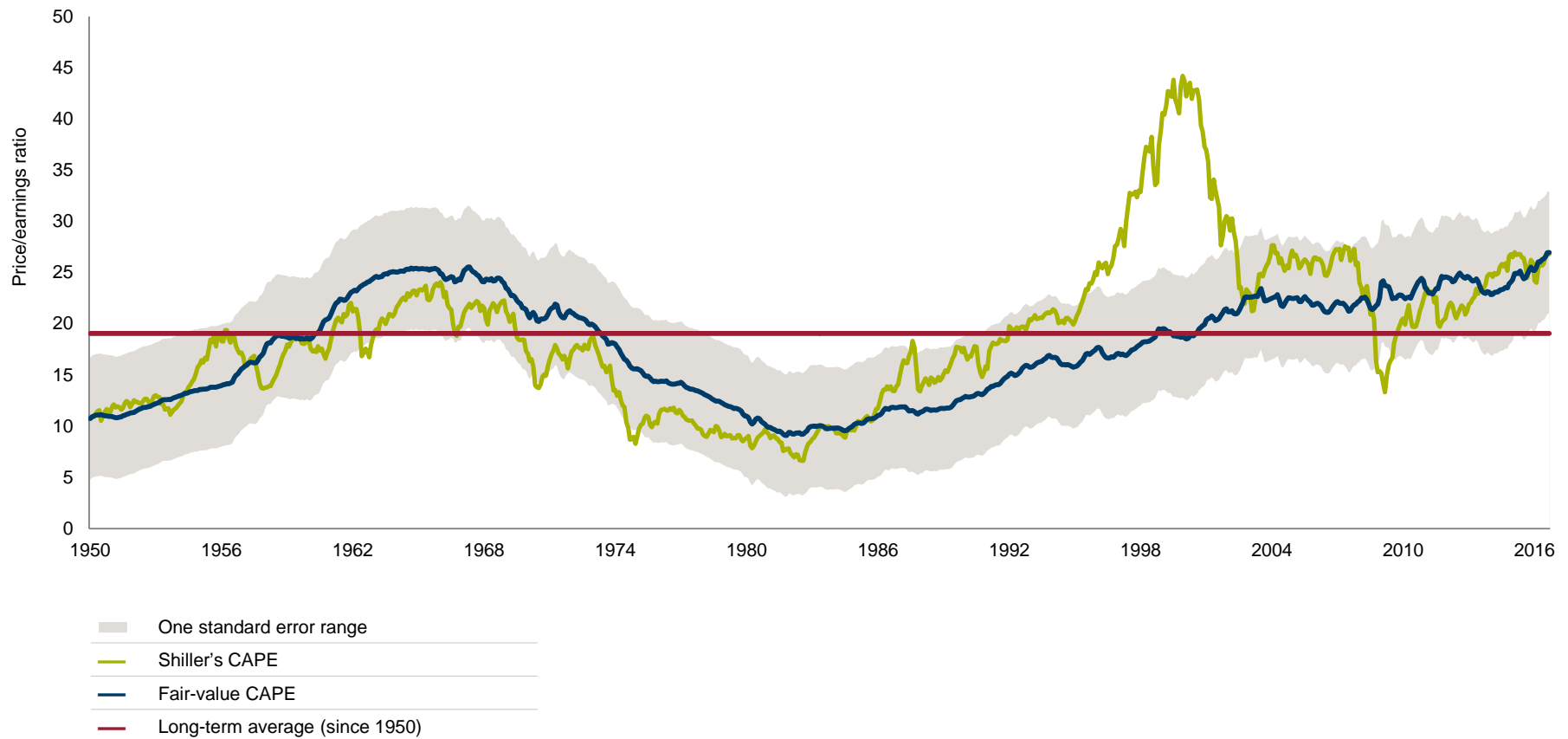
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# Appendix

## U.S. equity market does not appear grossly 'overvalued' when adjusted for low rates

### A comparison of Fair-value CAPE versus Shiller's CAPE

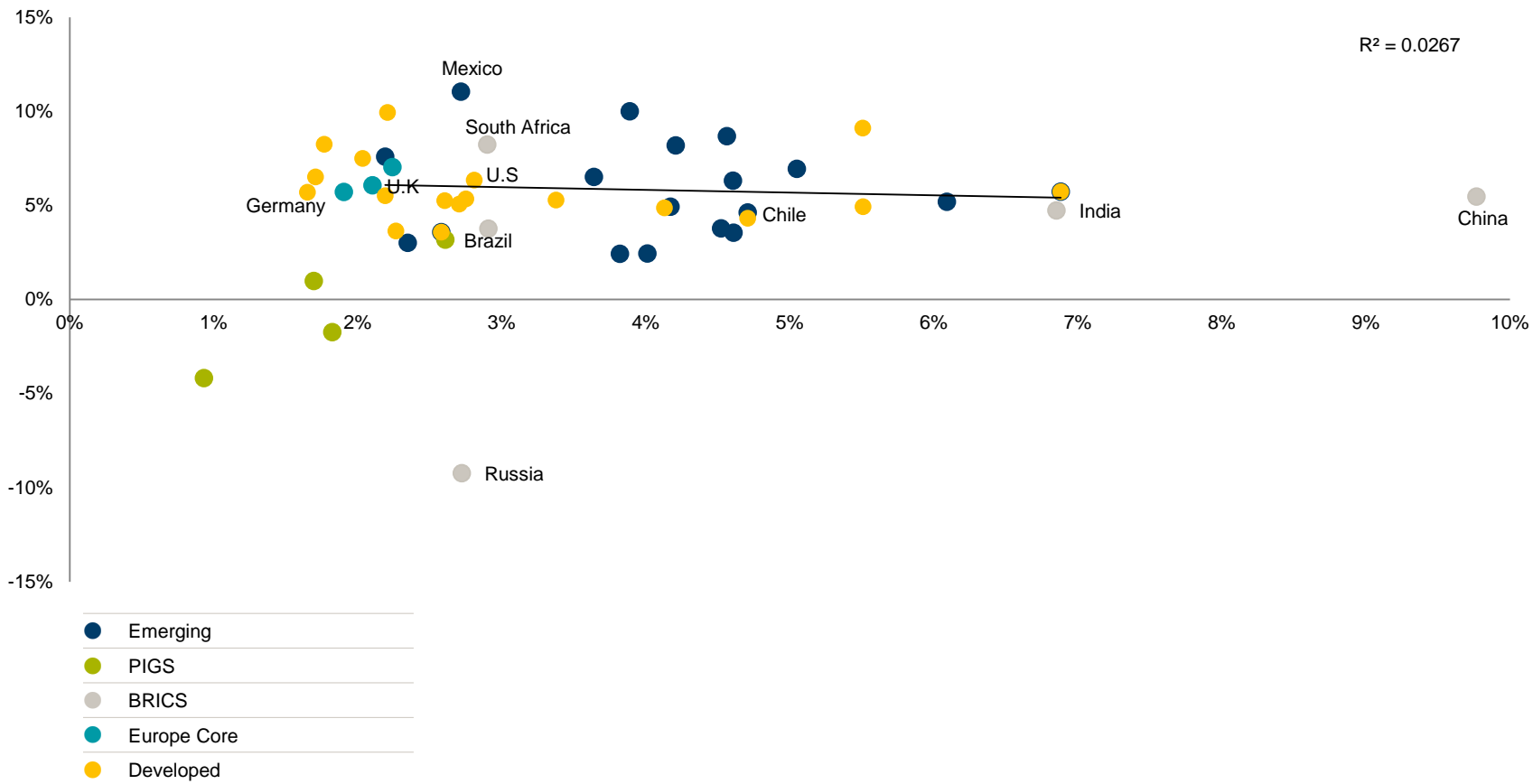


Sources: Vanguard calculations based on data from Online Data Robert Shiller, U.S. Bureau of Labor Statistics and Federal Reserve System.

Notes: Fair-value cyclically adjusted price to earnings (CAPE) ratio is based on a statistical model that adjusts the CAPE measure with respect to the current inflation expectations and 10-year Treasury nominal yield. The model's specification is a three-variable vector error correction model with the following inputs: S&P 500 Index earnings yield, 10-year Treasury yield and 10-year trailing inflation. The model is developed based on data beginning in January 1940 to September 30, 2016.

## Economic growth and equity returns: Be wary of the allure of high economic growth

### Real GDP growth and inflation-adjusted stock returns 1970-2015

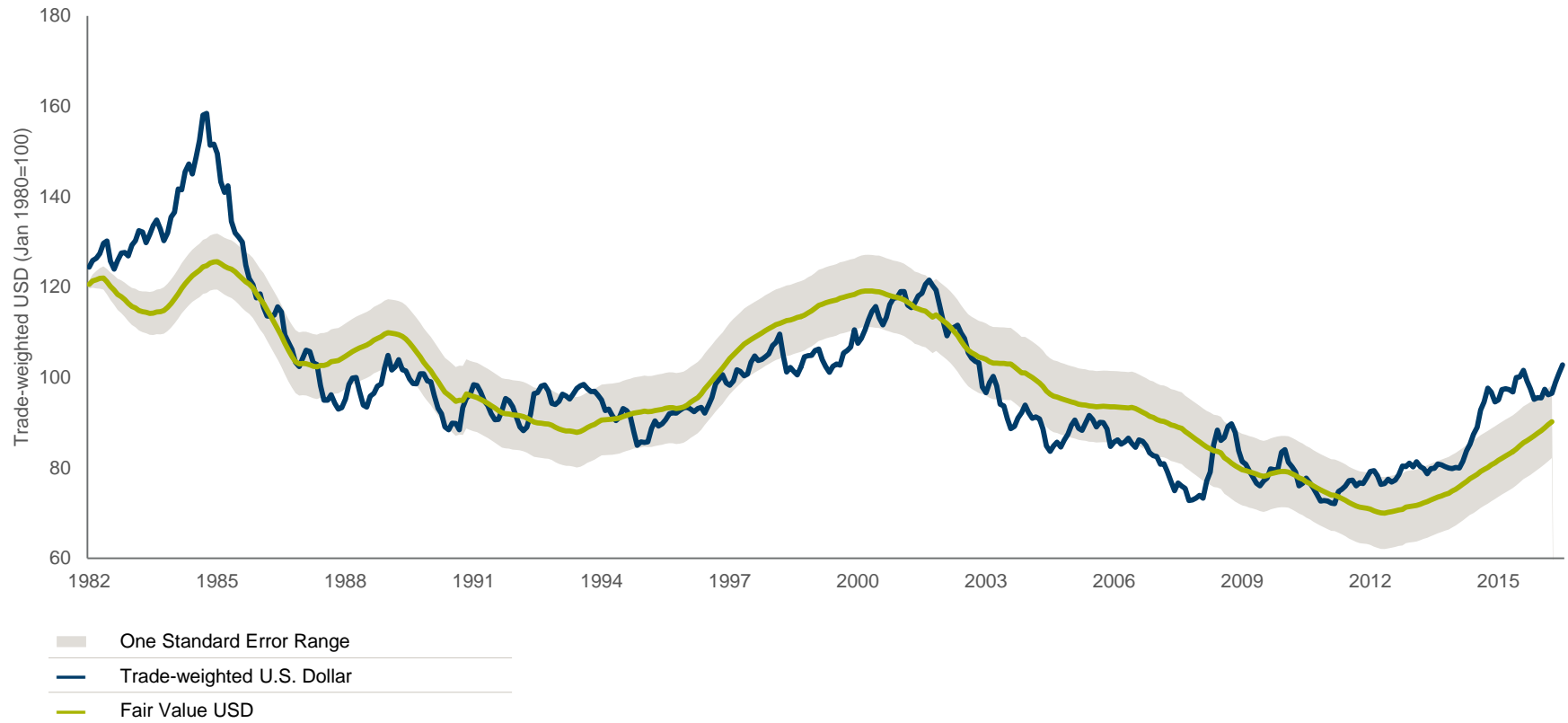


Sources: Vanguard calculations, using data from Thomson Reuters Datastream, Moody's Analytics, and International Monetary Fund.

Notes: Figures display each country's average annualized real GDP growth rate along with that country's average annualized real stock return. We include all members of the FTSE All World Index (except the United Arab Emirates, for a lack of return history). The period covered begins in 1970, with the starting point for each country depending on the availability of both returns and GDP data (most developed markets have data from 1970 onward, and most emerging markets have data from 1988 onward). Real growth rates are computed using data from the IMF's World Economic Outlook database (for data prior to 1980, we use the April 2004 database; otherwise we use the April 2013 database). Return data are based on MSCI country indexes spliced with FTSE indexes once the latter are available. Both growth and return data are in real local terms, with the index returns deflated using the GDP deflator from the IMF databases. The 95% confidence interval for the cross-sectional regression slope of returns on GDP growth is -0.51 to 0.61, with an R-squared of 0.00. Source: Vanguard, based on data from the IMF, MSCI, and FTSE.

## U.S. dollar strength above and beyond macro fundamentals

**Macro fundamentals support recent appreciation, and falls in early 2016 pushed dollar closer to fair value**



Sources: Vanguard calculations, based on data from the Federal Reserve System, International Monetary Fund, U.S. Bureau of Labor Statistics, UK ONS, CANSIM, Bank of Canada, Eurostat, ECB, Japan Statistics Bureau, Swiss Federal Statistics Office, Statistics Sweden, Australian Bureau of Statistics, Statistics Austria, National Bank of Belgium, Statistical Service of the Republic of Cyprus, Bundesbank, Spain National Institute of Statistics, Statistics Estonia, Statistics Finland, Source French National Institute of Statistics and Economic Studies, Hellenic Statistical Authority, Ireland Central Statistics Office, Italian National Institute of Statistics, Japan Economic and Social Research Institute, Statistics Lithuania, STATEC Luxembourg, Central Statistical Bureau of Latvia, Malta National Statistics Office, Statistics Netherlands, Statistics Norway, Instituto Nacional de Estatística - Portugal, Statistical Office of the Slovak Republic, Statistical Office of the Republic of Slovenia, Germany Federal Statistics Office and Moody's Analytics.

Notes: Fair-value USD is based on a statistical model that corrects the nominal trade-weighted dollar (using the Federal Reserve's methodology) for the differentials between the U.S. and other countries in the Major Currencies Index on real GDP per capita, inflation, 10-year government bond yields, and the U.S. current account balance. The statistical model specification is a vector error correction (VEC), estimated over the period June 1981 to September 2016.

# Risk/return analysis

## Community Foundation for Muskegon County Total return framework, risk/return study – 10-year time horizon

### Forecast: December 2016

Asset classes	Current	5	25	50	75	95	Volatility
U.S. equities	36.00%	-4.8%	1.7%	6.3%	11.2%	18.7%	17.7%
Non-U.S. equities (unhedged)	24.00%	-2.4%	3.7%	8.0%	12.4%	18.9%	18.4%
U.S. Bonds	30.00%	1.1%	1.8%	2.3%	2.9%	3.7%	4.6%
REITs	10.00%	-3.3%	1.6%	5.0%	8.6%	14.0%	18.5%
Inflation	—	0.0%	1.1%	1.7%	2.4%	3.4%	2.3%
Median return (geometric)	5.9%						
Median inflation-adjusted return	4.1%						
Median risk (volatility)	11.2%						
Sharpe ratio	0.39						

### Portfolio nominal return distribution

	5	10	20	30	40	50	60	70	80	90	95
Current	-0.5%	0.8%	2.5%	3.8%	4.9%	5.9%	6.9%	8.1%	9.5%	11.3%	12.9%

	1	2	3	4	5
1) U.S. equities	1				
2) Non-U.S. equities (unhedged)	0.76	1			
3) U.S. bonds	0.01	0.06	1		
4) REITs	0.54	0.39	0.03	1	
5) Inflation	-0.18	0.15	0.27	-0.07	1

Source: Vanguard, Investment Strategy Group.

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